U.S. Environmental Protection Agency
Information Collection Request

Title: Revisions and Confidentiality Determinations for Data Elements for the Greenhouse Gas Reporting Rule; Notice of Final Rule (March 2024)

OMB Control Number: 2060-0748

EPA ICR Number: 2773.02

Abstract: In response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161) and under authority of the Clean Air Act (CAA), the EPA finalized a greenhouse gas reporting rule in October of 2009 (henceforth referred to as the Greenhouse Gas Reporting Program or GHGRP) (74 FR 56260; October 30, 2009). The rule, which became effective on December 29, 2009, requires reporting of greenhouse gases (GHGs) from certain large facilities and suppliers.

The GHGRP requires that sources emitting GHGs, supplying certain products that contain GHGs, or injecting carbon dioxide (CO_2) underground in quantities above certain threshold levels of CO_2 equivalent (CO_2e) monitor and report GHG data and other relevant information. Subsequent rules have promulgated requirements for additional facilities, and suppliers; provided clarification and corrections to existing requirements; and finalized confidential business information (CBI) determinations, amended recordkeeping requirements, and implemented an alternative verification approach.

This supporting statement addresses information collection activities that would be imposed by the final rule "Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule" (hereafter referred to as the "final revisions"). The EPA previously evaluated the requirements of the Greenhouse Gas Reporting Rule to identify areas of improvement, including updates to the existing calculation, recordkeeping, and reporting requirements, and requested information for collection of additional data to understand new source categories in a proposed rule (87 FR 36920, June 21, 2022, hereafter "2022 Data Quality Improvements Proposal"). Following publication, the EPA identified subsequent amendments to the Greenhouse Gas Reporting Rule that would complement, expand on, or refine the amendments proposed in the June 21, 2022 proposal, or that would further enhance the quality of part 98 and implementation of the GHGRP. The EPA subsequently proposed supplemental revisions (88 FR 32852, May 22, 2023, hereafter "2023 Supplemental Proposal") which included additional amendments to improve the Greenhouse Gas Reporting Rule, including updates to the General Provisions (Table A-1 to subpart A of part 98) to reflect revised global warming potentials (GWPs), new requirements for reporting of GHG data from additional sectors, and additional revisions such as updates to emissions calculation methodologies; revisions to reporting requirements to improve verification of reported data and the accuracy of the data collected; and other minor technical amendments, corrections, or clarifications.

The final revisions consolidate amendments from the 2022 Data Quality Improvements Proposal and the 2023 Supplemental Proposal to amend specific provisions in the Greenhouse Gas Reporting Rule for the purposes of enhancing the quality of the data collected and clarifying elements of the rule. Specifically, the final revisions will more accurately reflect industry emissions through collection of

additional data to understand new source categories or new emission sources for specific sectors, improving emissions calculation methodologies, and improving the accuracy of reported emissions by improving verification and eliminating data gaps. These final revisions are expected to result in an increase in respondent burden. See section 12b and Table 1 of Attachment 1 for a complete list of final revisions to the reporting requirements.

The EPA previously submitted ICRs on the proposed rules under OMB 2060-0629, ICR No. 2300.19 and OMB 2060-0748, ICR No. 2773.01. The EPA received a number of comments on the proposed revisions in both the 2022 Data Quality Improvements Proposal and the 2023 Supplemental Proposal. Following consideration of comments, the EPA has, in some cases, revised the final rule requirements, and in other cases, has decided to not take final action on proposed revisions. This ICR reflects the requirements of the final revisions. In addition to the estimated respondent burden identified in the information collection for the GHGRP currently approved by Office of Management and Budget (OMB), this information collection will affect approximately 2,701 respondents and result in an average annual burden of 25,647 hours and $5,410,052 ($2021) over the three years covered by this information collection, which includes an annual average of $2,733,937 operation and maintenance costs. The annual average burden to the EPA for this period is anticipated at 410 hours and $24,960 ($2021) over the three years covered by this information collection.

Supporting Statement A

1. NEED AND AUTHORITY FOR THE COLLECTION

Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection.

The EPA is finalizing this information collection under its existing Clean Air Act (CAA) authority provided in CAA section 114. As stated in the October 30, 2009 preamble to part 98 (74 FR 56260), CAA section 114(a)(1) provides the EPA broad authority to require the information to be gathered by part 98 because such data would inform and are relevant to the EPA's carrying out a wide variety of CAA provisions. Additionally, the FY2008 Consolidated Appropriations Act directed the EPA to "develop and publish a draft rule not later than 9 months after the date of enactment of this Act, and a final rule not later than 18 months after the date of enactment of this Act, to require mandatory reporting of greenhouse gas emissions above appropriate thresholds in all sectors of the economy of the United States."

The accompanying explanatory statement further directed the EPA to "use its existing authority under the Clean Air Act" to develop a GHG reporting rule. "The Agency is further directed to include in its rule reporting of emissions resulting from upstream production and downstream sources, to the extent that the Administrator deems it appropriate. The Administrator shall determine appropriate thresholds of emissions above which reporting is required, and how frequently reports shall be submitted to EPA. The Administrator shall have discretion to use existing reporting requirements for electric generating units under Section 821" of the 1990 CAA amendments.

Section 114 of the CAA provides the EPA authority to require the information mandated by the GHGRP because such data will inform and are relevant to future policy decisions. CAA section 114(a)(1) authorizes the Administrator to require emissions sources, persons subject to the CAA, or persons

whom the Administrator believes may have necessary information to monitor and report emissions and provide such other information the Administrator requests for the purposes of carrying out any provision of the CAA. For these reasons, the Administrator may request that a person, on a one-time, periodic, or continuous basis establish and maintain records, make reports, install and operate monitoring equipment and, among other things, provide such information the Administrator may reasonably require.

These final revisions include improvements to amendments to update the General Provisions to reflect revised GWPs, new requirements for reporting of GHG data from additional sectors (coke calcining; ceramics manufacturing; calcium carbide production; and caprolactam, glyoxal, and glyoxylic acid production), and additional revisions such as updates to emissions calculation methodologies; revisions to reporting requirements to improve analysis and verification of reported data and the accuracy of the data collected; and other minor technical amendments, corrections, or clarifications. The final revisions maintain the quality of the data collected under part 98 where continued collection of information assists in evaluation and support of EPA programs and policies. In some cases, the final revisions will improve the EPA's ability to assess compliance (by revising or adding recordkeeping or reporting elements that allow the EPA to more thoroughly verify GHG data and understand trends in emissions) and advance the ability of the GHGRP to provide access to quality data on GHG emissions (by adding new source categories to address potential gaps in reporting of emissions data for specific sectors, updating or emission factors, adding or revising calculation methodologies to reflect an improved understanding of emissions sources and end uses, or adding key data elements to improve the usefulness of the data). The final revisions also address commenter concerns, clarify requirements, improve applicability estimation methods, provide flexibility and simplification of monitoring and calculations, and remove redundant or unnecessary reporting or recordkeeping requirements. In conjunction with this action, the EPA is finalizing confidentiality determinations for the new and substantially revised data elements contained in these final amendments; the EPA is also finalizing confidentiality determinations for certain existing data elements for which a confidentiality determination has not previously been proposed or finalized.

2. PRACTICAL UTILITY/USERS OF THE DATA

Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

The improvements to the GHGRP will benefit the EPA, other policymakers, and the public by increasing the completeness and accuracy of facility emissions data. Public data on emissions allows for accountability of emitters to the public. Improved facility-specific emissions data will aid local, state, and national policymakers as they evaluate and consider future climate change policy decisions and other policy decisions for criteria pollutants, ambient air quality standards, and toxic air emissions.

The GHGRP collects information from facilities that directly emit GHGs or inject CO_2 underground and from suppliers of certain products that contain GHGs. Reporting entities use uniform methods for calculating emissions, which enables data to be compared and analyzed. The comprehensive GHG data reported directly from large facilities and suppliers across the country are easily accessible to the public via the EPA's online data publication tool, also known as FLIGHT (Facility Level Information on Greenhouse gases Tool) at: *https://ghgdata.epa.gov/ghgp/main.do*. FLIGHT is

designed for the general public and allows users to view and sort GHG data for every reporting year starting with 2010 from over 8,000 entities in a variety of ways including by location, industrial sector, and type of GHG emitted. To support the needs of data users, all non-confidential data collected through the GHGRP are made available for download through Envirofacts (*https://www.epa.gov/enviro/*), a cross-EPA data publication website.

GHGRP data are also used to improve estimates of GHG emissions internationally. Data collected through the GHGRP complement the Inventory of U.S. Greenhouse Gas Emissions and Sinks (Inventory) and are used to significantly improve our understanding of key emissions sources by allowing the EPA to better reflect changing technologies and emissions from a wide range of industrial facilities.

The GHGRP data have also been used to support CAA policy in numerous ways. For example, GHGRP data on Petroleum and Natural Gas Systems (subpart W) were analyzed to inform targeted improvements to the 2016 New Source Performance Standards (NSPS) for the oil and gas industry and to update emission factor and activity data used for that proposal and the 2016 NSPS, as updated in the US GHG Inventory (83 FR 52056; October 15, 2018). Similarly, GHGRP data on municipal solid waste landfills (subpart HH of part 98) were previously used to inform the development of the 2016 NSPS and EG for landfills; the EPA was able to update its internal landfills data set and consider the technical attributes of over 1,200 landfills based on data reported under subpart HH.

In addition, GHGRP data have been used to support voluntary programs. For example, GHGRP data are used by the Landfill Methane Outreach Program (LMOP) to supplement the LMOP Landfill and Landfill Gas Energy Project Database which includes data collected from LMOP Partners about landfill gas energy projects or potential for project development.

Several states also use GHGRP data to inform their own policymaking. For example, the state of Hawaii is using GHGRP data to establish an emissions baseline for each facility subject to their GHG Reduction Plan and to assess whether facilities meet their targets in future years.

GHGRP data are also being used to improve estimates of GHG emissions internationally. Data collected through the GHGRP complements the Inventory and are used to significantly improve our understanding of key emissions sources by allowing the EPA to better reflect changing technologies and emissions from a wide range of industrial facilities. Specifically, GHGRP data have been used to inform several of the updates to emission estimation methods included in the 2019 Refinement of the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National GHG Inventories (the Refinement).

Benefits to industry of improved GHG emissions monitoring and reporting from the amendments include the value of having standardized emissions data to present to the public to demonstrate appropriate environmental stewardship, and a better understanding of their emission levels and sources to identify opportunities to reduce emissions. For example, the final rule updates the global warming potential values used under the GHGRP to reflect values from the IPCC AR5 and AR6, which are consistent with the values used under several voluntary standards and frameworks such as the GHG Protocol and Sustainability Accounting Standards Board (SASB), and will provide consistency for company reporting. Businesses and other innovators can use the data to determine and track their GHG footprints, find cost- and fuel-saving efficiencies that reduce GHG emissions and save product, foster technologies to protect public health and the environment, and to reduce costs associated with fugitive

emissions. The final rule will continue to allow for facilities to benchmark themselves against similar facilities to understand better their relative standing within their industry and achieve and disseminate information about their environmental performance.

In addition, transparent, public data on emissions allow for accountability of polluters to the public who bear the cost of the pollution. The GHGRP serves as a powerful data resource and provides a critical tool for communities to identify nearby sources of GHGs and provide information to state and local governments. GHGRP data are easily accessible to the public via the EPA's FLIGHT, which allows users to view and sort GHG data by location, industrial sector, and type of GHG emitted, and includes demographic data. Although the emissions reported to the EPA by reporting facilities are global pollutants, many of these facilities also release pollutants that have a more direct and local impact in the surrounding communities. Citizens, community groups, and labor unions have made use of public pollutant release data to negotiate directly with emitters to lower emissions, avoiding the need for additional regulatory action. The final rule would improve the quality and transparency of this reported data to affected communities, for example, by providing improved data on large releases from landfills.

The final revisions to part 98 include requirements for reporting of GHG data from additional sources (such as non-merchant hydrogen facilities) or sectors (coke calcining; ceramics manufacturing; calcium carbide production; caprolactam, glyoxal, and glyoxylic acid production; and facilities conducting geologic sequestration of carbon dioxide with enhanced oil recovery), updates to global warming potentials, improvements to emissions factors or other default factors, improvements to emissions estimation methodologies, and collection of data to support verification of GHG emissions and supply and for comparison to other national and international inventories. The final revisions will significantly improve the EPA's understanding of national emissions sources and trends and will better reflect changes across U.S. GHG emissions and supply, based on a more current scientific understanding of GHGs.

3. USE OF TECHNOLOGY

Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also describe any consideration of using information technology to reduce burden.

The EPA has established a central repository of data for all respondents, the web-based Electronic Greenhouse Gas Reporting Tool (e-GGRT). Respondents report data electronically, and the EPA stores the data in the database. Facilities and suppliers subject to the GHGRP register online through the e-GGRT system. The e-GGRT system has an XML reporting schema that allows facilities to upload GHG data directly in lieu of using the guided web forms provided through e-GGRT. The XML reporting schema contains all data elements needed to comply with the GHGRP. The electronic reports submitted under the GHGRP are subject to the provisions of 40 CFR Part 3, specifying EPA systems to which electronic submissions must be made and the requirements for valid electronic signatures. Additionally, e-GGRT is designed to collect and store CBI.

The system follows Agency standards for design, security, data element and reporting format conformance, and accessibility. The EPA designed the database to minimize respondents' burden by integrating with existing data collection and data management systems, when feasible.

The EPA ensures data quality by conducting robust verification checks using both electronic software and manual review. The EPA contacts facilities when annual reports contain potential errors, and the statute requires that the facilities either resolve the error or explain that it is not an error in a timely manner. The EPA makes all data accessible to the public on a web-based, user-friendly publication tool called FLIGHT, as detailed in section 2 of this document.

Under the final revisions to part 98, the facilities listed in section 12b will report the new data elements and revised data elements via e-GGRT. Additionally, for verification purposes, 54 reporters under subpart Y, 15 reporters under subpart WW, one reporter in subpart XX, six reporters in subpart YY, and 25 reporters in subpart ZZ will enter data (three new data elements in subpart Y, five new data elements in subpart WW, eight new data elements for subpart XX, three new data elements for subpart YY, and three new data elements for subpart ZZ) into IVT. IVT does not collect data but is deployed within e-GGRT for verification purposes, and is integrated without interrupting the current electronic reporting process. Additional details regarding the EPA's IVT can be found in 79 FR 63750, October 24, 2014; OMB Control No. 2060-0629, ICR No. 2300.12).

4. EFFORTS TO IDENTIFY DUPLICATION

Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.

The new information to be collected under the final revisions include 122 new or substantially revised reported data elements and two removed data elements from industrial sectors currently covered by the GHGRP, and 75 new reporting data elements and associated recordkeeping for five new sectors to be added to the GHGRP (refer to section 12b and Table 1 of Attachment 1 for a list of these data elements). The new and substantially revised data reporting elements consist primarily of quantities that provide information on the activity level at the facility, emissions data and emission factors used, and other process information that would provide key information for verification, including confirming that emissions are appropriate for a given activity-level and for estimating expected emissions based on data provided. The new and substantially revised reporting elements for both existing and new sectors, described above, are the same types of industry data currently collected under the GHGRP. The EPA previously evaluated these types of industry data currently collected under part 98 and concluded that they do not duplicate other information collections. This conclusion, as described below, applies to the new and substantially revised data elements as well.

To determine whether this request duplicates other information collections, the EPA evaluated existing GHG programs and the GHG data currently available including: Federal programs within the United States, such as the Inventory; State and regional GHG reporting programs, Reporting protocols developed by nongovernmental organizations; and Programs from industrial trade organizations.

Documentation of the EPA's review of GHG monitoring protocols used by federal and state voluntary and mandatory GHG programs as well as GHG reporting rules can be found in the docket at EPA-HQ-OAR-2008-0508-0056. For further discussion on the relationship of the GHGRP to other

programs, please refer to the preambles of each of the GHGRP rulemakings, the June 6, 2008 memorandum entitled "Review of Existing Programs" (which can be found in the docket at EPA-HQ-OAR-2008-0508-0052), and the January 27, 2009 memorandum entitled "Review of Existing State Greenhouse Gas Reporting Rules" (which can be found in the docket at EPA-HQ-OAR-2008-0508-0054).

The final revisions include improvements to the calculation, monitoring, and reporting requirements that would incorporate new data or updated scientific knowledge; reflect new emissions sources for which data has not previously been collected; improve analysis and verification of collected data; provide additional data to complement or inform other EPA programs; or streamline calculation, monitoring, or reporting to provide flexibility or increase the efficiency of data collection. Based on this evaluation, this information collection request does not duplicate other information collections.

5. MINIMIZING BURDEN ON SMALL BUSINESSES AND SMALL ENTITIES

If the collection of information impacts small businesses or other small entities, describe any methods used to minimize burden.

This information collection will not have a significant economic impact on a substantial number of small entities. The small entities directly regulated by these final rule revisions include small businesses across all sectors of the economy encompassed by part 98, small governmental jurisdictions, and small non-profits. The impacts to small entities due to the final revisions was evaluated for each source category.

The EPA previously evaluated the impacts of the revisions from the 2022 Data Quality Improvements Proposal and the 2023 Supplemental Proposal where it identified small entities could potentially be affected and considered whether additional measures to minimize impacts were needed. Entities affected by the final revisions to applicability could experience a burden increase, but there are no significant small entity impacts for facilities affected by the final revisions. The costs and impacts to small entities from the revisions were assessed in three areas, including (1) amendments that revise the number or types of facilities required to report (i.e., updates of the GHGRP's applicability to certain sources), (2) changes to refine existing monitoring or calculation methodologies, and (3) revisions to reporting and recordkeeping requirements for data provided to the program. The analyses provided the subparts affected, the number of small entities affected, and the estimated impact to these entities based on the total annualized reporting costs of the proposed rules. Details of these analyses are presented in the memoranda, *Assessment of Burden Impacts for Proposed Revisions for the Greenhouse Gas Reporting Rule* (May 2022) and *Assessment of Burden Impacts for Proposed Supplemental Revisions for the Greenhouse Gas Reporting Rule* (April 2023), available in the docket for the rulemaking (Docket Id. No. EPA–HQ–OAR–2019–0424). Based on the results of these analyses, we concluded that the 2022 Data Quality Improvements Proposal and 2023 Supplemental Proposal will have no significant regulatory burden for any directly regulated small entities and thus would not have a significant economic impact on a substantial number of small entities. In many cases, the EPA is finalizing revisions to part 98 as proposed, or with minor revisions, and revised the cost impacts to reflect the final rule requirements. The updates to the costs impacts includes updates to the estimated number of affected reporters subject to the final requirements, based on a review of RY2022 data. These updates also predominantly include removing or adjusting costs where the EPA is not taking final action on specific proposed revisions to add subpart B (Energy Consumption), certain costs associated with proposed revisions to subpart W (Petroleum and Natural Gas Systems) included in the 2022 Data Quality Improvements Proposal, and costs associated with certain revisions to calculations, monitoring, or reporting requirements for subparts A (General Provisions), C (General Stationary Fuel Combustion), F (Aluminum

Production), G (Ammonia Production), H (Cement Production), S (Lime Production), HH (Municipal Waste Landfills), OO (Suppliers of Industrial Greenhouse Gases), and QQ (Importers and Exporters of Fluorinated Greenhouse Gases Contained in Pre-Charged Equipment and Closed-Cell Foams).

Accordingly, the burden of the final rule is reduced for most facilities. The EPA also adjusted the burden of the final rule to account for additional costs. Specifically, we adjusted the reporting and recordkeeping requirements for subparts I (Electronics Manufacturing), P (Hydrogen Production), DD (Electrical Transmission and Distribution Equipment Use), and ZZ (Ceramics Manufacturing) to add 8 new data elements for annual reporting. The final reporting costs to these subparts are minimal (less than $100 annually), and do not result in costs exceeding more than one percent of sales in any firm size category. The remaining revisions to the final rule include minor clarifications or adjustments to the proposed requirements that are not anticipated to increase burden. For these reasons, we determined that the final revisions are consistent with our prior small entity analyses, and will not have a significant economic impact on a substantial number of small entities. Details of this analysis are presented in the memorandum, Assessment of Burden Impacts for Final Revisions for the Greenhouse Gas Reporting Rule (March 2024), available in the docket for the rulemaking (Docket Id. No. EPA–HQ–OAR–2019–0424).

6. CONSEQUENCES OF LESS FREQUENT COLLECTION

Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

Annual reporting of the data is necessary to ensure that the Agency's objectives for the GHGRP are met. Annual reporting is critical for assessing year-to-year variations in emissions both at the facility and sector level. With less frequent reporting, the EPA would be unable to discern multi-year trends. As the Agency evaluates potential GHG emission reduction opportunities, it is critical to be able to analyze up-to-date, multi-year data for all sectors covered by the program. For example, the GHGRP collects critical information necessary to evaluate potential GHG reduction approaches, such as number of facilities in a sector, production or capacity of each facility, abatement technologies used across a sector, number of facilities using continuous emission monitoring systems, and chemical-specific GHG emission information. These data are essential for understanding the sources that would be impacted by potential regulations, emissions monitoring approaches and abatement technologies currently employed within a sector, and the general emissions profile of the industry.

With annual data, stakeholders can monitor changes in facility emissions over time with respect to comparable facilities in the industry. Annual reporting also lines up with the reporting frequency of all existing State GHG reporting programs as well as other Agency and State programs that require reporting of environmental data. This reporting frequency remains the same in these final revisions to part 98.

The frequency with which facilities and suppliers subject to the GHGRP monitor, sample, or measure data varies across the 41 subparts, from weekly to annually. The EPA is finalizing five new subparts (subparts VV, WW, XX, YY, and ZZ) for certain direct emitting facilities, who would be required to monitor and report annually. In some cases, the EPA is reducing the frequency of existing monitoring or sampling, where less frequent collection of this data will continue to provide sufficient information and not impact the overall quality of reported emissions. We have maintained collection frequencies that are necessary to ensure adequate data quality and are designed to match the variability of activities conducted by the source category.

7. GENERAL GUIDELINES

Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.

This collection of information is consistent with all other OMB guidelines under 5 CFR 1320.5, with the exception of requiring certain records to be maintained for more than three years.

Generally, the GHGRP has a three-year requirement for record retention consistent with the retention period specified in the general information collection guidelines in 5 CFR 1320.5(f) of the OMB regulations implementing the Paperwork Reduction Act. However, for 23 subparts, some data used to calculate GHG emissions, such as process or production data specific to each facility's operation, are not reported to the EPA because of disclosure concerns (79 FR 63750, October 24, 2014). Reporters instead enter those data into a web-based verification tool called Inputs Verification Tool (IVT) housed within e-GGRT. IVT does not retain the entered inputs; instead it calculates emissions using "inputs to equations" and conducts verification checks at the time of data entry. Facilities using IVT for any subpart are required to retain all records for five years. The final revisions would require certain facilities subject to subpart Y and new subparts WW (Coke Calciners), XX (Calcium Carbide Production), YY (Caprolactam, Glyoxal, and Glyoxylic Acid Production), and ZZ (Ceramics Manufacturing) to retain the file generated by IVT for five years. Refer to the "Reporting and Recordkeeping Requirements" section in section 12b and Tables 1 and 2 of Attachment 1 for a description of these reporters and the data elements required to be retained.

The EPA has previously determined that five years is a reasonable time period given the large number of reporters and the likely increase in follow-up activities due to IVT. It is important that relevant records are available to the EPA for follow-up activities with facilities, including onsite audits if necessary, regarding potential errors, discrepancies, or questions. Should an EPA inspector visit a facility, it is important to be able to examine not only the current year's records but those from previous years as well. Employing year-to-year comparisons are useful for verifying the current year's data. A 5-year record retention period ensures the availability of relevant records for the follow-up activities described above.

8. PUBLIC COMMENT AND CONSULTATIONS

8a. Public Comment

If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the Agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the Agency in response to these comments. Specifically address comments received on cost and hour burden.

The EPA previously submitted ICRs on the proposed rules under OMB 2060-0629, ICR No. 2300.19 and OMB 2060-0748, ICR No. 2773.01. The EPA received a number of comments on the proposed revisions in both the 2022 Data Quality Improvements Proposal and the 2023 Supplemental Proposal. Following consideration of comments, the EPA has, in some cases, revised the final rule requirements, and in other cases, has decided to not take final action on proposed revisions. This ICR reflects the requirements of the final revisions.

8b. Consultations

Describe efforts to consult with persons outside the Agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported. Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years - even if the collection of information activity is the same as in prior periods. There may be circumstances that may preclude consultation in a specific situation. These circumstances should be explained.

To learn of ways to minimize burden on reporters, the EPA engages in consultations with reporters on a regular basis. Since the GHGRP's inception, the EPA has conducted over 140 training webinars reaching over 17,000 people and has responded to approximately 40,000 questions received by our help desk. The EPA also communicates with GHGRP reporters directly after every data submission deadline during our annual verification period. The program maintains an open-door policy and has consulted on numerous occasions with trade associations as well as individual companies with issues or concerns. As a result of these consultations, the EPA has identified specific sections of the rule language that could be clarified or did not have the intended effect.

The EPA has previously promulgated amendments to the rule to resolve these issues and to correct technical and editorial errors that have been identified. Some of these amendments affected burden, but most amendments reduced burden or did not affect it. In addition to correcting and clarifying existing requirements, the EPA has amended the GHGRP in other ways based on public comments and stakeholder feedback, (*e.g.*, promulgated rulemakings that re-propose certain subparts, added requirements for new facilities and suppliers, and added reporting requirements that provide information about parent companies).

To monitor the usefulness of this data collection, the GHGRP staff are in regular communication with other EPA programs that use the data, such as voluntary and mandatory GHG reduction programs within the Office of Air and Radiation. The EPA also consults regularly with state, local, and tribal environmental control agencies, environmental groups, research entities, and other nongovernmental organizations.

In the current action, the EPA is primarily finalizing amendments that would improve the quality of data collected through the GHGRP. Specifically, the EPA is finalizing amendments to: (1) update the General Provisions to reflect revised GWPs; (2) improve the accuracy of the GHGRP through adding new requirements for reporting of GHG data from additional sectors (coke calcining; ceramics manufacturing; calcium carbide production; caprolactam, glyoxal, and glyoxylic acid production; and facilities conducting geologic sequestration of carbon dioxide with enhanced oil recovery); (3) update emissions calculation methodologies to more accurately reflect industry emissions; (4) eliminate data gaps and improve data accuracy through modified or added reporting requirements; (5) address commenter concerns and make edits that improve understanding of the rule; (6) revise applicability estimation methods to account for changes in usage of certain GHGs and improve accuracy; (7) simplify or provide flexibility in calculation methodologies and monitoring requirements; and (8) remove redundant or currently un-useful data elements or recordkeeping requirements. These revisions were identified by the EPA and affected entities during implementation (e.g., through the verification of annual reports, from questions or concerns raised by reporting entities, or through stakeholder workshops) and following publication of the 2022 Data Quality Improvements Proposal and 2023

Supplemental Proposal (e.g., through review of new data or more recent scientific assessments and issues raised by affected entities in public comments).

The EPA received a number of comments on various provisions of the proposed rules. Following consideration of public comments, the final costs have been adjusted from those proposed to remove costs where the EPA is not taking final action on specific proposed revisions to add subpart B (Energy Consumption), certain costs associated with proposed revisions to subpart W (Petroleum and Natural Gas Systems) included in the 2022 Data Quality Improvements Proposal, and costs associated with certain revisions to calculations, monitoring, or reporting requirements for subparts A (General Provisions), C (General Stationary Fuel Combustion), F (Aluminum Production), G (Ammonia Production), H (Cement Production), S (Lime Production), HH (Municipal Waste Landfills), OO (Suppliers of Industrial Greenhouse Gases), and QQ (Importers and Exporters of Fluorinated Greenhouse Gases Contained in Pre-Charged Equipment and Closed-Cell Foams). The burden of the final rule has also been adjusted to account for additional final reporting and recordkeeping requirements for subparts I (Electronics Manufacturing), P (Hydrogen Production), DD (Electrical Transmission and Distribution Equipment Use), and ZZ (Ceramics Manufacturing).

9. PAYMENTS OR GIFTS TO RESPONDENTS

Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.

No payments or gifts are provided to respondents.

10. ASSURANCE OF CONFIDENTIALITY

Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or Agency policy. If the collection requires a systems of records notice (SORN) or privacy impact assessment (PIA), those should be cited and described here.

Data collected under the GHGRP must be made available to the public unless the data qualify for CBI treatment under the CAA and EPA regulations. The EPA typically makes confidentiality determinations under the CAA on a case-by-case basis under 40 CFR 2.301. Due to the large numbers of entities reporting under the GHGRP and the large number of data reporting elements, the EPA concluded that case-by-case determinations would not result in a timely release of emissions data and other non-CBI data (75 FR 39094; July 7, 2010). Therefore, the EPA has published confidentiality determinations for most information reported under the GHGRP (76 FR 30782; May 26, 2011, 77 FR 48072; August 13, 2012, 77 FR 51477; August 24, 2012, 78 FR 68162; November 13, 2013, 78 FR 71904; November 29, 2013, 79 FR 3507; January 22, 2014, 79 FR 63750; October 24, 2014, 79 FR 70352; November 25, 2014, 79 FR 73750; December 11, 2014, 80 FR 64262; October 22, 2015, 81 FR 86490; November 30, 2016, and 81 FR 89188; December 9, 2016). These confidentiality determinations specify which data reporting elements in part 98: (1) are CBI, (2) are non-CBI, and (3) are emissions data (i.e., ineligible for CBI protection). All data determined by the EPA to be CBI are safeguarded in accordance with regulations in 40 CFR Chapter 1, Part 2, Subpart B.

In this action, the EPA is finalizing confidentiality determinations for the new and substantially revised data elements contained in the final amendments; the EPA is also finalizing confidentiality determinations for certain existing data elements for which a confidentiality determination has not previously been proposed or finalized. By proposing confidentiality determinations prior to data reporting, the EPA provided 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 and provides an opportunity to rebut the agency's proposed determinations prior to finalization. The EPA has evaluated the comments on the proposed determinations, including claims of confidentiality and information substantiating such claims, and finalized the confidentiality determinations with revisions following consideration of each claim. Details of the EPA's final confidentiality determinations are presented in the memoranda, *Confidentiality Determinations and Emission Data Designations for Data Elements in the 2024 Final Revisions to the Greenhouse Gas Reporting Rule* (February 2024).

11. JUSTIFICATION FOR SENSITIVE QUESTIONS

Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the Agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.

The revisions to calculation, monitoring, reporting and recordkeeping requirements in these final revisions to part 98 do not include sensitive questions.

12. RESPONDENT BURDEN HOURS & LABOR COSTS

Provide estimates of the hour burden of the collection of information. The statement should:

- *Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Generally, estimates should not include burden hours for customary and usual business practices.*
- *If this request for approval covers more than one form, provide separate hour burden estimates for each form and the aggregate the hour burdens.*
- *Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories. The cost of contracting out or paying outside parties for information collection activities should not be included here. Instead, this cost should be included as O&M costs under non-labor costs covered under question 13.*

The respondents in this information collection include owners and operators of facilities that must report their GHG emissions to the EPA to comply with the GHGRP rule. To facilitate the analysis, the EPA has divided respondents into groups that align with the source categories identified in the rule.

This section lists the industry sectors (*i.e.*, GHG source categories) that must report to the GHGRP, the data items required of program participants, and the activities in which participants must engage to collect, assess, and in some cases submit the required data items.

12a. Respondents/NAICS Codes

Reporting facilities include, but are not limited to, those operating one or more units that exceed the CO_2e threshold for the industry sectors listed below or those in the categories in which all must report, such as petroleum refining facilities and all other large emitters listed in Table A-3 of 40 CFR 98.2(a)(1). The final revisions include amendments that apply to existing reporting facilities, as well as amendments that revise the applicability of part 98 to certain facilities and expand the number of reporters in certain industrial sectors. These revisions include:

- Reporters who are affected by the revisions to Table A-1 to part 98, where a change to GWPs would affect reporters that are currently at or close to the 25,000 mtCO2e reporting threshold, or that will affect a reporter's ability to offramp from part 98 reporting as determined under 40 CFR 98.2(i) (includes facilities that may report under subparts W (Petroleum and Natural Gas Systems), DD (Electrical Transmission and Distribution Equipment Use), HH (Municipal Solid Waste Landfills), II (Industrial Wastewater Treatment), OO (Suppliers of Industrial Greenhouse Gases), and TT (Industrial Waste Landfills).
- Revisions to include or exclude certain types of facilities under subparts P (Hydrogen Production) and Y (Petroleum Refineries).
- Revisions to the applicability estimation methods of subpart I (Electronics Manufacturing) that will include one additional facility not currently reporting.
- The addition of new source categories in subparts VV (Geologic Sequestration of Carbon Dioxide With Enhanced Oil Recovery Using ISO 27916); WW (Coke Calciners); XX (Calcium Carbide Production); YY (Caprolactam, Glyoxal, and Glyoxylic Acid Production); and ZZ (Ceramics Manufacturing). Subparts VV, WW, XX, and YY are added to Table A-3 of 40 CFR 98.2(a)(1) and will apply to all facilities conducting geologic sequestration of carbon dioxide with enhanced oil recovery and all coke calcining, calcium carbide production, and caprolactam, glyoxal, or glyoxylic acid production facilities. Subpart ZZ, added to Table A-4 of 40 CFR 98.2(a)(2), will apply to ceramics manufacturing facilities that annually consume at least 2,000 tons of carbonates, either as raw materials or as a constituent in clay, and exceed a CO_2e threshold of 25,000 $mtCO_2e$ per year.

Industry sectors are listed below by their corresponding subpart of the rule and their NAICS code for reference. The NAICS codes are not exhaustive, but rather provide a list of facilities likely to be affected by the final revisions and confidentiality determinations. Not all reporting facilities will have a change in burden from the final revisions.

Table 1. Examples of Affected Entities by Category

Subpart	NAICS Codes	
C. General Stationary Fuel Combustion Sources	.....	Facilities operating boilers, process heaters, incinerators, turbines, and internal combustion engines.
	211	Extractors of crude petroleum and natural gas.

Subpart	NAICS Codes	
	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.
D. Electricity generation units that report through 40 CFR part 75	221112	Electric power generation, fossil fuel (*e.g.*, coal, oil, gas).
E. Adipic Acid Production	325199	All other basic organic chemical manufacturing: Adipic acid manufacturing.
F. Aluminum Production	331313	Primary aluminum production facilities.
G. Ammonia Manufacturing	325311	Anhydrous and aqueous ammonia manufacturing facilities.
H. Cement Production	327310	Portland cement manufacturing plants.
I. Electronics Manufacturing	334111	Microcomputers manufacturing facilities.
	334413	Semiconductor, photovoltaic (PV) (solid-state) device manufacturing facilities.
	334419	Liquid crystal display (LCD) unit screens manufacturing facilities; Microelectromechanical (MEMS) manufacturing facilities.

Subpart	NAICS Codes	
K. Ferroalloy Production	331110	Ferroalloys manufacturing facilities.
L. Fluorinated GHG Production	325120	Industrial gases manufacturing facilities.
N. Glass Production	327211	Flat glass manufacturing facilities.
	327213	Glass container manufacturing facilities.
	327212	Other pressed and blown glass and glassware manufacturing facilities.
O. HCFC-22 Production and HFC-23 destruction processes that are not collocated with a HCFC-22 production facility and that destroy more than 2.14 metric tons of HFC-23 per year	325120	Industrial gas manufacturing: Hydrochlorofluorocarbon (HCFC) gases manufacturing.
P. Hydrogen Production	325120	Hydrogen manufacturing facilities.
Q. Iron and Steel Production	333110	Integrated iron and steel mills, steel companies, sinter plants, blast furnaces, basic oxygen process furnace (BOPF) shops.
R. Lead Production	331	Primary metal manufacturing.
S. Lime Manufacturing	327410	Calcium oxide, calcium hydroxide, dolomitic hydrates manufacturing facilities.
T. Magnesium Production	331410	Nonferrous metal (except aluminum) smelting and refining: Magnesium refining, primary.
U. Miscellaneous Uses of Carbonate	Facilities included elsewhere	
V. Nitric Acid Production	325311	Nitrogenous fertilizer manufacturing: Nitric acid manufacturing.
W. Petroleum and Natural Gas Systems	486210	Pipeline transportation of natural gas.
	221210	Natural gas distribution facilities.
	211120	Crude petroleum extraction.
	211130	Natural gas extraction.

Subpart	NAICS Codes	
X. Petrochemical Production	32511	Ethylene dichloride manufacturing facilities.
	325199	Acrylonitrile, ethylene oxide, methanol manufacturing facilities.
	325110	Ethylene manufacturing facilities.
	325180	Carbon black manufacturing facilities.
Y. Petroleum Refineries	324110	Petroleum refineries.
Z. Phosphoric Acid Production	325312	Phosphatic fertilizer manufacturing.
AA. Pulp and Paper Manufacturing	322110	Pulp mills.
	322120	Paper mills.
	322130	Paperboard mills.
BB. Silicon Carbide Production	327910	Silicon carbide abrasives manufacturing facilities.
CC. Soda Ash Manufacturing	325180	Other basic inorganic chemical manufacturing: Soda ash manufacturing.
DD. Electrical Equipment Use	221121	Electric bulk power transmission and control facilities.
EE. Titanium Dioxide Production	325180	Other basic inorganic chemical manufacturing: Titanium dioxide manufacturing.
FF. Underground Coal Mines	212113	Underground anthracite coal mining operations.
	212112	Underground bituminous coal mining operations.
GG. Zinc Production	331419	Primary zinc refining facilities
	331492	Zinc dust reclaiming facilities, recovering from scrap and/or alloying purchased metals.

Subpart	NAICS Codes	
	311411	Frozen fruit, juice, and vegetable manufacturing facilities.
	311421	Fruit and vegetable canning facilities.
HH. Municipal Solid Waste Landfills	562212	Solid waste landfills.
	221320	Sewage treatment facilities.
II. Industrial Wastewater Treatment	221310	Water treatment plants.
LL. Suppliers of Coal-based Liquid Fuels	211130	Coal liquefaction at mine sites
MM. Suppliers of Petroleum Products	324110	Petroleum refineries.
NN. Suppliers of Natural Gas and Natural Gas Liquids	221210	Natural gas distribution facilities.
	211112	Natural gas liquid extraction facilities.
OO. Suppliers of Industrial Greenhouse Gases	325120	Industrial greenhouse gas manufacturing facilities.
PP. Suppliers of Carbon Dioxide	325120	Industrial gas manufacturing facilities.
QQ. Importers and Exporters of Pre-charged Equipment and Closed-Cell Foams	423730	Air-conditioning equipment (except room units) merchant wholesalers.
	333415	Air-conditioning equipment (except motor vehicle) manufacturing.
	423620	Air-conditioners, room, merchant wholesalers.
	449210	Electronics and Appliance retailers.
	326150	Polyurethane foam products manufacturing.
	335313	Circuit breakers, power, manufacturing.
	423610	Circuit breakers and related equipment merchant wholesalers.
RR. Geologic Sequestration	NA	CO_2 geologic sequestration sites.
	211	Oil and gas extraction.
SS. Electrical Equipment Manufacture or Refurbishment	33531	Power transmission and distribution switchgear and specialty transformers manufacturing facilities

Subpart	NAICS Codes	
UU. Carbon Dioxide Injection	211	Oil and gas extraction projects using carbon dioxide enhanced oil recovery.
	211111 or 211112	Projects that inject acid gas containing carbon dioxide underground.
VV. Carbon Dioxide Enhanced Oil Recovery Projects	211	Oil and gas extraction projects using carbon dioxide enhanced oil recovery.
WW. Coke Calciners	299901	Coke; coke, petroleum; coke, calcined petroleum.
XX. Calcium Carbide Production	325180	Other basic inorganic chemical manufacturing: calcium carbide manufacturing.
YY. Caprolactam, Glyoxal, and Glyoxylic Acid Production	325199	All other basic organic chemical manufacturing.
ZZ. Ceramics Manufacturing	327110	Pottery, ceramics, and plumbing fixture manufacturing.
	327120	Clay building material and refractories manufacturing.

12b. Information Requested

Data Items

This section characterizes the information being collected under the final rule, as well as the activities associated with developing, submitting, or filing that information. The majority of the final revisions result in a minimal burden for reporters, based on revisions that would improve data quality where the EPA is collecting data on new emissions or from new emission sources or new source categories, or adding or revising the data entered or reported in e-GGRT. Some of the rule changes reduce burden based on the removal of certain data elements or recordkeeping requirements, or where the revisions streamline or clarify measurement and calculation methodologies.

Reporting and Recordkeeping Requirements

Respondents must report the data items specified according to the requirements of 40 CFR 98.3 and the sector-specific recordkeeping requirements of each subpart, as provided in the currently approved ICR for the GHGRP (EPA ICR No. 2300.18). In this final rule, the EPA is requiring that 79 new and 43 substantially revised data elements be reported via e-GGRT or entered into IVT in e-GGRT for 19 existing subparts and adding 75 new reporting data elements for five new sectors added to the GHGRP. The new and substantially revised data elements apply to the sector-specific source categories listed in

section 12a and are listed in Table 1 of Attachment 1 (see entries for subparts C, G, H, I, N, P, Y, Q, S, X, Y, AA, BB, DD, GG, HH, OO, PP, QQ, and SS, and new subparts VV, WW, XX, YY, and ZZ).

Respondents must maintain records associated with the data items specified according to the requirements of 40 CFR 98.3 and the sector-specific recordkeeping requirements of each subpart. These records are discussed in the ICR Renewal for the Greenhouse Gas Reporting Program (EPA ICR No. 2300.18). In this final rule, the EPA is additionally requiring the following records (see Table 2 of Attachment 1 for the detailed revisions to recordkeeping requirements by subpart):

- For subpart I (Electronics Manufacturing), EPA is revising one recordkeeping requirement to clarify which records must be kept for certified destruction or removal efficiencies, one new recordkeeping element for the inputs and results for accounting for the fraction of gas exhausted through abatement systems, one new requirement for abatement systems purchased and installed on or after January 1, 2025 to include records of the method used to measure the destruction and removal efficiency values, and two new recordkeeping requirements for certification requirements for reporters that use hydrocarbon-fuel-based emissions control systems to control emissions from tools that use either NF_3 as an input gas in remote plasma cleaning processes or F_2 as an input gas in any process, and that assume that one or more of those systems do not form CF_4 from F_2. (see the entries in Table 2 of Attachment 1).
- For subpart N (Glass Production), the EPA is requiring monthly recordkeeping of glass production by glass type for each continuous melting furnace and monthly recordkeeping of the amount of recycled scrap glass (cullet) charged to each continuous glass melting furnace, by glass type for existing glass production facilities.
- For subpart P (Hydrogen Production), the EPA is requiring recordkeeping of all analyses and calculations conducted to determine the values reported in § 98.166(b)for new and existing hydrogen production facilities, and, if the CEMS measures emissions from a common stack for multiple hydrogen production units or emissions from a common stack for hydrogen production unit(s) and other source(s), records used to estimate the decimal fraction of the total annual CO2 emissions from the CEMS monitoring location attributable to each hydrogen production unit.
- For subpart Y (Petroleum Refineries), EPA is requiring three new monthly recordkeeping elements as part of the verification software records required in 40 CFR 98.257(b): Mass of water, typical distance from the bottom of the coking unit vessel to the top of the water level, and fraction of the coke-filled bed that is covered by water at the end of the cooling cycle just prior to atmospheric venting or draining for each delayed coking unit.
- For subpart BB (Silicon Carbon Production), EPA is requiring that respondents maintain records of information to be newly reported related to their methane abatement devices.
- For subpart DD (Electrical Transmission and Distribution Equipment Use), EPA is requiring that respondents maintain records for all electrical equipment where the nameplate capacity is measured by the user.
- For subpart HH (Municipal Solid Waste Landfills), the EPA is requiring that facilities would continue to record the information required by § 98.3(g), including data used to calculate and report the GHG emissions in § 98.346 for new and existing municipal solid waste landfills.
- For subpart VV (Geologic Sequestration of Carbon Dioxide with Enhanced Oil Recovery Using ISO 27916), EPA is requiring respondents comply with the record retention

requirements in the standard designated as CSA/ANSI ISO 27916:2019, *Carbon Dioxide Capture, Transportation and Geological Storage—Carbon Dioxide Storage Using Enhanced Oil Recovery (CO_2-EOR)*.

- For subpart WW (Coke Calciners), the EPA is requiring recordkeeping requirements for all parameters monitored under § 98.494 as well as retention of a file generated by the verification software and other data used to support the calculations that determine reported GHG emissions. These requirements apply to new and existing coke calcining operations.
- For subpart XX (Calcium Carbide Production), the EPA is requiring facilities record the monthly calcium carbide production from each process unit and the number of monthly and annual operating hours for each process unit. If a CEMS is not used, the EPA is requiring the facility would also retain records of quantities of each material consumed or produced and carbon content determinations. Additionally, the EPA is requiring records of how measurements are made, and retention of a record of the file generated by the verification software and other data used to support the calculations that determine reported GHG emissions. These requirements apply to calcium carbide producers who will be newly required to report under part 98.
- For subpart YY (Caprolactam, Glyoxal, and Glyoxylic Acid Production), the EPA is requiring that facilities maintain records documenting the procedures used to ensure the accuracy of the measurements of all reported parameters, records documenting the estimate of production rate and abatement technology destruction efficiency through accounting procedures and process knowledge, and retention of a record of the file generated by the verification software and other data used to support the calculations that determine reported GHG emissions. These requirements apply to caprolactam, glyoxal, and glyoxylic acid producers who will be newly required to report under part 98.
- For subpart ZZ (Ceramics Manufacturing), the EPA is requiring monthly records of the ceramics production rate and the monthly amount of each carbonate-based raw material charged for each ceramics process unit; records to support the carbonate-based mineral mass fraction for each mineral in each carbonate-based raw material, and annual operating hours for each unit. For facilities using CEMS, the EPA is requiring facilities maintain the CEMS measurement records. The rule requires records of how measurements are made, and retention of a record of the file generated by the verification software and other data used to support the calculations that determine reported GHG emissions. These requirements apply to ceramics producers that annually consume at least 2,000 tons of carbonates, either as raw materials or as a constituent in clay, and operate a ceramics manufacturing process unit, who would be newly required to report under part 98.

Reporters who enter into the IVT new data elements in subparts Y, WW, XX, YY, or ZZ (see the entries in Table 2 of Attachment 1) are required to maintain an electronic or hard copy of a file generated by IVT as a record of certain data elements. This new requirement affects 54 reporters under subpart Y, 15 reporters under subpart WW, one reporter in subpart XX, six reporters in subpart YY, and 25 reporters in subpart ZZ who are required to use IVT. However, note that the reporters under subparts Y, WW, XX, YY, and ZZ maintain a copy of a file generated by the IVT for all entered data, therefore, minimal burden is associated with this activity.

12c. Respondent Activities

Respondent activities associated with each data item specified in section 12b are identified below.

Reporting New or Substantially Revised Data Elements. The final revisions require reporting of 122 new or substantially revised data elements from 19 existing subparts and industry sectors under the GHGRP and 75 data elements from five new subparts under the GHGRP. For each of the 197 new or substantially revised data elements required to be reported (see Table 1 of Attachment 1), all respondents would:

1. Submit the value via e-GGRT as part of the annual report currently required under part 98 or enter the value into the EPA's IVT.

2. Maintain records of reported data for a minimum of three years; and for data entered into IVT, maintain the file generated by IVT for five years (for the reasons described in section 6.

All respondents would be required to calculate the new or substantially revised data elements using readily available data.

Collection Schedule

For each reporting year, facilities collect data and calculate emissions at varying frequencies, as described in the GHGRP, and summarized in OMB Control No. 2060-0629, ICR No. 2300.18. All data elements under this information collection would be submitted no more frequently than an annual basis as part of the respondent's annual report required under part 98.

12d. Respondent Burden Hours and Labor Costs

This section presents the EPA's estimates of the burden and costs to respondents associated with the activities described in section 12b. The EPA estimates that, over the three years covered by this request, the average total respondent burden associated with this reporting will be 25,647 hours per year and the cost of all respondents of the information collection will increase an average of $5,410,052 per year, which includes $2,733,937 in non-labor costs per year.

Section 12d(i) of this ICR provides estimates of burden (hours) for all respondent types. Section 12d(ii) contains estimates of respondent costs for the information collection. Section 6(c) summarizes federal burden and costs. Section 12d(iv) describes the respondent universe and the total burden and cost of this collection to respondents. Section 12d(v) presents the bottom-line burden and cost. Section 6(f) provides reasons for any change in burden.

12d(i) Estimating Respondent Burden

Respondent burden estimates are presented in Exhibit 12.1. The EPA estimates that the total annual burden to all affected entities will increase by 25,647 hours per year, on average, over the three years covered by this information collection.

Exhibit 12.1 of this document presents the aggregate and average annual respondent burden. For the annual burden by source category, see Tables 1 through 3 of Attachment 2. Note that the total cost numbers in Exhibit 12.1 may not add up due to rounding. For further details of burden calculations, see the document *Assessment of Burden Impacts for Final Revisions for the Greenhouse Gas Reporting*

Rule in Docket Id. No. EPA-HQ-OAR-2019-0424 (hereafter referred to as the Impacts Assessment), which contains the subpart-specific costs that are expected to be associated with this information collection.

Exhibit 12.1. Summary of Annual Respondent Burden and Cost of Final Revisions for the Greenhouse Gas Reporting Rule

Year	Number of Respondents	Total Labor Hours	Labor Costs	Non-Labor Costs (Annualized Capital/Startup and O&M)	Total Costs
1	2,701	25,900	$2,684,681	$2,733,813	$5,418,494
2	2,701	25,510	$2,671,081	$2,733,937	$5,405,019
3	2,701	25,531	$2,672,580	$2,734,062	$5,406,642
Total	8,104	76,940	$8,028,343	$8,201,812	$16,230,155
3-Yr Annual Average	2,701	25,647	$2,676,114	$2,733,937	$5,410,052

12d(ii) Estimating Respondent Costs

Costs to respondents associated with this information collection include labor costs (*i.e.*, the cost of labor by facility staff to meet the rule's information collection requirements) and non-labor costs (*e.g.*, the cost of purchasing and installing monitoring equipment or contractor costs associated with providing the required information).

To calculate labor costs, the EPA used an approach consistent with the ICR associated with the GHGRP currently approved by OMB, updated to incorporate 2021 BLS labor rates. For all subparts except subpart W, the labor rates are: $73.83 for technical workers, $91.33 for managers, $34.09 for clerical support, and $114.80 for legal support. Sector-specific labor rates are used for the oil and gas industry (subpart W): $132.31 for senior managers, $123.46 for middle managers, $110.17 for engineers, and $77.99 for technicians. These labor rates were applied to the total burden estimates for each labor category to obtain the total costs for each subpart. Labor and non-labor costs (capital and O&M) for all subparts are summarized in Exhibit 12.1. These labor and non-labor costs, as well as additional detail regarding the calculation methodology for the final revisions are presented in more detail in the Impacts Assessment.

The EPA estimates that the total annual costs to all affected non-federal entities would average $2.7 million over the three years covered by this information collection. As shown in section 12b, the number of new data items and activities varies by source category. Exhibit 12.1 presents the aggregate burden by year for all affected source categories combined. This includes costs of $2,684,681 from revisions implemented in the first year, and $2,671,081 and $2,672,580 from revisions implemented in the second and third years, respectively, averaging $2,676,114 per year over the three years.

Exhibit 12.2 presents the annual average burden and cost for each source category for which a burden increase or decrease is anticipated over the first three years of the information collection. For a more detailed summary of the annual costs by industry segment, see Tables 1 through 3 of Attachment

2. For a more detailed summary of the annual average cost per source category over the first three years of the information collection, see Table 4 of Attachment 2.

Exhibit 12.2. Annual Average Burden Over the First Three Years of the Information Collection, by Source Category

Subpart and Source Category	Annual Average Number of Respondents	Annual Average Burden (Hours)	Annual Average Burden Per Respondent (Hours)	Average Annual Labor Costs ($)[1]	Average Annual Non-Labor Costs ($)[1]	Annual Average Labor and Non-Labor Costs ($)[1]
C. Stationary Combustion (general unspecified)	310	(8)	(0.0)	($2,425)	$0	($2,425)
G. Ammonia Manufacturing	29	2	0.1	$119	$0	$119
H. Cement Production	94	27	0.3	$1,999	$0	$1,999
I. Electronics Manufacturing	48	253	5	$18,566	$62	$18,628
N. Glass Production	101	41	0.4	$2,074	$0	$2,074
P. Hydrogen Production	114	124	1.1	$7,497	$2,561	$10,058
Q. Iron and Steel Production	121	21	0.2	$1,485	$0	$1,485
S. Lime Manufacturing	71	41	0.6	$1,186	$0	$1,186
V. Nitric Acid Production	1	(95)	(94.8)	($2,680)	($11,085)	($13,765)
W. Petroleum and Natural Gas Systems	188	22,045	117.3	$2,433,058	$2,717,864	$5,150,921
X. Petrochemical Production	31	14	0.5	$618	$0	$618
Y. Petroleum Refineries	57	(76)	(1.3)	($6,133)	($3,930)	($10,063)
AA. Pulp & Paper Mnfctrng	1	1	1.4	$104	$0	$104
BB. Silicon Carbide Production	1	0	0.3	$20	$0	$20
DD. Sulfur Hexafluoride (SF6) from Electric Power Systems	95	228	2	$15,278	$3,119	$18,397
FF. Underground Coal Mines	61	0	0	$0	$0	$0
GG. Zinc Production	5	1	0	$20	$0	$20
HH. Landfills	1,129	1,397	1.2	$82,745	$374	$83,120
II. Industrial Wastewater Treatment	2	65	32.5	$4,904	$3,077	$7,981
OO. Suppliers of Industrial GHG	121	93	0.8	$6,884	$62	$6,946
PP. Suppliers of Carbon Dioxide	22	12	0.5	$872	$0	$872
QQ. Importers/Exporters of FGHGs in Pre-Charged Equp. Or Foams	33	4	0.1	$249	$0	$249

Subpart and Source Category	Annual Average Number of Respondents	Annual Average Burden (Hours)	Annual Average Burden Per Respondent (Hours)	Average Annual Labor Costs ($)[1]	Average Annual Non-Labor Costs ($)[1]	Annual Average Labor and Non-Labor Costs ($)[1]
RR. Geologic Sequestration of Carbon Dioxide	9	0	0	$0	$0	$0
SS. Electrical Equip. Manufacture and Refurbishment	5	5	1	$358	$0	$358
TT. Industrial Waste Landfills	1	58	58.0	$4,240	$62	$4,303
UU. Injection of Carbon Dioxide	2	(26)	(13.0)	($1,886)	($125)	($2,011)
VV. Geologic Sequestration of CO2 with EOR	2	34	17	$2,923	$250	$3,172
WW. Coke Calcining	15	474	31.6	$35,633	$19,649	$55,282
XX. Calcium Carbide	1	36	36.0	$2,701	$62	$2,764
YY. Caprolactam, Glyoxal, and Glyoxylic Acid Production	6	155	25.9	$11,488	$374	$11,862
ZZ. Ceramics Manufacturing	25	719	28.8	$54,217	$1,559	$55,777
TOTAL	2,701	25,647	9.5	$2,676,114	$2,733,937	$5,410,052

[1] Parentheticals indicate a negative value or reduction in burden.

12d(iv) Estimating the Respondent Universe and Total Burden and Costs

The estimated number of respondents in each subpart that will perform the required activities under this information collection is presented in Tables 1 through 3 of Attachment 2. The number of respondents varies in each year due to the final revisions. The required activities depend on the applicable sector-specific reporting requirements, as described above in sections 12b and 12c. The number of respondents subject to the required activities was estimated separately for each subpart, and in situations where a facility reports under multiple subparts, the facility was counted once per subpart (*e.g.*, facilities that report emissions under both subpart P and subpart C were counted as separate facilities under each subpart). As a result, the actual total number of respondents that will perform the required activities for each year across all subparts is lower than estimated.

12d(v) Bottom Line Burden Hours and Costs

The bottom-line burden hours and costs are shown in Exhibit 12.3.

Exhibit 12.3. Bottom Line Annual Burden and Cost

	Year 1 (2025)	Year 2 (2026)	Year 3 (2027)	Total	Annual Average
Respondent Costs					
Number of Respondents	2,701	2,701	2,701	8,104	2,701
Total Respondent Labor Hours	25,900	25,510	25,531	76,940	25,647
Total Respondent Labor Costs	$2,684,681	$2,671,081	$2,672,580	$8,028,343	$2,676,000

Non-labor (Capital and O&M) Costs	$2,733,813	$2,733,937	$2,734,062	$8,201,812	$2,734,000
Total Respondent Costs	$5,418,494	$5,405,019	$5,406,642	$16,230,155	$5,410,000
Agency Costs					
Total Agency Burden Hours	409	409	411	1,229	410
Total Agency Labor Costs	$24,915	$24,915	$25,051	$74,880	$24,960
Total Burden Hours (Respondents + Agency)	26,308	25,918	25,942	78,169	26,056
Bottom Line Costs (Respondents + Agency)	$5,443,408	$5,429,933	$5,431,693	$16,305,035	$5,435,000

13. RESPONDENT CAPITAL AND O&M COSTS

Provide an estimate for the total annual cost burden to respondents or record keepers resulting from the collection of information. (Do not include the cost of any hour burden already reflected on the burden worksheet).

The cost estimate should be split into two components: (a) a total capital and start-up cost component (annualized over its expected useful life) and (b) a total operation and maintenance and purchase of services component. The estimates should consider costs associated with generating, maintaining, and disclosing or providing the information. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling, and testing equipment; and record storage facilities.
If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collections services should be a part of this cost burden estimate.

Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.

See section 12 above.

14. AGENCY COSTS

Provide estimates of annualized costs to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information.

14a. Agency Activities

EPA activities include the monitoring and verification of emission reports, database and software maintenance, communication and outreach, and program evaluation. This ICR reflects an incremental agency burden for program operation activities, which include monitoring and verification of emission reports. Specifically, the additional burden for the review of new and revised data elements reported was estimated.

14b. Agency Labor Cost

This section describes the burden and cost to the federal government associated with this information collection, and the details are provided in Attachment 2. Federal activities under this information collection include EPA oversight of the reporting program and required reporting by federally owned GHG generating facilities.

EPA activities associated with the GHGRP include oversight and implementation of the reporting program, e.g., monitoring and verification of emission reports, database and software maintenance, communication and outreach, and program evaluation. For the rule, the incremental burden to the EPA is associated with the additional time to review the new and substantially revised data elements that will be reported (see section 12b), including new data submitted under new subparts VV, WW, XX, YY, and ZZ. The time to review new data elements that are inputs to equations was assumed to be the same as reported data elements, as the EPA will still review and verify the data using the verification summaries generated by the EPA's IVT. There are no non-labor costs associated with the changes.

To develop EPA labor costs, the EPA estimated the average hourly labor rate for salary and overhead and benefits for Agency staff to be $60.93. To derive this figure, the EPA multiplied the hourly compensation at GS-13, Step 1 on the 2021 GS pay scale ($38.08) by the standard government benefits multiplication factor of 1.6 to account for overhead and benefits.[1]

The total burden and costs to the federal government from the new and substantially revised data elements are anticipated to average 410 hours and $24,960 ($2021) per year over the three years covered by this information collection. Exhibit 14.1 presents the annual Agency burden and cost. For additional details on the annual costs, see Tables 5 through 7 of Attachment 2.

Exhibit 14.1 Annual Agency Burden and Cost

Year	Number of Occurrences Per Year (1)	Total Annual Burden Hours	Labor Costs ($2021)
1	20,445	409	$24,915
2	20,445	409	$24,915
3	20,557	411	$25,051
Total	61,448	1,229	$74,880
3-Yr Annual Average	20,483	410	$24,960

(1) Number of occurrences is the number of new or revised data elements to be reported times the facility count for each applicable subpart or sector with new data elements.

14c. Agency Non-Labor Costs

There are no non-labor costs to the federal government associated with the rule changes included in this information collection.

15) REASONS FOR CHANGE IN BURDEN

[1] *https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/pdf/2018/GS_h.pdf*

Explain the reasons for any program changes or adjustments reported in the burden or capital/O&M cost estimates.

This section presents the change in burden based on the final revisions and explains the reasons for the change in burden. This final rule will result in an overall average annual burden of 25,647 hours and $2,676,114 over the three years covered by this information collection. The EPA's final revisions to part 98 that impose either a reduction or increase in burden and costs for respondents are identified below and described in more detail in the Impacts Assessment.

The final amendments will revise the applicability for certain sectors. These revisions would expand the number of respondents reporting to the GHGRP in certain industrial sectors. The final revisions would apply to facilities affected by revisions to Table A-1 to part 98 in subparts V (Nitric Acid Production), W (Petroleum and Natural Gas Systems), DD (Electrical Transmission and Distribution Equipment Use), HH (Municipal Solid Waste Landfills), II (Industrial Wastewater Treatment), OO (Suppliers of Industrial Greenhouse Gases), and TT (Industrial Waste Landfills); revisions to include or exclude certain types of facilities under subparts P (Hydrogen Production) and Y (Petroleum Refineries); revisions to the applicability estimation methods of subpart I (Electronics Manufacturing) that will include one additional facility not currently reporting; and revisions to add new reporting requirements under new subparts VV (Geologic Sequestration of Carbon Dioxide with Enhanced Oil Recovery Using ISO 27916), WW (Coke Calciners), XX (Calcium Carbide Production), YY (Caprolactam, Glyoxal, and Glyoxylic Acid Production), and ZZ (Ceramics Manufacturing). For subparts I, P, V, Y, W, DD, HH, II, OO, and TT, the final revisions to applicability only impact the number of respondents that would report under these subparts. The final revisions to applicability result in an increase in burden for facilities in the affected sectors who were not previously required to report under the GHGRP. For subparts V and Y, the final revisions would result in a decrease in the number of facilities reporting to these subparts, which would result in no increase or a decrease in burden. The change in burden for reporters under existing subparts I, P, V, W, Y, DD, HH, II, OO, and TT is estimated at $5,214,548 in the first year of this information collection, and $5,208,338 in subsequent years. These costs include $2,714,087 in annual non-labor costs in the first year and subsequent years,

For the new subparts VV, WW, XX, YY, and ZZ, the requirements would require the collection of new data (approximately 75 new data elements), and would implement certain calculation, monitoring, and recordkeeping and reporting requirements for the affected facilities. Where feasible, the EPA has included requirements that rely on production or materials data that are currently collected by facilities to estimate GHG emissions for annual reports, and has estimated the burden for the associated planning; monitoring, sampling, and analysis; QA/QC; recordkeeping; and reporting for compliance. The final revisions also reduce the reporting burden by implementing facility definitions and thresholds to exclude small reporters, or reduce burden by relying on calculation methods that use data routinely captured by facilities in the standard course of business. Additionally, new subpart VV applies to certain existing facilities that conduct enhanced oil recovery (EOR) and that currently report under subpart UU of part 98. These reporters have the option to begin reporting under new subpart VV after January 1, 2025, or may otherwise continue to report under subpart UU; therefore, the new subpart would not expand the existing coverage of facilities subject to the GHGRP. The burden increase for new reporting under subparts VV, WW, XX, YY, and ZZ is estimated at $131,301 in the first year of this information collection, and $124,619 in subsequent years. These costs include $21,645 in annual non-labor costs in the first year and $21,833 in subsequent years.

The final revisions also include revisions that would streamline or improve calculation methods for subparts C (General Stationary Fuel Combustion), P (Hydrogen Production), AA (Pulp and Paper

Manufacturing) and HH (Municipal Solid Waste Landfills). For subpart C, the final rule revises the calculation methodologies under 40 CFR 98.33(e)(3)(iv)(A) to reduce burden for facilities that combust MSW or tires by removing requirements for additional sampling and analysis of data. For subparts AA and HH, the final revisions include adding or revising the calculation methodologies to improve the quality of the emissions data reported; these revisions require additional labor burden for respondents to adjust their internal reporting methods and to review readily available data from facilities and conduct engineering calculations. The final revisions do not require additional monitoring or sampling. The total burden change for revisions to calculation methodologies in subparts C, AA and HH is $4,703 in the first year and $6,297 in subsequent years. For subpart P, the final rule allows the use of product specification information annually in lieu of monthly sampling and analysis for gaseous non-hydrocarbon fuels and feedstocks that have carbon content below a specified value; these revisions result in a reduction in O&M costs of $1,920 for reporters using fuels or feedstocks with a low carbon content in each year.

The final revisions also revise the current recordkeeping and reporting under part 98 by requiring 122 new and revised data elements be reported via e-GGRT or entered into IVT in e-GGRT for 19 existing subparts. This includes 79 new data elements that have not been previously reported and 43 data elements that have been significantly revised. For each of the new and significantly revised data elements, respondents are required to ascertain or calculate the data element using readily available data (data that are generally collected as part of a facility's standard course of business, such a material consumption or production data) and submit the value via e-GGRT or enter the value into the EPA's IVT. For subpart I (Electronics Manufacturing), four new data elements in the final rule pertain to the technology assessment report required under 40 CFR 98.96(y), which would be required to be submitted with the annual report every five years. The annual burden and costs associated with these subpart I data elements are applied in only the third year covered by this data collection. The new and revised data elements for each subpart and the number of respondents required to report the data elements are included in Table 1 of Attachment 1. These revisions increase the burden and cost to existing reporters. The EPA is also removing 10 data elements in two subparts (subparts C and Y) that are currently required to be reported (see section 12b). Respondents would no longer be required to calculate the data element and submit the value via e-GGRT as part of the annual reports currently required under part 98. The removed data elements for each subpart and the number of respondents affected are included in Table 1 of Attachment 1. For all facilities impacted by new or revised data elements that are reported or entered into IVT in existing subparts (subparts C, G, H, I, N, P, Q, S, X, Y, AA, BB, DD, GG, HH, OO, PP, QQ, SS), the total annual cost is $70,320. The average burden increase is approximately $22 per reporter. There are no O&M costs associated with the final amendments to recordkeeping and reporting.

The final costs have been adjusted from those proposed to remove costs where the EPA is not taking final action on specific proposed revisions to add subpart B (Energy Consumption), certain costs associated with proposed revisions to subpart W (Petroleum and Natural Gas Systems) included in the 2022 Data Quality Improvements Proposal, and costs associated with certain revisions to calculations, monitoring, or reporting requirements for subparts A (General Provisions), C (General Stationary Fuel Combustion), F (Aluminum Production), G (Ammonia Production), H (Cement Production), S (Lime Production), HH (Municipal Waste Landfills), OO (Suppliers of Industrial Greenhouse Gases), and QQ (Importers and Exporters of Fluorinated Greenhouse Gases Contained in Pre-Charged Equipment and Closed-Cell Foams). The burden of the final rule has also been adjusted to account for additional final reporting and recordkeeping requirements for subparts I (Electronics Manufacturing), P (Hydrogen Production), DD (Electrical Transmission and Distribution Equipment Use), and ZZ (Ceramics Manufacturing).

The total increase in costs from all final revisions includes $5,418,494 in the first year, $5,405,019 in the second year, and $5,406,642 in the third year, or an average annual cost of $5,410,052. These costs include an annual average non-labor cost of $2,733,937. Overall, the final revisions would result in an increase in costs.

16) PUBLICATION OF DATA

For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

The GHGRP was developed, in large part, to collect comprehensive and accurate data to inform future climate policy development and support a range of possible policies and regulations, as discussed in section 2 of this document. The comprehensive GHG data reported directly from large facilities and suppliers across the country are accessible to the public via the EPA's online data publication tool, also known as FLIGHT (Facility Level Information on Greenhouse gases Tool) at: *https://ghgdata.epa.gov/ghgp/main.do*. FLIGHT is designed for the general public and allows users to view and sort GHG data for every reporting year starting with 2010 from over 8,000 entities in a variety of ways including by location, industrial sector, and type of GHG emitted. To support the needs of data users, all non-confidential data collected through the GHGRP are made available for download through Envirofacts (*https://www.epa.gov/enviro/*), a cross-EPA data publication website. The EPA publishes aggregated versions of other certain data collected under the final rule, including totals, averages, and other aggregated versions of data submitted by individual reporters. The data that are aggregated were determined in this final rule or in previous rulemakings to be confidential business information in their original, non-aggregated form.

A summary of the annual GHGRP data collected from each industrial sector for policy makers is also made available through interactive web pages known as the GHGRP Data Highlights. For those readers interested in more detail than is provided in the GHGRP Data Highlights for a particular sector, Sector Profiles have been developed which include EPA analysis of trends seen in emissions from the sector over the years covered by the GHGRP. These sector profiles are available electronically through the GHGRP website. Additional GHGRP-related publication materials (including state-specific dashboards, demographic information, fact sheets, summary data files, frequently requested datasets, etc.) are also available on the GHGRP website.

All data elements under this information collection will be submitted no more frequently than an annual basis as part of the respondent's annual report required under part 98. The EPA typically reviews the information collected at the end of each reporting year and conducts verification, quality assurance, aggregation activities, and other data analyses and publishes reports within 6 to 9 months of data collection.

17) DISPLAY OF EXPIRATION DATE

If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.

The agency will display the expiration date for this information collection.

18) CERTIFICATION STATEMENT

Explain each exception to the topics of the certification statement identified in "Certification for Paperwork Reduction Act Submissions."

This information collection complies with all provisions of the Certification for Paperwork Reduction Act Submissions.

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Table 1. New, Revised, or Removed Data Elements by Source Category

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
C – General Stationary Fuel Combustion	98.36(c)(1)(vi)	Annual CO_2 emissions from combustion of all fossil fuels combined (in metric tons) if any of the units in an aggregation of units burn both fossil fuels and biomass.	Removed	Decrease – Respondents will no longer be required to calculate the data element and submit the value via e-GGRT as part of the annual report. This will affect ~149 respondents annually.
	98.36(c)(3)(vi)	Annual CO_2 emissions from combustion of all fossil fuels combined (in metric tons) if any of the units in a common pipe configuration burn both fossil fuels and biomass.	Removed	Decrease – Respondents will no longer be required to calculate the data element and submit the value via e-GGRT as part of the annual report. This will affect ~82 respondents annually.
	98.33(e)	Starting in reporting year (RY) 2022, mandatory reporting for tire combustors of the metric tons of biogenic CO2 emissions separately from the combined combustion of biomass and fossil fuels.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This will affect ~28 respondents annually.
G – Ammonia Manufacturing	98.76(b)(16)	If a CEMS is not used to measure emissions, annual quantity of excess hydrogen produced that is not consumed through the production of ammonia (metric tons).	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart G that do not use a CEMS and will affect ~29 reporters annually.
H – Cement Production	98.86(a)(4)	Annual arithmetic average of total CaO content of clinker at the facility (weight fraction) (CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that use a CEMS and will affect ~90 reporters annually.

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Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
	98.86(a)(5)	Annual arithmetic average of non-calcined CaO content of clinker at the facility (weight fraction) (CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that use a CEMS and will affect ~90 reporters annually
	98.86(a)(6)	Annual arithmetic average of total MgO content of clinker at the facility (weight fraction) (CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that use a CEMS and will affect ~90 reporters annually
	98.86(a)(7)	Annual arithmetic average of non-calcined MgO content of clinker at the facility (weight fraction) (CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that use a CEMS and will affect ~90 reporters annually
H – Cement Production	98.86(a)(12)	Annual facility CKD not recycled to the kiln(s) (tons) (CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that use a CEMS and will affect ~90 reporters annually
	98.86(b)(19)	Annual arithmetic average of total CaO content of clinker at the facility (weight fraction) (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents

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Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				subject to subpart H that do not use a CEMS and will affect ~4 reporters annually
	98.86(b)(20)	Annual arithmetic average of non-calcined CaO content of clinker at the facility (weight fraction) (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that do not use a CEMS and will affect ~4 reporters annually
	98.86(b)(21)	Annual arithmetic average of total MgO content of clinker at the facility (weight fraction) (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that do not use a CEMS and will affect ~4 reporters annually
H – Cement Production	98.86(b)(22)	Annual arithmetic average of non-calcined MgO content of clinker at the facility (weight fraction) (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that do not use a CEMS and will affect ~4 reporters annually
	98.86(b)(23)	Annual arithmetic average of total CaO content of CKD not recycled to the kiln(s) at the facility (weight fraction) (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that do not use a CEMS and will affect ~4 reporters annually
	98.86(b)(24)	Annual arithmetic average of non-calcined CaO content of CKD not recycled to the kiln(s) at the facility	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-

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		(weight fraction) (No CEMS)		GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that do not use a CEMS and will affect ~4 reporters annually
	98.86(b)(25)	Annual arithmetic average of total MgO content of CKD not recycled to the kiln(s) at the facility (weight fraction) (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that do not use a CEMS and will affect ~4 reporters annually
	98.86(b)(26)	Annual arithmetic average of non-calcined MgO content not recycled to the kiln(s) at the facility (weight fraction) (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that do not use a CEMS and will affect ~4 reporters annually
H – Cement Production	98.86(b)(27)	Annual facility CKD not recycled to the kiln(s) (tons) (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that do not use a CEMS and will affect ~4 reporters annually
	98.86(b)(28)	The amount of raw kiln feed consumed annually at the facility (tons, dry basis) (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart H that do not use a CEMS and will affect ~4 reporters annually
I – Electronics	98.96(o)	For all hydrocarbon-fuel-based	New	Increase – requires respondents to

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Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
Manufacturing		emissions control systems that are used to control emissions from tools that use either NF_3 as an input gas in remote plasma clean processes or F_2 as an input gas in any process type or sub-type, certification that the rate of conversion from F_2 to CF_4 is <0.1% and that the systems are installed, operated, and maintained in accordance with the directions of the emissions control system manufacturer, unless the emissions control system is included in the count of systems not certified to not form CF_4 in Equation I-9.		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to reporters that use hydrocarbon-fuel-based emissions control systems to control emissions from tools that use either NF_3 as an input gas in remote plasma cleaning processes or F_2 as an input gas in any process, and that assume that one or more of those systems do not form CF_4 from F_2. No reporters are anticipated to add certification for existing equipment, and no existing reporters are anticipated to apply for certification in the first three years of this rulemaking. Any certification costs would be included in the existing cost of new equipment. This change will affect 0 reporters annually.
I – Electronics Manufacturing	98.96(o)	For all hydrocarbon-fuel-based emissions control systems that are used to control emissions from tools that use either NF_3 as an input gas in remote plasma clean processes or F_2 as an input gas in any process type or sub-type, if you make the certification based on your own testing, you must certify that you tested the model of the system according to the requirements specified in 98.94(e).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to reporters that use hydrocarbon-fuel-based emissions control systems to control emissions from tools that use either NF_3 as an input gas in remote plasma cleaning processes or F_2 as an input gas in any process, and that assume that one or more of those systems do not form CF_4 from F_2. No reporters are anticipated to add certification for existing equipment, and no existing reporters are anticipated to apply for certification in the

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				first three years of this rulemaking. Any certification costs would be included in the existing cost of new equipment. This change will affect 0 reporters annually.
	98.96(o)	For all hydrocarbon-fuel-based emissions control systems that are used to control emissions from tools that use either NF_3 as an input gas in remote plasma clean processes or F_2 as an input gas in any process type or sub-type, if you make the certification based on testing by the emissions control system manufacturer, you must provide documentation from the emissions control system manufacturer that the rate of conversion from F_2 to CF_4 is <0.1% when tested according to the requirements specified in 98.94(e).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to reporters that use hydrocarbon-fuel-based emissions control systems to control emissions from tools that use either NF_3 as an input gas in remote plasma cleaning processes or F_2 as an input gas in any process, and that assume that one or more of those systems do not form CF_4 from F_2. No reporters are anticipated to add certification for existing equipment, and no existing reporters are anticipated to apply for certification in the first three years of this rulemaking. Any certification costs would be included in the existing cost of new equipment. This change will affect 0 reporters annually.
I – Electronics Manufacturing	98.96(p)(2)	Abatement systems through which fluorinated GHGs or N_2O flow at your facility and for which you are claiming destruction or removal efficiency: The basis of the destruction or removal efficiency being used (default, manufacturer verified, or site-specific measurement according to §98.94(f)(4)(i)) for each process sub-type or process type and for each gas.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to reporters that claim destruction or removal efficiencies. This change will affect ~22 reporters annually.

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Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
	98.96(q)(3)	Destruction or removal efficiency value at which each abatement system is certified for the fluorinated GHG or N_2O abatement.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart I with abatement systems through which fluorinated GHGs or N_2O flow at the facility and for which they are reporting controlled emissions. This change will affect ~ 47 reporters annually.
I – Electronics Manufacturing	98.96(w)(2)	For each stack systems reported as having process fluorinated GHG emitted, indicate whether the stack system is among those for which stack testing was performed as per §98.93(i)(3) or not performed as per §98.93(i)(2).	Removed	No change – Respondents have never used the stack testing methodology, therefore, no change in burden is anticipated.
	98.96(y)(2)(iv)	For any utilization or by-product formation rate, the method used to calculate the reported utilization and by-product formation rates.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the triennial technology report, which is submitted with the annual report for RY2027 and submitted every five years thereafter. This data element applies to all respondents subject to subpart I with semiconductor manufacturing facility that manufactures wafers greater than 150 mm and emits more than 40,000 metric ton CO2e of GHG emissions. This change will affect ~ 28

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Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				reporters annually.
	98.96(y)(2)(iv)	For any utilization or by-product formation rate data submitted, provide a unique record number for each data set used to calculate the reported utilization and by-product formation rates.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the triennial technology report, which is submitted with the annual report for RY2027 and submitted every five years thereafter. This data element applies to all respondents subject to subpart I with semiconductor manufacturing facility that manufactures wafers greater than 150 mm and emits more than 40,000 metric ton CO2e of GHG emissions. This change will affect ~ 28 reporters annually.
I – Electronics Manufacturing	98.96(y)(2)(iv)	For any destruction or removal efficiency data submitted, indicate whether the abatement system is specifically designed to abate the gas measured under the operating condition used for the measurement.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the triennial technology report, which is submitted with the annual report for RY2027 and submitted every five years thereafter. This data element applies to all respondents subject to subpart I with semiconductor manufacturing facility that manufactures wafers greater than 150 mm and emits more than 40,000 metric ton CO2e of GHG emissions. This change will affect ~ 28 reporters annually.
	98.96(y)(2)(iv)	For any utilization or byproduct formation rate data submitted, if you choose to use an additional alternative calculation methodology	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the triennial technology

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		to calculate and report the input gas emission factors and by-product formation rates, you must provide a complete, mathematical description of the alternative method used.		report, which is submitted with the annual report for RY2027 and submitted every five years thereafter. This data element applies to all respondents subject to subpart I with semiconductor manufacturing facility that manufactures wafers greater than 150 mm and emits more than 40,000 metric ton CO2e of GHG emissions. This change will affect ~ 28 reporters annually.
N – Glass Production	98.146(a)(2)	Annual quantity of glass produced (tons) by glass type from each continuous glass melting furnace (CEMS)	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart N that use a CEMS and will affect ~ 3 reporters annually.
	98.146(a)(2)	Annual quantity of glass produced (tons) by glass type from all furnaces combined (CEMS)	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart N that use a CEMS and will affect ~ 3 reporters annually.
	98.146(b)(3)	Annual quantity of glass produced (tons), by glass type, from each continuous glass melting (No CEMS)	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart N that do not use a CEMS and will affect ~ 99 reporters annually.
	98.146(b)(3)	Annual quantity of glass produced	Revised	Increase – requires respondents to

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		(tons), by glass type, from all furnaces combined (No CEMS)		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart N that do not use a CEMS and will affect ~ 99 reporters annually.
N – Glass Production	98.146(a)(3), 98.146(b)(4)	Annual quantity of glass produced (tons) by glass type from each continuous glass melting furnace.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart N and will affect ~101 reporters annually.
	98.146(a)(3), 98.146(b)(4)	Annual quantity (tons) of recycled scrap glass (cullet) charged to all furnaces combined.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart N and will affect ~101 reporters annually.
	98.146(b)(9)	Annual quantity of glass produced (tons), by glass type, from each continuous glass melting (No CEMS)	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart N and will affect ~101 reporters annually.
P – Hydrogen Production	98.166(b)	If the CEMS measures emissions from either a common stack for multiple hydrogen production units or a common stack for hydrogen production unit(s) and other	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to respondents

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		source(s), you must also report the estimated decimal fraction of the total annual CO_2 emissions attributable to this hydrogen production process unit		subject to subpart P that use CEMs and will affect ~3 reporters annually.
	98.166(c)	If a material balance is used to calculate emissions using Equations P-1 through P-3, as applicable, report the total annual CO_2 emissions (metric tons) and the name and annual quantity (metric tons) of each carbon-containing fuel and feedstock.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to respondents subject to subpart P that use CEMs and will affect ~3 reporters annually.
P – Hydrogen Production	98.166(d)(1))	For each hydrogen production process unit, report the process type for each hydrogen production unit (i.e., SMR, SMR-WGS, POX, POX-WGS, Autothermal Reforming only, Autothermal Reforming followed by WGS, Water Electrolysis, Brine Electrolysis, or Other (specify)).	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change will affect ~113 existing reporters + 2 new reporters annually.
	98.166(d)(2)	For each hydrogen production process unit, the type of hydrogen purification method (pressure swing adsorption, amine adsorption, membrane separation, other (specify), none).	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change will affect ~ 113 existing reporters + 2 new reporters annually.
P – Hydrogen Production	98.166(d)(4)	For each hydrogen production process unit, annual quantity of hydrogen that is purified only (metric tons). This quantity may be assumed to be equal to the annual quantity of hydrogen in the feedstocks to the	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change will affect ~113 existing reporters + 2 new reporters annually.

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		hydrogen production unit.		
	98.166(d)(6)	For each hydrogen production process unit, quantity of CO_2 collected and transferred off site in either gas, liquid, or solid forms, following the requirements of subpart PP of this part.	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change will affect ~113 existing reporters + 2 new reporters annually.
	98.166(d)(7)	For each hydrogen production process unit, annual quantity of carbon other than CO_2 or methanol collected and transferred off site, or transferred to a separate process unit within the facility for which GHG emissions associated with this carbon is being reported under other provisions of part 98, in either gas, liquid, or solid forms (metric tons carbon).	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change will affect ~113 existing reporters + 2 new reporters annually.
	98.166(b)(9)	For each hydrogen production process unit, annual net quantity of steam consumed by the unit(metric tons).	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change will affect ~113 existing reporters + 2 new reporters annually.
	98.166(d)(10)	An indication (yes or no) if BAMM was used, in accordance with §98.164(c), to determine fuel flow for each stationary combustion unit directly associated with hydrogen production (e.g., reforming furnace and hydrogen production process unit heater)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change applies to reporters who report to subparts P and C and will affect ~68 existing reporters.
	98.166(d)(10)(i)	The beginning date of using BAMM, in accordance with §98.164(c), to	New	Increase – requires respondents to ascertain the data element using readily

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		determine fuel flow for each stationary combustion unit directly associated with hydrogen production (e.g., reforming furnace and hydrogen production process unit heater).		available data and submit the value via e-GGRT as part of the annual report. This change applies to reporters who report to subparts P and C and will affect ~68 existing reporters.
	98.166(d)(10)(ii)	The anticipated or actual end date of using BAMM, as applicable, in accordance with §98.164(c), to determine fuel flow for each stationary combustion unit directly associated with hydrogen production (e.g., reforming furnace and hydrogen production process unit heater).	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change applies to reporters who report to subparts P and C and will affect ~68 existing reporters.
Q – Iron and Steel Production	98.176(g)	Each unit type for each process unit.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change will affect ~121 reporters annually.
	98.176(g)	Annual production capacity for each process unit.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change will affect ~121 reporters annually.
	98.176(g)	Annual operating hours for each process unit.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change will affect ~121 reporters annually.
S – Lime Manufacturing	98.196(a)(9)	Annual arithmetic average of calcium oxide content for each type of lime product produced (metric tons CaO/metric ton lime) (CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				data element applies to all respondents subject to subpart S that do use a CEMS and will affect ~ 3 reporters annually.
	98.196(a)(10)	Annual arithmetic average of magnesium oxide content for each type of lime product produced (metric tons MgO/metric ton lime) (CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart S that do use a CEMS and will affect ~ 3 reporters annually.
	98.196(a)(11)	Annual arithmetic average of calcium oxide content for each type of calcined lime byproduct/waste sold (metric tons CaO/metric ton lime) (CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart S that do use a CEMS and will affect ~ 3 reporters annually.
	98.196(a)(12)	Annual arithmetic average of magnesium oxide content for each type of calcined lime byproduct/waste sold (metric tons MgO/metric ton lime) (CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart S that do use a CEMS and will affect ~ 3 reporters annually.
S – Lime Manufacturing	98.196(a)(13)	Annual arithmetic average of calcium oxide content for each type of calcined lime byproduct/waste not sold (metric tons CaO/metric ton lime) (CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart S that do use a CEMS and will affect ~ 3 reporters annually.
	98.196(a)(14)	Annual arithmetic average of magnesium oxide content for each	New	Increase – requires respondents to ascertain the data element using readily

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		type of calcined lime byproduct/waste not sold (metric tons MgO/metric ton lime) (CEMS)		available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart S that do use a CEMS and will affect ~ 3 reporters annually.
	98.196(b)(17)(i)	The annual amount of CO_2 captured for use in all on-site processes (No CEMS)	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart S that do not use a CEMS and will affect ~ 68 reporters annually.
	98.196(b)(17)	Indicate whether CO_2 was captured (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart S that do not use a CEMS and will affect ~ 68 reporters annually.
S – Lime Manufacturing	98.196(b)(22)	Annual average results of chemical composition analysis of all lime byproducts or wastes not sold (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all respondents subject to subpart S that do not use a CEMS and will affect ~ 68 reporters annually.
	98.196(b)(23)	Annual quantity (tons) of all lime byproducts or wastes not sold (No CEMS)	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This

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				data element applies to all respondents subject to subpart S that do not use a CEMS and will affect ~ 68 reporters annually.
X – Petrochemical Production	98.246(b)(7)	If you measure emissions in accordance with § 98.243(b), provide estimates based on engineering judgment of the fractions of the total CO2 emissions that are attributable to combustion of off-gas from the petrochemical process unit(s) served by the flare	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to respondents that measure emissions in accordance with § 98.243(b) and would be required to newly report data elements related to emissions from combustion of off-gas for units served by a flare, and will affect ~2 reporter annually.
	98.246(b)(7)	If you measure emissions in accordance with § 98.243(b), provide estimates based on engineering judgment of the fractions of the total CH4 emissions that are attributable to combustion of off-gas from the petrochemical process unit(s) served by the flare	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to respondents that measure emissions in accordance with § 98.243(b) and would be required to newly report data elements related to emissions from combustion of off-gas for units served by a flare, and will affect ~ 2 reporter annually.
	98.246(b)(7)	If you measure emissions in accordance with § 98.243(b), provide estimates based on engineering judgment of the fractions of the total N2O emissions that are attributable to combustion of off-gas from the petrochemical process unit(s) served	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to respondents that measure emissions in accordance with § 98.243(b) and would be required to newly

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		by the flare		report data elements related to emissions from combustion of off-gas for units served by a flare, and will affect ~ 2 reporter annually.
	98.246(c)(3)	If you comply with the combustion methodology specified in § 98.243(d), provide estimates based on engineering judgment of the fractions of the total CO2 emissions that are attributable to combustion of off-gas from the ethylene process unit(s) served by the flare.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to respondents that measure emissions in accordance with § 98.243(d) and would be required to newly report data elements related to emissions from combustion of off-gas for units served by a flare, and will affect ~ 29 reporters annually.
	98.246(c)(3)	If you comply with the combustion methodology specified in § 98.243(d), provide estimates based on engineering judgment of the fractions of the total CH4 emissions that are attributable to combustion of off-gas from the ethylene process unit(s) served by the flare.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to respondents that measure emissions in accordance with § 98.243(d) and would be required to newly report data elements related to emissions from combustion of off-gas for units served by a flare, and will affect ~ 29 reporters annually.
	98.246(c)(3)	If you comply with the combustion methodology specified in § 98.243(d), provide estimates based on engineering judgment of the fractions of the total N2O emissions that are attributable to combustion of off-gas from the ethylene process unit(s)	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to respondents that measure emissions in accordance with § 98.243(d) and would be required to newly

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		served by the flare.		report data elements related to emissions from combustion of off-gas for units served by a flare, and will affect ~ 29 reporters annually.
	98.246(c)(6)	If you comply with the combustion methodology specified in § 98.243(d), name of each product produced in each process unit.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to respondents that measure emissions in accordance with § 98.243(d) and will affect ~ 29 reporters annually.
	98.246(c)(6)	If you comply with the combustion methodology specified in § 98.243(d), quantity of each product produced in each process unit.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to respondents that measure emissions in accordance with § 98.243(d) and will affect ~ 29 reporters annually.
Y - Petroleum Refineries	98.256(k)(6)(i)	If you use mass measurements from company records to determine the typical dry mass of coke in the delayed coking unit vessel at the end of the coking cycle, internal height of delayed coking unit vessel (feet) for each delayed coking unit.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~ 10 reporters annually.
	98.256(k)(6)(ii)	If you use mass measurements from company records to determine the typical dry mass of coke in the delayed coking unit vessel at the end of the coking cycle, typical distance from the top of the delayed coking	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~ 10 reporters annually.

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		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 for each delayed coking unit.		
	98.256(j)(2)	For asphalt blowing operations, maximum rated throughput of the unit, in metric tons asphalt/stream day.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~ 6 reporters under subpart Y with asphalt blowing units annually.
	98.256(h)(7)(i)	For coke calcining units, the owner and operator shall report: (1) The unit ID number (if applicable). (2) Maximum rated throughput of the unit, in metric tons coke calcined/stream day. (3) The calculated CO2, CH4, and N2O annual emissions for each unit, expressed in metric tons of each pollutant emitted. (4) A description of the method used to calculate the CO2 emissions for each unit (e.g., reference section and equation number). (5) If you use Equation Y-13 of § 98.253, an indication of whether coke dust is recycled to the unit (e.g., all dust is recycled, a portion of the dust is recycled, or none of the dust is	Removed	Decrease – removes reporting of data elements associated with coke calciners, the reporting for coke calciners is now accounted for under subpart WW. Affects ~3 petroleum refineries with coke calcining units.

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		recycled). (6) If you use a CEMS, the relevant information required under § 98.36 for the Tier 4 Calculation Methodology, the CO2 annual emissions as measured by the CEMS and the annual process CO2 emissions calculated according to § 98.253(g)(1). (7) Indicate whether you use a measured value, a unit-specific emission factor or a default emission factor for CH4 emissions. If you use a unit-specific emission factor for CH4, report the basis for the factor. (8) Indicate whether you use a measured value, a unit-specific emission factor, or a default emission factor for N2O emissions. If you use a unit-specific emission factor for N2O, report the basis for the factor.		
Subpart AA – Pulp and Paper	98.36(b)(8)	Annual CO2 mass emissions (including biogenic CO2), and the annual CH4, and N2O mass emissions for each type of fuel combusted during the reporting year, expressed in metric tons of each gas and in metric tons of CO2e,	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This change will affect ~1 existing reporter annually.
	98.36(b)(9)	Metric tons of biogenic CO2 emissions	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This

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				change will affect ~1 existing reporter annually.
BB - Silicon Carbide Production	98.286(c)(1)	Type of methane abatement technology used on each silicon carbide process unit or production furnace	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect 1 reporter annually.
	98.286(c)(1)	Date of installation for each methane abatement technology used on each silicon carbide process unit or production furnace.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect 1 reporter annually.
BB - Silicon Carbide Production	98.286(c)(2)	Methane destruction efficiency for each methane abatement technology (percent destruction).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect 1 reporter annually.
	98.286(c)(2)	If you report the methane destruction efficiency determined via a performance test, you must also report the test method that was used during the performance test.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect 1 reporter annually.
	98.286(c)(3)	Percentage of annual operating hours that methane abatement technology was in use for all silicon carbide process units or production furnaces combined.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect 1 reporter annually.
DD - Electrical	98.306(a)(1)	Nameplate capacity of equipment	Revised	Increase - requires respondents to

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Transmission and Distribution Equipment Use		(pounds) containing each reportable gas: Existing at the beginning of the year (excluding hermetically sealed-pressure switchgear)		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(a)(2)	Nameplate capacity of equipment (pounds) containing each reportable gas: New hermetically sealed-pressure switchgear during the year	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(a)(3)	Nameplate capacity of equipment (pounds) containing each reportable gas: New equipment other than hermetically sealed-pressure switchgear during the year	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(a)(4)	Nameplate capacity of equipment (pounds) containing each reportable gas: Retired hermetically sealed-pressure switchgear during the year	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
DD - Electrical Transmission and Distribution Equipment Use	98.306(a)(5)	Nameplate capacity of equipment (pounds) containing each reportable gas: Retired equipment other than hermetically sealed-pressure switchgear during the year	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(d)	Pounds of each reportable insulating gas stored in containers, but not in energized equipment, at the beginning of the year.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				data element will affect ~93 reporters annually.
	98.306(e)	Pounds of each reportable insulating gas stored in containers, but not in energized equipment, at the end of the year.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(f)	Pounds of each reportable insulating gas purchased in bulk from chemical producers or distributors.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(g)	Pounds of each reportable insulating gas purchased from equipment manufacturers or distributors with or inside equipment, including hermetically sealed-pressure switchgear.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(h)	Pounds of each reportable insulating gas returned to facility after off-site recycling.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
DD - Electrical Transmission and Distribution Equipment Use	98.306(i)	Pounds of each reportable insulating gas acquired inside equipment, except hermetically sealed-pressure switchgear, that was transferred while the equipment was in use, e.g., through acquisition of all or part of another electric power system.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.

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	98.306(j)	Pounds of each reportable insulating gas returned to suppliers.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(k)	Pounds of each reportable insulating gas that was sold or transferred to other entities in bulk.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(l)	Pounds of each reportable insulating gas sent off-site for recycling.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(m)	Pounds of each reportable insulating gas sent off-site for destruction.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(n)	Pounds of each reportable insulating gas contained in equipment, including hermetically sealed-pressure switchgear, that was sold or transferred to other entities while the equipment was not in use.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
DD - Electrical Transmission and	98.306(o)	Pounds of each reportable insulating gas disbursed inside equipment, except hermetically sealed-pressure	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-

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Distribution Equipment Use		switchgear, that was transferred while the equipment was in use, e.g., through sale of all or part of the electric power system to another electric power system.		GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(q)(1)	The number of reportable insulating gas containing pieces of equipment in each of the following equipment category: New hermetically sealed-pressure switchgear during the year.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(q)(2)	The number of reportable insulating gas containing pieces of equipment in each of the following equipment category: New equipment other than hermetically sealed-pressure switchgear during the year.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(q)(3)	The number of reportable insulating gas containing pieces of equipment in each of the following equipment category: Retired hermetically sealed-pressure switchgear during the year.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(q)(4)	The number of reportable insulating gas containing pieces of equipment in each of the following equipment category: Retired equipment other than hermetically sealed-pressure switchgear during the year.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
DD - Electrical Transmission and Distribution	98.306(r)(1)	The total nameplate capacity values, summed across each group, most recently assigned by the electrical equipment manufacturer(s) to all new	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This

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Equipment Use		equipment whose nameplate capacity values were measured by the user under this subpart and for which the user adopted the user-measured nameplate capacity value during the year.		data element applies to reporters who opt to measure the nameplate capacity of equipment. For the purposes of estimating burden, EPA has assumed this will affect 20% or ~19 reporters annually.
	98.306(r)(2)	The total nameplate capacity values, summed across each group, most recently assigned by the electrical equipment manufacturer(s) to all retiring equipment whose nameplate capacity values were measured by the user under this subpart and for which the user adopted the user-measured nameplate capacity value during the year.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to reporters who opt to measure the nameplate capacity of equipment. For the purposes of estimating burden, EPA has assumed this will affect 20% or ~19 reporters annually.
	98.306(s)(1)	The total nameplate capacity values, summed across each group, measured by the electrical equipment user for all new equipment whose nameplate capacity values were measured by the user under this subpart and for which the user adopted the user-measured nameplate capacity value during the year.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to reporters who opt to measure the nameplate capacity of equipment. For the purposes of estimating burden, EPA has assumed this will affect 20% or ~19 reporters annually.
	98.306(s)(2)	The total nameplate capacity values, summed across each group, measured by the electrical equipment user for all retiring equipment whose nameplate capacity values were measured by the user under this subpart and for which the user	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to reporters who opt to measure the nameplate capacity of equipment. For the purposes of

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		adopted the user-measured nameplate capacity value during the year.		estimating burden, EPA has assumed this will affect 20% or ~19 reporters annually.
DD - Electrical Transmission and Distribution Equipment Use	98.306(t)	For each unique insulating gas reported in paragraphs (a), (d) through (l), and (n) of this section, an ID number or other appropriate descriptor.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
	98.306(u)	For each ID number or descriptor reported in paragraph (q), the name (as required in § 98.3(c)(4)(iii)(G)(1)) and weight percent of each fluorinated gas in the insulating gas.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~93 reporters annually.
Subpart GG - Zinc Production	98.336(a)(6)	If a CEMS is used, report the total amount of electric arc furnace dust annually consumed by all Waelz kilns at the facility (tons).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. There are no reporters using the CEMS methodology under subpart GG, therefore this data element will affect 0 reporters annually.
	98.336(b)(6)	If a CEMS is not used, report the total amount of electric arc furnace dust annually consumed by all Waelz kilns at the facility (tons).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to reporters using the non-CEMS methodology and will affect ~5 reporters annually.
Subpart HH - MSW Landfills	98.346(h)	An indication of the applicability of 40 CFR part 60 or part 62 requirements to the landfill, 40 CFR part 60, subpart	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-

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		WWW, 40 CFR part 60, subpart XXX, approved state plan implementing 40 CFR part 60, subparts Cc or Cf, federal plan as implemented at 40 CFR part 62, subparts GGG or OOO, not subject to 40 CFR part 60 or part 62 municipal solid waste landfill rules).		GGRT as part of the annual report. This data element affects all landfills or ~1,123 reporters annually.
	98.346(h)	If the landfill is subject to a 40 CFR part 60 or part 62 municipal solid waste landfill rule, an indication of whether the landfill gas collection system is required under 40 CFR 60 or part 62.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects facilities reporting to subpart HH who also meet the design criteria for landfills subject to 40 CFR part 60 landfill NSPS, EG, or FP rule and will affect ~1,123 reporters annually.
	98.346(j)(5)	For landfills with gas collection systems, the number of gas collection systems at the landfill facility.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems and will affect ~840 existing reporters + 6 new reporters annually.
	98.346(j)(6)(i)	For landfills with gas collection systems, for each gas collection system at the facility, a unique name or ID number for the gas collection system.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems and will affect ~840 existing reporters + 6 new reporters annually.
Subpart HH -	98.346(j)(6)(iii)	For landfills with gas collection	Revised	Increase – requires respondents to

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MSW Landfills		systems, for each gas collection system at the facility, the annual hours the gas collection system was operating normally.		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems and will affect ~840 existing reporters + 6 new reporters annually.
	98.346(j)(6)(iv)	For landfills with gas collection systems, for each gas collection system at the facility, the number of measurement locations associated with the gas collection system.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems and will affect ~840 existing reporters + 6 new reporters annually.
	98.346(j)(6)(v)(A)	For each measurement location associated with the gas collection system, a unique name or ID number for the measurement location.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems and will affect ~840 existing reporters + 6 new reporters annually.
	98.346(j)(6)(v)(C)	For each gas collection system at a landfill facility, for each measurement location associated with the gas collection system, an indication of whether destruction occurs at the landfill facility, off-site, or both.	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems and will affect ~840 existing reporters + 6 new reporters annually.
	98.346(j)(6)(v)(D)(*1*)	If destruction occurs at the landfill facility for the measurement location	New	Increase – requires respondents to ascertain the data element using readily

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		(in full or in part), for each destruction device, a unique name or ID number for the destruction device.		available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems with destruction devices and will affect ~824 existing reporters annually.
	98.346(j)(6)(v)(D)(*2*)	If destruction occurs at the landfill facility for the measurement location (in full or in part), for each destruction device, the type of destruction device (flare, a landfill gas to energy project (i.e., engine or turbine), off-site, or other (specify))	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems with destruction devices and will affect ~824 existing reporters annually.
Subpart HH - MSW Landfills	98.346(j)(6)(v)(D)(*4*)	If destruction occurs at the landfill facility for the measurement location (in full or in part), for each destruction device, the total annual hours where active gas flow was sent to the destruction device.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems with destruction devices and will affect ~824 existing reporters annually.
	98.346(j)(6)(v)(D)(*5*)	If destruction occurs at the landfill facility for the measurement location (in full or in part), for each destruction device, the annual operating hours where active gas flow was sent to the destruction device and the destruction device was operating at its intended temperature or other parameter indicative of effective operation.	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems with destruction devices and will affect ~824 existing reporters annually.
	98.346(j)(6)(v)(D)(*6*)	If destruction occurs at the landfill	New	Increase – requires respondents to

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		facility for the measurement location (in full or in part), for each destruction device, the estimated fraction of the recovered CH_4 reported for the measurement location directed to the destruction device based on best available data or engineering judgement (decimal, must total to 1 for each measurement location).		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems with destruction devices and will affect ~824 existing reporters annually.
Subpart OO - Suppliers of Industrial Greenhouse Gases	98.416(c)(7)	Customs entry number	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect bulk importers or ~76 reporters annually.
	98.416(k)	For nitrous oxide, saturated perfluorocarbons, and sulfur hexafluoride, and fluorinated heat transfer fluids as defined at §98.6, report the end use(s) for which each GHG or fluorinated HTF is transferred.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect suppliers or ~120 reporters annually.
	98.416(k)	For nitrous oxide, saturated perfluorocarbons, and sulfur hexafluoride, and fluorinated heat transfer fluids as defined at §98.6, report the aggregated annual quantity of that GHG or fluorinated HTF in metric tons that is transferred to that end use application, if known.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect suppliers or ~120 reporters annually.
Subpart PP - Suppliers of Carbon Dioxide	98.426(h)(1)	If you capture a CO_2 stream from a facility that is subject this part and transfer CO_2 to any facilities that are subject to subpart RR or subpart VV of	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This

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		this part, the facility identification number associated with the annual GHG report for the facility that is the source of the captured CO_2 stream.		data element will affect subpart PP reporters that would be required to report CO_2 transferred to facilities reporting under subparts RR (~ 7 facilities) or VV (~2 facilities) annually.
	98.426(h)(2)	If you capture a CO_2 stream from a facility that is subject this part and transfer CO_2 to any facilities that are subject to subpart RR or subpart VV of this part, each facility identification number associated with the annual GHG reports for each subpart RR and subpart VV facility to which CO_2 is transferred	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect subpart PP reporters that would be required to report CO_2 transferred to facilities reporting under subparts RR (~ 7 facilities) or VV (~2 facilities) annually.
	98.426(h)(3)	If you capture a CO_2 stream from a facility that is subject this part and transfer CO_2 to any facilities that are subject to subpart RR or subpart VV of this part, the annual quantity of CO_2 in metric tons that is transferred to each subpart RR and subpart VV facility	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect subpart PP reporters that would be required to report CO_2 transferred to facilities reporting under subparts RR (~ 7 facilities) or VV (~2 facilities) annually.
	98.426(i)(1)	If you capture a CO_2 stream at a facility with a DAC process unit and electricity (excluding combined heat and power (CHP)) is provided using a dedicated meter for the DAC process unit: Annual quantity of electricity (generated on-site or off-site) consumed for the DAC process unit, in megawatt hours (MWh).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.

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Subpart PP - Suppliers of Carbon Dioxide	98.426(i)(1)(i)(A)	If you capture a CO_2 stream at a facility with a DAC process unit and electricity (excluding CHP) is provided using a dedicated meter for the DAC process unit: If electricity is sourced from a grid connection, the state where the facility with the DAC process unit is located.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
	98.426(i)(1)(i)(B)	If you capture a CO_2 stream at a facility with a DAC process unit and electricity (excluding CHP) is provided using a dedicated meter for the DAC process unit: If electricity is sourced from a grid connection, the county where the facility with the DAC process unit is located.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
	98.426(i)(1)(i)(C)	If you capture a CO_2 stream at a facility with a DAC process unit and electricity (excluding CHP) is provided using a dedicated meter for the DAC process unit: If electricity is sourced from a grid connection, the name of the electric utility company that supplied the electricity as shown on the last monthly bill issued by utility company during the reporting period.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
	98.426(i)(1)(i)(D)	If you capture a CO_2 stream at a facility with a DAC process unit and electricity (excluding CHP) is provided	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-

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		using a dedicated meter for the DAC process unit: If electricity is sourced from a grid connection, the name of the electric utility company that delivered the electricity.		GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
Subpart PP - Suppliers of Carbon Dioxide	98.426(i)(1)(i)(E)	If you capture a CO_2 stream at a facility with a DAC process unit and electricity (excluding CHP) is provided using a dedicated meter for the DAC process unit: If electricity is sourced from a grid connection, the annual quantity of electricity consumed for the DAC process unit, in MWh, calculated as the sum of the total energy usage values specified in all billing statements received during the reporting year.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
	98.426(i)(1)(ii)	If you capture a CO_2 stream at a facility with a DAC process unit and electricity (excluding CHP) is provided using a dedicated meter for the DAC process unit: If electricity is sourced from on-site or through a contractual mechanism for dedicated off-site generation, if known, indicate each applicable energy source (natural gas, oil, coal, nuclear, and other) and the annual electricity consumed for the DAC process unit per applicable source, in MWh.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
	98.426(i)(1)(ii)	If you capture a CO_2 stream at a	New	Increase - requires respondents to

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		facility with a DAC process unit and electricity (excluding CHP) is provided using a dedicated meter for the DAC process unit: If electricity is sourced from on-site or through a contractual mechanism for dedicated off-site generation, and if the on-site energy source is natural gas, oil, or coal, indicate whether flue gas is also captured by the DAC process unit.		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
Subpart PP - Suppliers of Carbon Dioxide	98.426(i)(2)	If you capture a CO_2 stream at a facility with a DAC process unit and you use heat, steam, or other forms of thermal energy (excluding CHP) for the DAC process unit: If known, indicate each applicable energy source (solar, geothermal, natural gas, oil, coal, nuclear, other) and the annual quantity of heat, steam, or other forms of thermal energy used for the DAC process unit per applicable energy source, in megajoules (MJ).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
	98.426(i)(2)	If you capture a CO_2 stream at a facility with a DAC process unit and you use heat, steam, or other forms of thermal energy (excluding CHP) for the DAC process unit: If the on-site heat source is natural gas, oil, or coal, also indicate whether flue gas is also captured by the DAC process unit.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.

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	98.426(i)(3)(i)	If you capture a CO_2 stream at a facility with a DAC process unit and electricity from CHP is sourced from on-site or through a contractual mechanism for dedicated off-site generation: If known, indicate each applicable energy source (non-hydropower renewable sources including solar, wind, geothermal and tidal; hydropower; natural gas; oil; coal; nuclear; and other) and the annual quantity of electricity consumed for the DAC process unit per applicable energy source, in MWh.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
	98.426(i)(3)(i)	If you capture a CO_2 stream at a facility with a DAC process unit and electricity from CHP is sourced from on-site or through a contractual mechanism for dedicated off-site generation: If the on-site energy source for CHP is natural gas, oil, or coal, indicate whether flue gas is also captured by the DAC process unit.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
	98.426(i)(3)(ii)	If you capture a CO_2 stream at a facility with a DAC process unit and you used heat from CHP for the DAC process unit: If known, indicate each applicable energy source (solar, geothermal, natural gas, oil, coal, nuclear, other) and the annual quantity of heat, steam or other	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this

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		forms of thermal energy used for the DAC process unit per applicable energy source, in MJ.		will affect 10% of reporters or ~13 reporters annually.
	98.426(i)(3)(ii)	If you capture a CO_2 stream at a facility with a DAC process unit and you used heat from CHP for the DAC process unit: If the on-site heat source is natural gas, oil, or coal, also indicate whether flue gas is also captured by the DAC process unit.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to facilities that capture a CO_2 stream in a direct air capture (DAC) unit. For the purposes of estimating burden, EPA has assumed this will affect 10% of reporters or ~13 reporters annually.
Subpart QQ - Importers and Exporters of Fluorinated Greenhouse Gases Contained in Pre-Charged Equipment or Closed-Cell Foams	98.436(a)(7)	For each importer of fluorinated GHGs contained in pre-charged equipment or closed-cell foams, the harmonized tariff system (HTS) code for each type of pre-charged equipment or closed-cell foam imported.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to bulk importers and will affect ~33 reporters annually.
	98.436(b)(7)	For each exporter of fluorinated GHGs contained in pre-charged equipment or closed-cell foams, the schedule B code for each type of pre-charged equipment or closed-cell foam imported.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to bulk exporters and will affect ~28 reporters annually.
Subpart SS - Electrical Equipment Manufacture and Refurbishment	98.456(k)	The nameplate capacity of the equipment, in pounds, delivered to customers with insulating gas inside, if different from §98.456(f).	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(p)	Number of samples for each make,	Revised	Increase - requires respondents to

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		model, and group of conditions if the mass of each insulating gas disbursed to customers in new equipment over the period p is determined by assuming that it is equal to the equipment's nameplate capacity or, in cases where equipment is shipped with a partial charge, equal to its partial shipping charge.		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(p)	Upper and lower bounds on the 95 percent confidence interval for each make, model, and group of conditions if the mass of each insulating gas disbursed to customers in new equipment over the period p is determined by assuming that it is equal to the equipment's nameplate capacity or, in cases where equipment is shipped with a partial charge, equal to its partial shipping charge.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
Subpart SS - Electrical Equipment Manufacture and Refurbishment	98.456(a)	Pounds of each reportable insulating gas stored in containers at the beginning of the year.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(b)	Pounds of each reportable insulating gas stored in containers at the end of the year.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.

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	98.456(c)	Pounds of each reportable insulating gas purchased in bulk.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(d)	Pounds of each reportable insulating gas returned by equipment users with or inside equipment.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(e)	Pounds of each reportable insulating gas returned to site from off site after recycling.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(f)	Pounds of each reportable insulating gas inside new equipment delivered to customers.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(g)	Pounds of each reportable insulating gas delivered to equipment users in containers.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
Subpart SS - Electrical Equipment	98.456(h)	Pounds of each reportable insulating gas returned to suppliers.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-

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Manufacture and Refurbishment				GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(i)	Pounds of each reportable insulating gas sent off site for destruction.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(j)	Pounds of each reportable insulating gas sent off site to be recycled.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(o)	If the mass of each reportable insulating gas disbursed to customers in new equipment over the period p that is determined according to the methods required in §98.453(h), report the mean value of nameplate capacity in pounds for each make, model, and group of conditions.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(q)	Pounds of each insulating gas used to fill equipment at off-site electric power transmission or distribution locations, or M_F, of Equation SS-7 to § 98.453.	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(r)	Pounds of each insulating gas used to charge the equipment prior to leaving the electrical equipment manufacturer or refurbishment	Revised	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This

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		facility, or M_C, of Equation SS-7 to § 98.453.		data element will affect ~5 reporters annually.
Subpart SS - Electrical Equipment Manufacture and Refurbishment	98.456(u)	For each ID number of descriptor for each unique insulating gas reported in paragraphs (a) through (j) and (o) through (r), an ID number or other appropriate descriptor.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
	98.456(v)	For each unique insulating gas, name (as required in § 98.3(c)(4)(iii)(G)(1)) and weight percent of each fluorinated gas in the insulating gas reported in paragraphs (a)- through (j) and (o)- through (r) of this section.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~5 reporters annually.
Subpart VV - Geologic Sequestration of Carbon Dioxide with Enhanced Oil Recovery Using ISO 27916	98.481(b)(3)	Notification of intent to cease reporting.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.481(b)(3)	Copy of CO2-EOR project termination documentation.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(a)	The annual quantity of associated storage in metric tons of CO_2.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(b)	The density of CO_2 if volumetric units	New	Increase - requires respondents to

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		are converted to mass in order to be reported for annual quantity of CO_2 stored.		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
Subpart VV - Geologic Sequestration of Carbon Dioxide with Enhanced Oil Recovery Using ISO 27916	98.486(c)	The annual quantity of CO_2 input (*m*input).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(c)(1)	The annual total mass of CO_2 received at the custody transfer meter by the CO_2-EOR project, including CO_2 transferred from another CO_2-EOR project (*m*received).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(c)(2)	The annual mass of native CO_2 produced and captured in the CO_2-EOR project (*m*native).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(d)	The annual mass of CO_2 that is recycled and reinjected into the EOR complex.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(e)	The annual total mass of CO_2 loss from project operations ($m_{\text{loss operations}}$).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This

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				data element will affect ~4 reporters annually.
	98.486(e)(1)	Loss of CO_2 due to leakage from production, handling and recycling CO_2-EOR facilities (infrastructure including wellheads) (*m*loss leakage facilities).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
Subpart VV - Geologic Sequestration of Carbon Dioxide with Enhanced Oil Recovery Using ISO 27916	98.486(e)(2)	Loss of CO_2 from venting/flaring from production operations (*m*loss vent/flare).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(e)(3)	Loss of CO_2 due to entrainment within produced gas/oil/water when this CO_2 is not separated and reinjected (*m*loss entrained).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(e)(4)	Loss of CO_2 due to any transfer of CO_2 outside the CO_2-EOR project (*m*loss transfer).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(f)	The total mass of CO_2 loss from the EOR complex (*m*loss EOR complex).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(g)(1)	Annual documentation as described	New	Increase - requires respondents to

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		in Clause 4.4 of CSA/ANSI ISO 27916: 19, including the formulas used to quantify the annual mass of associated storage, including the mass of CO_2 delivered to the CO_2-EOR project and losses during the period covered by the documentation.		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(g)(2)	Annual documentation as described in Clause 4.4 of CSA/ANSI ISO 27916:19, including the methods used to estimate missing data and the amounts estimated as described in Clause 9.2 of CSA/ANSI ISO 27916: 19.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
Subpart VV - Geologic Sequestration of Carbon Dioxide with Enhanced Oil Recovery Using ISO 27916	98.486(g)(3)	Annual documentation as described in Clause 4.4 of CSA/ANSI ISO 27916:19, including the approach and method for quantification utilized by the operator, including accuracy, precision, and uncertainties.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(g)(4)	Annual documentation as described in Clause 4.4 of CSA/ANSI ISO 27916:19, including a statement describing the nature of validation or verification including the date of review, process, findings, and responsible person or entity	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(g)(5)	Annual documentation as described in Clause 4.4 of CSA/ANSI ISO 27916:19, including source of each CO_2 stream quantified as associated storage.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(g)(6)	Annual documentation as described	New	Increase - requires respondents to

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		in Clause 4.4 of CSA/ANSI ISO 27916:19, including a description of the procedures used to detect and characterize the total CO_2 leakage from the EOR complex		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(g)(7)	Annual documentation as described in Clause 4.4 of CSA/ANSI ISO 27916:19, including, if only the mass of anthropogenic CO_2 is considered for m_{stored}, a description of the derivation and application of anthropogenic CO_2 allocation ratios for all the terms described in Clauses 8.1 to 8.4.6.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.486(g)(8)	Annual documentation as described in Clause 4.4 of CSA/ANSI ISO 27916:19, including any documentation provided by a qualified independent engineer or geologist, who certifies that the documentation provided, including the mass balance calculations as well as information regarding monitoring and containment assurance, is accurate and complete.	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
Subpart VV - Geologic Sequestration of Carbon Dioxide with Enhanced Oil Recovery Using ISO 27916	98.488(h)	Any changes made within the reporting year to containment assurance and monitoring approaches and procedures in the EOR operations management plan	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.488(c)	EOR Operations Management Plan that provides a description of the EOR	New	Increase - requires respondents to ascertain the data element using readily

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		complex and engineered system, establishes that the EOR complex is adequate to provide safe, long-term containment of CO_2, and includes site-specific and other information identified in 40 CFR 98.488(a).		available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
	98.488(c)	Initial documentation at the beginning of the quantification period, including the information identified in 40 CFR 98.488(b).	New	Increase - requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element will affect ~4 reporters annually.
WW – Coke Calciners	98.496(a)	The unit ID number (if applicable).	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
	98.496(b)	Maximum rated throughput of the unit, in metric tons coke calcined/stream day.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
	98.496(c)	The calculated CO2, CH4, and N2O annual process emissions, expressed in metric tons of each pollutant emitted.	New	Increase – requires respondents to calculate and ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
	98.496(d)	A description of the method used to calculate the CO2 emissions for each	New	Increase – requires respondents to ascertain the data element using readily

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		unit (e.g., CEMS or equation 1 to § 98.493(b)(2)).		available data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
WW – Coke Calciners	98.496(e)	Annual mass of green coke fed to the coke calcining unit from facility records (metric tons/year).	New	Increase – requires respondents to ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
	98.496(f)	Annual mass of marketable petroleum coke produced by the coke calcining unit from facility records (metric tons/year).	New	Increase – requires respondents to ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
	98.496(g)	Annual mass of petroleum coke dust removed from the process through the dust collection system of the coke calcining unit from facility records (metric tons/year) and an indication of whether coke dust is recycled to the unit (e.g., all dust is recycled, a portion of the dust is recycled, or none of the dust is recycled).	New	Increase – requires respondents to ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
	98.496(h)	Annual average mass fraction carbon content of green coke fed to the coke calcining unit from facility measurement data (metric tons C per metric ton green coke).	New	Increase – requires respondents to ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters

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				annually.
	98.496(i)	Annual average mass fraction carbon content of marketable petroleum coke produced by the coke calcining unit from facility measurement data (metric tons C per metric ton petroleum coke).	New	Increase – requires respondents to ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
XX – Calcium Carbide Production	98.506(a)	Annual facility calcium carbide production capacity (tons).	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
	98.506(b)	The annual facility production of calcium carbide (tons).	New	Increase – requires respondents to ascertain the data element using readily or collected available data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
	98.506(c)	Total number of calcium carbide process units at facility used for production of calcium carbide.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
	98.506(d)	Annual facility consumption of petroleum coke (tons).	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.

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	98.506(e)	Each end use of any calcium carbide produced and sent off site.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
	98.506(f)	If the facility produces acetylene on site, the information in paragraphs (f)(1), (2), and (3). (1) The annual production of acetylene at the facility (tons). (2) The annual quantity of calcium carbide used for the production of acetylene at the facility (tons). (3) Each end use of any acetylene produced on site.	New	Increase – requires respondents to ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all coke calciners and will affect ~15 reporters annually.
XX – Calcium Carbide Production	98.506(g)	If a CEMS is used to measure CO2 emissions, the relevant information required by § 98.36 for the Tier 4 Calculation Methodology and the information specified in paragraphs (1) and (2). (1) Annual CO2 emissions (in metric tons) from each CEMS monitoring location measuring process emissions from the calcium carbide process unit. (2) Identification number of each process unit.	New	Increase – requires respondents to calculate and ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all calcium carbide production facilities and will affect ~1 reporter annually.
	98.506(h)	If a CEMS is not used to measure CO2 process emissions, and the carbon mass balance procedure is used to	New	Increase – requires respondents to calculate and ascertain the data element using readily available or collected data

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		determine CO2 emissions according to the requirements in § 98.503(b), the information specified in paragraphs (h)(1) through (3) of this section. (1) Annual process CO2 emissions (in metric tons) from each calcium carbide process unit. (2) The method used for the determination of carbon content for each input and output material included in the calculation of annual process CO2 emissions for each calcium carbide process unit (e.g., supplier provided information, analyses of representative samples you collected). (3) If you use the missing data procedures in § 98.505(b), report for each calcium carbide production process unit how monthly mass of carbon-containing inputs and outputs with missing data were determined and the number of months the missing data procedures were used.		and submit the value via e-GGRT as part of the annual report. This data element applies all calcium carbide production facilities and will affect ~1 reporter annually.
YY – Caprolactam, Glyoxal, and Glyoxylic Acid Production	98.516(a)	Process line identification number.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters

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				annually.
	98.516(b)	Annual process N_2O emissions from each process line according to paragraphs (1) through (3): (1) N_2O from caprolactam production (metric tons). (2) N_2O from glyoxal production (metric tons). (3) N_2O from glyoxylic acid production (metric tons).	New	Increase – requires respondents to calculate and ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters annually.
	98.516(c)	Annual production quantities from all process lines at the caprolactam, glyoxal, or glyoxylic acid production facility according to paragraphs (1) through (3): (1) Caprolactam production (metric tons). (2) Glyoxal production (metric tons). (3) Glyoxylic acid production (metric tons).	New	Increase – requires respondents to ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters annually.
YY – Caprolactam, Glyoxal, and Glyoxylic Acid Production	98.516(d)	Annual production capacity from all process lines at the caprolactam, glyoxal, or glyoxylic acid production facility, as applicable, in paragraphs (1) through (3): (1) Caprolactam production capacity (metric tons). (2) Glyoxal production capacity (metric tons).	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters annually.

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		(3) Glyoxylic acid production capacity (metric tons).		
	98.516(e)	Number of process lines at the caprolactam, glyoxal, or glyoxylic acid production facility, by product, in paragraphs (1) through (3): (1) Total number of process lines producing caprolactam. (2) Total number of process lines producing glyoxal. (3) Total number of process lines producing glyoxylic acid.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters annually.
	98.516(f)	Number of operating hours in the calendar year for each process line at the caprolactam, glyoxal, or glyoxylic acid production facility (hours).	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters annually.
YY – Caprolactam, Glyoxal, and Glyoxylic Acid Production	98.516(g)	N_2O abatement technologies used (if applicable) and date of installation of abatement technology at the caprolactam, glyoxal, or glyoxylic acid production facility.	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies all caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters annually.
	98.516(h)	Monthly abatement utilization factor for each N2O abatement technology for each process line at the caprolactam, glyoxal, or glyoxylic acid	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		production facility.		data element applies all caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters annually.
	98.516(i)	Number of times in the reporting year that missing data procedures were followed to measure production quantities of caprolactam, glyoxal, or glyoxylic acid (months).	New	Increase – requires respondents to ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters annually.
	98.516(j)	Annual percent N_2O emission reduction per chemical produced at the caprolactam, glyoxal, or glyoxylic acid production facility, as applicable, in (1) through (3): (1) Annual percent N_2O emission reduction for all caprolactam production process lines. (2) Annual percent N_2O emission reduction for all glyoxal production process lines. (3) Annual percent N_2O emission reduction for all glyoxylic acid production process lines.	New	Increase – requires respondents to calculate and ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies all caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters annually.
ZZ – Ceramics Manufacturing	98.526(a)	The total number of ceramics process units at the facility and the number of units that operated during the reporting year.		Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This data element applies to all ceramics production facilities and will affect ~25

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				reporters annually.
	98.526(b)	If a CEMS is used to measure CO2 emissions from ceramics process units, the relevant information required under § 98.36 for the Tier 4 Calculation Methodology and the following information specified in paragraphs (1) through (3). (1) The annual quantity of each carbonate-based raw material (including clay) charged to each ceramics process unit and for all units combined (tons). (2) Annual quantity of each type of ceramics product manufactured by each ceramics process unit and by all units combined (tons). (3) Annual production capacity for each ceramics process unit (tons).		Increase – requires respondents to ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies to all ceramics production facilities and will affect ~34 reporters annually.
ZZ – Ceramics Manufacturing	98.526(c)	If a CEMS is not used to measure CO2 emissions from ceramics process units and process CO2 emissions are calculated according to the procedures specified in § 98.523(b), the following information specified in paragraphs (1) through (7). (1) Annual process emissions of CO2 (metric tons) for each ceramics process unit and for all units combined. (2) The annual quantity of each		Increase – requires respondents to calculate and ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This data element applies to all ceramics production facilities and will affect ~25 reporters annually.

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		carbonate-based raw material charged to each ceramics process unit and all units combined (tons). (3) Results of all tests used to verify each carbonate-based mineral mass fraction for each carbonate-based raw material charged to a ceramics process unit, as specified in paragraphs (c)(3)(i) through (iii) of this section. (i) Date of test. (ii) Method(s) and any variations used in the analyses. (iii) Mass fraction of each sample analyzed. (4) Method used to determine the decimal mass fraction of carbonate-based mineral, unless you used the default value of 1.0 (e.g., supplier provided information, analyses of representative samples you collected, or use of a default value of 0.005 as specified by § 98.524(b)). (5) Annual quantity of each type of ceramics product manufactured by each ceramics process unit and by all units combined (tons). (6) Annual production capacity for each ceramics process unit (tons).		

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Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		(7) If you use the missing data procedures in § 98.525(b), report for each applicable ceramics process unit the number of times in the reporting year that missing data procedures were followed to measure monthly quantities of carbonate-based raw materials or mass fraction of the carbonate-based minerals (months).		

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Table 2. New Recordkeeping Requirements by Source Category

Subpart	New Recordkeeping Requirements
I – Electronics Manufacturing	The certified destruction and removal efficiency values for all applicable abatement systems, if you use either default of certified destruction or removal efficiency values that are lower than the default values in your emissions calculations under §98.93(a), (b), and/or (i).
	For abatement systems purchased and installed on or after January 1, 2025, include records of the method used to measure the destruction and removal efficiency values.
	All inputs and results made accounting for the fraction of gas exhausted through abatement systems using equations I-24C and I-24D.
	For all hydrocarbon-fuel-based emissions control systems that are used to control emissions from tools that use either NF_3 as an input gas in remote plasma clean processes or F_2 as an input gas in any process type or sub-type, certification and documentation that the model for each of the systems that you assume does not form CF_4 from F_2 has been tested and verified to produce less than 0.1% CF_4 from F_2.
	For all hydrocarbon-fuel-based emissions control systems that are used to control emissions from tools that use either NF_3 as an input gas in remote plasma clean processes or F_2 as an input gas in any process type or sub-type, certification that the site maintenance plan includes the emission control system manufacturer's recommendations and specifications for installation, operation, and maintenance of those systems
N – Glass Production	If a CEMS is used to measure emissions, monthly glass production rate for each continuous glass melting furnace, by glass type (tons)
	If process CO2 emissions are calculated according to the procedures specified in §98.143(b), monthly glass production rate for each continuous glass melting furnace, by glass type (metric tons).
	If a CEMS is used to measure emissions, monthly amount (tons) of recycled scrap glass (cullet) charged to each continuous glass melting furnace, by glass type.
	If process CO_2 emissions are calculated according to the procedures specified in §98.143(b), monthly amount (tons) of recycled scrap glass (cullet) charged to each continuous glass melting furnace, by glass type.
P – Hydrogen Production	If the CEMS measures emissions from a common stack for multiple hydrogen production units or emissions from a common stack for hydrogen production unit(s) and other source(s), records used to estimate the decimal fraction of the total annual CO_2 emissions from the CEMS monitoring location attributable to each hydrogen production unit.
	Records of all analyses and calculations conducted to determine the values reported as listed in §98.166(b).
Y – Petroleum Refineries	Mass of water in the delayed coking unit vessel at the end of the cooling cycle prior to atmospheric venting or draining (metric ton/cycle) for each delayed coking unit (Equations Y-18b and Y-18e to § 98.253).
	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 or draining (feet) from company records or engineering estimates for each delayed coking unit (Equation Y-18b to § 98.253).
	Fraction of the coke-filled bed that is covered by water at the end of the cooling cycle just prior

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	to atmospheric venting or draining for each delayed coking unit (Equation Y-18b to § 98.253).
BB – Silicon Carbide Production	Records of all information reported as required under §98.286(c).
DD – Electrical Equipment Use	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, equipment manufacturer name.
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, year equipment was manufactured, or a best estimate of the year of manufacture and how the estimate was determined.
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, manufacturer serial number or another unique identifier.
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, equipment type (i.e., closed-pressure vs. hermetically sealed-pressure).
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, equipment voltage capacity (in kilovolts).
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, the name and GWP of each covered insulating gas used.
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, nameplate capacity value (pounds), as specified by the equipment manufacturer.
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, nameplate capacity value (pounds) measured by the equipment user.
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, the date the nameplate capacity measurement process was completed.
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, the measurements and calculations used to calculate the measured value.
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, the temperature-pressure curve and/or other information used to derive the initial and final temperature-adjusted pressures of the equipment.
	For each piece of electrical equipment whose nameplate capacity is measured by the equipment user, whether or not the measured nameplate capacity value has been adopted for the piece of electrical equipment.
HH – Municipal Solid Waste Landfills	Records of the data used to calculate and report the GHG emissions in § 98.346.
VV - Geologic Sequestration of Carbon Dioxide with Enhanced Oil Recovery Using ISO 27916	Records as required by §98.3(g) and as set forth in Clause 9.1 of CSA/ANSI ISO 27916:19.

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WW – Coke Calciners	Records of all parameters monitored under § 98.494.
	A record of the file generated by the verification software specified in § 98.5(b) for the monthly mass of green coke fed to the coke calcining unit from facility records (metric tons/year) (equation 1 to § 98.493(b)(2)).
	A record of the file generated by the verification software specified in § 98.5(b) for the monthly mass of marketable petroleum coke produced by the coke calcining unit from facility records (metric tons/year) (equation 1 to § 98.493(b)(2)).
	A record of the file generated by the verification software specified in § 98.5(b) for the monthly mass of petroleum coke dust removed from the process through the dust collection system of the coke calcining unit from facility records (metric tons/year) (equation 1 to § 98.493(b)(2)).
	A record of the file generated by the verification software specified in § 98.5(b) for the average monthly mass fraction carbon content of green coke fed to the coke calcining unit from facility measurement data (metric tons C per metric ton green coke) (equation 1 to § 98.493(b)(2)).
	A record of the file generated by the verification software specified in § 98.5(b) for the average monthly mass fraction carbon content of marketable petroleum coke produced by the coke calcining unit from facility measurement data (metric tons C per metric ton petroleum coke) (equation 1 to § 98.493(b)(2)).
XX – Calcium Carbide Production	If a CEMS is used to measure CO_2 emissions according to the requirements in § 98.503(a), the records required for the Tier 4 Calculation Methodology in § 98.37.
	If a CEMS is used to measure CO_2 emissions according to the requirements in § 98.503(a), monthly calcium carbide process unit production quantity (tons).
	If a CEMS is used to measure CO_2 emissions according to the requirements in § 98.503(a), number of calcium carbide processing unit operating hours each month.
	If a CEMS is used to measure CO_2 emissions according to the requirements in § 98.503(a), number of calcium carbide processing unit operating hours in a calendar year.
	If the carbon mass balance procedure is used to determine CO_2 emissions according to the requirements in § 98.503(b)(2), monthly calcium carbide process unit production quantity (tons).
	If the carbon mass balance procedure is used to determine CO_2 emissions according to the requirements in § 98.503(b)(2), number of calcium carbide process unit operating hours each month.
	If the carbon mass balance procedure is used to determine CO_2 emissions according to the requirements in § 98.503(b)(2), number of calcium carbide process unit operating hours in a calendar year.
	If the carbon mass balance procedure is used to determine CO_2 emissions according to the requirements in § 98.503(b)(2), monthly material quantity consumed, used, or produced for each material included for the calculations of annual process CO_2 emissions (tons).
	If the carbon mass balance procedure is used to determine CO_2 emissions according to the requirements in § 98.503(b)(2), average carbon content determined and records of the supplier provided information or analyses used for the determination for each material included for the calculations of annual process CO_2 emissions.
	Records that include a detailed explanation of how company records of measurements are used to estimate the carbon input and output to each calcium carbide process unit, including documentation of specific input or output materials excluded from equation 1 to § 98.503(b)(1) that contribute less than 1 percent of the total carbon into or out of the process. Records documenting the procedures used to ensure the accuracy of the measurements of materials fed,

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	charged, or placed in a calcium carbide process unit including, but not limited to, calibration of weighing equipment and other measurement devices; the estimated accuracy of measurements made with these devices; and the technical basis of the estimates.
	A record of the file generated by the verification software specified in § 98.5(b) for carbon content in reducing agent (percent by weight, expressed as a decimal fraction) (Equation 1 of § 98.503).
	A record of the file generated by the verification software specified in § 98.5(b) for annual mass of reducing agent fed, charged, or otherwise introduced into the calcium carbide process unit (tons) (equation 1 to § 98.503(b)(1)).
	A record of the file generated by the verification software specified in § 98.5(b) for carbon content of carbon electrode (percent by weight, expressed as a decimal fraction) (equation 1 to § 98.503(b)(1)).
	A record of the file generated by the verification software specified in § 98.5(b) for annual mass of carbon electrode consumed in the calcium carbide process unit (tons) (equation 1 to § 98.503(b)(1)).
	A record of the file generated by the verification software specified in § 98.5(b) for carbon content in product (percent by weight, expressed as a decimal fraction) (equation 1 to § 98.503(b)(1)).
	A record of the file generated by the verification software specified in § 98.5(b) for annual mass of product produced/tapped in the calcium carbide process unit (tons) (equation 1 to § 98.503(b)(1)).
	A record of the file generated by the verification software specified in § 98.5(b) for carbon content in non-product outgoing material (percent by weight, expressed as a decimal fraction) (equation 1 to § 98.503(b)(1)).
	A record of the file generated by the verification software specified in § 98.5(b) for annual mass of non-product outgoing material removed from calcium carbide process unit (tons) (equation 1 to § 98.503(b)(1)).
YY – Caprolactam, Glyoxal, and Glyoxylic Acid Production	Documentation of how accounting procedures were used to estimate production rate.
	Documentation of how process knowledge was used to estimate abatement technology destruction efficiency (if applicable).
	Documentation of the procedures used to ensure the accuracy of the measurements of all reported parameters, including but not limited to, calibration of weighing equipment, flow meters, and other measurement devices; the estimated accuracy of measurements made with these devices; and the technical basis for these estimates.
	A record of the file generated by the verification software specified in § 98.5(b) for monthly production quantity of caprolactam from each process line at the caprolactam, glyoxal, or glyoxylic acid production facility (metric tons).
	A record of the file generated by the verification software specified in § 98.5(b) for monthly production quantity of glyoxal from each process line at the caprolactam, glyoxal, or glyoxylic acid production facility (metric tons).
	A record of the file generated by the verification software specified in § 98.5(b) for monthly production quantity of glyoxylic acid from each process line at the caprolactam, glyoxal, or glyoxylic acid production facility (metric tons).
	A record of the file generated by the verification software specified in § 98.5(b) for destruction efficiency of N_2O abatement technology from each process line, fraction (decimal fraction of N_2O removed from vent stream).

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ZZ – Ceramics Manufacturing	If a CEMS is used to measure CO_2 emissions according to the requirements in § 98.523(a), the records required under § 98.37 for the Tier 4 Calculation Methodology.
	If a CEMS is used to measure CO_2 emissions according to the requirements in § 98.523(a), records of the monthly ceramics production rate for each ceramics process unit (tons).
	If a CEMS is used to measure CO2 emissions according to the requirements in § 98.523(a), records of the monthly amount of each carbonate-based raw material charged to each ceramics process unit (tons).
	If process CO_2 emissions are calculated according to the procedures specified in § 98.523(b), records of monthly ceramics production rate for each ceramics process unit (metric tons).
	If process CO_2 emissions are calculated according to the procedures specified in § 98.523(b), records of the monthly amount of each carbonate-based raw material charged to each ceramics process unit (metric tons).
	If process CO_2 emissions are calculated according to the procedures specified in § 98.523(b), 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 1 to § 98.523(b)(4), if applicable.
	If process CO_2 emissions are calculated according to the procedures specified in § 98.523(b), results of all tests, if applicable, used to verify the carbonate-based mineral mass fraction for each carbonate-based raw material charged to a ceramics process unit, including the data specified in paragraphs (i) through (v). (i) Date of test. (ii) Method(s), and any variations of methods, used in the analyses. (iii) Mass fraction of each sample analyzed. (iv) Relevant calibration data for the instrument(s) used in the analyses. (v) Name and address of laboratory that conducted the tests.
	If process CO_2 emissions are calculated according to the procedures specified in § 98.523(b), records of each carbonate-based mineral mass fraction for each carbonate-based raw material, if a value other than 1.0 is used to calculate process mass emissions of CO_2.
	If process CO_2 emissions are calculated according to the procedures specified in § 98.523(b), the number of annual operating hours of each ceramics process unit.
	Records of all other documentation used to support the reported GHG emissions.
	A record of the file generated by the verification software specified in § 98.5(b) for the annual average decimal mass fraction of each carbonate-based mineral in each carbonate-based raw material for each ceramics process unit (specify the default value, if used, or the value determined according to § 98.524) (percent by weight, expressed as a decimal fraction) (equation 1 to § 98.523(b)(4)).
	A record of the file generated by the verification software specified in § 98.5(b) for the annual mass of each carbonate-based raw material charged to each ceramics process unit (tons) (equation 1 to § 98.523(b)(4)).
	A record of the file generated by the verification software specified in § 98.5(b) for the decimal fraction of calcination achieved for each carbonate-based raw material for each ceramics process unit (specify the default value, if used, or the value determined according to § 98.524) (percent by weight, expressed as a decimal fraction) (equation 1 to § 98.523(b)(4)).

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Attachment 2 (Excel File)