

## **SUPPORTING STATEMENT ENVIRONMENTAL PROTECTION AGENCY**

Information Collection Request for the Greenhouse Gas Reporting Program: Revisions and Confidentiality Determinations for Data Elements for the Greenhouse Gas Reporting Rule; Supplemental Notice of Proposed Rulemaking (January 2023).

### **1. IDENTIFICATION OF THE INFORMATION COLLECTION**

#### **1(a) Title of the Information Collection**

Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule; Supplemental Notice of Proposed Rulemaking; OMB control number 2060-NEW; ICR number 2773.01

#### **1(b) Short Characterization/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<sub>2</sub>) underground in quantities above certain threshold levels of CO<sub>2</sub> equivalent (CO<sub>2</sub>e) 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; 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 supplemental proposal “Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule” (hereafter referred to as the “proposed supplemental revisions”). The EPA recently 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). 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 proposed supplemental revisions include 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 (energy consumption; coke calcining; ceramics production; 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 verification of reported data and the accuracy of the data collected; and other minor technical amendments, corrections, or clarifications. The proposed supplemental revisions would 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 proposed amendments would 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 proposed supplemental revisions are expected to result in an increase in respondent burden. See Section 4(b) and Table 1 of Attachment 1 for a complete list of proposed supplemental revisions to the reporting requirements.

Compared with the estimated respondent burden identified in the information collection for the GHGRP currently approved by the Office of Management and Budget (OMB), this proposed information collection would affect approximately 7,990 respondents and result in an average annual burden of 114,678 hours and \$12,250,168 (\$2021) over the three years covered by this information collection, which includes an annual average of \$3,224,535 operation and maintenance costs. The annual average burden to the EPA for this period is anticipated at 2,986 hours and \$181,965 (\$2021) over the three years covered by this information collection.

## **2. NEED FOR AND USE OF THE COLLECTION**

### **2(a) Need/Authority for the Collection**

The EPA is proposing 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 proposed 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 the 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 proposed changes include improvements to amendments to update the General Provisions to reflect revised GWPs, new requirements for reporting of GHG data from additional sectors (energy consumption; coke calcining; ceramics production; 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 verification of reported data and the accuracy of the data collected; and other minor technical amendments, corrections, or clarifications. The proposed supplemental revisions would 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 proposed amendments would 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, 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). In conjunction with this action, the EPA is proposing confidentiality determinations for the new and substantially revised data elements contained in these proposed amendments; the EPA is also proposing confidentiality determinations for certain existing data elements for which a confidentiality determination has not previously been proposed or finalized.

## **2(b) Practical Utility/Users of the Data**

The GHGRP collects information from facilities that directly emit GHGs or inject CO<sub>2</sub> 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.

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).

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. 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).

Lastly, the standardization of GHG data provides businesses with the necessary information to benchmark themselves against similar facilities, better understand their relative standing within their industry, and achieve and disseminate their environmental achievements. 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 (*e.g.*, through energy audits or other forms of assistance), and foster technologies to protect public health and the environment. In addition, transparent, public data on emissions allow for accountability of polluters to the public who bear the cost of the pollution. This powerful data resource provides a critical tool for communities to identify nearby sources of GHGs and provide information to state and local governments.

The proposed supplemental revisions to part 98 include requirements for reporting of GHG data from additional sectors (coke calcining; ceramics production; calcium carbide production; and caprolactam, glyoxal, and glyoxylic acid production), improvements to emissions estimation methodologies, and collection of data to support verification of GHG emissions and supply. The proposed supplemental revisions would significantly improve the EPA's understanding of national emissions sources and trends and would better reflect changes across U.S. GHG emissions and supply. The proposed rule would additionally require collection of energy consumption data from direct emitters of GHGs, which would be used to inform the EPA's understanding of energy intensity. Finally, the proposed supplemental revisions would include updates to global warming potentials and improvements to emissions estimation methodologies,

which would reflect a more current scientific understanding of GHGs and improve the quality of the data collected under the program.

### **3. NONDUPLICATION, CONSULTATIONS, AND OTHER COLLECTION CRITERIA**

#### **3(a) Nonduplication**

The new information proposed to be collected under the proposed supplemental revisions include 56 new or substantially revised reported data elements and eight removed data elements from industrial sectors currently covered by the GHGRP, and 64 new reporting data elements and associated recordkeeping for five new sectors proposed to be added to the GHGRP (refer to section 4(b) and Table 1 of Attachment 1 for a list of these data elements). The proposed 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 proposed 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 proposed 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 proposed amendments 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; and provide additional data to complement or inform other EPA programs. Based on this evaluation, this information collection request does not duplicate other information collections.

### **3(b) Public Notice Required Prior to Information Collection Request (ICR) Submissions to OMB**

Public notice of this proposed collection is provided in the *Federal Register* notice of “Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule; Supplemental notice of proposed rulemaking”.

### **3(c) Consultations**

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 proposing amendments that would improve the quality of data collected through the GHGRP. Specifically, the EPA is proposing to: (1) update the General Provisions to reflect revised GWPs; (2) improve the accuracy of the GHGRP by adding new requirements for reporting of GHG data from additional sectors (energy consumption; coke calcining; ceramics production; calcium carbide production; and caprolactam, glyoxal, and glyoxylic acid production); (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; and (5) other minor technical amendments, corrections, or clarifications. These proposed supplemental revisions were identified by the EPA and affected entities following publication of the June 21, 2022 proposed rulemaking (*e.g.*, through review of new data or more recent scientific assessments and issues raised by affected entities in public comments).

### **3(d) Effects of Less Frequent Collection**

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 the 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 proposed supplemental 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 proposing five new subparts (subparts B, WW, XX, YY, and ZZ) for certain direct emitting facilities, which would be required to monitor and report annually. In some cases, the EPA is proposing to reduce the frequency of existing monitoring or sampling, where a 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.

### **3(e) General 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 proposed supplemental revisions would require certain facilities subject to new subparts WW (Coke Calciners), XX (Calcium Carbide Production), YY (Caprolactam, Glyoxal, and Glyoxylic Acid Production), and ZZ (Ceramics Production) to retain the file generated by IVT for five years. Refer to the "Reporting and Recordkeeping Requirements" section in section

4(b)(i) 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 is 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.

### **3(f) Confidentiality**

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 proposing confidentiality determinations for the new and substantially revised data elements contained in the proposed amendments; the EPA is also proposing 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 is providing 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 will evaluate the comments on the proposed determinations, including claims of confidentiality and information substantiating such claims, before finalizing the confidentiality determinations.

### **3(g) Sensitive Questions**

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



#### **4. THE RESPONDENTS AND THE INFORMATION REQUESTED**

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.

##### **4(a) Respondents/North American Industrial Classification System (NAICS) Codes**

Reporting facilities include, but are not limited to, those operating one or more units that exceed the CO<sub>2</sub>e 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 proposed supplemental revisions include amendments that would apply to existing reporting facilities, as well as amendments that would revise the applicability of part 98 to certain facilities and expand the number of reporters in certain industrial sectors. These revisions include:

- Reporters who would be affected by the proposed 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 mtCO<sub>2</sub>e reporting threshold, or that would affect a reporter's ability to off-ramp 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).
- The proposed addition of new source categories in subparts B (Energy Consumption); WW (Coke Calciners); XX (Calcium Carbide Production); YY (Caprolactam, Glyoxal, and Glyoxylic Acid Production); and ZZ (Ceramics Production). The proposed addition of subpart B would apply to existing direct emitting facilities under part 98 across multiple industry sectors that purchase metered electricity or metered thermal energy products. Proposed subparts WW, XX, and YY would apply to all coke calcining, calcium carbide production, and caprolactam, glyoxal, or glyoxylic acid production facilities, proposed to be listed in Table A-3 of 40 CFR 98.2(a)(1). Proposed subpart ZZ would apply to ceramics production facilities that annually consume at least 2,000 tons of carbonates or 20,000 tons of clay and exceed a CO<sub>2</sub>e threshold of 25,000 mtCO<sub>2</sub>e 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 proposed revisions and confidentiality determinations. Not all reporting facilities will have a change in burden from the proposed revisions.

**Table 1. Examples of Affected Entities by Category**

<b>Subpart</b>	<b>NAICS Codes</b>	
B. Energy Consumption	Facilities included elsewhere under part 98 that are direct emitters and purchase metered electricity or metered thermal energy products.	
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.
	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 ( <i>e.g.</i> , 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.
Electronics Manufacturing	334111	Microcomputers manufacturing facilities.

Subpart	NAICS Codes	
	334413	Semiconductor, photovoltaic (PV) (solid-state) device manufacturing facilities.
	334419	Liquid crystal display (LCD) unit screens manufacturing facilities; Microelectromechanical (MEMS) manufacturing facilities.
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.
X. Petrochemical Production	32511	Ethylene dichloride manufacturing facilities.

Subpart	NAICS Codes	
	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.
	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.

Subpart	NAICS Codes	
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 <sub>2</sub> 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
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.

#### 4(b) Information Requested

(ii) *Data Items*

This section characterizes the information being collected under the proposed rule, as well as the activities associated with developing, submitting, or filing that information. The majority of the proposed rule changes result in a minimal burden for reporters, based on revisions that would improve data quality where the EPA is proposing to collect data on new emissions or from new emission sources or new source categories, or proposing to add or revise

the data entered or reported in e-GGRT. Some of the rule's proposed 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 proposed rulemaking, the EPA is proposing that 49 new and six substantially revised data elements be reported via e-GGRT or entered into IVT in e-GGRT for 11 existing subparts and proposing 64 new reporting data elements for five new sectors proposed to be added to the GHGRP. The new and substantially revised data elements apply to the sector-specific source categories listed in Section 4(a) and are listed in Table 1 of Attachment 1 (see entries for subparts A, C, G, P, Y, AA, HH, OO, PP, and QQ, and proposed new subparts B, 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 proposed rule, the EPA is additionally proposing the following records (see Table 2 of Attachment 1 for the detailed proposed revisions to recordkeeping requirements by subpart):

- For proposed subpart B (Energy Consumption), the EPA is proposing to require copies of all energy purchase statements; the results of all required certification and quality assurance tests for all electric meters or thermal energy metering systems; and maintenance records for all continuous monitoring systems, flow meters, and other instrumentation used to provide data on energy consumption. The proposed requirements would apply to all direct emitting facilities that purchase metered electricity or metered thermal energy products.
- For subpart N (Glass Production), the EPA is proposing to add monthly recordkeeping of the amount of recycled scrap glass (cullet) charged to each glass melting furnace, by glass type for existing glass production facilities.
- For subpart P (Hydrogen Production), the EPA is proposing to require recordkeeping of all analyses and calculations conducted to determine the values reported in § 98.166(b), as proposed, for new and existing hydrogen production facilities.
- For subpart HH (Municipal Solid Waste Landfills), the EPA is proposing 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, as proposed, for new and existing municipal solid waste landfills.
- For proposed subpart WW (Coke Calciners), the EPA is proposing 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 would apply to new and existing coke calcining operations.
- For proposed subpart XX (Calcium Carbide Production), the EPA is proposing 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 proposing the

facility would also retain records of quantities of each material consumed or produced and carbon content determinations. Additionally, the EPA is proposing 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 would apply to calcium carbide producers who would be newly required to report under part 98.

- For proposed subpart YY (Caprolactam, Glyoxal, and Glyoxylic Acid Production), the EPA is proposing 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 would apply to caprolactam, glyoxal, and glyoxylic acid producers who would be newly required to report under part 98.
- For proposed subpart ZZ (Ceramics Production), the EPA is proposing 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 proposing facilities maintain the CEMS measurement records. The proposed rule would require 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 would apply to ceramics producers that annually consume at least 2,000 tons of carbonates or 20,000 tons of clay and operate a ceramics manufacturing process unit, who would be newly required to report under part 98.

Additionally, reporters who enter into IVT new data elements in subparts WW, XX, YY, or ZZ (see the entries in Table 2 of Attachment 1) would be required to maintain an electronic or hard copy of a file generated by IVT as a record of these data elements. This new requirement affects 15 reporters under subpart WW, one reporter in subpart XX, six reporters in subpart YY, and 34 reporters in subpart ZZ who would be required to use IVT. However, note that the reporters under subparts WW, XX, YY, and ZZ maintain a copy of a file generated by IVT for all entered data, therefore, minimal burden is associated with this activity.

(ii) Respondent Activities.

Respondent activities associated with each data item specified in section 4(b)(i) are identified below.

Reporting New or Substantially Revised Data Elements. The proposed supplemental revisions would require reporting of 56 new or substantially revised data elements from 12 existing subparts and industry sectors under the GHGRP and 64 data elements from five proposed subparts under the GHGRP. For each of the 120 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 3(e)).

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

## **5. THE INFORMATION COLLECTED – AGENCY ACTIVITIES, COLLECTION METHODS, AND INFORMATION MANAGEMENT**

### **5(a) 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.

### **5(b) Collection Methodology and Management**

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(b) of this document.

Under the proposed revisions to part 98, the facilities listed in section 4(a) would report the proposed new data elements and revised data elements via e-GGRT. Additionally, for



verification purposes, 15 reporters under subpart WW, one reporter in subpart XX, six reporters in subpart YY, and 34 reporters in subpart ZZ would enter data (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 is deployed within e-GGRT 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).

### **5(c) Small Entity Flexibility**

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 proposed revisions were evaluated for each source category.

Entities affected by the proposed revisions to applicability could experience a burden increase, but there are no significant small entity impacts for facilities affected by the proposed revisions. The costs and impacts to small entities from the proposed 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 first costs include initial labor and non-labor costs for reporters who have not previously been subject to part 98 to come into compliance with the rule, as well as subsequent year costs for continued compliance with the rule. These include:

- Reporters who would be affected by the proposed revisions to Table A-1 to part 98 (subparts W, DD, HH, II, OO, and TT).
- Revisions to include or exclude certain types of facilities under subparts P (Hydrogen Production) and Y (Petroleum Refineries).<sup>1</sup>
- The proposed addition of new source categories for energy consumption; coke calcining; calcium carbide; caprolactam, glyoxal, and glyoxylic acid production; and ceramics manufacturing under proposed subparts B, WW, XX, YY, and ZZ.

Other costs for the proposed supplemental revisions include additional labor costs where the EPA is proposing to add or revise monitoring and calculation methods that would require additional data to be collected or estimated (subparts AA and HH), and where reporters would be required to submit additional data that we anticipate could be obtained from existing company records or are readily available or estimated from other data currently gathered under part 98 (subparts A, C, F, G, N, P, Y, AA, HH, OO, PP, and QQ).

The Agency evaluated the costs of the proposed amendments on potential new and existing entities using two separate scenarios. First, the EPA evaluated the cost of the proposed revisions where we identified specific facilities who have not previously been required to report to part 98 that may potentially be required to come into compliance with the rule (subparts P,

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<sup>1</sup> For subpart Y, the proposed supplemental revisions would exclude coke calcining facilities. Therefore, there are no costs or small business impacts associated with the proposed revisions to subpart Y.

WW, XX, YY, and ZZ). The EPA evaluated facility-specific data to identify each parent company, primary NAICS classification, the number of employees, and financial data (sales receipts) to assess whether the entity met the Small Business Administration size standards for the industry category, and subsequently estimated a cost-to-sales ratio based on the total annualized reporting costs to the reported annual sales receipts for each establishment. The EPA located specific facility business data (including number of employees and sales receipts) for 35 of the estimated 53 new facilities reporting under subparts P, WW, XX, YY, and ZZ. The EPA evaluated whether each of the 35 facilities was a small business and estimated the cost-to-sales ratio for each facility. Based on our review, the EPA found the cost-to-sales ratio to be less than 1% for all entities regardless of business size. Therefore, it is anticipated that the costs of the proposed rule would not have a significant regulatory burden for these entities. Although the EPA was unable to identify with certainty all potential reporters estimated to newly report under subparts P, WW, YY, and ZZ, it is anticipated that the identified facilities reviewed are representative for each respective industry and that no small entities would be subject to the proposed regulations. Additionally, for subparts P and WW, it is anticipated that these are predominantly large emission sources that have historically exceeded the 25,000 mtCO<sub>2</sub>e threshold and have previously reported under part 98 (*e.g.*, under subpart Y). For subpart ZZ (Ceramics Manufacturing), the EPA is proposing to define the source category to apply to facilities that annually consume at least 2,000 tons of carbonates or 20,000 tons of clay. The proposed source category definition establishes a minimum production level as a means to exclude small artisan-level ceramics manufacturing processes, to further reduce the potential burden for small entities. For these reasons, the proposed revisions to subparts P, WW, XX, YY, and ZZ would have no significant regulatory burden for any directly regulated small entities.

For proposed revisions that were anticipated to apply to a larger subset of reporters (*e.g.*, facilities who must report under subpart B (Energy Consumption) and facilities potentially affected by the proposed revisions to Table A-1 to subpart A of part 98 reporting under subpart W (Petroleum and Natural Gas Systems)), the EPA employed a survey sample approach. The survey sample approach is based on a survey of a sample of the total population of GHGRP reporters to approximate the size distribution of companies reporting under various subparts and NAICS codes; the survey estimates the business size distribution of reporters in the sample and the annual sales receipts for each parent company, which are compared to the estimated compliance costs. For the survey sample approach, the EPA reviewed RY2021 GHGRP data and randomly surveyed 565 reporters in order to develop a sample reflective of the distribution of companies reporting under individual subparts, NAICS codes, and business sizes. The EPA evaluated each facility in the sample at the parent company level to identify each parent company, primary NAICS classification, the number of employees, and financial data (sales receipts) to assess whether the entity met the Small Business Administration (SBA) size standards for the industry category. The EPA subsequently estimated a cost-to-sales ratio based on the total annualized reporting costs (including costs for proposed revisions to subparts A, B, and the individual subpart) to the reported annual sales receipts for each establishment. The survey data were analyzed using SAS/STAT software to provide sample and weighted frequencies for small businesses and to estimate mean cost-to-sales ratios and the number of facilities exceeding a 1% cost-to-sales ratio to the total population for business sizes of 1-99 employees, 100-499 employees, and 500+ employees, with a 95 percent confidence interval (CI). The mean cost-to-sales ratio and associated CI provides an estimate of the range of cost-to-sales ratios expected to apply to affected facilities in a given business size that would be expected in

the total population. The number of facilities exceeding a 1% cost-to-sales ratio provides an estimate of the number of entities in a given business size range that would be expected to have a significant impact (*i.e.*, the proposed rule costs are estimated to exceed greater than 1% of a facility's total sales receipts) in the total population.

The proposed revisions to add subpart B would apply to approximately 7,840 reporters. Based on the survey sample, it is estimated that 35.3% (CI 31.3% - 39.3%) of reporters who would be subject to subpart B could meet the SBA standard of a small business. The EPA considered the mean cost-to-sales ratio for entities in the business size ranges of 1-99 employees, 100-499 employees, and 500+ employees. Based on the survey sample analysis, the mean cost-to-sales ratio for the 1-99 employee size range is 0.1% (CI 0.0 – 0.1%) for the first year and 0.0% (CI 0.0 – 0.1%) in subsequent years. The mean cost-to-sales ratio for the 100-499 employees and 500+ employees size ranges fell below 0.05%. Therefore, facilities that are required to report under subpart B in all size ranges are likely to have a cost-to-sales ratio of less than 1%. The EPA also determined what portion of the total population of reporters anticipated to be subject to subpart B (7,840 facilities) might be small businesses where the cost-to-sales ratio could exceed 1%. The number of entities reporting under subpart B estimated to exceed a cost-to-sales ratio of 1% is estimated at 15.8 (CI 0 – 45.7) in the first year (rounded to 16 reporters, or 0.20% of total reporters) and 0 in subsequent years. There were no entities in the 100-499 employees or 500+ employees size ranges estimated to have a cost-to-sales ratio of greater than 1%, and we expect no significant impacts from the proposed revisions to subpart B for these business sizes. However, the proposed requirements for subpart B were developed to minimize impacts to small entities. The proposed rule limits burden by not requiring emissions calculations. Proposed subpart B instead requires development of a metered energy monitoring plan and recordkeeping and reporting activities that may be completed using information that we anticipate is readily available to facilities that already report under part 98, predominantly in their energy bills. We also anticipate that small entities are likely to have smaller operations with fewer energy meters and therefore it would be less burdensome to develop a monitoring plan for these sources.

The number of small entities potentially affected by the proposed revisions to Table A-1 to part 98 under subpart W was also estimated using a survey sample approach, as the proposed revisions would apply to approximately 188 new reporters. Based on the survey sample, it is estimated that 73 (CI 60 – 86) of the 188 reporters who would be newly subject to subpart W could meet the SBA standard of a small business. The EPA, therefore, considered the mean cost-to-sales ratio for entities in the business size ranges of 1-99 employees, 100-499 employees, and 500+ employees. Based on the analysis, the estimated mean cost-to-sales ratio for the 1-99 employee size range is 0.5% (CI 0.3 – 0.7%) for the first year and 0.5% (CI 0.3 – 0.7%) in subsequent years. The mean cost-to-sales ratio for the 100-499 employees and 500+ employees size ranges fell below 0.05%. Therefore, facilities that are required to newly report under subpart W in all size ranges are most likely to have a cost-to-sales ratio of less than 1%. The EPA also determined what portion of the total population of new reporters anticipated to be subject to subpart W (188 facilities) might be small businesses where the cost-to-sales ratio could exceed 1%. The number of new subpart W entities exceeding a cost-to-sales ratio of 1% is estimated at 7.6 (CI 2.3 – 12.9) in the first year and in subsequent years (rounded to 8 reporters, or 4.0% of total new reporters). There were no entities for subpart W in the 100-499 employees or 500+ employees size ranges estimated to have a cost-to-sales ratio of greater than 1% and we expect no significant impacts from the proposed revisions to Table A-1 for subpart W sources in these

business sizes. There are no additional requirements for subpart W reporters in these proposed supplemental revisions and therefore no additional costs beyond the existing costs of Part 98 and those previously estimated in the June 21, 2022 proposal.

The proposed revisions to Table A-1 to part 98 would result in a very small change to the number of reporters under subparts DD (estimated to apply to two potential facilities) HH (estimated to apply to six potential facilities), II (estimated to apply to two potential facilities), OO (estimated to apply to one potential facility), and TT (estimated to apply to one potential facility). For the small subset of new reporters under subparts DD, HH, II, OO, and TT, the EPA lacked data on specific affected entities to review individual parent company data. For subpart HH, the EPA was able to estimate the mean cost-to-sales ratios using the survey sample approach. The EPA identified an estimated mean cost-to-sales ratio of 1.4% (CI 0.4 – 2.5%) in the first year and 0.9% (CI 0.2 – 1.6%) in subsequent years for reporters in the 1-99 employee size range. There were no entities for subpart HH in the 100-499 employees or 500+ employees size ranges estimated to have a cost-to-sales ratio of greater than 1%. Because there are only six estimated new reporters for subpart HH, the number of entities estimated to exceed a cost-to-sales ratio of 1% among these reporters is less than one. Regardless, the proposed supplemental revisions for subpart HH were developed to minimize impacts to small entities. For example, the proposed revisions would revise the calculation and reporting requirements for subpart HH to adjust emission estimates based on surface monitoring assessments conducted under 40 CFR part 60 or part 62 rules. The proposed amendments would largely apply to facilities that already conduct monitoring to comply with the control requirements in the landfill NSPS, EG, and Federal plan (40 CFR part 60, subpart WWW or XXX, 40 CFR part 60, subparts Cc or Cf, and 40 CFR part 62, subparts GGG and OOO), and would use their existing measurement data to adjust their engineering calculations. Facilities that are not subject to the landfill NSPS, EG, or Federal plan would have flexibility to use proposed lower gas collection efficiency values (requiring no monitoring), or could elect to monitor their landfill cover to adjust their reported methane emissions.

Due to a lack of data on the specific facilities affected by the proposed revisions and a smaller sample size for subparts DD, II, OO, and TT, the EPA was unable to estimate mean costs-to-sales ratios or the number of total entities exceeding a cost-to-sales ratio of 1% for these subparts. However, based on data collected in the survey sample, we identified one, two, five, and one facilities, respectively, in the 1-99 employee size range for subparts DD, II, OO, and TT, with a minimal number of these facilities (zero, one, two, and one, respectively) exceeding the cost-to-sales ratio of 1%. Due to the very small number of estimated new reporters under these subparts, the EPA determined it is unlikely that the subset of reporters potentially affected by the proposed revisions to Table A-1 to part 98 are likely to fall into this population, especially if the affected facilities are already close to the reporting threshold. For these reasons, the EPA does not anticipate the proposed revisions to Table A-1 would have a significant regulatory burden on a substantial number of small entities subject to subparts DD, II, OO, or TT.

For the remaining reporters affected by proposed supplemental revisions, the impacts from the proposed supplemental revisions include labor burden to update revised emissions estimation methodologies and to conduct reporting and recordkeeping. For those facilities impacted by revisions to improve data quality, in most cases the data requested can be calculated using data that are already required to be entered into the EPA's reporting system, are already maintained in keeping with existing facility data permits, or may be estimated using emission

factors or engineering judgment. The proposed costs for these subparts (C, F, G, N, P, Y, AA, HH, OO, PP, and QQ) are less than \$100 per reporter. Therefore, any potentially affected small entities would not be significantly impacted by the proposed revisions.

#### **5(d) 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 on an annual basis as part of the respondent's annual report required under part 98.

### **6. ESTIMATING THE BURDEN AND COST OF THE COLLECTION**

This section presents the EPA's estimates of the burden and costs to respondents associated with the activities described in section 4 as well as the federal burden hours and costs associated with the activities described in section 5(a). The EPA estimates that, over the three years covered by this request, the average total respondent burden associated with this reporting will be 114,678 hours per year and the cost of all respondents of the information collection will increase an average of \$12,250,168 per year, which includes \$3,224,535 in non-labor costs per year.

Section 6(a) of this ICR provides estimates of burden (hours) for all respondent types. Section 6(b) contains estimates of respondent costs for the information collection. Section 6(c) summarizes federal burden and costs. Section 6(d) describes the respondent universe and the total burden and cost of this collection to respondents. Section 6(e) presents the bottom-line burden and cost. Section 6(f) provides reasons for any change in burden. The burden statement for this information collection is in section 6(g).

#### **6(a) Estimating Respondent Burden**

Respondent burden estimates are presented in Exhibit 6.1. The EPA estimates that the total annual burden to all affected entities will increase by 114,678 hours per year, on average, over the three years covered by this information collection.

Exhibit 6.1 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 6.1 may not add up due to rounding. For further details of burden calculations, see the document *Assessment of Burden Impacts for Proposed 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 6.1. Summary of Annual Respondent Burden and Cost of Proposed 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	7,990	152,529	\$11,748,619	\$3,223,041	\$14,971,660
2	7,990	95,753	\$7,664,140	\$3,225,282	\$10,889,422
3	7,990	95,753	\$7,664,140	\$3,225,282	\$10,889,422
Total	23,970	344,034	\$27,076,898	\$9,673,605	\$36,750,503
3-Yr Annual Average	7,990	114,678	\$9,025,633	\$3,224,535	\$12,250,168

**6(b) 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 6.1. These labor and non-labor costs, as well as additional detail regarding the calculation methodology for the proposed 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 \$9 million over the three years covered by this information collection. As shown in section 4(b), the number of new data items and activities being proposed varies by source category. Exhibit 6.1 presents the aggregate burden by year for all affected source categories combined. This includes costs of \$11,748,619 from revisions implemented in the first year, and \$7,664,140 from revisions implemented in the second and third years, averaging \$9,025,633 per year over the three years.

Exhibit 6.2 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 Appendix A. 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 Appendix A.

**Exhibit 6.2. Annual Average Burden Over the First Three Years of the Information Collection, by Source Category**

<b>Subpart and Source Category</b>	<b>Annual Average Number of Respondents</b>	<b>Annual Average Burden (Hours)</b>	<b>Annual Average Burden Per Respondent (Hours)</b>	<b>Average Annual Labor Costs (\$)¹</b>	<b>Average Annual Non-Labor Costs (\$)¹</b>	<b>Annual Average Labor and Non-Labor Costs (\$)¹</b>
A. General Provisions	7,840	902	0.1	\$64,133	\$0	\$64,133
B. Energy Consumption	7,840	86,240	11	\$6,057,665	\$489,050	\$6,546,716
C. Stationary Combustion (general unspecified)	346	139	0.4	\$9,906	\$0	\$9,906
F. Aluminum Production	7	1	0.1	\$57	\$0	\$57
G. Ammonia Manufacturing	29	2	0.1	\$119	\$0	\$119
I. Electronics Manufacturing	46	0	0	\$0	\$0	\$0
N. Glass Production	100	17	0.2	\$1,227	\$0	\$1,227
P. Hydrogen Production	116	100	0.9	\$7,179	\$3,734	\$10,913
V. Nitric Acid Production	1	(74)	(73.9)	(\$2,680)	(\$11,085)	(\$13,765)
W. Petroleum and Natural Gas Systems	188	23,686	126.0	\$2,620,418	\$2,717,864	\$5,338,282
Y. Petroleum Refineries	6	(91)	(15.2)	(\$6,881)	(\$3,930)	(\$10,810)
AA. Pulp & Paper Manufacturing	1	1	1.4	\$104	\$0	\$104
DD. Sulfur Hexafluoride (SF6) from Electric Power Systems	2	84	42	\$6,200	\$3,119	\$9,319
HH. Landfills	1,126	1,809	1.6	\$128,283	\$374	\$128,657
II. Industrial Wastewater	2	65	32.5	\$4,904	\$3,077	\$7,981

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
Treatment						
OO. Suppliers of Industrial GHG	104	90	0.9	\$6,680	\$62	\$6,742
PP. Suppliers of Carbon Dioxide	11	2	0.2	\$135	\$0	\$135
QQ. Importers/Exporters of FGHGs in Pre-Charged Equip. Or Foams	33	5	0.2	\$384	\$0	\$384
RR. Geologic Sequestration of Carbon Dioxide	9	0	0	\$0	\$0	\$0
TT. Industrial Waste Landfills	1	58	58.0	\$4,240	\$62	\$4,303
VV. Geologic Sequestration of CO2 with EOR	2	0	0	\$0	\$0	\$0
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 Production	34	978	28.8	\$73,736	\$2,121	\$75,857
<b>TOTAL</b>	7,979	114,678	14.4	\$9,025,633	\$3,224,535	\$12,250,168

¹ Parentheticals indicate a negative value or reduction in burden.

### 6(c) Estimating Agency Burden and Cost

This section describes the burden and cost to the federal government associated with this information collection, and the details are provided in Appendix A. 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 would be reported (see section 4(b)(i)), including new data submitted under proposed subparts B, 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 proposed 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.<sup>2</sup>

The total burden and costs to the federal government from the new and substantially revised data elements are anticipated to average 2,986 hours and \$181,965 (\$2021) per year over the three years covered by this information collection. Exhibit 6.3 presents the annual Agency burden and cost. For additional details on the annual costs, see Tables 5 through 7 of Appendix A.

#### **Exhibit 6.3 Annual Agency Burden and Cost**

<b>Year</b>	<b>Number of Occurrences Per Year <sup>(1)</sup></b>	<b>Total Annual Burden Hours</b>	<b>Labor Costs (\$2021)</b>
1	154,550	3,091	\$188,335
2	146,710	2,934	\$178,781
3	146,710	2,934	\$178,781
Total	447,970	8,959	\$545,896
3-Yr Annual Average	149,323	2,986	\$181,965

(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.

#### **6(d) 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 Appendix A. The number of respondents varies each year due to the proposed revisions. The required activities depend on the applicable sector-specific reporting requirements, as described in section 4(b). 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

<sup>2</sup> [https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/pdf/2018/GS\\_h.pdf](https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/pdf/2018/GS_h.pdf)

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.

## 6(e) Bottom Line Burden Hours and Costs

The bottom-line burden hours and costs are shown in Exhibit 6.4.

**Exhibit 6.4. Bottom Line Annual Burden and Cost**

	Year 1 (2025)	Year 2 (2026)	Year 3 (2027)	Total	Annual Average
Respondent Costs					
Number of Respondents	7,990	7,990	7,990	23,970	7,990
Total Respondent Labor Hours	152,529	95,753	95,753	344,034	114,678
Total Respondent Labor Costs	\$11,748,619	\$7,664,140	\$7,664,140	\$27,076,898	\$9,025,633
Non-labor (Capital and O&M) Costs	\$3,223,041	\$3,225,282	\$3,225,282	\$9,673,605	\$3,224,535
Total Respondent Costs	\$14,971,660	\$10,889,422	\$10,889,422	\$36,750,503	\$12,250,168
Agency Costs					
Total Agency Burden Hours	3,091	2,934	2,934	8,959	2,986
Total Agency Labor Costs	\$188,335	\$178,781	\$178,781	\$545,896	\$181,965
Total Burden Hours (Respondents + Agency)	155,620	98,687	98,687	352,994	117,665
Bottom Line Costs (Respondents + Agency)	\$15,159,994	\$11,068,203	\$11,068,203	\$37,296,400	\$12,432,133

## 6(f) Reasons for Change in Burden

This section presents the change in burden based on the proposed revisions and explains the reasons for the change in burden. This proposed rule will result in an overall average annual burden of 114,678 hours and \$12,250,168 over the three years covered by this information collection. The EPA's proposed 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 proposed amendments would revise the applicability for certain sectors. These revisions would expand the number of respondents reporting to the GHGRP in certain industrial sectors. The proposed 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); and revisions to add new reporting requirements under proposed new subparts WW (Coke Calciners), XX (Calcium

Carbide Production), YY (Caprolactam, Glyoxal, and Glyoxylic Acid Production), and ZZ (Ceramics Productions). The proposed amendments would also add new subpart B (Energy Consumption), which would apply to existing direct emitting facilities under part 98 across multiple industry sectors that purchase metered electricity or metered thermal energy products. For subparts P, V, Y, W, DD, HH, II, OO, and TT, the proposed revisions to applicability only impact the number of respondents that would report under these subparts. The proposed amendments to applicability result in an increase in burden for facilities in the affected sectors who were not previously required to report under the GHGRP, and where new data would be collected from facilities that currently report to part 98 (*e.g.*, energy consumption data under proposed subpart B). For subparts V and Y, the proposed revisions would result in a decrease in the number of facilities reporting to these subparts, which would result in no increase in burden. The burden increase for new reporters under existing subparts P, W, DD, HH, II, OO, and TT is estimated at \$5,384,605 in the first year of this information collection, and \$5,380,253 in subsequent years. These costs include \$2,713,473 in annual non-labor costs in the first year and subsequent years,

For the proposed new subparts B, WW, XX, YY, and ZZ, the requirements would require the collection of new data (approximately 64 new data elements), and would implement certain calculation, monitoring, and recordkeeping and reporting requirements for the affected facilities. Where feasible, the EPA has proposed requirements that would 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 proposed amendments 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. For subpart B, the proposed amendments were drafted to reduce burden by excluding the calculation or reporting of indirect GHG emissions, and only requiring reporting of consumption data. The burden increase for new reporting under subparts B, WW, XX, YY, and ZZ is estimated at \$9,412,565 in the first year of this information collection, and \$5,332,438 in subsequent years. These costs include \$511,257 in annual non-labor costs.

The proposed amendments also include revisions that would improve calculation methods for subparts AA (Pulp and Paper Manufacturing) and HH (Municipal Solid Waste Landfills). These revisions would 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 proposed amendments would not require additional monitoring or sampling. The total burden increase for revisions to calculation methodologies in subparts AA and HH is \$31,066 per year.

The proposed amendments would also revise the current recordkeeping and reporting under part 98 by requiring 56 new and revised data elements to be reported via e-GGRT or entered into IVT in e-GGRT for 12 existing subparts. This includes 47 new data elements that have not been previously reported and nine data elements that have been significantly revised. For each of the new and significantly revised data elements, respondents would be 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 as material consumption or production data) and submit the value via e-GGRT or enter the value into the EPA's IVT. 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 proposed revisions would increase burden and cost. The EPA is also proposing to remove eight data elements in one subpart (subpart Y) that are currently required to be reported (see section 4(b)(i)). Respondents would no longer be required to calculate the data element and submit the value via e-GGRT as part of the annual report for subpart Y 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, F, G, N, P, Y, AA, HH, OO, PP, and QQ), the total annual cost is \$148,185. The average burden increase is approximately \$16 per reporter. There are no O&M costs associated with the proposed amendments to recordkeeping and reporting.

The total increase in costs from all proposed revisions includes \$14,971,660 in the first year and \$10,889,422 in subsequent years, or an average annual cost of \$12,250,168. These costs include an annual average non-labor cost of \$3,224,535.

Overall, the proposed amendments would result in an increase in costs.

#### **6(g) Burden Statement**

The respondent reporting burden for this collection of information is estimated to be an annual average of 114,678 hours and \$12,250,168 (\$2021) over the three years covered by this information collection, which includes an annual average of \$3,224,535 non-labor (O&M) costs. The annual average burden to the EPA for this period is anticipated at 2,986 hours and \$181,965 (\$2021) over the three years covered by this information collection.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, the EPA has established a public docket for this ICR under Docket ID Number EPA-HQ-OAR-2019-0424, which is available for online viewing at <http://www.regulations.gov>, or in person viewing at the Air and Radiation docket in the EPA Docket Center (EPA/DC), EPA West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, D.C. The telephone number for the Reading Center is (202) 566-1744. An electronic version of the public docket is available at <http://www.regulations.gov>. This site can

be used to submit or view public comments, access the index listing of the contents of the public docket, and to access those documents in the public docket that are available electronically. When in the system, select “search,” then key in the Docket ID Number identified above.

Also, you can send comments to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, D.C. 20503, Attention: Desk Officer for EPA. Please include the EPA Docket ID Number EPA-HQ-OAR-2014-0424 and OMB Control Number 2060-NEW, EPA ICR Number 2773.01 in any correspondence.

### **Part B of the Supporting Statement**

This section is not applicable because statistical methods are not used in data collection associated with the proposed amendments.

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

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

<b>Subpart</b>	<b>Citation</b>	<b>Data Element(s) Required to be Reported</b>	<b>Change or Revision</b>	<b>Change in Burden</b>
A – General Provisions	98.3(c)(4)(iv)	Annual quantity of electricity purchased expressed in kWh, per the requirements of subpart B of this part.	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 ~7,840 respondents annually.
	98.3(c)(4)(iv)	Annual quantity of thermal energy purchased expressed in mmBtu, per the requirements of subpart B of this part	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 ~7,840 respondents annually.
B – Energy Consumption	98.26(a)	The state in which each meter 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 will affect ~7,840 respondents annually.
	98.26(b)	The locality of the meter. You must report the county in which the meter is located. If the meter is not located in a county (e.g., meters in Alexandria, Virginia), report the city in which the meter 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 will affect ~7,840 respondents annually.

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

<b>Subpart</b>	<b>Citation</b>	<b>Data Element(s) Required to be Reported</b>	<b>Change or Revision</b>	<b>Change in Burden</b>
	98.26(c)	Energy delivery service provider's name (i.e., the name of the entity to whom the purchasing facility will send payment).	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 will affect ~7,840 respondents annually.
	98.26(d)	An identifying number for the energy delivery service provider as specified:  98.26(e)(1) For purchased electricity, the zip code associated with the payment address for the provider.  (2) For purchased thermal energy purchases, the public GHGRP facility identifier of the energy supply service provider. If the provider does not have an assigned GHGRP facility identifier, report the zip code for the physical location in which the thermal energy product was produced.	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 ~7,840 respondents annually.
B – Energy Consumption	98.26(e)	Electricity supply service provider's name. This reporting requirement applies only to purchased electricity in states with	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		deregulated markets where the electricity billing statements have separate line items for electricity delivery services and electricity supply services. In these states, the electricity delivery service provider may be a different entity from the electricity supply service provider.		annual report. This will affect ~7,840 respondents annually.
B – Energy Consumption	98.26(f)	Meter number. This is the meter number that appears on each billing statement.	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 ~7,840 respondents annually.
B – Energy Consumption	98.26(g)	Annual sequence of bill. This is a number from 1 to 12 for monthly billing cycles, from 1 to 4 for quarterly billing cycles, and 1 to 2 for semi-annual billing cycles.	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 ~7,840 respondents annually.
	98.26(h)	Start date(s) of period(s) billed. This is the date designating when the usage period began for each billing statement. For monthly billing cycles, the annual report would include 12 start dates. For quarterly billing cycles the annual	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 will affect ~7,840 respondents annually.



**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		report would include four start dates. For semi-annual billing cycles the annual report would include two start dates.		
	98.26(i)	End date(s) of period(s) billed. This is the date designating when the usage period ends for each billing statement. For monthly billing cycles, the annual report would include 12 end dates. For quarterly billing cycles the annual report would include four end dates. For semi-annual billing cycles the annual report would include two end dates.	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 will affect ~7,840 respondents annually.
	98.26(j)	Quantities of purchased electricity and thermal energy products as specified in paragraphs (1) through (3) of this section, excluding any quantities described in paragraph (4) of this section.  (1) Purchased electricity. You must report the kWh used as reported on each periodic billing statement received during the reporting year. For each meter on each billing statement received	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 will affect ~7,840 respondents annually.

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		<p>during the reporting period the usage will be clearly designated for the month, quarter, or semi-annual billing period. This value may be listed on the billing statement in megawatt-hours (MWh). To convert values on billing statements that report usage in MWh to kWh, the MWh value should be multiplied by 1,000.</p> <p>(2) Purchased thermal energy products. You must report the quantity of thermal energy products purchased as reported on each periodic billing statement received during the reporting year, converted to mmBtu. This value must be calculated in accordance with the method described and documented in the MEMP.</p> <p>(3) Allocation. If the periodic billing statement specified in paragraph (j)(1) or (2) spans two reporting years, allocate the quantity of purchased electricity and thermal energy products using either the method specified in</p>		

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		<p>paragraphs (j)(3)(i) or (ii):</p> <p>(i) You may allocate the purchased electricity and thermal energy products to each reporting year based on operational knowledge of the industrial processes for which energy is purchased, or</p> <p>(ii) You may allocate to each reporting year the portion of purchased electricity and thermal energy products in the periodic billing statement proportional to the number of days of service in each reporting year.</p>		
B – Energy Consumption	98.26(k)	Rate descriptor for each electricity billing statement. Each electricity billing statement should have a statement that describes the rate plan in effect for the billing location. This rate descriptor can indicate if the customer is billed based on a time-of-use rate or if the customer is purchasing a renewable energy product. For example, a typical rate statement could be “Your current rate is Large Commercial Time of Use	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 will affect ~7,840 respondents annually.

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		(LC-TOUD).” In this case the GHGRP reporter would enter “LC-TOUD” as the rate descriptor for the associated billing period.		
B – Energy Consumption	98.26(l)	Facilities subject to multiple direct emitting part 98 subparts must report, for the quantities reported under paragraph (j) of this section, the decimal fraction of purchased electricity or thermal energy products attributable to each subpart. The fraction may be estimated based on company records or engineering judgment.	New	Increase – requires respondents to calculate or ascertain the data element using readily available or collected data and submit the value via e-GGRT as part of the annual report. This will affect ~7,840 respondents annually.
	98.26(m)	Copy of one billing statement per energy delivery service provider of purchased energy or thermal energy products, as specified in (1) through (3). (1) The first annual report under this subpart must include an electronic copy of all pages of one billing statement received by the facility from each energy delivery service provider of purchased electricity or thermal energy products. (2) If the facility changes or adds	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 ~7,840 respondents annually.

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		one or more energy delivery service providers after the first reporting year, the annual report must include an electronic copy of all pages of one billing statement received from each new energy delivery service provider for only the first reporting year of each new purchasing agreement. (3) The electronic copy must be in the format specified in the reporting instructions published for the reporting year.		
C – General Stationary Fuel Combustion	98.36(b)(12)	An indication of whether the unit is an electricity generating 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 will affect ~346 respondents annually.
	98.36(c)(1)(xii)	An indication of whether any unit in the group is an electricity generating 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 will affect ~346 respondents annually.
	98.36(c)(2)(xii)	An indication of whether any unit in the group is an electricity generating unit.	New	Increase – requires respondents to ascertain the data element using readily available data and submit

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				the value via e-GGRT as part of the annual report. This will affect ~346 respondents annually.
	98.36(c)(3)(xii)	An indication of whether any unit in the group is an electricity generating 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 will affect ~346 respondents annually.
	98.36(c)(1)(xii)	An estimate of the group’s total reported emissions attributable to electricity generation (expressed as a decimal fraction).	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 ~346 respondents annually.
C – General Stationary Fuel Combustion	98.36(c)(2)(xii)	An estimate of the group’s total reported emissions attributable to electricity generation (expressed as a decimal fraction).	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 ~346 respondents annually.
	98.36(c)(3)(xii)	An estimate of the group’s total reported emissions attributable to electricity generation (expressed as a decimal fraction).	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 ~346 respondents annually.
F –	98.66(a)	Production capacity (tons), on a	New	Increase – requires respondents to

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

<b>Subpart</b>	<b>Citation</b>	<b>Data Element(s) Required to be Reported</b>	<b>Change or Revision</b>	<b>Change in Burden</b>
Aluminum Production		facility-level basis.		ascertain the data element using readily available data and submit the value via e-GGRT as part of the annual report. This will affect ~7 respondents annually
	98.66(a)	Annual operating days per potline.	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 ~7 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.
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 ~100 reporters annually.

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

<b>Subpart</b>	<b>Citation</b>	<b>Data Element(s) Required to be Reported</b>	<b>Change or Revision</b>	<b>Change in Burden</b>
	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 ~100 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 ~100 reporters annually.
P – Hydrogen Production	98.166(b)(1)(i)	For each hydrogen production process unit, report the process type for each hydrogen production unit (i.e., SMR, SMR-WGS, POX, POX-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 ~114 existing reporters + 2 new reporters annually.
	98.166(b)(1)(ii)	For each hydrogen production process unit, the type of hydrogen purification method (pressure swing adsorption, amine adsorption, membrane separation,	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



**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		other (specify), none).		affect ~ 114 existing reporters + 2 new reporters annually.
P – Hydrogen Production	98.166(b)(2)	For each hydrogen production process unit, the calculation methodology (CEMS for single hydrogen production unit; CEMS on a common stack for multiple hydrogen production units; CEMS on a common stack with hydrogen production unit(s) and other sources; CEMS measuring only process emissions plus fuel combustion emissions calculated using Equations P-1 through P-3; material balance using Equations P-1 through P-3 only; material balance using Equations P-1 through P-4).	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 ~ 114 existing reporters + 2 new reporters annually.
	98.166(b)(2)(i)	For each hydrogen production process unit, if either a CEMS on a common stack for multiple hydrogen production units or CEMS on a common stack for hydrogen production unit(s) and other sources is used, report the estimated decimal fraction of the total annual CO <sub>2</sub> emissions from the CEMS monitoring 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 change will affect ~3 reporters under subpart P that use CEMS annually.

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		(estimated using engineering estimates or best available data) attributable to this hydrogen production unit.		
	98.166(b)(2)(ii)	For each hydrogen production process unit, if the method selected is CEMS measuring process emissions alone plus mass balance for hydrogen production unit fuel combustion using Equations P-1 through P-3, report the annual CO <sub>2</sub> emissions (metric tons) calculated for this hydrogen production unit's fuel combustion using Equations P-1 through P-3.	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 ~3 reporters under subpart P that use CEMS annually.
P – Hydrogen Production	98.166(b)(3)(ii)	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 hydrogen production 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 ~114 existing reporters + 2 new reporters annually.
	98.166(b)(6)	For each hydrogen production process unit, quantity of CO <sub>2</sub> collected and transferred off site in either gas, liquid, or solid forms, following the requirements 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 change will

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		subpart PP of this part.		affect ~114 existing reporters + 2 new reporters annually.
	98.166(b)(7)	For each hydrogen production process unit, annual quantity of carbon other than CO <sub>2</sub> or methanol collected and transferred off site 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 ~114 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 ~114 existing reporters + 2 new reporters annually.
Y - Petroleum Refineries	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	Removed	Decrease – removes reporting of data elements associated with coke calciners, the reporting for coke calciners is now accounted for

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		<p>applicable).</p> <p>(2) Maximum rated throughput of the unit, in metric tons coke calcined/stream day.</p> <p>(3) The calculated CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O annual emissions for each unit, expressed in metric tons of each pollutant emitted.</p> <p>(4) A description of the method used to calculate the CO<sub>2</sub> emissions for each unit (e.g., reference section and equation number).</p> <p>(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 recycled).</p> <p>(6) If you use a CEMS, the relevant information required under § 98.36 for the Tier 4 Calculation Methodology, the CO<sub>2</sub> annual emissions as measured by the CEMS and the annual process CO<sub>2</sub> emissions</p>		<p>under subpart WW. Affects ~3 petroleum refineries with coke calcining units.</p>

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		<p>calculated according to § 98.253(g)(1).</p> <p>(7) Indicate whether you use a measured value, a unit-specific emission factor or a default emission factor for CH<sub>4</sub> emissions. If you use a unit-specific emission factor for CH<sub>4</sub>, report the basis for the factor.</p> <p>(8) Indicate whether you use a measured value, a unit-specific emission factor, or a default emission factor for N<sub>2</sub>O emissions. If you use a unit-specific emission factor for N<sub>2</sub>O, report the basis for the factor.</p>		
Subpart AA – Pulp and Paper	98.36(b)(8)	Annual CO <sub>2</sub> mass emissions (including biogenic CO <sub>2</sub> ), and the annual CH <sub>4</sub> , and N <sub>2</sub> O mass emissions for each type of fuel combusted during the reporting year, expressed in metric tons of each gas and in metric tons of CO <sub>2</sub> 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 change will affect ~1 existing reporter annually.
	98.36(b)(9)	Metric tons of biogenic CO <sub>2</sub> emissions	New	Increase – requires respondents to ascertain the data element using readily available data and submit

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				the value via e-GGRT as part of the annual report. This change will affect ~1 existing reporter 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 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).	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 all landfills or ~1,126 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 exceeds the applicable nonmethane organic carbon emission rates requiring landfill gas collection.	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 ~792 reporters annually.
	98.346(j)(5)	For landfills with gas collection systems, the number of gas	New	Increase – requires respondents to ascertain the data element using

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

<b>Subpart</b>	<b>Citation</b>	<b>Data Element(s) Required to be Reported</b>	<b>Change or Revision</b>	<b>Change in Burden</b>
		collection systems at the landfill facility.		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 ~833 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 ~833 existing reporters + 6 new reporters annually.
Subpart HH - MSW Landfills	98.346(j)(6)(iii)	For landfills with gas collection systems, for each gas collection system at the facility, the annual hours the gas collection system was operating normally.	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 ~833 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	New	Increase – requires respondents to ascertain the data element using readily available data and submit

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		of measurement locations associated with the gas collection system.		the value via e-GGRT as part of the annual report. This data element affects reporters with gas collection systems and will affect ~833 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 ~833 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 ~833 existing reporters + 6 new reporters annually.
	98.346(j)(6)(v) (D)(1)	If destruction occurs at the landfill facility for the measurement location (in full or in part), for each destruction device, a unique	New	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the



**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		name or ID number for the destruction device.		annual report. This data element affects reporters with gas collection systems with destruction devices and will affect ~814 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 ~814 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 ~814 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	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

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		flow was sent to the destruction device and the destruction device was operating at its intended temperature or other parameter indicative of effective operation.		affects reporters with gas collection systems with destruction devices and will affect ~814 existing reporters annually.
	98.346(j)(6)(v)(D)(6)	If destruction occurs at the landfill facility for the measurement location (in full or in part), for each destruction device, the estimated fraction of the recovered CH <sub>4</sub> 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).	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 ~814 existing reporters annually.
	98.346(j)(7)(iv)	An indication of whether surface methane concentration measurements were made at the landfill 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 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 ~792 reporters annually.
	98.346(j)(7)(iv)	The frequency of routine	New	Increase – requires respondents to

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		measurements (annual, semiannual, quarterly, bimonthly, monthly, or varied during the reporting year).		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 ~792 reporters annually.
Subpart HH - MSW Landfills	98.346(j)(7)(iv)	The total number of surface methane concentration measurements that exceeded 500 parts per million above background 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 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 ~792 reporters annually.
	98.346(j)(7)(v) (A)	For each surface methane concentration measurements that exceeded 500 parts per million above background during the reporting year, a unique name or ID number for the surface 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 annual report. This data element affects facilities reporting to subpart HH who also meet the

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				design criteria for landfills subject to 40 CFR part 60 landfill NSPS, EG, or FP rule and will affect ~792 reporters annually.
	98.346(j)(7)(v) (B)	For each surface methane concentration measurements that exceeded 500 parts per million above background during the reporting year, the date of 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 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 ~792 reporters annually.
	98.346(j)(7)(v) (C)	For each surface methane concentration measurements that exceeded 500 parts per million above background during the reporting year, the measured methane concentration (in parts per million by volume).	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 ~792 reporters annually.
	98.346(j)(7)(v) (D)	For each surface methane concentration measurements that	New	Increase – requires respondents to ascertain the data element using

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		exceeded 500 parts per million above background during the reporting year, the leak duration (days).		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 ~792 reporters annually.
Subpart OO - Suppliers of Industrial Greenhouse Gases	98.416(b)(11)	For all GHGs that are not regulated substances under 40 CFR Part 84 (Phasedown of Hydrofluorocarbons), a copy of the corresponding U.S. Customs entry form for each reported import.	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 ~68 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 ~104 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	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

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		quantity of that GHG or fluorinated HTF in metric tons that is transferred to that end use application, if known.		will affect suppliers or ~104 reporters annually.
Subpart PP - Suppliers of Carbon Dioxide	98.426(h)(1)	If you capture a CO <sub>2</sub> stream from a facility that is subject this part and transfer CO <sub>2</sub> to any facilities that are subject to subpart RR or subpart VV of this part, the facility identification number associated with the annual GHG report for the facility that is the source of the captured CO <sub>2</sub> stream.	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 <sub>2</sub> transferred to facilities reporting under subparts RR (~ 9 facilities) or VV (~2 facilities) annually.
	98.426(h)(2)	If you capture a CO <sub>2</sub> stream from a facility that is subject this part and transfer CO <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> transferred to facilities reporting under subparts RR (~ 9 facilities) or VV (~2 facilities) annually.
	98.426(h)(3)	If you capture a CO <sub>2</sub> stream from a facility that is subject this part and transfer CO <sub>2</sub> to any facilities that are subject to subpart RR or	Revised	Increase – requires respondents to ascertain the data element using readily available data and submit the value via e-GGRT as part of the

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		subpart VV of this part, the annual quantity of CO <sub>2</sub> in metric tons that is transferred to each subpart RR and subpart VV facility		annual report. This data element will affect subpart PP reporters that would be required to report CO <sub>2</sub> transferred to facilities reporting under subparts RR (~ 9 facilities) or VV (~2 facilities) 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(a)(8)	For each importer of fluorinated GHGs contained in pre-charged equipment or closed-cell foams, a copy of the corresponding U.S. Customs entry form for each reported import.	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.
WW – Coke	98.496(a)	The unit ID number (if	New	Increase – requires respondents to

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

<b>Subpart</b>	<b>Citation</b>	<b>Data Element(s) Required to be Reported</b>	<b>Change or Revision</b>	<b>Change in Burden</b>
Calciners		applicable).		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 CO <sub>2</sub> , CH <sub>4</sub> , and N <sub>2</sub> O 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 CO <sub>2</sub> emissions for each unit (e.g., CEMS or Equation WW-1).	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.



**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

<b>Subpart</b>	<b>Citation</b>	<b>Data Element(s) Required to be Reported</b>	<b>Change or Revision</b>	<b>Change in Burden</b>
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.
WW – Coke Calciners	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	New	Increase – requires respondents to ascertain the data element using

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		to the coke calcining unit from facility measurement data (metric tons C per metric ton green coke).		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(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

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				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.
	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).	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

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		(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.		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 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 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	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.

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		<p>carbide process unit.</p> <p>(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).</p> <p>(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.</p>		
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

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				facilities and will affect ~6 reporters annually.
	98.516(b)	Annual process N <sub>2</sub> O emissions from each process line according to paragraphs (1) through (3):  (1) N <sub>2</sub> O from caprolactam production (metric tons).  (2) N <sub>2</sub> O from glyoxal production (metric tons).  (3) N <sub>2</sub> O 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	98.516(d)	Annual production capacity from all process lines at the caprolactam, glyoxal, or glyoxylic	New	Increase – requires respondents to ascertain the data element using readily available data and submit

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

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Glyoxylic Acid Production		acid production facility, as applicable, in paragraphs (1) through (3):  (1) Caprolactam production capacity (metric tons).  (2) Glyoxal production capacity (metric tons).  (3) Glyoxylic acid production capacity (metric tons).		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(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

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
				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 <sub>2</sub> O 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 N <sub>2</sub> O abatement technology at the caprolactam, glyoxal, or glyoxylic acid production facility.	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(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



**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

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				caprolactam, glyoxal, and glyoxylic acid production facilities and will affect ~6 reporters annually.
	98.516(j)	Annual percent N <sub>2</sub> O emission reduction per chemical produced at the caprolactam, glyoxal, or glyoxylic acid production facility, as applicable, in (1) through (3):  (1) Annual percent N <sub>2</sub> O emission reduction for caprolactam production.  (2) Annual percent N <sub>2</sub> O emission reduction for glyoxal production.  (3) Annual percent N <sub>2</sub> O emission reduction for glyoxylic acid production.	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 – Coke Calciners	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 ~34 reporters annually.
	98.526(b)	If a CEMS is used to measure CO <sub>2</sub> emissions from ceramics process units, the relevant information		Increase – requires respondents to ascertain the data element using readily available or collected data

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		<p>required under § 98.36 for the Tier 4 Calculation Methodology and the following information specified in paragraphs (1) through (3).</p> <p>(1) The annual quantity of each carbonate-based raw material charged to each ceramics process unit and for all units combined (tons).</p> <p>(2) Annual quantity of each type of ceramics product manufactured by each ceramics process unit and by all units combined (tons).</p> <p>(3) Annual production capacity for each ceramics process unit (tons).</p>		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 – Coke Calciners		<p>If a CEMS is not used to measure CO<sub>2</sub> emissions from ceramics process units and process CO<sub>2</sub> emissions are calculated according to the procedures specified in § 98.523(b), the following information specified in paragraphs (1) through (7).</p> <p>(1) Annual process emissions of CO<sub>2</sub> (metric tons) for each</p>		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 ~34 reporters annually.

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

Subpart	Citation	Data Element(s) Required to be Reported	Change or Revision	Change in Burden
		<p>ceramics process unit and for all units combined.</p> <p>(2) The annual quantity of each carbonate-based raw material charged to all units combined (tons).</p> <p>(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.</p> <p>(i) Date of test.</p> <p>(ii) Method(s) and any variations used in the analyses.</p> <p>(iii) Mass fraction of each sample analyzed.</p> <p>(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</p>		

**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.19  
Attachment 1**

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		<p>collected).</p> <p>(5) Annual quantity of each type of ceramics product manufactured by each ceramics process unit and by all units combined (tons).</p> <p>(6) Annual production capacity for each ceramics process unit (tons).</p> <p>(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).</p>		

**Table 2. New Recordkeeping Requirements by Source Category**

<b>Subpart</b>	<b>New Recordkeeping Requirements</b>
B – Energy Consumption	Copies of all purchased energy or thermal energy product billing statements.
	The results of all required certification and quality assurance tests referenced in the MEMP for all purchased electricity or thermal energy product meters used to develop the energy consumption data reported under subpart B.
	Maintenance records for all monitoring systems, flow meters, and other instrumentation used to provide data on consumption or purchased electricity or thermal energy products under subpart B.
N – Glass Production	If a CEMS is used to measure emissions, monthly amount (tons) of recycled scrap glass (cullet) charged to each glass melting furnace, by glass type.
	If process CO <sub>2</sub> emissions are calculated according to the procedures specified in §98.143(b), monthly amount (tons) of recycled scrap glass (cullet) charged to each glass melting furnace, by glass type.
P – Hydrogen Production	Records of all analyses and calculations conducted to determine the values reported as listed in §98.166(b).
HH – Municipal Solid Waste Landfills	Records of the data used to calculate and report the GHG emissions in § 98.346.
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 WW-1 of § 98.493).
	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 WW-1).
	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 WW-1).
	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 WW-1).
	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 WW-1).
XX – Calcium Carbide	If a CEMS is used to measure CO <sub>2</sub> emissions according to the requirements in § 98.503(a), the records required for the Tier 4 Calculation Methodology in § 98.37.

Subpart	New Recordkeeping Requirements
Production	If a CEMS is used to measure CO <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> emissions according to the requirements in § 98.503(b)(2), number of calcium carbide process unit operating hours each month.
XX – Calcium Carbide Production	If the carbon mass balance procedure is used to determine CO <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> emissions (tons).
	If the carbon mass balance procedure is used to determine CO <sub>2</sub> 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 <sub>2</sub> 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 XX-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, 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 XX-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 XX-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 XX-1).
	A record of the file generated by the verification software specified in § 98.5(b)

Subpart	New Recordkeeping Requirements
	<p>for annual mass of carbon electrode consumed in the calcium carbide process unit (tons) (Equation XX-1).</p> <p>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 XX-1).</p> <p>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 XX-1).</p> <p>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 XX-1).</p> <p>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 XX-1).</p>
YY – Caprolactam, Glyoxal, and Glyoxylic Acid Production	<p>Documentation of how accounting procedures were used to estimate production rate.</p> <p>Documentation of how process knowledge was used to estimate abatement technology destruction efficiency (if applicable).</p> <p>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.</p> <p>A record of the file generated by the verification software specified in § 98.5(b) for monthly production quantity of caprolactam from all process lines at the caprolactam, glyoxal, or glyoxylic acid production facility.</p> <p>A record of the file generated by the verification software specified in § 98.5(b) for monthly production quantity of glyoxal from all process lines at the caprolactam, glyoxal, or glyoxylic acid production facility.</p> <p>A record of the file generated by the verification software specified in § 98.5(b) for monthly production quantity of glyoxylic acid from all process lines at the caprolactam, glyoxal, or glyoxylic acid production facility.</p>
ZZ – Ceramics Production	<p>If a CEMS is used to measure CO<sub>2</sub> emissions according to the requirements in § 98.523(a), the records required under § 98.37 for the Tier 4 Calculation Methodology.</p> <p>If a CEMS is used to measure CO<sub>2</sub> emissions according to the requirements in § 98.523(a), records of the monthly ceramics production rate for each ceramics process unit (tons).</p> <p>If a CEMS is used to measure CO<sub>2</sub> 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).</p> <p>If process CO<sub>2</sub> 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).</p> <p>If process CO<sub>2</sub> emissions are calculated according to the procedures specified in §</p>

Subpart	New Recordkeeping Requirements
	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 <sub>2</sub> 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 ZZ-1, if applicable.
	<p>If process CO<sub>2</sub> 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).</p> <p>(i) Date of test.</p> <p>(ii) Method(s), and any variations of methods, used in the analyses.</p> <p>(iii) Mass fraction of each sample analyzed.</p> <p>(iv) Relevant calibration data for the instrument(s) used in the analyses.</p> <p>(v) Name and address of laboratory that conducted the tests.</p>
	If process CO <sub>2</sub> 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 <sub>2</sub> .
	If process CO <sub>2</sub> 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 ZZ-1).
	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 ZZ-1).
	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 ZZ-1).



**SUPPORTING STATEMENT:  
ENVIRONMENTAL PROTECTION AGENCY  
OMB control number 2060-0629; ICR number 2300.18  
Attachment 2**