

**SUPPORTING STATEMENT PART A:  
INFORMATION COLLECTION REQUEST  
FOR THE MANDATORY REPORTING OF GREENHOUSE GASES, SUBPART RR:  
INJECTION AND GEOLOGICAL SEQUESTRATION OF CARBON DIOXIDE –  
PROPOSED RULE  
EPA ICR No. 2372.01**

**1. IDENTIFICATION OF THE INFORMATION COLLECTION**

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

TITLE: “Mandatory Reporting of Greenhouse Gases, Subpart RR: Injection and Geological Sequestration of Carbon Dioxide – Proposed Rule.”

OMB Control Number: 2060-new

**1(b) Short Characterization/Abstract**

The United States (U.S.) Environmental Protection Agency (EPA) is proposing to amend the Mandatory Reporting of Greenhouse Gases Program at 40 CFR 98 to add reporting requirements covering facilities that conduct injection and geologic sequestration of CO<sub>2</sub>. The proposed new subpart, subpart RR, would enable EPA to track the fate of CO<sub>2</sub> and confirm the amount of CO<sub>2</sub> sequestered.

EPA is proposing a tiered approach for reporting requirements under this subpart. In the first tier of proposed regulations, all facilities that inject CO<sub>2</sub> underground would be required to report the amount of CO<sub>2</sub> transferred onsite from offsite sources, the source of the CO<sub>2</sub>, if known, and the amount of CO<sub>2</sub> injected underground. EPA proposes an all-in reporting threshold that would allow the Agency to comprehensively track all CO<sub>2</sub> supply (as reported in Suppliers of CO<sub>2</sub>, subpart PP) that is injected underground.

The second tier of reporting requirements would apply to geologic sequestration (GS) facilities. GS facilities would be required to calculate the amount of CO<sub>2</sub> sequestered by subtracting total CO<sub>2</sub> emissions from the quantity of CO<sub>2</sub> injected in the reporting year. EPA is also proposing to require monitoring according to a site-specific monitoring, reporting, and verification (MRV) plan, which would be used to verify the amount of injected CO<sub>2</sub> as sequestered and to quantify emissions in the event that injected CO<sub>2</sub> leaks to the surface.

This ICR supplements the ICR for ICR for the Mandatory Reporting of Greenhouse Gases; Final Rule (EPA ICR No. 2300.03). EPA will merge these ICRs when they are renewed in the future.

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

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

Signed into law on December 26, 2007, the FY2008 Consolidated Appropriations Act (henceforth referred to as the “Appropriations Act”) directed 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 EPA to “use its existing authority under the Clean Air Act” (CAA) to develop a mandatory 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.”

In accordance with this directive, EPA is proposing to extend the mandatory reporting program using its existing authority under §114 of the CAA. CAA §114(a) provides EPA broad authority to collect data for the purpose of, among other things, “carrying out any provision” of the Act. Under §114(a)(1), the Administrator may 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 as the Administrator requests for the purposes of carrying out the provisions in the CAA.

Further information on the authority provided under §114 of the CAA is contained in section I.C. of the preamble to the proposed Mandatory Reporting of Greenhouse Gases Rule (MRR) (74 FR 16448).

The CAA provides EPA with broad authority to require the comprehensive and accurate information mandated in this rule because such data will inform, and are relevant to, EPA’s analyses of various CAA provisions. EPA may gather information for a variety of purposes, including for the purpose of assisting in the development of implementation plans or of emissions standards under CAA §111, determining compliance with implementation plans or such standards, or more broadly for “carrying out any provision” of the CAA. In addition, CAA §103 authorizes EPA to establish a national research and development program, including non-regulatory approaches and technologies for the prevention and control of air pollution as it relates to GHGs and climate change.

The above discussion is not a comprehensive listing of all the possible ways the information collected under this rule could assist EPA in carrying out any provision of the CAA. Rather it illustrates how the information request fits within the parameters of EPA’s CAA authority.

The information from CO<sub>2</sub> injection and geologic sequestration facilities will allow EPA to make well-informed decisions about whether and how to use the CAA to regulate these facilities and encourage voluntary reductions. Because EPA does not yet know the specific policies that will be adopted, the data reported through the mandatory reporting system should be of sufficient quality to inform policy and program development. Also, consistent with the Appropriations Act, the reporting rule covers a broad range of sectors of the economy.

EPA has identified the following goals of the mandatory reporting system, including:

- Obtain data that is of sufficient quality that it can be used to analyze and inform the development of a range of future climate change policies and potential regulations.
- Balance the rule's coverage to maximize the amount of emissions reported while excluding small emitters.
- Create reporting requirements that are, to the extent possible and appropriate, consistent with existing GHG reporting programs in order to reduce reporting burden for all parties involved.

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

The rule provides EPA, other government agencies, industry, and the public with the ability to start tracking data on CO<sub>2</sub> injected underground and CO<sub>2</sub> sequestered. This data would provide information and transparency on the amount of CO<sub>2</sub> injected and geologically sequestered in the U.S. and, in combination with other subparts of the MRR, would enable EPA to track the flow of CO<sub>2</sub> across the entire CO<sub>2</sub> capture and sequestration (CCS) system.

Data on CO<sub>2</sub> injection and GS would enable EPA to monitor the growth and efficacy of GS (and therefore CCS) as a GHG mitigation technology over time and to evaluate relevant policy options. For example, EPA would be able to track whether incentives or regulations are needed to encourage faster or further GS project development. EPA would also be able to track whether enhanced oil and natural gas recovery (ER) sites are transitioning to GS and consider whether incentives or regulations are needed. Where ER facilities are reporting GS, EPA would be able to evaluate ER as a potentially non-emissive end use. In combination with subpart PP, EPA would be able to reconcile this data with CO<sub>2</sub> supplied in order to better understand the quantity of CO<sub>2</sub> supplied to emissive and non-emissive end uses. Furthermore, this data would inform Agency policy decisions under CAA §§ 111 and 112 related to the use of CCS for mitigating GHG emissions.

Accurate and timely information on carbon emissions is essential for informing CAA GHG policies and future climate change policy decisions. These data could also be coupled with efforts at the local, state, federal, and international levels to assist corporations and facilities in determining their carbon footprints and identifying further opportunities to reduce emissions.

Standardization of GHG data would also be a benefit to industry. Once facilities invest in the institutional knowledge and systems to report emissions, the cost of monitoring should fall and the accuracy of the accounting should improve. A standardized reporting program would also allow for facilities to benchmark themselves against similar facilities to understand better their relative standing within their industry.

The rule is not intended to be a survey and the respondents affected by the rule are not intended to be a statistical sample of a larger universe of entities. EPA does not intend to use the data collected under this rule to characterize non-reporting entities or to draw statistical inferences about a larger population.

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

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

Before developing this proposal, EPA considered whether it could access the data needed for the purposes outlined through other inventory, reporting, and registry programs that exist, at the state, regional, and federal government levels. The Agency has determined that the CO<sub>2</sub> injection and sequestration reporting program will supplement and complement, rather than duplicate, existing programs' data. For example, EPA considered CO<sub>2</sub> data needed for its Underground Injection Control (UIC) program's new class of injection well – Class VI – for GS projects (73 FR 43492 (July 25, 2008)). The UIC program is not designed to provide sufficient assurance that sequestered CO<sub>2</sub> is not emitted to the atmosphere for GS facilities, and the reporting mechanism proposed by the UIC program would not meet the Intergovernmental Panel on Climate Change (IPCC) guidelines (discussed below). Therefore, the GHG reporting proposed rule builds on the UIC program requirements for monitoring with the additional goals of verifying the amount of CO<sub>2</sub> sequestered and collecting data on any CO<sub>2</sub> surface emissions from GS facilities.

Documentation of EPA's review of GHG (including CO<sub>2</sub>) monitoring protocols used by federal, state, and international voluntary and mandatory GHG programs, and the review of state mandatory GHG rules, can be found in the docket at EPA-HQ-OAR-2008-0508-056. The programs that specifically relate to monitoring and reporting CO<sub>2</sub> injection and sequestration are described below:

- As described above, EPA has proposed a new rule under the UIC program for Class VI permit regulation to address the risks to USDWs from CO<sub>2</sub> injection for GS. Data currently collected under a state-issued UIC permit is submitted to states while, under the subpart RR proposal, reporters will be submitting data directly to EPA. Also, under subpart RR, any facility sequestering CO<sub>2</sub> underground, regardless of their UIC permit classification, can choose to qualify and report as a GS facility. In the Agency's August 2009 Notice of Data Availability supplementing the UIC Class VI proposal, EPA noted that it was evaluating the need for a more comprehensive regulatory framework for GS.

It is EPA's intention to coordinate GS requirements across relevant statutory programs to increase regulatory clarity and improve the accuracy of GS data collected.

- EPA also reviewed the *Inventory of U.S. Greenhouse Gas Emissions and Sinks* (Inventory), which is an assessment of national greenhouse gas emissions that the EPA prepares annually, with input from several other agencies, and submits to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC). EPA currently follows the 1996 IPCC guidelines and accounts for CCS in the Inventory by making general, top-down assumptions about the fate of CO<sub>2</sub> supplied. In contrast, the proposed rule requires a more robust and complex approach that calculates CO<sub>2</sub> injection and, if applicable, sequestration. EPA anticipates that bottom-up facility-level reporting on injection and, if applicable, sequestration will lead to improvements in the quality of the Inventory.
- The IPCC published new inventory guidelines in 2006 which directly address accounting for GS and include methodologies for the estimation of emissions from capture, transport, injection, and geologic sequestration of CO<sub>2</sub>. In order to meet the 2006 IPCC guidelines, the U.S. needs to collect specific CO<sub>2</sub> end-use information at a high resolution, criteria that cannot be met by any existing CCS data collection efforts. EPA believes that the GS monitoring, reporting, and verification requirements of this proposed rule are consistent with the 2006 IPCC guidelines and will help EPA transition to the IPCC 2006 guidelines.
- In addition, the Agency examined the voluntary GHG registry that the U.S. Department of Energy's (DOE's) Energy Information Administration (EIA) implements under §1605b of the Energy Policy Act of 1992. Under EIA's "1605(b) program," reporters can choose to prepare an entity-wide GHG inventory and identify specific GHG reductions made by the entity. The 2007 updated 1605(b) guidance outlines a voluntary process to report data on CO<sub>2</sub> sequestration. Currently, no CO<sub>2</sub> injection or sequestration entity has reported under the 1605(b) program per the 2007 guidelines. Furthermore, although the 1605(b) guidance cites the importance of reporting CO<sub>2</sub> leakage should it occur, the guidance does not include a discussion of, procedures for, or methodologies for using monitoring technologies and techniques to quantify the leakage. As a result of this, and the fact that reporting is voluntary, the 1605(b) program would not meet the data needs of this proposed rule or the 2006 IPCC guidelines.
- The DOE also administers the Climate Vision program (Voluntary Innovative Sector Initiatives: Opportunities Now), whose goal includes accelerating the transition to technologies, practices, and processes that are capable of reducing, capturing, or sequestering GHGs. All voluntary reporting under the Climate Vision Program is covered under 1605(b), and as such, it also does not meet EPA's needs for mandatory reporting.
- EPA also reviewed the Internal Revenue Service (IRS) Notice 2009-83 Credit for Carbon Dioxide Sequestration under section 45Q. To claim the credit, a taxpayer must follow general monitoring and verification principles, calculate CO<sub>2</sub> sequestered in the fiscal year using a mass-balance equation, and report to IRS the amount of qualified CO<sub>2</sub>

sequestered in the fiscal year. However, the level of reporting and transparency of the IRS data collected would not meet the verification needs of the proposed rule. The IRS reporting requirement expires after 75 million metric tons of CO<sub>2</sub> is reported as sequestered to IRS, data reporting is only as robust as to meet the standards in the case of an IRS audit, and the IRS does not outline procedures for quantifying and reporting any CO<sub>2</sub> leakage that may occur as is necessary for the proposed rule. Therefore, EPA has concluded that the IRS data would not meet the needs outlined in this proposed rule.

EPA intends to harmonize CCS requirements across relevant statutory or other programs in order to minimize any redundancy and any burden on reporters. To reduce burden on reporters and program agencies, the Agency will share emissions data with the exception of any confidential business information (CBI) data with relevant agencies or approved entities using, where practical, shared tools and infrastructure.

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

As part of the Federal Register notice on the proposed regulation, EPA is soliciting comments on this information collection and the estimates in the proposed ICR. EPA also solicited comments on specific aspects of the information collection, as described below:

- 1) Whether the proposed collection of information is necessary for the proper performance of the functions of the Agency, including whether the information would have practical utility;
- 2) Whether the Agency's burden estimate is accurate, including the validity of the methodology and assumptions used;
- 3) How to enhance the quality, utility, and clarity of the information to be collected; and
- 4) How to minimize the burden on respondents, including use of appropriate automated electronic, mechanical, or other technological collection techniques or other forms of information technology.

In compliance with the Paperwork Reduction Act (44 USC 3501 *et seq.*), EPA is submitting this ICR for the final GHG Regulation to the Office of Management and Budget (OMB) for review and approval.

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

During the development of the MMR, EPA conducted a proactive communications outreach program to inform the public about the rule development effort. Prior to the proposal signature, EPA staff held more than 100 meetings with stakeholders, including:

- Trade associations and firms in potentially affected industries/sectors;

- State, local, and tribal environmental control agencies and regional air quality planning organizations;
- State and regional organizations already involved in GHG emissions reporting, such as The Climate Registry, California Air Resources Board, and the Western Climate Initiative; and
- Environmental groups and other nongovernmental organizations.

EPA also met with federal agencies, including DOE and the U.S. Department of Agriculture, which have programs relevant to GHG emissions.

The proposed MRR was signed on March 10, 2009 by Administrator Lisa Jackson and published in the Federal Register on April 10, 2009 (74 FR 16448). EPA held two public hearings, on April 6 and 7, 2009, in Arlington, Virginia, and on April 16, 2009, in Sacramento, California. In addition, EPA met with over 4,000 additional people in over 150 groups via webinars, conferences, individual meetings, and other forms of outreach. Details of these meetings are available in the docket (EPA-HQ-OAR-2008-0508). EPA issued a final rule on October 30, 2009 (74 FR 56260).

During the sixty day comment period, EPA received approximately 16,800 comments, 15,800 of which were identical mass mailers. EPA received many comments on subpart PP (Suppliers of CO<sub>2</sub>) that CO<sub>2</sub> injected underground should be considered when estimating emissions from the CO<sub>2</sub> supply industry. Some commenters specified that some of the CO<sub>2</sub> supplied for the purposes ER is additionally sequestered rather than emitted and characterized ER operations as “closed systems” rather than emissive. Other commenters stated that including reporting requirements for geologically sequestered CO<sub>2</sub> would fill a critical gap in the reporting system.

EPA agrees that ER is a potentially non-emissive end use and that GS data reporting from ER sites can assist EPA in quantifying the amount of CO<sub>2</sub> that is permanently and securely geologically sequestered. In addition, EPA agrees that GS reporting requirements would provide information and transparency on the amount of CO<sub>2</sub> injected and geologically sequestered in the U.S.

Therefore, EPA is proposing to amend the MMR to add subpart RR. As described above, subpart RR would require all facilities that conduct injection and geologic sequestration of CO<sub>2</sub> to meet the requirements of the tiered reporting approach and all-in reporting threshold.

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

The reporting frequency for emissions data to EPA has been established to minimize the burden on owners and operators of affected facilities, while ensuring that the reporting rule collects facility-specific data of sufficient quality to achieve the Agency’s objectives. For entities required to report, the rule requires the submission of annual reports. EPA proposes that all CO<sub>2</sub>

injection facilities monitor and report the CO<sub>2</sub> compositions and masses quarterly in order to account for fluctuations in the CO<sub>2</sub> composition over the reporting year that are caused by the source of the CO<sub>2</sub>, the conditions of the capture and transportation, and the seasons of the year.

If the information collection were not carried out on this schedule, the Agency would not be able to develop an informed tracking system of trends in CO<sub>2</sub> injection and sequestration across the country. EPA needs the data quickly at the beginning of every reporting year in order to electronically verify it, publish it as authorized by the CAA, and use it for the purposes described. In addition, the annual reporting may eventually be used to climate policies and potential future regulations.

### **3(e) General Guidelines**

This collection of information is consistent with all OMB guidelines under 5 CFR 1320.6.

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

In general, emission data collected under §114 and §208 of the CAA cannot be declared CBI. However, if any CBI is reported under this GHG reporting rule, EPA would protect CBI in accordance with regulations in 40 CFR Chapter 1, part 2, subpart B. Although CBI determinations are usually made on a case-by-case basis, EPA has issued guidance on what constitutes emissions data that cannot be considered CBI (956 FR 7042 –7043, February 21, 1991).

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

This information collection does not ask any questions concerning sexual behavior or attitudes, religious beliefs, or other matters usually considered private.

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

The respondents in this information collection include operators of facilities that must report their CO<sub>2</sub> emissions to EPA to comply with the rulemaking. To facilitate the analysis, EPA has divided respondents into groups that align with the source category identified in the rule.

This section describes the industry sector (CO<sub>2</sub> source categories) that must participate in subpart RR of the MRR, 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 Systems (NAICS) Codes

EPA proposes that all injection facilities would be required to report the minimum information in subpart RR (quantity of CO<sub>2</sub> injected, quantity of CO<sub>2</sub> transferred onsite from offsite, and source of the CO<sub>2</sub> if known). Reporting facilities included in this source category include CO<sub>2</sub> injection facilities and GS facilities. A CO<sub>2</sub> injection facility is defined broadly to cover wells or a group of wells that inject CO<sub>2</sub> into the subsurface, which includes under a seabed offshore. A GS facility is a facility that injects CO<sub>2</sub> for the long-term containment of a gaseous, liquid, or supercritical CO<sub>2</sub> stream in subsurface geologic formations. This source category does not include: (1) storage of CO<sub>2</sub> above ground; (2) temporary storage of CO<sub>2</sub> below ground; (3) transportation or distribution of CO<sub>2</sub>; (4) purification, compression, or processing of CO<sub>2</sub>; (5) capture of CO<sub>2</sub>; and (6) CO<sub>2</sub> stored in cement, precipitated calcium carbonate (PCC), or any other technique that does not involve injection of CO<sub>2</sub> into the subsurface.

The industry sector is listed below by its subpart of the rule and its NAICS code for reference.

<b>Part and Subpart</b>	<b>NAICS code(s)</b>
CO <sub>2</sub> Enhanced Oil and Gas Recovery Projects	211 Oil and gas extraction projects using CO <sub>2</sub> enhanced oil and gas recovery
GS Sites	N/A CO <sub>2</sub> geologic sequestration projects

#### 4(b) Information Requested

##### *(i) Data Items*

##### *Reporting Requirements*

The following is a summary of the information requested by facilities that would be subject to subpart RR:

**General requirements that apply to all sources.** All respondents that exceed the reporting threshold or that belong to a source category in which all respondents report, including subpart RR, must submit the general information required in 40 CFR 98.3 and adhere to the reporting, certification, and notification requirements in 40 CFR 98.4 and 40 CFR 98.2, if applicable. EPA is not proposing any changes to these requirements. This information is described in the ICR for the Mandatory Reporting of Greenhouse Gases; Final Rule (EPA ICR No. 2300.03). In addition, many facilities that are affected by the proposed supplemental rule have GHG emissions from multiple source categories of 40 CFR Part 98, and they must meet the reporting requirements of the specific subparts that describe these requirements.

**Requirements that apply to all facilities that are covered under Subpart RR.** All facilities that meet the definition of this source category must report the following:

1. For each transfer point flow meter (mass or volumetric), report:
  - a. CO<sub>2</sub> quantity transferred onsite (metric tons or standard cubic meters, as appropriate) in each quarter.
  - b. CO<sub>2</sub> concentration in flow (volume or wt. % CO<sub>2</sub>/100) in each quarter.
  - c. If a volumetric flow meter is used, volumetric flow rate at standard conditions (standard cubic meters) in each quarter.
  - d. If a mass flow meter is used, mass flow rate (metric tons) in each quarter.
  - e. The standard used to calculate each value.
  - f. The number of times in the reporting year for which substitute data procedures were used to calculate values reported.
2. For each injection flow meter (mass or volumetric), report:
  - a. CO<sub>2</sub> quantity injected (metric tons or standard cubic meters) in each quarter.
  - b. CO<sub>2</sub> concentration in flow (volume or wt. % CO<sub>2</sub>/100) in each quarter.
  - c. If a volumetric flow meter is used, report CO<sub>2</sub> density (metric tons per standard cubic meter) in each quarter.
  - d. If a volumetric flow meter is used, volumetric flow rate at standard conditions (standard cubic meters) in each quarter.
  - e. If a mass flow meter is used, mass flow rate (metric tons) in each quarter.
  - f. The standard used to calculate each value.
  - g. The number of times in the reporting year for which substitute data procedures were used to calculate values reported.
3. The source of the supplied CO<sub>2</sub>, if known, according to the following categories:
  - a. CO<sub>2</sub> production wells
  - b. Electric generating unit.
  - c. Ethanol plant.
  - d. Pulp and paper mill.
  - e. Natural gas processing.
  - f. Other anthropogenic source.
  - g. Unknown.
4. The total CO<sub>2</sub> transferred onsite from offsite (metric tons) in the reporting year as calculated in Equation RR-3.
5. The total CO<sub>2</sub> injected (metric tons) in the reporting year as calculated in Equation RR-6.

**Requirements that apply to GS facilities.** All GS facilities must also report the following:

1. If you do not report under subpart W of this part, report the annual fugitive and vented CO<sub>2</sub> emissions from surface equipment (metric tons) located in the GS facility under this subpart.
2. Annual CO<sub>2</sub> mass emitted (metric tons) as fugitive or vented emissions from equipment located on the surface between the flow meter used to measure injection quantity and the injection wellhead.

3. Annual CO<sub>2</sub> mass emitted (metric tons) as fugitive or vented emissions from equipment located on the surface between the production wellhead and of the flow meter used to measure production quantity.
4. For each separator flow meter (mass or volumetric), report:
  - a. CO<sub>2</sub> quantity produced (metric tons or standard cubic meters) in each quarter.
  - b. CO<sub>2</sub> concentration in flow (volume or wt. % CO<sub>2</sub>/100) in each quarter.
5. For each separator volumetric flow meter, volumetric flow rate at standard conditions (standard cubic meters) in each quarter.
6. For each separator mass flow meter, mass flow rate (metric tons) in each quarter.
7. The standard used to calculate each value in (4) through (6) of this section.
8. The number of times in the reporting year for which substitute data procedures were used to calculate values reported in (4) through (6) of this section.
9. The value for X (%) used in Equation RR-9 and as determined in your MRV plan
10. Annual CO<sub>2</sub> produced in the reporting year as calculated in Equation RR-9.
11. For each leakage pathway, report the CO<sub>2</sub> (metric tons) emitted through that pathway in the reporting year.
12. Annual CO<sub>2</sub> mass emitted (metric tons) from the subsurface geologic formation at the facility in the reporting year as calculated by Equation RR-10.
13. Annual CO<sub>2</sub> (metric tons) sequestered in the subsurface geologic formation in the reporting year as calculated by Equation RR-11 or RR-12.
14. Cumulative mass of CO<sub>2</sub> reported as sequestered in the subsurface geologic formation in all years since you began reporting.
15. Date that the most recent MRV plan was approved and the MRV plan approval number that was issued by EPA.
16. Whether any of the MRV plan resubmissions scenarios were triggered in the reporting year such that you must submit a new MRV plan to report in the following year.
17. If the well is permitted by an UIC permitting authority, for each injection well, report:
  - a. The well ID number used for the UIC permit.
  - b. The UIC permit class.
18. Any other reporting requirement that is specified in your MRV plan.

Under 40 CFR 98.3(j) and discussed in more detail in Section II.D of the subpart RR Preamble, the owner or operator of a facility that meets the requirements of a GS facility in subpart RR must follow the procedures to develop a monitoring, reporting, and verification (MRV) plan, submit it to EPA, receive approval from EPA on the plan, implement the plan, and submit annual report addenda. An adequate MRV plan should be tailored to site-specific conditions and be designed for the stage of the GS project (e.g. operational). In addition, the MRV plan should be dynamic and allow for modification or adaptation based on monitoring results. A MRV plan must contain the following components:

1. An assessment of the risk of leakage of carbon dioxide (CO<sub>2</sub>) to the surface.
2. A strategy for detecting and quantifying any CO<sub>2</sub> leakage to the surface.
3. A strategy for establishing pre-injection environmental baselines.

4. Summary of considerations made to calculate site-specific variables for the mass balance equation.

### *Recordkeeping Requirements*

**General requirements that apply to all sources.** EPA is not proposing any changes to the general recordkeeping requirements that apply to all sources, including subpart RR. This information is described in the ICR for the Mandatory Reporting of Greenhouse Gases; Final Rule (EPA ICR No. 2300.03). In addition, many facilities that are affected by the proposed supplemental rule have GHG emissions from multiple source categories of 40 CFR Part 98, and they must meet the reporting requirements of the specific subparts that describe these requirements.

**Requirements that apply to all facilities that are covered under Subpart RR.** All facilities that meet the definition of this source category must keep the following records in an electronic or hard-copy format (as appropriate):

1. Retain quarterly records of injected CO<sub>2</sub> and CO<sub>2</sub> transferred onto the facility from offsite sources, including mass flow or volumetric flow at standard conditions and operating conditions, operating temperature and pressure, and concentration of these streams.

**Requirements that also apply to GS facilities.** All GS facilities must also keep the following records in an electronic or hard-copy format (as appropriate):

1. Quarterly records of produced CO<sub>2</sub> if applicable, including mass flow or volumetric flow at standard conditions and operating conditions, operating temperature and pressure, and concentration of these streams.
2. Annual records of the emitted CO<sub>2</sub> from subsurface geologic formation leakage pathways.
3. Any other records as outlined for retention in MRV plan.

### *(ii) Respondent Activities*

The owner or operator of a facility that is subject to the rule's reporting requirements must report total annual GHG emissions in metric tons of CO<sub>2</sub>e from all the source categories at the facility. The primary tasks that reporting program respondents will perform include:

1. Developing appropriate monitoring plans for each affected source and each affected unit at a source, as applicable;
2. Operation and maintenance activities associated with the monitoring, including quality assurance activities;
3. Ensuring data quality, preparing annual reports of emissions data, and submitting these reports to EPA;

4. Potentially responding to questions or error messages from EPA; and
5. Maintaining records for a minimum of three years. In addition, respondents must purchase the necessary monitoring hardware and purchase the electronic data reporting software (or software upgrades) if they had not done so for another reporting program.

Reports must present the annual mass GHG emissions from each source category separately. The calculations used to determine GHG emissions, the frequency at which those calculations are required, the methods used to estimate missing data, and the QA/QC requirements depend on the specific source category.

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

### **5(a) Agency Activities**

EPA Headquarters activities associated with the rule include program start-up activities to prepare for receiving the reported data. These activities include database and software design, developing guidance and training affected sources, responding to stakeholders, and communication and outreach on the rule requirements.

Once the reporting program is in place, EPA program operation activities will include monitoring and verification of emission reports, database and software maintenance, communication and outreach, and program evaluation.

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

EPA will establish a central repository of inventory data for all respondents. Respondents will report data electronically, and EPA will store the data in the database. The electronic format, which will reflect the underlying electronic data reporting system, will be developed prior to the first reporting date. By specifying in the rule text the exact information that must be reported but not specifying the exact reporting format, EPA informs reporters about exactly what information they must report and has flexibility to modify the electronic reporting format and electronic data reporting system in a timely manner based on implementation experience and new technology. EPA has used this approach successfully in existing programs, such as the Acid Rain Program and the Title VI Stratospheric Ozone Protection Program, facilitating the deployment of new reporting formats and reporting systems that take advantage of technologies such as eXtensible Markup Language (XML), and reduce the burden on reporters and the Agency. The electronic reports submitted under this rule 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.

The Designated Representative must use an electronic signature device (e.g., a PIN or password) to submit a report. If the Designated Representative holds an electronic signature

device that is currently used for valid electronic signatures accepted under another Agency program, EPA intends to design the new reporting system to also accept valid electronic signatures executed with that device where feasible.

EPA's reporting format for a given reporting year could make use of several ID codes – unique codes for a unit or facility. To ensure proper matching between databases, e.g., EPA-assigned facility ID codes and the ORIS (DOE) ID code, and consistency from one reporting year to the next, we plan for the reporting system to provide each facility with a unique identification code to be specified by the Administrator.

The Agency plans to publish data submitted or collected under this rulemaking through EPA's Web site, reports, and other formats (e.g., XML), with the exception of any CBI data. The data could be used by EPA and other agencies, and other organizations and stakeholders for air modeling, analyzing emissions by industry sector and region, informing future climate change policy decisions, and answering questions from the public. The new system will follow Agency standards for design, security, data element and reporting format conformance, and accessibility. In designing the data base, EPA will attempt to minimize respondents' burden by integrating the new reporting requirements with existing data collection and data management systems, when feasible.

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

The Agency has determined that the proposed rule will not have a significant economic impact on a substantial number of small entities and furthermore, will not impose any requirements on small entities. Currently EPA believes small ER operations will most likely be UIC Class II ER projects. Sequestering CO<sub>2</sub> via injection wells is a voluntary action that would only be undertaken by a small entity if it were economically beneficial for the firm. Furthermore, GS of CO<sub>2</sub> is still a scientifically complex activity, the cost of which is anticipated to be prohibitive to small entities. Therefore, it is anticipated that small firms would not elect to sequester CO<sub>2</sub> via injection wells.

Although this rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless took several steps to reduce the impact of this rule on small entities. For example, EPA is proposing monitoring and reporting requirements that build off of the UIC program. In addition, EPA is proposing equipment and methods that may already be in use by a facility for compliance with its UIC permit. Also, EPA is requiring annual reporting instead of more frequent reporting.

## **5(d) Collection Schedule**

Facilities must collect data and calculate emissions at varying frequencies, as described in the rule. Facilities that must meet the rule's reporting requirements must submit GHG emission reports annually. EPA proposes that a GS facility would resubmit an updated MRV plan to EPA for approval at a minimum frequency of every five years from the first year of implementation. This is consistent with the frequency suggested by the IPCC. In general, the MRV plan should be revised as experience is gained over the course of the project and should keep pace with the development of monitoring instruments and methods.

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

This section presents 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). EPA estimates that, over the three years covered by this request, the total respondent burden associated with this reporting will average 4,100 hours per year and the cost to respondents of the information collection will average \$720,000 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. The burden statement for this information collection is in Section 6(f).

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

Respondent burden estimates are presented in Exhibit 6.1. EPA estimates that the total annual burden to all affected entities is 4,100 hours per year over the three years covered by this information collection. EPA also estimated the number of responses, or actions taken as a result of the rule, per respondent (facility) per year; for facilities collecting samples on a daily basis, this means a minimum of 365 responses per year. Exhibit 6.1 presents aggregate burden by sector only; for the details of burden calculations, please see Appendix A.

### **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, EPA estimated technical, managerial, clerical, and legal loaded labor rates for each industry sector using labor rates from the Bureau of Labor Statistics<sup>[1]</sup> and

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<sup>[1]</sup> These rates reflect adjustments of the manufacturing sector's average productivity increase of 3.7% per year for 6 quarters between 2006 Q2 and 2007 Q4, based on the estimate released by the Bureau of Labor Statistics in March

applying a 60% loading factor<sup>[2]</sup>; these rates vary somewhat by sector. For Subpart RR, the labor rates are: \$101.31 for industrial managers; \$63.89 for industrial engineers/technicians; \$29.65 for clerical staff; and \$107.23 for geologists. Non-labor costs (capital and O&M) are presented in Exhibit 6-1 below.

EPA estimates that the total annual cost to all affected non-federal entities is \$720,000 over the three years covered by this information collection. Exhibit 6.1 presents aggregate costs; for the details of EPA’s cost calculations, please see Appendix A.

**Exhibit 6.1 Annual Average Respondent Burden and Cost  
For the GHG Reporting Rule**

Source Category	No. Respondents	Resp./ Respondent	Total Responses	Average Burden per Response (hrs)	Total Burden (hrs)	Total Labor Cost (\$K)	Capital Cost (\$K)	O&M Cost (\$K)	Total Cost (\$K)
RR. Injection and Geological Sequestration of Carbon Dioxide	81	7.5	605	6.78	4,100	\$266	\$124	\$330	\$720
<b>TOTAL</b>	81	7.5	605	6.78	4,100	\$266	\$124	\$330	\$720

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

This section describes the burden and cost to the federal government associated with this information collection. Federal activities under this information collection include EPA Headquarters oversight of the reporting program and required reporting by federally-owned, contractor-run GHG generating facilities.

#### *EPA burden and cost*

EPA activities associated with Subpart RR of the MRR include Headquarters 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. EPA estimates that Headquarters will devote up to 2 full time equivalents (FTEs), or 4,160 hours to these activities. EPA will incur incremental costs for Subpart RR of approximately \$344,000 for database and software design, developing guidance, training, responding to stakeholders, communication and outreach, contractor support and data base maintenance, and for third-party verification activities.

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2008.

<sup>[2]</sup> The ICR Handbook (November 2005) recommends using a multiplier of 1.6 to account for benefits and overhead related to government wages; this is considered a conservative estimate (potentially high) for the private sector.



In addition, the Federal government will burden associated with MRV plans and annual reports from DOE Federal facilities.

To develop EPA labor costs, EPA estimates the average hourly labor rate for salary and overhead and benefits for Agency staff to be \$50.14. To derive this figure, EPA multiplied the hourly compensation at GS-12, Step 5 on the 2008 GS pay scale (\$31.34) by the standard government benefits multiplication factor of 1.6 to account for overhead and benefits.

*Burden and cost for federal facilities covered by the rule*

Exhibit 6.2 presents the annual burden and cost for federal facilities that must comply with the rule.

**Exhibit 6.2 Annual Agency Burden and Cost**

Information Collection Activity	Annual Respondents	Total Annual Burden	Labor Cost	Non-Labor Cost	Total Annual Cost
EPA Oversight	1	4,160	\$208,582	\$135,000	\$343,582
DOE Facilities	8	410	\$25,997	\$8,000	\$33,997
<b>TOTAL</b>	<b>9</b>	<b>4,570</b>	<b>\$234,579</b>	<b>\$143,000</b>	<b>\$377,579</b>

**6(d) Estimating the Respondent Universe and Total Burden and Costs**

The number of respondents in each sector that will perform the required activities under this information collection is presented in Exhibit 6.1. The required activities depend on whether the facility is a Class VI or a non-Class VI injection facility. These activities are described in Section 4(b) of this ICR.

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

The bottom line burden hours and costs are shown in Exhibit 6.3.

## Exhibit 6.3 Bottom Line Annual Burden and Cost

Note: Totals may not add due to independent rounding.

### 6(f) Burden Statement

The respondent reporting burden for this collection of information is estimated to average 4,100 hours per year for a three year period, including a first year where initial and capital costs are anticipated, and two subsequent years in which identical annual costs are estimated. The average annual burden to EPA and other federal entities for this period is estimated to be 4,570 hours, which includes 4,160 hours for agency oversight activities and 410 hours for DOE Federal facilities that must comply with the rule. The annual public reporting and recordkeeping burden for this collection of information is estimated to average 6.78 hours per response. 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 EPA's regulations are listed in 40 CFR part 9.

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, EPA has established a public docket for this ICR under Docket ID Number EPA-HQ-OAR-2008-0508, 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 EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the Air and Radiation docket is (202) 566-1742. 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-2008-0508 and OMB Control Number 2060-NEW on any correspondence.