

**SUPPORTING STATEMENT PART A:  
INFORMATION COLLECTION REQUEST**

**REGULATION TO ESTABLISH MANDATORY REPORTING OF GREENHOUSE  
GASES (PROPOSED RULE FOR PETROLEUM AND NATURAL GAS SYSTEMS,  
SUBPART W)**

**EPA ICR No. 2376.04  
OMB CONTROL NUMBER 2060-0651**

**1. IDENTIFICATION OF THE INFORMATION COLLECTION**

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

TITLE: “Regulation to Establish Mandatory Reporting of Greenhouse Gases (Proposed Rule for Petroleum and Natural Gas Systems, Subpart W)”

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

The United States (U.S.) Environmental Protection Agency (EPA) is revising Subpart W in the recently promulgated Mandatory Reporting of Greenhouse Gases Program established under 40 CFR 98. Subpart W applies to the calculation and reporting of vented, fugitive, flare combustion emissions, and stationary and portable equipment combustion emissions from selected equipment at the following facilities that emit equal to or greater than 25,000 metric tons (mt) of CO<sub>2</sub>-equivalent (CO<sub>2</sub>e) per year from source categories covered by the mandatory GHG reporting rule: offshore petroleum and natural gas production facilities, onshore petroleum and natural gas production facilities (including enhanced oil recovery (EOR)), onshore natural gas processing facilities, onshore natural gas transmission compression facilities, onshore natural gas storage facilities, liquefied natural gas (LNG) storage facilities, LNG import and export facilities and natural gas distribution facilities owned or operated by local distribution companies (LDC’s).

EPA is proposing to amend specific provisions in Subpart W of the GHG rule to resolve issues and questions raised during implementation, and to correct technical and editorial errors that have been identified since publication. EPA has also proposed clarifications that do not change requirements and therefore do not affect burden. In addition, EPA has proposed to require each onshore production facility to report average API gravity, gas-to-oil ratio, and low pressure separator pressure for each sub-basin within the facility. EPA does not expect this requirement to change the burden estimate because owners and operators must have this information available on an annual basis to conduct business. Furthermore, the burden estimated in the final rule accounts time spent processing and reporting available data.

Finally, one of the proposed amendments would amend the gas well completion sampling reporting requirement for onshore production facilities. Instead of requiring the sampling from at least one gas well completion and workover per field (“field method”), the proposed methodology would require sampling of the average flow rate of gas based on a graded scale

within a sub-basin (“sub-basin method”). While this proposed sub-basin method does not change the cost per sample estimated for the final rule, it decreases the total number of samples that will be reported from well completions and workovers. Therefore, the burden decreases, as shown in Section 6.

See Section 4(b) for a complete list of proposed modifications to the reporting requirements.

This ICR supplements the ICR for the Mandatory Reporting of Greenhouse Gases Rule (OMB Control Number 2060-0629). 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. The Administrator shall have discretion to use existing reporting requirements for electric generating units” under §821 of the 1990 CAA amendments.

In accordance with this directive, EPA is extending the mandatory reporting program using its authority under §114 and §208 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), EPA may require any person who owns or operates any emission source or may have information necessary to carry out the provisions of the Act to measure emissions (including installing monitoring equipment), maintain records, submit reports, and provide other information the Administrator may reasonably require.
- CAA §208, in Title II of the Act, provides EPA with similar authority regarding the manufacturers of new motor vehicles or new motor vehicle engines.

Further information on the authority provided under §114 and §208 of the CAA is contained in section I.C. of the preamble to the final GHG reporting rule (74 FR 56259).

The scope of the persons potentially subject to a section 114(a)(1) information request (e.g., a person “who the Administrator believes may have information necessary for the purposes set forth in” section 114(a)) and the reach of the phrase “carrying out any provision” of the Act are quite broad. EPA’s authority to request information reaches to a source not subject to the CAA, and may be used for purposes relevant to any provision of the Act.

EPA retains the proposal to include offshore platforms in the final rulemaking. Although offshore platforms are under the jurisdiction of the Department of the Interior, EPA believes that its jurisdiction under the CAA extends to these offshore platforms because EPA has broad authority under section 114 to collect information that the Administrator believes necessary for carrying out the CAA. Because EPA is comprehensively considering how to address climate change under the CAA, including both regulatory and non-regulatory options, a rule that requests detailed information from a broad spectrum of sources, including offshore platforms, is reasonable.

The Agency believes that information collected by this final rule would also prove useful to legislative efforts to address GHG emissions. 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**

A mandatory reporting system for petroleum and natural gas systems will benefit EPA, other government agencies, and the public. Transparent, public data on emissions allows for accountability of polluters to the public stakeholders who bear the cost of the pollution. Citizens, community groups, and labor unions have made use of data from Pollutant Release and Transfer Registers to negotiate directly with polluters to lower emissions, circumventing greater government regulation. Publicly available emissions data also will allow individuals to alter their consumption habits based on the GHG emissions of producers.

Benefits to industry of GHG emissions monitoring include the value of having independent, verifiable data to present to the public to demonstrate appropriate environmental stewardship, and a better understanding of their emission levels and sources to identify opportunities to reduce emissions. Such monitoring allows for inclusion of standardized GHG data into environmental management systems, providing the necessary information to achieve and disseminate their environmental achievements.

Information collected from the oil and gas facilities will allow EPA to gain a better understanding of the entire CO<sub>2</sub> capture and sequestration (CCS) system. The data reported under the final rulemaking and subsequent regulatory actions will together enable EPA to understand the amount of CO<sub>2</sub> supplied, emitted, and sequestered in the U.S., to carry out a wide variety of CAA provisions. These data can 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. These data can also inform future climate change policy decisions.

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

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

In developing the initial proposal for mandatory reporting from petroleum and natural gas systems (April 2009), a second proposed rule (April 2010), as well as the final rulemaking, EPA reviewed monitoring methods included in international guidance (e.g., Intergovernmental Panel on Climate Change), as well as Federal voluntary programs (e.g., EPA Natural Gas STAR Program and the U.S. Department of Energy Voluntary Reporting of Greenhouse Gases Program (1605(b))), corporate protocols (e.g., World Resources Institute and World Business Council for Sustainable Development GHG Protocol) and industry guidance (e.g., methodological guidance from the American Petroleum Institute, the Interstate Natural Gas Association of America, and the American Gas Association).

EPA also reviewed State reporting programs (e.g., California and New Mexico) and Regional partnerships (e.g., The Climate Registry, the Western Regional Air Partnership). These are important programs that not only led the way in reporting of GHG emissions before the Federal government acted but also assist in quantifying the GHG reductions achieved by various policies. Many of these programs collect different or additional data as compared to this final rule. For example, State programs may establish lower thresholds for reporting, request information on areas not addressed in EPA's reporting rule, or include different data elements to support other programs.

Documentation of EPA's review of GHG 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. A few of these programs are described below:

- EPA reviewed the *Inventory of U.S. Greenhouse Gas Emissions and Sinks* (Inventory), which is an annual comprehensive top-down assessment of national greenhouse gas emissions. While the Inventory is compiled from national surveys, which are not broken down at the geographic or facility level, the rule focuses on bottom-up data from individual facilities that exceed appropriate thresholds. The bottom-up approach to data collection in the final rule can help EPA transition to the Intergovernmental Panel on Climate Change (IPCC) 2006 guidelines for capture, transport, and geological storage at the appropriate time. In addition, the emissions factor being used in the 2008 U.S. GHG Inventory is believed to significantly underestimate emissions based on industry experience as included in the Natural Gas STAR Program publicly available information. The 2008 U.S. GHG Inventory emissions factor was developed prior to the boom in unconventional well drilling (1992) in the absence of any field data, and therefore does not capture the diversity of well completion and workover operations or the variance in emissions that can be expected from different hydrocarbon reservoirs in the country.
- The Agency also 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. Under EIA's "1605b program," reporters can choose to prepare an entity-wide greenhouse gas inventory and identify specific greenhouse gas reductions made by the entity. EPA's mandatory GHG reporting rule covers a much broader set of reporters, primarily at the facility rather than entity-level, but this reporting rule is not designed with the specific intent of reporting of emission reductions, as is the 1605(b) program.
- 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.

A growing number of programs at the state, tribal, territorial, and local level require emission sources in their respective jurisdictions to monitor and report GHG emissions. 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 solicited comments on this information collection and the estimates in the April 2010 proposed ICR (75 FR 18608). EPA also solicited comments on specific aspects of the information collection, as described below:

- 1) Whether the 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.

EPA received one comment about the ICR. The commenter stated that that use of Clean Air Act Section 114 (Section 114) as the basis for the rule runs counter to its longstanding use of the section in the past which has been limited to issuing Information Collection Requests ("ICRs") and that ICRs are limited to collecting data from specific sources over a discrete period of time. EPA determined that this comment confuses Section 114 and ICR requirements under the Paperwork Reduction Act, 44 U.S.C. 3501, *et seq.* EPA has issued an ICR for this rulemaking, has been assigned an EPA ICR number by OMB and has fully complied with PRA requirements. See, preamble Section IV.B. See also, Vol 9 explaining that while it might be generally true that EPA has used its information gathering authority in a more targeted manner, nothing in Section 114 precludes this broader, yet still targeted rulemaking. For complete response, see EPA's Response to Comments document, Volume 9.1, the consolidated response to comments EPA-HQ-OAR-2009-0923-1005-1, EPA-HQ-OAR-2009-0923-1011-26, EPA-HQ-OAR-2009-0923-1011-55, EPA-HQ-OAR-2009-0923-1011-58, EPA-HQ-OAR-2009-0923-1196-1

EPA also received numerous comments on the April 2010 proposed rule itself, many of which addressed the reporting activities required by the rule and the associated costs. For example, EPA assessed a number of alternative methodologies that were either recommended by commenters or are known to provide effective quantification of emissions at a significantly lower cost burden. EPA reviewed and updated the economic impact analysis to reflect changes made in the final rule.

The preamble to the final rule summarizes the comments received on the proposed rule as well as EPA's responses. In addition, responses to significant comments on the proposed rule can be found in the comment response documents. Both the preamble and the comment response documents are in the docket for the rule (EPA-HQ-OAR-2009-0923).

In addition, EPA did not receive any comments specifically addressing the ICR for the April 2009 proposed rule, i.e., the Mandatory GHG Reporting Rule (74 FR 16448), which included the original proposal for subpart W. Although EPA did not receive any comments specifically addressing the ICR for that proposed rule, EPA received a substantial number of comments on the recordkeeping and reporting requirements about that proposal. For example, public comments on the April 2009 proposed rule suggested that EPA require retention of records for three years rather than the five years specified in the proposed rule. (In response, EPA changed the record retention requirement in the final rule from five years to three years.) See ICR 2300.03 (OMB Control Number 2060-0629) for complete details about the ICR for the April 2009 proposed rule.

Finally, EPA received over 500 questions relating to implementation of the November, 2010 subpart W final rule through its helpline. EPA also received petitions for reconsideration of certain provisions in the final rule from reporters and trade associations representing reporters. EPA has addressed all issues received through the helpline system, unless they were similar to unresolved helpline questions in this proposal. EPA has also proposed several new requirements per issues raised in the petition for reconsideration. A detailed discussion on the changes, additions, and pending issues is provided in the preamble to this proposal.

In compliance with the Paperwork Reduction Act (44 USC 3501 *et seq.*), EPA is submitting this ICR for the final Subpart W: Petroleum and Natural Gas Systems rule to the Office of Management and Budget (OMB) for review and approval.

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

Early in the development process of the GHG reporting rule, EPA conducted a proactive communications outreach program to inform the public about the rule development effort. EPA solicited input and maintained an open-door policy for those interested in discussing the rulemaking. Since January 2008, EPA staff has 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.

On April 10, 2009 (74 FR 16448), EPA proposed the GHG reporting rule. EPA held two public hearings, and received more than 16,000 written public comments. The public comment period ended on June 9, 2009. Subpart W received comments from more than 80 entities with over 1,200 pages of comments, recommendations, and alternatives for consideration. Details about these meetings and the responses to comments are available in the docket (EPA-HQ-OAR-2009-0923).

### **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. EPA requires that emissions from the petroleum and natural gas industry be reported on an annual basis, except where existing programs must provide data on a more frequent basis. 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 GHG emissions across the country. The year-by-year GHG emissions information from a broad range of industry sectors may eventually be used to inform future climate change policy decisions.

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

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

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

EPA issued a proposal addressing the confidentiality of the Part 98 data elements on July 7, 2010 (75 FR 39094). The proposed confidentiality determination specified which data reporting elements in part 98 would be treated as confidential business information (CBI) and which data elements must be available to the public under section 114 of the CAA. Final determinations will be made regarding the confidentiality of the data reporting elements before the reporting elements are made available to the public.

### **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 petroleum and natural gas facilities that must report their emissions to EPA to comply with the rulemaking. This section lists the industry sectors that must comply with the rule, 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

Reporting facilities for Subpart W 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.

The industry sectors for Subpart W are listed below and its NAICS code is provided for reference.

<b>Part and Subpart</b>	<b>NAICS code(s)</b>
<b>Part 98</b>	
W. Petroleum and Natural Gas Systems	486210 Pipeline transportation of natural gas. 221210 Natural gas distribution facilities. 211 Extractors of crude petroleum and natural gas. 211112 Natural gas liquid extraction facilities.

#### 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 W:

**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 W, 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 making 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, the owner or operator of a facility that exceeds the threshold specific to subpart W must report emissions annually from all source categories present at the facility for which methods are specified in 40 CFR part 98.

##### **Petroleum and natural gas systems under Subpart W.**

- a) Report annual emissions separately for each of the industry segments listed in paragraphs (a) (1) through (8) of this section.
  - 1) Onshore petroleum and natural gas production.
  - 2) Offshore petroleum and natural gas production.
  - 3) Onshore natural gas processing.

- 4) Onshore natural gas transmission compression.
  - 5) Underground natural gas storage.
  - 6) LNG storage.
  - 7) LNG import and export.
  - 8) Natural gas distribution.
- b) For offshore petroleum and natural gas production, report emissions of CH<sub>4</sub>, CO<sub>2</sub>, and N<sub>2</sub>O as applicable to the source type (in metric tons CO<sub>2</sub>e per year at standard conditions) individually for all the emissions source types listed in the most recent BOEMRE study.
- c) Report the information listed in this paragraph for each applicable source type. If a facility operates under more than one industry segment, each piece of equipment should be reported under its respective majority use segment. When a source type listed under this paragraph routes gas to flare, separately report the emissions that were vented directly to the atmosphere without flaring, and the emissions that resulted from flaring the gas. Both the vented and flared emissions will be reported under the respective source type and not under the flare source type.
- 1) For natural gas pneumatic devices (refer to Equation W-1 of 40 CFR 98.233), report the following:
    - i) Actual count and estimated count separately of natural gas pneumatic high bleed devices as applicable.
    - ii) Actual count and estimated count separately of natural gas pneumatic low bleed devices as applicable.
    - iii) Actual count and estimated count separately of natural gas pneumatic intermittent bleed devices as applicable.
    - iv) Report annual CO<sub>2</sub> and CH<sub>4</sub> emissions at the facility level, expressed in metric tons CO<sub>2</sub>e for each natural gas, for each of the following pieces of equipment: high bleed pneumatic devices; device type: high bleed, low bleed, and intermittent bleed pneumatic devices; low bleed pneumatic devices.
  - 2) For natural gas driven pneumatic pumps (refer to Equation W-2 of 40 CFR 98.233), report the following,
    - i) Count of natural gas driven pneumatic pumps.
    - ii) Report annual CO<sub>2</sub> and CH<sub>4</sub> emissions at the facility level, expressed in metric tons CO<sub>2</sub>e for each gas, for all natural gas driven pneumatic pumps combined.
  - 3) For each acid gas removal unit (refer to Equation W-3 and Equation W-4 of 40 CFR 98.233), report the following:
    - i) Total throughput off the acid gas removal unit using a meter or engineering estimate based on process knowledge or best available data in million cubic feet per year.

- ii) For Calculation Methodology 1 and Calculation Methodology 2 of 40 CFR 98.233(d), annual average fraction of CO<sub>2</sub> content in the vent from the acid gas removal unit (refer to 40 CFR (d)(6)).
  - iii) For Calculation Methodology 3 of 40 CFR 98.233(d), annual average volume fraction of CO<sub>2</sub> content of natural gas into and out of the acid gas removal unit (refer to 40 CFR 98.233(d)(7) and (d)(8)).
  - iv) Report the annual quantity of CO<sub>2</sub>, expressed in metric tons CO<sub>2</sub>e, that was recovered from the AGR unit and transferred outside the facility.
  - v) Report annual CO<sub>2</sub> emissions for the AGR unit expressed in metric tons CO<sub>2</sub>e .
  - vi) A unique name or ID number for the AGR unit.
  - vii) An indication of which calculation methodology was used for the AGR.
- 4) For dehydrators, report the following:
- i) For each Glycol dehydrator with a throughput greater than or equal to 0.4 MMscfd (refer to 40 CFR 98.233(e)(1)), report the following:
    - A) Glycol dehydrator feed natural gas flow rate in MMscfd, determined by engineering estimate based on best available data.
    - B) Glycol dehydrator absorbent circulation pump type.
    - C) Whether stripper gas is used in glycol dehydrator.
    - D) Whether a flash tank separator is used in glycol dehydrator.
    - E) Type of absorbent.
    - F) Total time the glycol dehydrator is operating in hours.
    - G) Temperature, in degrees Fahrenheit and pressure, in psig, of the wet natural gas.
    - H) Concentration of CH<sub>4</sub> and CO<sub>2</sub> in wet natural gas.
    - I) What vent gas controls are used (refer to 40 CFR 98.233(e)(3) and (e)(4)).
    - J) For each glycol dehydrator, report annual CO<sub>2</sub> and CH<sub>4</sub> emissions that resulted from venting gas directly to the atmosphere, expressed in metric ton CO<sub>2</sub>e for each gas.
    - K) For each glycol dehydrator, report annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions that resulted from flaring process gas from the dehydrator, expressed in metric tons CO<sub>2</sub>e for each gas.
    - L) A unique name or ID number for the glycol dehydrator.
  - ii) For all glycol dehydrators with a throughput less than 0.4 MMscfd (refer to 40 CFR 98.233, Equation W-5 of 40 CFR 98.233), report the following:
    - A) Count of glycol dehydrators.
    - B) Which vent gas controls are used (refer to 40 CFR 98.233(e)(3) and (e)(4)).
    - C) Report annual CO<sub>2</sub> and CH<sub>4</sub> emissions at the facility level that resulted from venting gas directly to the atmosphere, expressed in

metric tons CO<sub>2</sub>e for each gas, combined for all glycol dehydrators with a throughput of less than 0.4 MMscfd.

- D) Report annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions at the facility level that resulted from the flaring of process gas, expressed in metric tons CO<sub>2</sub>e for each gas, combined for all glycol dehydrators with a throughput of less than 0.4 MMscfd.
- iii) For absorbent desiccant dehydrators (refer to Equation W-6 of 40 CFR 98.233), report the following:
  - A) Count of desiccant dehydrators.
  - B) Report annual CO<sub>2</sub> and CH<sub>4</sub> emissions at the facility level, expressed in metric tons CO<sub>2</sub>e for each gas, for all absorbent desiccant dehydrators combined.
- 5) For well venting for liquids unloading (refer to Equations W-7, W-8 and W-9 of 40 CFR 98.233), report the following by each well tubing diameter grouping and pressure grouping within each sub-basin category:
  - i) Count of wells vented to the atmosphere for liquids unloading.
  - ii) Count of plunger lifts.
  - iii) Cumulative number of unloadings vented to the atmosphere.
  - iv) Average flow rate of the measured well venting in cubic feet per hour (refer to 40 CFR 98.233(f)(1)(i)(A)).
  - v) Average casing diameter in inches.
  - vi) Report annual CO<sub>2</sub> and CH<sub>4</sub> emissions, expressed in metric tons CO<sub>2</sub>e for each gas, for each tubing diameter and pressure grouping within each sub-basin category.
  - vii) When using Calculation Methodology 1, casing diameter, depth and pressure of each well selected to represent emissions in that tubing size and pressure combination (refer to Equation W-7 of §98.233).
- 6) For well completions and workovers, report the following for each sub-basin category:
  - i) For gas well completions and workovers with hydraulic fracturing by sub-basin and well type (horizontal or vertical) combination (refer to Equation W-10 of 40 CFR 98.233):
    - A) Total count of completions in calendar year.
    - B) Average flow rate of the measured well completion venting in cubic feet per hour (refer to Equation W-12 of 40 CFR 98.233).
    - C) Total count of workovers in calendar year.
    - D) Average flow rate of the measured well workover venting in cubic feet per hour (refer to Equation W-12 of §98.233).
    - E) Total number of days of gas venting to the atmosphere during backflow for completion.

- F) Total number of days of gas venting to the atmosphere during backflow for workovers.
  - G) Report number of completions and number of workovers employing reduced emissions completions and engineering estimate based on best available data of the amount of gas recovered to sales.
  - H) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions that resulted from venting gas directly to the atmosphere, expressed in metric tons CO<sub>2</sub>e for each gas.
  - I) Annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions that resulted from flares, expressed in metric tons CO<sub>2</sub>e for each gas.
- ii) For gas well completions and workovers without hydraulic fracturing (refer to Equation W-13 of 40 CFR 98.233):
- A) Total count of completions in calendar year.
  - B) Total count of workovers in calendar year that flare gas or vent gas to the atmosphere.
  - C) Total number of days of gas venting to the atmosphere during backflow for completion.
  - D) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions that resulted from venting gas directly to the atmosphere, expressed in metric tons CO<sub>2</sub>e for each gas.
  - E) Annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions that resulted from flares, expressed in metric tons CO<sub>2</sub>e for each gas.
- 7) For each blowdown vent stack (refer to Equation W-14 of 40 CFR 98.233), report the following:
- i) Total number of blowdowns per unique volume type in calendar year.
  - ii) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions, expressed in metric tons CO<sub>2</sub>e for each gas, for each unique volume type, at each blowdown stack.
  - iii) A unique name or ID number for the blowdown vent stack.
- 8) For gas emitted from produced oil sent to atmospheric tanks:
- i) For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report the following by sub-basin category, unless otherwise specified:
    - A) Number of wellhead separators sending oil to atmospheric tanks.
    - B) Estimated average separator temperature, in degrees Fahrenheit, and estimated average pressure, in psig.
    - C) Estimated average sales oil stabilized API gravity, in degrees.
    - D) Count of hydrocarbon tanks at well pads.
    - E) Best estimate of count of stock tanks not at well pads receiving your oil.

- F) Total volume of oil from all wellhead separators sent to tank(s) in barrels per year.
  - G) Count of tanks with emissions control measures, either vapor recovery system or flaring, for tanks at well pads.
  - H) Best estimate of count of stock tanks assumed to have emissions control measures not at well pads, receiving your oil.
  - I) Range of concentrations of flash gas, CH<sub>4</sub> and CO<sub>2</sub>.
  - J) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions that resulted from venting gas to the atmosphere, expressed in metric tons CO<sub>2</sub>e for each gas, for each wellhead gas-liquid separator using Calculation Methodology 1 or 2 of §98.233(j).
  - K) Annual CO<sub>2</sub> and CH<sub>4</sub> gas quantities that were recovered, expressed in metric tons CO<sub>2</sub>e for each gas, for each wellhead gas-liquid separator using Calculation Methodology 1 or 2 of §98.233(j).
  - L) Annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions that resulted from flaring gas, expressed in metric tons CO<sub>2</sub>e for each gas, for each wellhead gas-liquid separator using Calculation Methodology 1 or 2 of §98.233(j).
  - M) A unique name or ID number for each wellhead gas liquid separator.
- ii) For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category:
- A) Total volume of sales oil from all wells in barrels per year.
  - B) Total number of wells sending oil directly to tanks.
  - C) Total number of wells sending oil to separators off the well pads.
  - D) Sales oil API gravity range for wells in (c)(8)(ii)(B) and (c)(8)(ii)(C) of this section, in degrees.
  - E) Count of hydrocarbon tanks on wellpads
  - F) Count of hydrocarbon tanks, both on and off well pads assumed to have emissions control measures: either vapor recovery system or flaring of tank vapors.
  - G) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions that resulted from venting gas to the atmosphere, expressed in metric tons CO<sub>2</sub>e for each gas, at the sub-basin level for Calculation Methodology 3 or 4 of §98.233(j).
- iii) For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233), report the following:
- A) Number of wellhead separators.
  - B) Number of wells without wellhead separators.
  - C) Total volume of oil production in barrels per year.

- D) Best estimate of fraction of production sent to tanks with assumed control measures: either vapor recovery system or flaring of tank vapors.
  - E) Count of hydrocarbon tanks on well pads.
  - F) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions that resulted from venting gas to the atmosphere, expressed in metric tons CO<sub>2</sub>e for each gas, at the sub-basin level for Calculation Methodology 5 of §98.233(j).
  - G) Annual CO<sub>2</sub> and CH<sub>4</sub> gas quantities that were recovered, expressed in metric tons CO<sub>2</sub>e for each gas, at the sub-basin level for Calculation Methodology 5 of §98.233(j).
  - H) Annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions that resulted from flaring gas, expressed in metric tons CO<sub>2</sub>e for each gas, at the sub-basin level for Calculation Methodology 5 of §98.233(j)
- iv) If wellhead separator dump valve is functioning improperly during the calendar year (refer to Equation W-16 of 40 CFR 98.233), report the following:
- A) Count of wellhead separators that dump valve factor is applied.
  - B) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions that resulted from venting gas to the atmosphere, expressed in metric tons CO<sub>2</sub>e for each gas, at the sub-basin level for improperly functioning dump valves.
- 9) For transmission tank emissions identified using optical gas imaging instrument per 40 CFR 98.234(a) (refer to 40 CFR 98.233(k)), or acoustic leak detection of scrubber dump valves report the following for each tank:
- i) For each transmission storage tank, report annual CO<sub>2</sub> and CH<sub>4</sub> emissions that resulted from venting gas directly to the atmosphere, expressed in metric tons CO<sub>2</sub>e for each gas .
  - ii) For each transmission storage tank, report annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions that resulted from flaring process gas from the transmission storage tank, expressed in metric tons CO<sub>2</sub>e for each gas.
  - iii) A unique name or ID number for the transmission storage tank.
- 10) For well testing venting and flaring (refer to Equation W-17 of 40 CFR 98.233), report the following:
- i) Number of wells tested per basin in calendar year.
  - ii) Average gas to oil ratio for each basin.
  - iii) Average number of days the well is tested in a basin.
  - iv) Report annual CO<sub>2</sub> and CH<sub>4</sub> emissions at the facility level, expressed in metric tons CO<sub>2</sub>e for each gas, emissions from well testing venting.
  - v) Report annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions at the facility level, expressed in metric tons CO<sub>2</sub>e for each gas, emissions from well testing flaring.
- 11) For associated natural gas venting (refer to Equation W-18 of 40 CFR 98.233), report the following for each basin:

- i) Number of wells venting or flaring associated natural gas in a calendar year.
  - ii) Average gas to oil ratio for each basin.
  - iii) Report annual CO<sub>2</sub> and CH<sub>4</sub> emissions at the facility level, expressed in metric tons CO<sub>2</sub>e for each gas, emissions from associated natural gas venting.
  - iv) Report annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions at the facility level, expressed in metric tons CO<sub>2</sub>e for each gas, emissions from associated natural gas flaring.
- 12) For flare stacks (refer to Equation W-19, W-20, and W-21 of 40 CFR 98.233), report the following for each flare:
- i) Whether flare has a continuous flow monitor.
  - ii) Volume of gas sent to flare in cubic feet per year.
  - iii) Percent of gas sent to un-lit flare determined by engineering estimate and process knowledge based on best available data and operating records.
  - iv) Whether flare has a continuous gas analyzer.
  - v) Flare combustion efficiency.
  - vi) Report uncombusted CH<sub>4</sub> emissions, in metric tons CO<sub>2</sub>e (refer to Equation W-19 of §98.233)..
  - vii) Report uncombusted CO<sub>2</sub> emissions, in metric tons CO<sub>2</sub>e (refer to Equation W-20 of §98.233).
  - viii) Report combusted CO<sub>2</sub> emissions, in metric tons CO<sub>2</sub>e (refer to Equation W-21 of §98.233).
  - ix) Report N<sub>2</sub>O emissions, in metric tons CO<sub>2</sub>e.
  - x) A unique name or ID number for the flare stack.
  - xi) In the case that a CEMS is used to measure CO<sub>2</sub> emissions for the flare stack, indicate that a CEMS was used in the annual report and report the combusted CO<sub>2</sub> and un-combusted CO<sub>2</sub> as a combined number.
- 13) For each centrifugal compressor:
- i) For compressors with wet seals in operational mode (refer to Equations W-22 through W-24 of 40 CFR 98.233), report the following for each degassing vent:
    - A) Number of wet seals connected to the degassing vent.
    - B) Fraction of vent gas recovered for fuel or sales or flared.
    - C) Annual throughput in million scf, use an engineering calculation based on best available data.
    - D) Type of meters used for making measurements.
    - E) Reporter emission factor for wet seal oil degassing vents in cubic feet per hour (refer to Equation W-24 of 40 CFR 98.233).
    - F) Total time the compressor is operating in hours.
    - G) Report seal oil degassing vent emissions for compressors measured (refer to Equation W-22 of 40 CFR 98.233) and for compressors not

- measured (refer to Equation W-23 and Equation W-24 of 40 CFR 98.233).
- ii) For wet and dry seal centrifugal compressors in operating mode, (refer to Equations W-22 through W-24 of 40 CFR 98.233), report the following:
    - A) Total time in hours the compressor is in operating mode.
    - B) Reporter emission factor for blowdown vents in cubic feet per hour (refer to Equation W-24 of 40 CFR 98.233).
    - C) Report blowdown vent emissions when in operating mode (refer to Equation W-23 and Equation W-24 of 40 CFR 98.233).
  - iii) For wet and dry seal centrifugal compressors in not operating, depressurized mode (refer to Equations W-22 through W-24 of 40 CFR 98.233), report the following:
    - A) Total time in hours the compressor is in shutdown, depressurized mode.
    - B) Reporter emission factor for isolation valve emissions in shutdown, depressurized mode in cubic feet per hour (refer to Equation W-24 of 40 CFR 98.233).
    - C) Report the isolation valve leakage emissions in not operating, depressurized mode in cubic feet per hour (refer to Equation W-22 of 40 CFR 98.233).
  - iv) Report total annual compressor emissions from all modes of operation (refer to Equation W-24 of 40 CFR 98.233).
  - v) For centrifugal compressors in onshore petroleum and natural gas production (refer to Equation W-25 of 40 CFR 98.233), report the following:
    - A) Count of compressors.
    - B) Report emissions (refer to Equation W-25 of 40 CFR 98.233) collectively.
- 14) For reciprocating compressors:
- i) For reciprocating compressors rod packing emissions with or without a vent in operating mode, report the following:
    - A) Annual throughput in million scf, use an engineering calculation based on best available data.
    - B) Total time in hours the reciprocating compressor is in operating mode.
    - C) Report rod packing emissions for compressors measured (refer to Equation W-26 of 40 CFR 98.233) and for compressors not measured (refer to Equation W-27 and Equation W-28 of §98.233).
  - ii) For reciprocating compressors blowdown vents not manifold to rod packing vents, in operating and standby pressurized mode (refer to Equations W-26 through W-28 of 40 CFR 98.233), report the following:
    - A) Total time in hours the compressor is in standby, pressurized mode.

- B) Reporter emission factor for blowdown vents in cubic feet per hour (refer to 40 CFR 98.233, Equation W-27).
    - C) Report blowdown vent emissions when in operating and standby pressurized modes (refer to Equation W-27 and Equation W-28 of 40 CFR 98.233).
  - iii) For reciprocating compressors in not operating , depressurized mode (refer to Equations W-26 through W-28 of 40 CFR 98.233), report the following:
    - A) Total time the compressor is in not operating, depressurized mode.
    - B) Reporter emission factor for isolation valve emissions in not operating, depressurized mode in cubic feet per hour (refer to Equation W-28 of 40 CFR 98.233).
    - C) Report the isolation valve leakage emissions in not operating, depressurized mode.
  - iv) Report total annual compressor emissions from all modes of operation (refer to Equation W-27 and Equation W-28 of 40 CFR 98.233).
  - v) For reciprocating compressors in onshore petroleum and natural gas production (refer to Equation W-29 of 40 CFR 98.233), report the following:
    - A) Count of compressors.
    - B) Report emissions collectively.
- 15) For each equipment leak sources that uses emission factors for estimating emissions (refer to 40 CFR 98.233(q) and (r)).
  - i) For equipment leaks found in each leak survey (refer to 40 CFR 98.233(q)), report the following:
    - A) Total count of leaks found in each complete survey listed by date of survey and each type of leak source for which there is a leaker emission factor in Tables W-2, W-3, W-4, W-5, W-6, and W-7 of this subpart.
    - B) For onshore natural gas processing, range of concentrations of CH<sub>4</sub> and CO<sub>2</sub> (refer to Equation W-30 of §98.233).
    - C) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions, in metric tons CO<sub>2</sub>e for each gas (refer to Equation W-30 of §98.233) collectively by equipment type.
  - ii) For equipment leaks calculated using population counts and factors (refer to 40 CFR 98.233(r)), report the following:
    - A) For source categories 40 CFR 98.230 (a)(4), (a)(5), (a)(6), (a)(7), and (a)(8) total count for each type of leak source in Tables W-2, W-3, W-4, W-5, and W-6 of this subpart for which there is a population emission factor, listed by major heading and component type.
    - B) For onshore production (refer to §98.230 paragraph (a)(2)), total count for each type of major equipment in Table W-1B and Table W-1C of this subpart, by sub-basin category.

- C) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions, in metric tons CO<sub>2</sub>e for each gas (refer to Equation W-31 of §98.233) by equipment type.
- 16) For local distribution companies, report the following:
- i) Number of above grade T-D transfer stations.
  - ii) Number of below grade T-D transfer stations.
  - iii) Number of above grade metering-regulating stations (this count will include above grade T-D transfer stations).
  - iv) Number of below grade metering-regulating stations (this count will include below grade T-D transfer stations).
  - v) [Reserved]
  - vi) Above grade metering-regulating station leak factor (refer to Equation W-32 of §98.233).
  - vii) Number of miles of unprotected steel distribution mains.
  - viii) Number of miles of protected steel distribution mains.
  - ix) Number of miles of plastic distribution mains.
  - x) Number of miles of cast iron distribution mains.
  - xi) Number of unprotected steel distribution services.
  - xii) Number of protected steel distribution services.
  - xiii) Number of plastic distribution services.
  - xiv) Number of copper distribution services.
  - xv) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions, in metric tons CO<sub>2</sub>e for each gas, from all above grade T-D transfer stations combined.
  - xvi) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions, in metric tons CO<sub>2</sub>e for each gas, from all below grade T-D transfer stations combined.
  - xvii) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions, in metric tons CO<sub>2</sub>e for each gas, from all above grade metering-regulating stations (including T-D transfer stations) combined
  - xviii) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions, in metric tons CO<sub>2</sub>e for each gas, from all below grade metering-regulating stations (including T-D transfer stations) combined.
  - xix) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions, in metric tons CO<sub>2</sub>e for each gas, from all distribution mains combined
  - xx) Annual CO<sub>2</sub> and CH<sub>4</sub> emissions, in metric tons CO<sub>2</sub>e for each gas, from all distribution services combined.
- 17) For each EOR injection pump blowdown (refer to Equation W-37 of 40 CFR 98.233), report the following:
- i) Pump capacity, in barrels per day.
  - ii) Volume of critical phase gas between isolation valves.
  - iii) Number of blowdowns per year.
  - iv) Critical phase EOR injection gas density.

- v) For each EOR pump, report annual CO<sub>2</sub> and CH<sub>4</sub> emissions, expressed in metric tons CO<sub>2</sub>e for each gas.
  - vi) A unique name or ID for the EOR pump.
- 18) For EOR hydrocarbon liquids dissolved CO<sub>2</sub> for each sub-basin category (refer to Equation W-38 of 40 CFR 98.233), report the following:
- i) Volume of crude oil produced in barrels per year.
  - ii) Amount of CO<sub>2</sub> retained in hydrocarbon liquids in metric tons per barrel, under standard conditions.
  - iii) Report annual CO<sub>2</sub> emissions at the sub-basin level, expressed in metric tons CO<sub>2</sub>e.
- 19) For onshore petroleum and natural gas production and natural gas distribution combustion emissions, report the following:
- i) Cumulative number of external fuel combustion units with a rated heat capacity equal to or less than 5 mmBtu/hr, by type of unit.
  - ii) Cumulative number of external fuel combustion units with a rated heat capacity larger than 5 mmBtu/hr, by type of unit.
  - iii) Report annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions at from external fuel combustion units with a rated heat capacity larger than 5 mmBtu/hr, expressed in metric tons CO<sub>2</sub>e for each gas, by type of unit.
  - iv) Cumulative volume of fuel combusted in external fuel combustion units with a rated heat capacity larger than 5 mmBtu/hr, by fuel type.
  - v) Cumulative number of all internal combustion units, by type of unit.
  - vi) Report annual CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions from internal combustion units, expressed in metric tons CO<sub>2</sub>e for each gas, by type of unit.
  - vii) Cumulative volume of fuel combusted in internal combustion units, by fuel type.
- d) Report annual throughput as determined by engineering estimate based on best available data for each industry segment listed in paragraphs (a)(1) through (a)(8) of this section.
- e) For onshore petroleum and natural gas production, report the average API gravity, average gas to oil ratio, and average low pressure separator pressure for each sub-basin category.

### *Recordkeeping Requirements*

**General requirements that apply to all sources.** EPA has not changed the general recordkeeping requirements that apply to all sources, including Subpart W. This information is described in the ICR for the Mandatory Reporting of Greenhouse Gases; Final Rule (EPA ICR No. 2300.03). In addition, the owner or operator of a facility that exceeds the threshold specific to subpart W must comply with recordkeeping requirements associated with the specific subparts.

**Petroleum and natural gas facilities under Subpart W.** Petroleum and natural gas facilities must also retain records for the following information specific to the given source category.

1. Dates on which measurements were conducted.
2. Results of all emissions detected and measurements.
3. Calibration reports for detection and measurement instruments used.
4. Inputs and outputs of calculations or emissions computer model runs used for engineering estimation of emissions.
5. An explanation of how company records, engineering estimation, or best available information are used to calculate each applicable parameter under this subpart.

*(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 are reflected in the ICR for the Final Mandatory Reporting Rule (EPA ICR No. 2300.03). This ICR reflects an incremental agency burden for program operation activities, which 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 met several times with industry trade associations to discuss the reporting options considered and their possible impacts on small entities. In the final Mandatory GHG Reporting Rule, EPA took several steps to minimize the impacts on small entities, and these provisions would apply to facilities under subpart W. EPA further minimized impacts on small entities by not requiring facilities below a certain emissions threshold to report their emissions. In addition, the rule includes a mechanism in 40 CFR 98.2 to allow facilities and suppliers that report less than 25,000 mtCO<sub>2</sub>e for 5 years to cease annual reporting to EPA. If reported emissions are less than 15,000 mtCO<sub>2</sub>e per year for three consecutive years, then the owner or operator may discontinue reporting. In developing the Subpart W final rule, EPA continued to take steps to minimize the impacts on small entities. EPA has made every effort to reduce the burden and costs of the rule, while still ensuring that the program yields high quality data and essential information. For example, the final rule includes alternative data collection methodologies to target major emitting equipment sources.

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

Under 40 CFR part 98, subpart W, facilities must submit GHG emission reports annually. Respondents that have emissions or products with emission less than 25,000 mtCO<sub>2</sub>e for five years in a row may cease reporting.

## **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 394,757 hours per year and the cost to respondents of the information collection will average \$27.6 million 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 394,757 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 applying a 60% loading factor<sup>[2][2]</sup>; these rates vary somewhat by sector. For Subpart W, the labor rates are: \$88.79 for electricity managers; \$101.31 for refinery managers, \$71.03 for industrial managers; \$60.84 for electricity engineers/technicians, \$63.89 for Refinery Engineers/Technicians, and \$55.20 for Industrial Engineers/Technicians; \$29.65 for clerical staff, and \$101.00 for legal staff. Non-labor costs (capital and O&M) for individual sectors are presented in Appendix C.

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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 2008.

<sup>[2][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.

EPA estimates that the total annual cost to all affected non-federal entities is \$27.6 million over the three years covered by this information collection. Exhibit 6.1 presents aggregate costs by sector only; for the details of EPA’s cost calculations, please see Appendix B. The only changes to the respondent burden and cost were for onshore production: the technical labor hour burden decreased from 111,354 hours to 109,637 hours, which reduced the total onshore production cost from \$10,208 to \$10,086.

**Exhibit 6.1 Annual Average Respondent Burden and Cost  
For Subpart W of the GHG Reporting Rule (\$K)**

Source Category	No. Respondents	Responses/Respondent	Total Responses	Burden - Technical (hrs)	Burden - Managerial (hrs)	Burden - Clerical (hrs)	Burden - Legal (hrs)	Total Burden (hrs)	Total Labor Cost (\$K)	Capital Cost (\$K)	O&M Cost (\$K)	Total Cost (\$K)
Gas Processing	289	2	394	50,381	5,061	0	0	55,441	\$3,798	\$220	\$123	\$4,142
Transmission Compressor Stations	1,145	2	1,487	113,877	7,528	0	0	121,405	\$8,054	\$395	\$1,154	\$9,603
Storage	133	2	215	16,229	2,988	0	0	19,218	\$1,309	\$26	\$147	\$1,482
LNG Terminals	4	2	4	399	65	0	0	463	\$33	\$12	\$8	\$52
Onshore Production	981	2	1,962	109,637	31,343	0	0	140,980	\$10,030	\$56	\$0	\$10,086
Local Distribution Companies	143	2	143	18,235	1,840	0	0	20,075	\$1,268	\$21	\$228	\$1,517
LNG Storage	33	2	64	4,165	1,002	0	0	19,004	\$362	\$14	\$26	\$402
Offshore Production	58	2	102	2,633	1,327	0	0	18,170	\$286	\$0	\$0	\$286
<b>TOTAL</b>	<b>2,786</b>	<b>Varies</b>	<b>4,371</b>	<b>315,555</b>	<b>51,155</b>	<b>0</b>	<b>0</b>	<b>394,757</b>	<b>\$25,139</b>	<b>\$745</b>	<b>\$1,687</b>	<b>\$27,570</b>

### 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 GHG generating facilities.

#### *EPA burden and cost*

EPA activities associated with the mandatory GHG reporting rule 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, in implementing subpart W, Headquarters will incur an incremental burden of 4 full time equivalents (FTEs), or just \$460,000 for these activities.

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.

In addition to the labor cost, EPA will incur an incremental cost of just under \$700 thousand in each of the first three years for third-party verification.

#### *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 (\$K)**

<b>Information Collection Activity</b>	<b>Annual Responses</b>	<b>Total Annual Burden</b>	<b>Labor Cost</b>	<b>Non-Labor Cost</b>	<b>Total Annual Cost</b>
W. Petroleum and Natural Gas Systems	1	9174	\$460	\$660	\$1,100
<b>TOTAL</b>	1	9174	\$460	\$660	\$1,100

### 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.

**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**

Number of Respondents	2,786		From Exhibit 6.1
Total Annual Responses	4,371		From Exhibit 6.1
Number of Responses per Respondent	1.6 =	4,371 2,786	Total annual responses from above ÷ Total respondents from above
Total Respondent Hours	394,757		From Exhibit 6.1
Hours per Response	90.31 =	394,757 4,371	Total annual hours from above ÷ Total responses from above
Annual O&M and Capital Cost	\$2,431,360		From Exhibit 6.1
Total Respondent Cost (labor + non)	\$27,570,498		From Exhibit 6.1
Total Hours (Respondents and agency)	403,931 =	394,757 9,174	Total respondent hours from above + Total EPA hours
Total Cost (Respondents plus Agency)	\$28,670,498 =	\$27,570,498 \$1,100,000	Total respondent cost from above + Total EPA cost

Note: Detail may not add exactly to total due to independent rounding.

**6(f) Reasons for Change in Burden**

This proposed rule will result in a decrease in annual burden of 1,717 hours and \$121,985 (labor costs). This reduction in burden would result from an amendment to the gas well completion

sampling reporting requirement for onshore production facilities. Instead of requiring the sampling from at least one gas well completion and workover per field (“field method”), the proposed methodology would require sampling of the average flow rate of gas based on a graded scale within a sub-basin (“sub-basin method”). While this proposed sub-basin method does not change the cost per sample estimated for the final rule, it decreases the total number of samples that will be reported from well completions and workovers.

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

The respondent reporting burden for this collection of information is estimated to average 394,757 hours per year for a three year period, including a first year where initial labor and capital costs are anticipated, and two subsequent years in which identical annual costs are anticipated. The average annual burden to EPA for this period is estimated to be 9,174 hours for oversight activities for other federal facilities that must comply with the rule. The annual public reporting and recordkeeping burden for this collection of information is estimated to average 91 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-2009-0923, 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-2009-0923 and OMB Control Number 2060-0651 on any correspondence.