United States Environmental Protection Agency

Mandatory Greenhouse Gas Reporting Rule: EPA's Response to Public Comments

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General Monitoring Approach, the Need for Detailed Reporting, and Other General Rationale Comments

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General Monitoring Approach, the Need for Detailed Reporting, and Other General Rationale Comments

U. S. Environmental Protection Agency
Office of Atmosphere Programs
Climate Change Division
Washington, D.C.

FOREWORD

This document provides EPA's responses to public comments on EPA's Proposed Mandatory Greenhouse Gas Reporting Rule. EPA published a Notice of Proposed Rulemaking in the Federal Register on April 10, 2009 (74 FR 16448). EPA received comments on this proposed rule via mail, e-mail, facsimile, and at two public hearings held in Washington, DC and Sacramento, California in April 2009. Copies of all comments submitted are available at the EPA Docket Center Public Reading Room. Comments letters and transcripts of the public hearings are also available electronically through *http://www.regulations.gov* by searching Docket ID *EPA-HQ-OAR-2008-0508.*

Due to the size and scope of this rulemaking, EPA prepared this document in multiple volumes, with each volume focusing on a different broad subject area of the rule. This volume of the document provides EPA's responses to significant public comments regarding the general monitoring approach, the need for detailed reporting, and other general comments on the rationale.

Each volume provides the verbatim text of comments extracted from the original letter or public hearing transcript. For each comment, the name and affiliation of the commenter, the document control number (DCN) assigned to the comment letter, and the number of the comment excerpt is provided. In some cases the same comment excerpt was submitted by two or more commenters either by submittal of a form letter prepared by an organization or by the commenter incorporating by reference the comments in another comment letter. Rather than repeat these comment excerpts for each commenter, EPA has listed the comment excerpt only once and provided a list of all the commenters who submitted the same form letter or otherwise incorporated the comments by reference in table(s) at the end of each volume (as appropriate).

EPA's responses to comments are generally provided immediately following each comment excerpt. However, in instances where several commenters raised similar or related issues, EPA has grouped these comments together and provided a single response after the first comment excerpt in the group and referenced this response in the other comment excerpts. In some cases, EPA provided responses to specific comments or groups of similar comments in the preamble to the final rulemaking. Rather than repeating those responses in this document, EPA has referenced the preamble.

While every effort was made to include the significant comments related to the general monitoring approach, the need for detailed reporting, and other general comments on the rationale in this volume, some comments inevitably overlap multiple subject areas. For comments that overlapped two or more subject areas, EPA assigned the comment to a single subject category based on an assessment of the principle subject of the comment. For this reason, EPA encourages the public to read the other volumes of this document with subject areas that may be relevant to the general monitoring approach, the need for detailed reporting, and other general comments on the rationale.

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1. RATIONALE FOR GENERAL MONITORING APPROACH

Commenter Name: D. Lawrence Zink
Commenter Affiliation: Montana Sulphur & Chemical Company Inc. (MSCC)
Document Control Number: EPA-HQ-OAR-2008-0508-0505.1
Comment Excerpt Number: 15

Comment: We believe that designation of CEMS in accordance with Part 75 are overly exclusive and overkill for such a program as this. Why not also allow use of an existing effluent monitor that isn't subject to all of the CEMS requirements of Part 75 for facilities not subject to that cap and trade program. For example, many sources operate other CEMS that measure stack flow and/or other surrogate parameters for stack flow but are not subject to Part 75. This GHG emission reporting program is not the same as the Acid Rain Program. Estimating or measuring greenhouse gas emissions should allow for the use of process measurements and compliance testing measurements (including non Part 75 CEMS) that would be an improvement over the default values for emission factors and heating values. For example, a stack flow meter in conjunction with occasional grab sampled CO_2 concentration measurements (e.g. draeger tube, or calculation based on process parameters, or annual stack testing) might provide sound emission measurements compared to emission factors, and also a sound means to determine if the arbitrary 25,000 ton threshold has/has not been met. Sources should be allowed to use reasonable judgment as to the most appropriate measurements to use; EPA can always look at the description of methodology provided in the quality assurance performance plan.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement using CEMS and facility-specific calculation methods. Because the purpose of this rule is to collect data for use in developing future GHG policies and programs, the data must be collected according to consistent methodologies. EPA is not allowing reports full flexibility to use any methods because the accuracy and reliability of the data would be unknown. Moreover, since consistent methods would not be used under such an approach, the reported data would not be comparable across similar facilities. See the preamble for comments and responses on the general monitoring approach. For responses to comments on the CEMS provisions, see the preamble sections and comment response documents on Subpart C (General Stationary Fuel Combustion).

Commenter Name: See Table 6
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0679.1
Comment Excerpt Number: 34

Comment: Consistent with previous API comments, and one of API's general design principles, this reporting rule should not impose any new measurement requirements but rather allow reporters to utilize their best available data. In particular, imposing capital expenditures and mandating overly burdensome operating expenses, tied to the proposed reporting requirements, are incongruous with previous data collections under Section 114 of the CAA. The requirements for measurements and monitoring should be established within the context of a forthcoming regulatory framework that will address climate change and define GHG mitigation efforts. The API Compendium uses 'decision trees' to guide the users to applicable calculation methods within the constraints of available data. A similar approach is recommended for this rule where

reporters could be guided to use – transparently - their best available data, without overburdening them with monitoring requirements and capital and operational expenditures. Such an approach would be more in line with the legislative intent for developing this reporting rule, without overstepping its boundaries by speculating what future requirements might entail.

Response: The purpose of this rule is to collect data for use in developing future GHG policies and programs. To serve the intended purpose, the data must be collected according to consistent methodologies, so EPA has established monitoring methodologies in this rule rather than waiting until future GHG regulations. The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods, and this approach strikes an appropriate balance between data accuracy and cost. While it is true that previous data collections under Section 114 of the CAA have been more targeted, there is nothing in the CAA that so limits our ability to issue a comprehensive reporting rule. For further discussion, see the preamble for the response on the general monitoring approach and statutory authority. For responses to specific comments on the monitoring methods for petroleum refinery emissions, see the preamble section and comment response documents on petroleum refineries.

Commenter Name: Dan F. Hunter
Commenter Affiliation: ConocoPhillips Company
Document Control Number: EPA-HQ-OAR-2008-0508-0515.1
Comment Excerpt Number: 7

Comment: Remove any requirements for new measurement and instrumentation "EPA crafted the requirements in this rule with the potential monitoring, recordkeeping and reporting requirements for any future regulations addressing GHG emissions in mind. EPA solicits comment on all of these possible approaches, including whether EPA should commit to revisit the continued necessity of the reporting program at a future date". (Preamble page 16478) The reporting requirements should be designed to meet the information collection needs required to inform national GHG policy decisions without predetermining the structure for any future regulations. These requirements should be consistent with, and adopt elements from, existing reporting protocols and guidelines. For example, the API/IPIECA Reporting Guidelines and the API Compendium of GHG Emission Methodologies are widely used by the Oil and Gas Industry. These guidelines and other existing protocols should be acceptable for this data collection effort. The reporting rule should not impose any new measurement requirements or mandate installation of new monitoring and measurement equipment. The rule should allow reporters to utilize their best existing data, without imposing data collection requirements resulting in the expense of additional measurement and sampling hardware. Monitoring, reporting and verification requirements should be addressed once a climate change policy is decided and a regulatory program amended to satisfy the policy.

Response: The purpose of this rule is to collect data for use in developing future GHG policies and programs. To serve the intended purpose, the data must be collected according to consistent methodologies, so EPA has established monitoring methodologies in this rule rather than waiting until future GHG regulations. EPA reviewed existing methodologies in developing the reporting requirements and has been consistent with existing methodologies to the extent feasible. See the proposal preamble (74 FR 16474, April 10, 2009) for further information on this review. The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full

response on the general monitoring approach. With regard to the oil and gas industry, at this time EPA is not going final with the oil and natural gas systems subpart for reasons explained in the preamble. As we consider next steps, we will be reviewing the public comments and other relevant information. Thus, we are not responding to comments on this subpart at this time.

Commenter Name: Steven J. Rowlan
Commenter Affiliation: Nucor Corporation (Nucor)
Document Control Number: EPA-HQ-OAR-2008-0508-0605.1
Comment Excerpt Number: 2

Comment: When considering the specifics of the rule Nucor agrees that developing protocols to assist the tracking of GHG emissions may be relevant. Nucor disagrees with the goals of creating a system "to obtain data that is of sufficient quality that it can be used to support a range of future climate change policies and regulations," to "balance the rule coverage to maximize the amount of emissions reported while excluding small emitters." 74 Fed. Reg. at 16456 As previously noted if the problem driving the quantification of emissions from respiration are so demanding we must look at all sources and exclude only the very minor. The goals of "create reporting requirements that are consistent with existing GHG reporting programs by using existing GHG emission estimation and reporting methodologies to reduce reporting burden, where feasible" are however laudable and Nucor does support EPA in this effort. 74 Fed. Reg. at 16456. Unfortunately, in pursuit of an unrealistic and unnecessary vision of reporting precision, the proposal jeopardizes accuracy and wholly fails to achieve the goal of creating reporting "consistent with existing GHG reporting programs." Nucor strongly urges EPA to reconsider its approach, to emphasize overall accuracy of emissions reporting over spurious concerns of temporal precision, and to utilize existing, peer reviewed and accepted reporting methodologies that will facilitate global comparisons rather than creating its own idiosyncratic approach to measuring GHG emissions, which will frustrate global cooperative efforts.

Response: EPA determined that the general monitoring approach is appropriate to balance accuracy with costs. Moreover, the methods for calculating emissions are based on peer-reviewed IPCC methodologies or other widely accepted industry-specific GHG calculation methods and are therefore consistent with international methods. For further discussion, see the preamble for the response on the general monitoring approach.

Commenter Name: Sam Chamberlain
Commenter Affiliation: Murphy Oil Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0625
Comment Excerpt Number: 21

Comment: EPA discusses its consideration of four broad approaches to monitoring requirements in support of mandatory reporting of GHG under this rule: Option 1. Direct Emission Measurement Option 2. Combination of Direct Emission Measurement and Facility-Specific Calculations Option 3. Simplified Calculation Methods Option 4. Reporter's Choice of Methods EPA is seeking comments on its selection of Option 2, described above: "EPA requests comments on the selected monitoring approach and on other potential options and their advantages and disadvantages". (74 FR 68, page 16475) Murphy supports the API and NPRA comments, unless such comments oppose the Murphy comments and/or recommendations. Murphy will not repeat the API comments regarding this section, only to embellish its

perspective. Murphy has grave concerns that this rule is not a "reporting rule" but is more of a "reporting and monitoring rule"! Murphy believes EPA should set only the requirements for reporting and then specify the level of accountability (i.e. degrees of confidence) for the information submitted, not direct reporters to undergo specific monitoring frequencies, methodologies, and calibrations! And since this rule is a reporting rule, Murphy believes Option 4- Reporter's Choice of Methods is best suited for this rule as it gives the industry the freedom to select the appropriate methodology for a given set of emission points that is best determined by the technical and professional staff at the facility. Murphy recommends EPA make this a reporting only rule. Failure to report the emissions data is paramount to receiving a serious fine or penalty. Option 4 should not impose any new measurement requirements but rather allow reporters to utilize best available data. Murphy would have to spend significant Capital expenditures in the neighborhood of $_____[Dollar amount not indicated in DCN:EPA-HQ-OAR-2008-0508-0625] to meet the monitoring requirements using Option 1 or 2 designated in the proposed rule.

Response: The purpose of this rule is to collect data for use in developing future GHG policies and programs. To serve the intended purpose, the data must be collected according to consistent methodologies. EPA determined that the general monitoring approach is appropriate to balance accuracy with costs. See the preamble for the response on the general monitoring approach. See also the response to comment EPA-HQ-OAR-2008-0508-0679.1, excerpt 34.

Commenter Name: Ram K. Singhal
Commenter Affiliation: Rubber Manufacturers Association (RMA)
Document Control Number: EPA-HQ-OAR-2008-0508-0600
Comment Excerpt Number: 12

Comment: In the proposal, EPA presents a list of methods in descending order of preference for collecting GHG emissions that ranges from the use of emission factors to direct emissions measurements. EPA submits that emission factors for fuel consumption and/or combustion sources for CO_2 are more than adequate for collecting, calculating and reporting GHG emissions based on throughput. EPA's factors for natural gas use that we would rely on are graded "A" because they are based on many sampling events at similar sources. We cannot imagine a situation where it would be necessary, a reasonable use of scarce resources, or more accurate to test or record emissions of GHG more accurately than using throughput and engineering factors as the basis for GHG calculations. However, we can easily see how companies could be forced to spend millions of dollars on analyzers and emissions testing for GHG reporting that would simply be a waste of money. We hope that EPA will reconsider this list of methods for acquiring GHG information and modify it accordingly.

Response: EPA determined that the general monitoring approach is appropriate to balance accuracy with costs. See the preamble for the response on the general monitoring approach.

Commenter Name: Scott Evans
Commenter Affiliation: CleanAir Engineering (Clean Air)
Document Control Number: EPA-HQ-OAR-2008-0508-0696.1
Comment Excerpt Number: 1

Comment: Clean Air is pleased that EPA recognizes that direct measurement of GHG emissions represents the highest level of data reliability. As you are no doubt aware, there are those who claim that fuel-based mass balance calculations are the most accurate means of determining carbon emissions from combustion sources. The European reporting system EU-ETS takes this approach. However, the available research does not support this contention [see DCN:EPA-HQ-OAR-2008-0508-0696.2] Clean Air Engineering has undertaken a study comparing CEMS and calculated CO_2 emission estimates from fossil-fuel Tired electric utility boilers. This study (which is attached and incorporated with these comments) shows there are significant differences between CEMS and fuel-based calculated results. Furthermore, reliability of important calculation input parameters such as fuel Flow rates for solid fuel Tired boilers, are difficult in practice to quality assure. With CEMS on the other hand, accuracy is documented with NIST-traceable standards and the relative accuracy testing is done with accredited test firms using individuals with documented third- party verification of training. We feel that the calculation approach has its place for smaller sources, but there is no substitute for quality assured CEMS data for the larger sources.

Response: EPA thanks the commenter for their input. The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Steven D. Meyers
Commenter Affiliation: General Electric Company (GE)
Document Control Number: EPA-HQ-OAR-2008-0508-0532.1
Comment Excerpt Number: 14

Comment: GE agrees with EPA's position that CEMS should only be required for a limited number of large emission sources such as coal fired boilers and glass furnaces that already employ CEMS for other purposes. Many existing industrial fuel combustion units in the U.S. are not currently equipped with CEMS. It would be extremely expensive to install new CEMS on many small fuel combustion units.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement using CEMS and facility-specific calculation methods. EPA determined that the general monitoring approach is appropriate to balance accuracy with costs. See the preamble for the full response on the general monitoring approach.

Commenter Name: Kevin Fay
Commenter Affiliation: International Climate Change Partnership (ICCP)
Document Control Number: EPA-HQ-OAR-2008-0508-0490.1
Comment Excerpt Number: 15

Comment: The monitoring requirements appear in some case to be overly burdensome. ICCP would generally favor the "direct measurement and facility-specific calculation" methodology, and do not generally support the addition of continuous emission monitoring requirements unless they are already in place for other purposes.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. Facilities are required to use CEMS for only those units that already have CEMS and are required to operate the CEMS by other federally enforceable programs. Where CO_2 CEMS are already in use (or where criteria pollutant CEMS can be upgraded to also measure CO_2), it is reasonable and appropriate to make use of these measurement systems. EPA determined that the general monitoring approach is appropriate to balance accuracy with costs. See the preamble for the full response on the general monitoring approach.

Commenter Name: Lauren Trevisan
Commenter Affiliation: Sierra Club
Document Control Number: EPA-HQ-OAR-2008-0508-0212u
Comment Excerpt Number: 3

Comment: In addition, taking advantage of existing monitoring programs, we believe increases accuracy. In many cases, facilities are already using continuous emissions monitoring systems to directly monitor their emissions. EPA incorporates this data into its registry, adding facility-specific calculation rules for sources that currently don't have these systems in place. Although moving towards continuous emissions monitoring systems, or CEMS, for most sources will ultimately produce the most accurate data, beginning with a mix of CEMS and carefully calibrated data calculation rules will allow accurate information to be collected quickly with a minimum of start-up costs.

Response: Please see response to EPA-HQ-OAR-2008-0508-0490.1, excerpt 15.

Commenter Name: Nancy N. Young
Commenter Affiliation: Air Transport Association of America, Inc. (ATA)
Document Control Number: EPA-HQ-OAR-2008-0508-0522.1
Comment Excerpt Number: 23

Comment: ATA supports EPA's decision not to require stationary sources to install Continuous Emission Monitoring Systems ("CEMS") to monitor CO_2 emissions. CEMS impose unduly burdensome additional operating requirements and excessive costs. Calculating GHGs using established emission factors is preferable and should be sufficient to provide the data necessary to serve the informational and policy-making purposes of the rule.

Response: Please see response to EPA-HQ-OAR-2008-0508-0490.1, excerpt 15.

Commenter Name: James S. Loving
Commenter Affiliation: National Cooperative Refinery Association (NCRA)
Document Control Number: EPA-HQ-OAR-2008-0508-0609.1
Comment Excerpt Number: 6

Comment: EPA should allow use of verifiable engineering calculations for reporting most CO_2 emissions as a more cost-effective and reliable alternative to Continuous Emissions Monitoring Systems (CEMS).

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions using CEMS and facility specific calculation methods. Facility-specific calculations include the use of engineering calculations for certain sources. See the preamble for the full response on the general monitoring approach. For additional information on the use of calculations in the rule for stationary combustion sources, see the General Stationary Fuel Combustion Sources section in the preamble and the comment response volume for subpart C.

Commenter Name: Robert Rouse
Commenter Affiliation: The Dow Chemical Company
Document Control Number: EPA-HQ-OAR-2008-0508-0533.1
Comment Excerpt Number: 3

Comment: Many of the proposed Source Categories require prescriptive calculation methods for determining emissions. These may or may not be similar to the current calculation methods that Dow or other companies use to estimate GHG emissions. Additionally, some of the specified methods may require the installation of analytical and process instrumentation. Calculations other than those specified in the proposed rule should still provide data with the quality to allow it to be used for future policy decisions (EPA's stated intent of the proposed rule). It is recognized that under any future GHG regulations, such as a Cap and Trade program supported by Dow, a high level of consistency and accuracy in accounting for GHG emissions will be required. This high level of consistency and accuracy is not always needed to develop policy. It is recommended that EPA review the proposed calculation methods and allow other methods that provide sufficient accuracy and confidence needed to develop policy. The rule should allow for the use of existing instrumentation, engineering calculations and process knowledge to estimate emissions. The facilities would keep documentation of the calculation methods used. Additionally, the rule should not require the addition of any new analytical or process instrumentation. In light of the fact that this rule may become effective at the beginning of 2010, an alternative would be to allow for the use of existing instrumentation, engineering calculations and process knowledge to calculate emissions and not require new instrumentation until the 2011 monitoring year. For those facilities that are already equipped with extensive instrumentation (such as CEMS), EPA could compare these results with the results from simpler calculation methods and determine if these simpler calculations could be utilized in the future.

Response: The purpose of this rule is to collect data for use in developing future GHG policies and programs. To serve the intended purpose, EPA believes the data must be collected according to consistent methodologies. Please see response to EPA-HQ-OAR-2008-0508-0490.1, excerpt 15. See also the preamble for the response on the general monitoring approach. For the response to the comment regarding use of existing instrumentation to calculate GHG emissions during the initial reporting year, see the preamble response on the selection of the initial reporting year and use of best available monitoring methods.

Commenter Name: Jessica S. Steinhilber
Commenter Affiliation: Airports Council International North America (ACI-NA)
Document Control Number: EPA-HQ-OAR-2008-0508-1063.1
Comment Excerpt Number: 2

Comment: Prior to April 2009, the airport industry lacked guidance on how to develop an airport GHG emissions inventory. Comparing inventories from different airports could result in vastly different numbers because sources that were included and where the boundary for those sources was drawn varied greatly. For example, one airport may have included aircraft emissions only up to 3000 feet while another airport included the entire flight. While this raises scoping issues regarding where to draw the boundary for inventorying purposes, it also raises issues regarding double counting aircraft emissions from the same flight at both the arrival and departure airport. In April 2009, the Airport Cooperative Research Program (ACRP) published a "Guidebook on Preparing Airport Greenhouse Gas Emissions Inventories" (available online at: http://www.trb.org/news/blurb_detail.asp?id=10196). [Footnote: ACRP is a program that is sponsored by the Federal Aviation Administration (FAA) and managed by the National Academies, acting through its Transportation Research Board (TRB). ACRP conducts applied research on problems important to airport operators based on oversight provided by an independent governing board that includes representatives of airport operating agencies.] The Guidebook provides a framework for identifying and quantifying specific components of airport-related contributions to GHG emissions. The Guidebook provides recommendations regarding the appropriate methodologies for accounting for various emission sources, the scope of emissions to include, and how to avoid double counting of emissions across this global industry. The Guidebook recognizes various levels of inventory analysis that may need to be developed depending on the ultimate use of the data. This much-anticipated resource is already being used by airports to conduct GHG inventories. ACI-NA recommends that EPA consults this document in reference to appropriate airport GHG emission sources.

Response: EPA thanks the commenter for their input. EPA has decided not to require reporting of emissions or travel activity for vehicle fleets, such as airport vehicles (e.g., buses, fuel tankers, etc) or from aircraft. See the Section V.QQ of the preamble to the proposed rule (74 FR 16488, April 10, 2009) for an explanation of EPA's rationale for excluding vehicle fleets from the reporting rule. Also see the preamble section and comment response document volume on mobile sources for responses to comments of reporting of vehicle emissions.

Commenter Name: Jeanne Herb
Commenter Affiliation: New Jersey Department of Environmental Protection (NJDEP)
Document Control Number: EPA-HQ-OAR-2008-0508-0834.1
Comment Excerpt Number: 3

Comment: The Inventory of U.S. Greenhouse Gas Emissions and Sinks submitted annually by USEPA to the UNFCCC should not be used to satisfy the requirement for a mandatory greenhouse gas reporting rule under the FY2008 Consolidated Appropriations Act. On page 16455, USEPA solicits comment on whether the submission of the Inventory to the UNFCCC could be utilized to satisfy the requirements of the rule promulgated by USEPA pursuant to the FY2008 Consolidated Appropriations Act. The NJDEP believes that the Inventory of U.S. Greenhouse Gas Emissions and Sinks submitted annually by USEPA to the UNFCCC should not be used to satisfy the requirement for a mandatory greenhouse gas reporting rule under the FY2008 Consolidated Appropriations Act. A "bottom up" inventory for specific sources is needed for the USEPA and the states to develop complete, accurate inventories of greenhouse gases develop cost effective reduction strategies.

Response: EPA agrees with the commenter that the "top down" approach used for developing the annual inventory for the UNFCCC does not provide the facility and unit level data needed for

use in developing GHG policies, programs, and regulations. The final rule retains the requirements for direct-emitting facilities and fuel and industrial GHG suppliers to submit GHG reports, and EPA is not relying on the annual inventory as a substitute for this reporting rule. The purpose of this rule is to collect data for use in developing future GHG policies and programs. Facility-level data are needed to support such analyses. See the preamble for the full response on the level of reporting.

Commenter Name: Robert Naerebout
Commenter Affiliation: Idaho Dairymen's Association, Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0314.1
Comment Excerpt Number: 12

Comment: Gathering this information from these sources in Idaho is unlikely to lead to valid, scientifically relevant data because, the methods for calculating GHG emissions are overly complex, are not based on valid peer reviewed science, and do not take into consideration regional climate differences. The proposed rules provide detailed and unproven methods for calculating GHG emissions.

Response: EPA determined that the general monitoring approach is appropriate to balance accuracy with costs. The methods for calculating emissions are based on peer-reviewed IPCC methodologies or other widely accepted industry-specific GHG calculation methods. In response to public comments, EPA has made changes in the final rule to improve and simplify source category-specific calculation methodologies as appropriate. See the preamble for the full response on the general monitoring approach. See the preamble and comment response document for subpart JJ, Manure Management, for responses to comments on the GHG calculation methods and changes made since proposal for that source category.

Commenter Name: John M. Batt
Commenter Affiliation: Airgas, Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0408.1
Comment Excerpt Number: 5

Comment: We recommend that EPA allow use of “best available data” in subsequent years of the reporting program and not require Continuous Emissions Monitoring or other expensive/resource intensive equipment unless it is definitively determined that the quality of this data is inadequate.

Response: Please see response to EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding the use of direct measurement. For the response to the use of best available data, see the preamble response on the selection of the initial reporting year and use of best available monitoring methods.

Commenter Name: Steven J. Rowlan
Commenter Affiliation: Nucor Corporation (Nucor)
Document Control Number: EPA-HQ-OAR-2008-0508-0605.1
Comment Excerpt Number: 3

Comment: EPA states that the quality of the data gathered by the mandatory GHG reporting rule should be "of sufficient quality to support a range of approaches." 74 Fed. Reg. 16456. Unfortunately, EPA never undertakes a review of what level of quality this would require. Instead, EPA appears to have defaulted almost immediately to the quality of data used to support the agency's Acid Rain Program (ARP), as seen in a focus on CEMS- data, quality assurance requirements, and missing data procedures. There are no direct health impacts from GHG emissions. In its proposed Endangerment Finding, EPA determined that "ambient concentrations of carbon dioxide and other greenhouse gases, whether at current levels or at projected ambient levels under scenarios of high emissions growth over time, do not cause adverse health effects such as respiratory or toxic effects." 74 Fed. Reg. 18886, 18901 (Apr. 24, 2009). In this way, GHG emissions differ substantially from SO2 and NAAQS, both of which have observed concentration effects. The absence of direct health effects means that the "quality" of the data does not need to extend to ambient effects, but merely to an understanding of the total quantity of GHGs emitted. GHGs are long-lived in the atmosphere. Also in the proposed Endangerment Finding, EPA determined that "these six gases, one emitted, remain in the atmosphere for decades to centuries..." 74 Fed. Reg. at 18888. In this regard, GHG emissions also differ from at least SO2, which has a much shorter atmospheric life. The long life of GHG gases that variations in the short term rate of GHG emission are relatively insignificant; instead, what is important is the overall mass of GHGs emitted into the atmosphere. Minor temporal variability in emissions is not a data critical element. An annual value provides more than adequate data for tracking progress toward achieving GHG reduction goals that Congress or the Administration may adopt in the future.

Response: Please see response to EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding the use of direct measurement.

The purpose of this rule is to collect data for use in developing future GHG policies and programs. An accurate accounting of GHG emissions at the facility level, and by process or unit within facilities, is an important first step for developing future GHG programs and regulations. Over the next few years, the data collected under this rule will help EPA determine the relative emissions of specific industries, the variability in process and unit emissions across each source category, and the factors that influence GHG emission rates. The recordkeeping, QA/QC, and missing data provisions are necessary to assure facilities report complete, accurate, and reliable data.

See the preamble for the response on our general approach to selecting monitoring methods. For information on the method selected for a specific source category and changes made since proposal, see the technical support documents and comment response volumes for the source category.

Commenter Name: Michael R. Woelk
Commenter Affiliation: Picarro, Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0214.1
Comment Excerpt Number: 1

Comment: The US EPA is set to regulate carbon emissions and establish cap & trade programs that could approach trillion dollar scales in just a few years. Let's think of this process simply as putting a ton of carbon dioxide equivalents (product) in a box, trading it. The faster the supply is reduced, the greater the increase in price. While the world's nations and communities must act

rapidly to arrest climate change, we absolutely must objectively certify the true content of the "carbon boxes", or get ready for the mother of all bubbles. There are basically two approaches: calculation based emissions factors and instrument measurements. The questions for the agency to consider are: #1 Which approach is more credible and transparent, #2 which approach is more convenient, and #3, which approach is more cost effective. #1 CREDIBILITY: At the recent First International Greenhouse Gas Measurement Symposium in March, a powerful scientific argument was made that the best-case average spread between calculated and measured emissions was 17%, and in every case, the measured value was higher than the calculated value! Furthermore, other studies have shown that calculation-based reported emissions can have accuracy errors exceeding 90%, whereas well calibrated measurement-based reported emissions are typically accurate to a fraction of 1%. So what does this mean? It means that carbon exchanges will broker bogus trades, and that buyers and sellers of carbon commodities will have no assurance that the underlying asset has value. Corporate boards will become familiar with the term "toxic carbon asset". The American public will lose faith in our policy makers, regulators and programs. They will see parallels with the current mortgage debacle. Massive litigation will erupt and finally, carbon trading instruments will implode. Credibility is absolutely essential to the sustainability of the program, and so we must relentlessly pursue quality within the EPA program. At an absolute minimum, any calculation-based approach must require that emissions uncertainty be understood via scientific measurements. Continuous measurements are the best option, and must be the first option. #2 CONVENIENCE: With the simplicity of today's greenhouse gas measurement technology quite literally anyone in this room can install and operate a device in less than 10 minutes. Our state-of-the-art instruments are intentionally designed that way, despite the fact that many of the world's most sophisticated and noteworthy scientists use our analyzers. They use them to monitor greenhouse gases completely unattended on mountain tops, polar ice caps, in forests, cities, cornfields, from portable, telecommunication tower, automobile and aircraft platforms. The very same technology is ideally suited to measure fugitive and anthropogenic sources such as landfills, carbon sequestration sites, pipelines, water treatment plants and concentrated animal feeding operations, for example. By contrast, to model and "calculate" reasonably credible emissions factors operators must conduct exhaustive QA/QC due diligence, routine and unannounced site audits, and actually do periodic measure anyway to validate the model. #3 COST: Human involvement is minimal with modern greenhouse measurement instruments. Regardless of where gases are measured, data acquisition is completely automated and typically transported by modem, wireless or internet connection to individuals anywhere in the world 24/7. As such, these modern solutions scalable and enable enterprise wide and agency wide operational synergies. But now imagine an average coal powered plant that emits 4 million tons of CO_2 equivalents per year, and apply a round number price of a $100 per ton. That's $400 million worth of carbon emissions, get this - give or take 17%, 83 cents on the dollar or $68 million! Medium and large scale businesses will be well served by institutionalizing continuous measurement solutions. The good news is that that the technology to measure, and regulate greenhouse gases with total confidence at global, continent, regional, local and point source and sink scales is commercially available, and from American companies like Picarro. Consider that the scientific community has been using this technology for years to measure atmospheric greenhouse gases. I urge the EPA to consider that American instrument manufacturers as well as our scientific customers stand ready to help the EPA in any meaningful way with case studies and on-site technology demonstrations. Let's not repeat the mistakes from the 1970's era toxic air regulations, when facilities were allowed to report default emission factors which were later discredited and under-reported the truth. Emissions factors are simply not good enough for many real-world applications with unpredictable upsets, startups, shutdowns, leaks, etc. I urge the EPA to take advantage of American technology companies, our scientific leaders and build a regulatory framework based on credibility, convenience and

reasonable cost constraints beginning with high quality measurements that are objective and can withstand the highest scrutiny.

Response: The purpose of this rule is to collect data for use in developing future GHG policies and programs. Collecting accurate data of GHG emissions is important to the future value of the data for informing policy decisions and designing new GHG policies and programs. Please see response to EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding the use of direct measurement. Direct measurement of emissions may not be the only monitoring approach that would provide data of sufficient accuracy for use in future GHG policies and programs. The monitoring approaches included in this rule are consistent with many U.S. and international programs, including the European Union's Emission Trading System, which relies on a variety of monitoring methods to determine GHG emissions.

In selecting the monitoring approaches for each source category, EPA specifically selected monitoring approaches that result in high quality data of known accuracy. For most source categories, emissions are calculated using facility-specific factors (such as carbon content and flow rate) that provide relatively high quality data. For example, many source categories are required to use a mass balance approach in which they must use data collected from calibrated flow meters or other monitors, and regular sampling and analysis of the carbon content of feedstocks, products, and byproducts (as applicable). EPA also included quality assurance, missing data, recordkeeping, and compliance enforcement provisions, which will ensure facilities report accurate and reliable data in accordance with the methods specified in the rule.

The data collected by the rule are expected to be used in, and appropriate for, analyzing and developing a range of potential CAA GHG policies and programs. EPA has retained the approach that combines direct measurement using CEMS and facility-specific calculations and believes that a consistent and accurate data set is crucial to serve this intended purpose. See the preamble for the response on the general monitoring approach.

Commenter Name: Janice Adair
Commenter Affiliation: Western Climate Initiative (WCI)
Document Control Number: EPA-HQ-OAR-2008-0508-0443.1
Comment Excerpt Number: 10

Comment: WCI recommends that EPA further assess the accuracy of the emissions quantification methods in the Mandatory Reporting Regulation. High accuracy in emissions measurement is essential for future policy options like cap-and-trade. For its general approach to emissions quantification, U.S. EPA chose a combination of direct emissions measurement and facility-specific calculations (pp. 16474-16475). U.S. EPA notes that this approach strikes a balance between data accuracy and cost, and makes use of existing data and methodologies to the extent possible. However, this approach results in considerable differences in accuracy 1) across source categories, and 2) across quantification methods to be selected from within source categories. Some source categories are proposed to use continuous emissions monitoring systems (CEMS), which provide high accuracy when operated and calibrated in accordance with 40 CFR 75. Other source categories are proposed to use facility-specific GHG calculation methods that do not rely on direct measurement, which are highly accurate for some source categories, and more uncertain for others. WCI recommends that U.S. EPA take additional steps to quantify, and where necessary improve, the accuracy of existing methods, including an assessment of the

effects of different fuel or feedstock sampling frequencies and analysis methods on the accuracy. WCI also encourages the U.S. EPA to set a consistent acceptable level of uncertainty.

Response: In developing the rule, our goal was to collect accurate data of known quality, while balancing the need for accurate data against the burden of collecting the data. For this reason, the rule makes use of existing monitoring equipment (e.g., flow meters, weighing scales, CEMS, etc.) to the extent feasible and requires facilities to calibrate monitoring equipment to certain specifications. In addition, facilities and suppliers must perform regular QA/QC procedures (e.g., re-calibrating meters), maintain a written monitoring plan, and keep records of the results of calibrations and estimates of accuracy for measurement devices. Although differences in the accuracy of GHG emissions reported by different source categories is unavoidable due to the nature of the source categories, EPA believes that the methods in the rule will achieve an appropriate level of data quality. In addition, EPA has added calibration requirements for monitoring instruments, including an accuracy specification of plus or minus five percent for flow meters. EPA verification of reported data and facility audits will further ensure reporters are complying with these provisions.

For the response to the comment on the need for accurate and reliable data for any future cap and trade program, see the response to comment EPA-HQ-OAR-2008-0508-0214.1, excerpt 1. For additional information on the selection of the monitoring approach, see the preamble for the response on the general monitoring approach. For additional information on EPA's approach to verification see the preamble for the response on the emissions verification approach. See also the preamble and comment response document for subpart C, General Stationary Fuel Combustion Sources regarding changes made since proposal for that source category.

Commenter Name: Mary Uhl
Commenter Affiliation: New Mexico Environment Department
Document Control Number: EPA-HQ-OAR-2008-0508-0450.1
Comment Excerpt Number: 8

Comment: New Mexico recommends that EPA further assess the accuracy of the emissions quantification methods in the Mandatory Reporting Regulation. High accuracy in emissions measurement is essential for future policy options like cap-and-trade. U.S EPA's proposed approach is likely to result in considerable variation in accuracy across source categories. New Mexico concurs with WCI's recommendation that EPA take additional steps to quantify, and where necessary improve, the accuracy of existing methods, including an assessment of the effects of different fuel or feedstock sampling frequencies and analysis methods, and to require a minimum accuracy for fuel flow meters when fuel consumption is used to calculate GHG emissions. We also encourage the U.S. EPA to set a consistent acceptable level of uncertainty. In a future market system accurate emissions measurement will become especially important; with accurate metering and proper sampling, fuel-based methods can be as effective as more costly continuous emissions monitoring systems.

Response: For the response the comment regarding the need to set a level of uncertainty for monitoring, see the response to comment EPA-HQ-OAR-2008-0508-0443.1, excerpt 10 above. For the response to the comment on the need for accurate and reliable data for any future cap and trade program, see the response to comment EPA-HQ-OAR-2008-0508-0214.1, excerpt 1 above. For additional information on the selection of the monitoring approach, see the preamble for the response on the general monitoring approach.

Commenter Name: Rich Raiders
Commenter Affiliation: Arkema Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0511.1
Comment Excerpt Number: 35

Comment: Many of the standard methods that EPA identifies in the proposal relate to instrument accuracy, which is a part of the system accuracy criteria that EPA and the permitting authorities use to evaluate a facility's performance data. EPA recognizes this issue in the system validation provisions that are included in the proposal. However, with modern electronic monitoring systems, the most appropriate validation that the system is properly integrated during service is a "loop check," where the technician repairing or replacing the system simulates a signal from the field instrument and verifies that the receiving instrument tracks the appropriate signal and interprets it into the appropriate value in the recording system. EPA's use of the term "accuracy" in Section 3.1 of proposed Part 98 does not conform to common industry practice. The more common industry practice is to evaluate instrument performance in terms of "precision," where instrument performance is evaluated as a function of how the measurement relates to the actual measurement and not the maximum instrument reading. Several SDOs listed above have defined accuracy with regard to instrument systems in the manner that the electronics and instrumentation professionals who will ultimately manage the instruments regulated under this proposal will understand and follow. EPA should review these definitions and confirm that these concepts do not conflict. The accuracy data that EPA cites in several places in the proposal represent component reference accuracies, which may or may not reflect total system measurement accuracy. To avoid implementation confusion, EPA should document in any final promulgation how the permitting authorities ultimately enforcing this standard and procedure would evaluate accuracy criteria. Some of the process streams that EPA requests be monitored in specific subparts of proposed Part 98 may require innovative technology to obtain a repeatable flow measurement. In working with instrumentation vendors, Arkema has learned that the preferred concept for evaluating instrument performance is not necessarily accuracy but measurement repeatability. Repeatability is the concept where a facility owner or operator can demonstrate that a specific instrument can measure, within a reasonable tolerance, the same amount of a specific material passing through a flow instrument at a proscribed time interval. Many liquid flow measurement technologies that must be used to obtain a low flow rate error tolerance are tuned to measure specific process fluids. Calibration of these meters using fluids significantly different than process fluids is not appropriate, and may introduce measurement error into the maintenance function. Such meters are relatively sensitive to flow rates, viscosity and temperature and would vary depending on which fluids are used. Some instrument maintenance protocols, such as weigh scales as discussed below, are not managed by either accuracy or precision, but by instrument tolerance expressed as the units being measured. EPA should allow facilities to develop site-specific monitoring plans that adapt instrumentation performance criteria to the instrument in question. These monitoring plans would be incorporated into the precompliance report concept described elsewhere in this comment.

Response: EPA agrees that precision (i.e., how reproducible the measurement), as well as accuracy (i.e., how close the measured value is to the actual value), are important criteria for assessing monitoring devices used in any monitoring program. Where possible, the rule makes use of monitoring device standards (such as calibration specifications) already used by the industry. Where no single standard method is currently used, facilities are allowed to select the most appropriate method from a list of standards or use methods specified by the device

manufacturer. In response to comments, EPA has added in 40 CFR 98.3 an accuracy specification and calibration requirements for flow meters. Also, as specified in 40 CFR 98.3(g), facilities and suppliers subject to the rule must prepare a written GHG monitoring plan that contains an explanation of the processes and methods used to collect the necessary data for the GHG calculations and a description of the procedures and methods used for quality assurance, maintenance, and repair of monitoring devices (e.g., CEMS, flow meters, weighing scales). Facilities that use an electronic monitoring system should include all the procedures necessary to ensure correct data collection, including "loop checks" to make sure signals from field instruments are being correctly recorded. In addition to the verification checks on the reported data, EPA will also perform audits of facility records. These audits will include reviews of the monitoring plan to ensure the plan is complete and the monitoring procedures are appropriate.

Commenter Name: Dan Elwell
Commenter Affiliation: Aerospace Industries Association (AIA)
Document Control Number: EPA-HQ-OAR-2008-0508-1140.1
Comment Excerpt Number: 9

Comment: Carbon emissions can be calculated without direct emissions measurements, which can add imprecision because of ambient air and other variables. Utilization of carbon per unit or throughput as carbon emissions measures is more than sufficient. Direct emissions monitoring or calibration plans are unnecessary with regard to carbon emissions, unlike other pollutants under the Clean Air Act.

Response: Please see response to EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding the use of direct measurement. In developing the rule, our goal was to collect accurate data of known quality, while balancing the need for accurate data against the burden of collecting the data. For this reason, the rule makes use of existing monitoring equipment (e.g., flow meters, weighing scales, CEMS, etc.) to the extent feasible and requires facilities to calibrate monitoring equipment to certain specifications. In addition, facilities and suppliers must perform regular QA/QC procedures (e.g., re-calibrating meters), maintain a written monitoring plan, and keep records of the results of calibrations and estimates of accuracy for measurement devices.

Calibration of monitoring devices is necessary. Calibration of flow meters and other instrumentation is necessary to ensure that the data collected is sufficiently accurate for use in developing GHG policies, programs, and regulations. Without a robust QA/QC program, the accuracy and reliability of the data would be uncertain. For additional information on our general approach to selecting monitoring methods, see the preamble for the response on the general monitoring approach.

Commenter Name: See Table 5
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0433.2
Comment Excerpt Number: 38

Comment: Performance specifications are already in place for the continuous monitoring of CO_2, flow measurement devices and other monitoring and measuring devices specified in the Inventory Rule. Calibration, Testing, Certification and QA/QC for these devices are well established and time tested. Requiring additional procedure around these monitors is expensive

and burdensome, not to mention leading to additional downtime on monitors that serve for both the GHG Reporting Rule and other rules. EPA should refer to the existing standards for monitoring equipment and adopt them by reference in the Rule, where such standards already exist.

Response: The goal of the reporting rule is to collect high quality data of known accuracy. To achieve this goal, the rule must include standardized calibration, certification, maintenance, and other QA/QC procedures. In some cases, the rule allows reporters to use one of several alternative consensus standards or use a method specified by the manufacturer of the device. For CEMS units, the reporter has the flexibility to comply with either the QA/QC provisions provided in part 75, part 60, or an applicable State continuous monitoring program. EPA has made several changes to the QA/QC requirements for several source categories since proposal of the rule in April. For example, EPA has revised the QA/QC requirements in subpart C for certain types of flow meters to reduce the frequency of recalibration and in certain circumstances allow more time for initial calibrations to be completed. For additional information on the changes to the QA/QC requirements for fuel flow meters, see the preamble for the response to comments on the monitoring and QA/QC requirements for subpart C. EPA has also made changes to the QA/QC requirements for other source categories that allow for greater flexibility in the methods used. For more information on these changes, see the preamble section and comment response volumes for the appropriate subpart.

Commenter Name: See Table 9
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0635
Comment Excerpt Number: 16

Comment: EPA has attempted to strike a balance between direct measurement and emissions estimation methods. That balance may be a sound means of achieving the immediate overriding objective of implementing the program beginning in 2010, but it is not the appropriate long-term solution. [footnote: We do, however, strongly agree with EPA's decision not to allow simplified calculation methods or to allow reporters to simply select any methodology they prefer, without reference to methods promulgated in the rule. Those methods would produce inconsistent and inaccurate data, and so would not fulfill the purposes of the reporting rule.] EPA should develop mechanisms to move the reporting system steadily towards the most accurate and precise reporting methods possible which, in many cases, will mean moving towards direct measurement in general and CEMS in particular. Although there are short-term benefits to EPA's proposal as it stands, the rule should be built for the long haul. EPA should not allow the present distribution of CEMS to permanently shape the quality of data it collects under the reporting rule. Facilities that currently have CEMS do so for a wide range of reasons, many arising out of individual permitting decisions addressing non-GHG pollutants. These reasons do not necessarily map onto the guiding principles for direct measurement that we have discussed. Thus, while major GHG sources may be correlated with facilities with existing CEMS, the correlation is likely imperfect – and, certainly, EPA has not demonstrated otherwise. To the contrary, CEMS are not used by many of the sources covered by the proposed rule. According to EPA, only 17% of general stationary fuel combustion sources use CEMS. And while existing coverage is better in some other source categories, reaching 100% CEMS usage for cement production for instance, in other significant categories – notably including iron and steel production, petroleum refineries, and petrochemical production – EPA does not even know which monitoring methods are in use. As a general matter, according to EPA, "[m]ost facilities currently do not have CEMS to measure

GHG emissions." As well as largely letting existing facilities avoid direct measurement, EPA also does not propose to require new sources to use CEMS or other direct measurement devices, unless they are required to install such technologies by other rules. Instead, the rule effectively creates permanent monitoring tiers, wherein the historical accident of lacking a CEMS in 2010 (or not being a covered source at all at that time), could excuse significant sources from ever installing CEMS. As a result, facilities within a given industry category will report data which may be of markedly different quality, and these data quality gaps will persist. As we have discussed above, the differences between directly measured emissions data and emissions estimates can be substantial. Emissions estimates generally do not offer the certainty, accuracy, and precision of direct measurement – and they necessarily are less able to detect unexpected emissions increases. The distinction is particularly substantial for complex sources and solid fuels. It is, in short, the sort of difference that could cause large-scale data quality and enforcement issues if it becomes entrenched, rather than being swiftly erased over the first few years that the rule is in force. Yet, the rule as proposed does not close the gap. This approach is inconsistent with EPA's general commitment to steadily improving emissions control and monitoring technology, and also has serious GHG regulatory implications. First, the Clean Air Act's pollution control programs are designed to be technology-forcing, steadily improving over time and driving technological innovation to meet rising standards. The Act, for instance, requires new sources in areas attaining national ambient air quality standards to use "the best available control technology," a standard that necessarily improves over time, and similarly mandates that sources emitting air toxics reduce their emissions by at least as much as "the best controlled similar source" then in existence. As Justice Breyer put it in a recent concurring opinion: [T]he legislative history shows that Congress intended the statute to be "technology forcing." Senator Edmund Muskie, the primary sponsor of the 1970 amendments to the Act, introduced them by saying that Congress' primary responsibility in drafting the Act was not "to be limited by what is or appears to be technologically or economically feasible," but "to establish what the public interest requires to protect the health of persons," even if that means that "industries will be asked to do what seems to be impossible at the present time."[footnote: 102 Whitman v. American Trucking Ass'n, 531 U.S. 457, 491 (2001) (Breyer, J., concurring); see also, e.g., Union Elec. Co. v. EPA, 427 U.S. 246, 256-57 (1976) (explaining that certain provisions of the Act are "expressly designed to force regulated sources to develop pollution control devices that might at the time appear to be economically or technologically infeasible") (1976).] The Environmental Appeals Board has also long emphasized the need to continuously improve air pollution controls under the Clean Air Act, emphasizing the need for "analytic rigor" in the search for the best control technologies.[footnote: See, e.g., In re: Northern Michigan Univ., PSD Appeal No. 08-02, 2009 WL 443976, slip op. at 11-16 (EAB Feb. 18, 2009) (collecting cases and discussing the careful analytic approach required to ensure that technological controls steadily improve).] The proposed rule's provisions do not provide for this sort of steady improvement. Instead the rule leaves the divide between sources using estimates and those using direct measurement indefinitely intact and so fit poorly into this decades-long tradition. Initial implementation choices provide no justification for this long-term mismatch. As EPA is aware, "a wide range of future policy options" to control GHGs are being debated in the Agency and before Congress. The reporting rule is designed "for use in developing climate policies" and GHG emissions reported under it are to "have a sufficient degree of certainty such that they could be used to help develop a potential variety of programs." The estimation/measurement gap may undermine this goal. That it does so is particularly clear in the context of a cap-and-trade scheme, which is regularly proposed as an efficient GHG emissions control tool. Carbon markets are sensitive to the quality of emissions reports. The implementation phase of the European Union Emission Trading System ('EU ETS') puts this sensitivity in dramatic perspective. The system began operation before reporting data was

released. When emissions data were released, showing lower emissions than had been expected, prices plunged. “In the space of less than a week, prices fell from over 30 to about 20 for second period [allowances] and to 15 for trial period [allowances].” Getting the data right stabilizes pricing. “Once the emissions reports . . . provided reliable data to calibrate expectations, later reports ha[d] much less if any effect on pricing.”[footnote: See A. Denny Ellerman & Paul L. Joskow, Massachusetts Institute of Technology, The European Union’s Emissions Trading System In Perspective, Pew Center for Global Climate Change (May 2008) (Ex. 17).; See id. at 13-14.’ 108 Id. at 14.] These results are not surprising – investors need to know the value of their assets to invest intelligently – but they provide an important caution: An ill-informed market is an unstable market. In light of this experience, the estimation/measurement gap raises two related sets of concerns. First, in categories where direct measurement is not used at all, investors will have less reliable data. Allowance allocations based on reported emissions in those categories may thus be less reliable. Second, within categories where some sources report using direct measurement and some with emissions estimates, the reliability, and hence the value, of reported emissions may vary by the reporting method. Reported emissions of (say) 1 ,000 metric tons of CO_2 verified with CEMS may be of more value than the same emissions reported using less reliable reporting approaches. Thus, units of currency with the same face value may have significantly different actual values, based on the reliability of the reported emissions. It is difficult to say how the market will react to this sort of masked variation, but its effects are unlikely to be positive. If allowances are identified based on reporting method, investors may favor direct measurement-verified allowances, thus creating emissions reduction incentives that vary by monitoring method, rather than ease of reduction, distorting the market. Alternately, if reporting methods cannot easily be traced to a given investment, the entire market will become less certain and so, potentially, less stable and correspondingly less effective at bringing about steady GHG reductions. Similar problems – although perhaps less acute – could crop up in other emissions reduction programs, such as a carbon tax system, or a system of direct source-specific control technology requirements. In each case, reductions from some sources will be less certain than reductions from others, making it more difficult to reduce emissions effectively and efficiently across a given industrial sector and the economy as a whole. EPA should not set up these long-term problems. Closing the gap between sources using measurement and estimation techniques, if done transparently, and with ample time for a potential carbon market to react, will produce more stable, and more reliable emissions reductions. Based on the EU ETS experience, it appears that when “the data releases [as would occur as facilities upgrade reporting technologies and adjust emissions reports] are frequent and the adjustment period long, the adjustment in the level of emissions can be spread over a longer period of time and the immediate price effect will be smaller.” [footnote: See id.] A market could readily be designed to take steady improvements in accuracy into account – and, indeed, a small percentage of the proceeds from carbon trading or from a carbon tax could be funneled back into the reporting system to produce steady improvements in data quality which, in turn, would improve the stability of the entire regulatory system. At present, of course, EPA is not designing a carbon market. But it is designing the foundation for one – or of some other regulatory scheme that will similarly require transparency and certainty in emissions reporting. It is also creating a rule to assist policymakers and the public and should attempt to provide the best quality data for that purpose. So, it should ensure that the reporting system is consistent with those possibilities and with the broader structure of the Clean Air Act. Indeed, EPA scientists already recognize the importance of these steps. In a recent article, scientists in the Clean Air Markets Division reviewed the Acid Rain Program and drew similar conclusions. As they put it, “[a] key element of the foundation of the EPA cap-and-trade program is the requirement to obtain and report accurate emissions data by continuously monitoring key parameters, such as pollutant concentration and stack gas volumetric flow rate”; it was also significant that “[a]ll of the

sources in the trading program are required to monitor and report emissions according to a single set of rules." That design allowed for "an unparalleled level of performance," with a stable and effective emissions market.[footnote: Schakenbach et al., supra n. 68, Fundamentals, at 1,576.; See id. at 1,577.] EPA should implement these lessons of the Acid Rain Program here. In many if not most sectors, EPA should improve the reporting rule by committing to keeping sources moving towards direct measurement in particular, and towards the most accurate possible methodology in general. We recommend three types of modifications to address these challenges. First, EPA should clarify and broaden direct measurement requirements. Second, EPA should include new facility standards in the rule, requiring the best monitoring method available. Third, EPA should employ an 'upwards ratchet' data quality reporting for existing sources, designed to keep them moving along the path towards high quality data.

Response: EPA did not add provisions to the rule requiring the updating of monitoring methods or the phasing in of CEMS or other monitoring methods. We agree that revisions to the rule may be necessary in the future to make improvements to the quality of data collected, including to incorporate new facility standards, or to adapt the rule to meet the requirements of new legislation. Because the purpose of this rule is to collect data for use in developing future GHG policies and programs, and due to the uncertainty over when new legislation will be enacted and what regulatory approaches will be adopted, we believe that phasing of CEMS is not necessary at this time. The monitoring methods included in the reporting rule are sufficient to provide accurate and reliable data for informing policy decisions and for developing a number of regulatory programs. As new legislation is enacted or new regulatory programs are developed, EPA plans to re-evaluate the reporting rule to ensure that the data collected by the rule is sufficient to meet the needs of any new regulatory program. If changes or improvements to methodologies are needed to implement the new regulatory program, revisions can be made at that time. .For additional information on our general approach to selecting monitoring methods, see the preamble for the response on the general monitoring approach.

Commenter Name: See Table 9
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0635
Comment Excerpt Number: 22

Comment: EPA has many opportunities to improve data quality across the group of existing sources as a whole. Initially, EPA should first consider simply requiring all existing sources to move to the highest tier of monitoring available in their category within a set period of time – perhaps within five years of the rule going into force. This approach would produce the most consistent data set by ensuring that all sources are generating data of comparable quality. If EPA does not set a timeline for improvement, though, it still should not simply allow existing sources to skate by using whatever monitoring technology they happen to be using when the rule goes into force (unless, of course, a given source is already in the top monitoring tier for its category). Instead, EPA should look to the system used by the European Union ('EU'), which is sensitively designed to produce steady improvements in data quality. Rather like the proposed rule, the EU system is divided into monitoring tiers, ranked by accuracy. The EU recognizes that not all sources may initially monitor in the top tier, but does not tolerate that situation indefinitely. Instead, the EU's monitoring and reporting guidelines provide that "[t]he highest tier approach shall be used by all operators to determine all variables for all source streams for all [large scale] installations. Only if is shown to the satisfaction of the competent authority that the highest tier approach is technically not feasible or will lead to unreasonably high costs (using the EU cost-

effectiveness rubric we explain above) may a next lowest tier be used." Further, the reporting entity must "without undue delay propose changes to the tiers applied" whenever accessible data changes, new emissions start, fuels or raw materials shift, or it detects errors in the methodology it has been using. [footnote: EU Commission Decision 2007/589/EC, Annex I, § 5.2; see also § 4.3(n) (providing that a given source's "monitoring methodology shall be changed if this improves the accuracy of the reported data, unless this is technically not feasible or would lead to unreasonably high costs).; See id. at § 5.2.] The British Environment Agency has formalized this process by requiring sources which are not using the highest monitoring tier available to annually submit a form in which they justify that choice. [footnote: See ETS 5 Annual Report on Improvements Towards the Use of the Highest Tier Approach for Monitoring of Major Source Streams, available: http://www.environment agency.gov.uk/static/documents/Business/ets5_1896958.xls; See also Rob Gemmill, Environment Agency for England & Wales, Continuous Improvement of the Monitoring Methodology: UK Best Practice, Presentation given at EU ETS Compliance: The Way Forward (Sept. 2008), available: http://ec.europa.eu/environment/climat/emission/pdf/way_forward/ws3/r_gemmill_wsiii.pdf (Ex. 20).] The facilities must apply the accuracy- based cost/benefit analysis discussed above to support their conclusions. This sort of approach – which bears a family resemblance to the best available control technology analyses American sources perform during new source review – would both provide incentives for improvement and create a larger market for low-cost emissions monitoring technology. EPA should therefore add a similar 'upwards ratchet' for data quality to the proposed rule. For categories where CEMS is required, sources should move towards CEMS as the highest tier. For other categories, sources should be required to move towards the highest monitoring tier available. While such improvements will not be cost-effective for all sources, requiring careful annual consideration of that question will ensure that no source simply sits on its hands when it could be cost-effectively improving the reporting system.

Response: Please see the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 16 for the response to the comment on phasing-in more rigorous monitoring methods.

Commenter Name: Craig Holt Segall
Commenter Affiliation: Sierra Club
Document Control Number: EPA-HQ-OAR-2008-0508-0228n
Comment Excerpt Number: 7

Comment: The next point to think about are ways to ensure that we don't lock in substandard or second vats monitoring systems. As the rules are currently set up, continuous emission monitoring is similar and is required if you are already doing continuous mission monitoring with some exception, and the secondary modeling folks were not, were very discrete data collection. That's probably fine. Serves the general matter in the first instance. As you go to five, ten years down the road, you want to be continuously improving data quality. One thing that is worth thinking about, both as to how monitoring is going, to what gases are being covered and other greenhouse factors. But carbon being an obvious one. Finally, the threshold is worth thinking about ways to build an upward ratchet for consideration of improvements into the rule. How do we ensure that the monitoring technology the people begin with doesn't just become an entitlement and make sure it moves steadily upward. One way, I think that is quite important to think about that, is to the extent that those flights aren't somehow written into the rule, you wind

up with a series of time consuming public discussions every time you want to improve monitoring quality. Tying that to facility upgrade might be one way to approach the problem.

Response: Please see the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 16 for the response to the comment on phasing-in more rigorous monitoring methods.

Commenter Name: Noor Osman
Commenter Affiliation: National Petrochemical & Refiners Association
Document Control Number: EPA-HQ-OAR-2008-0508-0220.1
Comment Excerpt Number: 7

Comment: Ideally, the use of CEMS in all facilities should be required through this regulation. However, CEMS are not available for all the GHGs that must be reported. In addition many facilities have not installed CEMS. Due to this fact, the EPA has recommended utilizing facility specific GHG calculations. Although this is a valid compromise, it would be most effective if the EPA included a provision that allowed for the phasing in of CEMS (or other rigorous direct measurement methods) at all facilities over a period of time. There are several reasons for this recommendation, the first is the issue of consistency and accuracy; if different facilities approach the same calculation in a different method, it is entirely plausible that facilities with the same emissions levels will report different data. This will likely occur despite the EPA's requirement that calculations be submitted for verification along with the reports due to the sheer volume of industries involved. This rule requires approximately 13,000 facilities to report their emissions levels, and unless the EPA has accounted for the time and effort necessary to verify the calculations involved—there most likely will be inconsistency across facilities, and consequently the data gathered will be inaccurate. Another reason for the EPA to phase in the use of direct measurement methods (with the caveat that CEMS or other measurements are subjected to strict quality assurance processes) comes from the evaluation of the SO2 and NOx emissions trading programs. Studies indicate that the "regulated sources have provided EPA with highly accurate, and reliable emissions data, and have achieved a nearly perfect compliance record." As the goal of the EPA in developing this rule is to gather accurate data, the phasing in of accurate direct measurement processes (including CEMS) should be considered seriously. Phasing in of this requirement will allow the costs to be spread over a period of years, while simultaneously allowing the EPA to eventually collect extremely high quality data. In addition, it is important to note that the issues that the EPA hopes to bypass by avoiding direct measurement, including the development of cooperative processes with the regulated community as well as consistent quality control and verification processes, are necessary aspects in the infrastructure of any emissions trading system. Thus, the integration of direct measurement into the rule would only allow for a smoother transition into an emissions trading system.

Response: Please see the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 16 for the response to the comment on phasing-in more rigorous monitoring methods.

Commenter Name: See Table 9
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0635
Comment Excerpt Number: 19

Comment: EPA's apparent approach ignores some of the principles distinguishing estimation from direct measurement that we discuss above. Because solid fuels and municipal solid waste are quite variable and so are more difficult to describe with engineering models, emissions from them are better measured through direct measurement than estimated with calculations. Larger sources, and sources operating for longer periods, also are strong candidates for CEMS, as their emissions are likely to be more significant, and so are important to accurately characterize. The rule currently creates an inappropriate incentive to avoid direct measurement. Because having CEMS is the primary trigger for measuring GHGs with CEMS, new sources may opt purposefully to avoid CEMS requirements to avoid this regulatory trigger. EPA should be encouraging a move towards accurate measurement, not away from it. It should also work to ensure that the estimation/measurement gap closes over time, as new sources come online. We therefore suggest that EPA should require new facilities to use the best monitoring method in their industrial category. Where some facilities in a category are required to use CEMS, for instance, then all new facilities would be required to do so. These large industrial categories with CEMS requirements include ammonia manufacturing, cement production, ferroalloy production, glass production, hydrogen production, iron and steel production, lead production, lime manufacturing, petrochemical production, petroleum refineries, phosphoric acid production , silicon carbide production, titanium dioxide production, and zinc production. New facilities in these categories should be required to have all appropriate GHG CEMS before they begin operating. In other categories, whose monitoring tiers do not include a CEMS requirement, EPA should similarly require new facilities to enter only at the highest monitoring tier. In these classes, EPA should also consider whether to impose a direct measurement requirement as the highest tier, at least for new facilities. If a CEMS requirement is impracticable, EPA should consider other measurement methods, including fenceline methods like the DIAL and SOF techniques. Such a new facility requirement would be entirely consistent with existing Clean Air Act programs. Under the New Source Performance Standards of 40 C.F.R. Part 60, new sources, including some in categories covered by the proposed reporting rule, are required to install CEMS for various pollutants and for opacity. These industries include, for instance, fossil-fuel steam generating plants, Portland cement plants, petroleum refineries, and primary lead smelters. Industry, in other words, is used to building new facilities only with the best possible monitoring equipment. EPA should continue that tradition here. It is, therefore, our strong view that those new facilities covered by the reporting rule in these categories should be required to install CEMS to monitor each GHG they are required to report. Facilities in other categories should likewise use the best monitoring tier the rule provides.

Response: Existing, new and modified emissions units that are required to install CEMS to comply with other federal regulations are required to use CEMS to monitor their CO_2 emissions. For the response to the comment on phasing-in more rigorous monitoring methods, see the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 16. For the response to the comment on using remote sensing devices, see the response to comment EPA-HQ-OAR-2008-0508-0601, excerpt 1, below. For additional information, see the preamble for the response on the general monitoring approach.

Commenter Name: Robbie LaBorde
Commenter Affiliation: CLECO Corporation (CLECO)
Document Control Number: EPA-HQ-OAR-2008-0508-1566
Comment Excerpt Number: 2

Comment: It is also recognized by Cleco that MRGG could become the basis of the monitoring requirements of a future green house gas cap and trade program in this country. Cleco would like to express concern about any rile designed like MRGG, which involves numerous measurement approaches between sources and resulting inequity, becoming the basis for what could be millions of dollars in transactions each year.

Response: As noted by the commenter, the intended purpose of this rule is to collect data for use in developing future GHG policies and programs. The use of different monitoring approaches for different types of facilities could be equitable provided the GHG emissions are verifiable and the monitoring methods used have the same level of accuracy. This approach is consistent with many U.S. and international programs, including the European Union's Emission Trading System, which relies on a variety of monitoring methods to determine GHG emissions. In selecting the monitoring approaches for each source category, EPA specifically selected monitoring approaches that result in high quality data. For most source categories, emissions are calculated using facility-specific factors (such as carbon content and flow rate) that provide relatively high quality data. For example, many source categories are required to use a mass balance approach in which they must use data collected from calibrated flow meters or other monitors, and regular sampling and analysis of the carbon content of feedstocks, products, and byproducts (as applicable). EPA also included quality assurance, missing data, recordkeeping, and compliance enforcement provisions, which will ensure affected facilities report accurate and reliable data in accordance with the methods specified in the rule.

The diversity of source categories included in this rule make a single approach to monitoring impractical. For example, direct measurement of emissions is not possible for all source categories because CEMS are not available for many GHGs that must be reported. Direct measurement is also impractical for source categories where the GHG emissions are not vented through a stack (e.g., landfills). The mass balance approach cannot be used for source categories where GHGs are produced as byproducts (e.g., adipic acid manufacturing).

The specific requirements of any future regulatory program are not known at this time. Congress is currently considering a number of possible approaches to GHG reduction. No matter what approach is ultimately selected, EPA will review the reporting requirements of this rule to ensure they are appropriate and consistent with any new regulatory program. If changes or improvements to methodologies are needed to implement the new regulatory program, revisions can be made at that time. For additional information on our general approach to selecting monitoring methods, see the preamble for the response on the general monitoring approach. For information on the method selected for a specific source category and changes made since proposal, see the technical support documents, preamble sections and comment response volumes for the source category.

Commenter Name: Gary F. Lindgren
Commenter Affiliation: Calumet Specialty Products Partner, L.P.
Document Control Number: EPA-HQ-OAR-2008-0508-0626.1
Comment Excerpt Number: 11

Comment: EPA needs to make it explicit that emission control type CEMS (e.g., for NOx) and CEMS for operational control purposes do not have to be retrofitted for GHG monitoring purposes.

Response: Please see the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding direct measurement. The final rule has been clarified in response to comments to better specify when CO_2 CEMS must be used. For further information on use of CEMS, see the preamble sections, comment response document volumes, and final rule text for subpart C (General Stationary Fuel Combustion) and the other relevant subparts.

Commenter Name: Keith Overcash
Commenter Affiliation: North Carolina Division of Air Quality (NCDAQ)
Document Control Number: EPA-HQ-OAR-2008-0508-0588
Comment Excerpt Number: 21

Comment: We agree with simplified emissions calculation approaches for facilities subject to the rule but that have relatively small sources. Adding CO_2, CH_4 and N20 emission factors for additional fuels would go a long way to that end. Another example is the thermal oxidizer emissions which should either be exempted or for which a simplified method should be developed for computing emissions associated with the VOC destruction.

Response: EPA retains a simplified emissions calculation approach in the final rule for smaller sources of GHG emissions, such as small stationary combustion units. EPA has added emissions factors for additional fuels in the final rule and is allowing more combustion units to use the simpler Tier 1 and 2 calculation methods, and has also made changes addressing thermal oxidizers. For additional information on the new emissions factors and provisions in the rule for stationary combustion sources, see the General Stationary Fuel Combustion Sources section in the preamble and the comment response volume for subpart C.

Commenter Name: Bruce A. Wald
Commenter Affiliation: ITT Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0601
Comment Excerpt Number: 1

Comment: With respect to Greenhouse Gas (GHG) emissions, ITT has considerable expertise using remote sensing technologies to detect and quantify various greenhouse gases. Remote sensing technologies are presently commercially available from a variety of suppliers on several platforms. In general, the application of remote sensing is experiencing rapid growth, new applications and improved performance. The detection and quantification of GHG emissions in particular is one such application with pronounced growth. As a monitoring technology, remote sensing has two inherent capabilities. The first is being able to provide either a periodic snapshot or a series of data over a longer period of time. The second is the ability to provide data that can be easily combined with data from other sources. This enables better information, integration, validation and verification of emission inventory reports. As currently written, the proposed rule on GHG fugitive emissions focuses almost entirely on labor-intensive, component-level calculations. Of note, infrared remote detection devices are allowed for component-level leak detection. In contrast, facility-level remote sensing provides a viable alternative to the component-by-component approach to emission inventory reporting. Our observation is that the accuracy of the emissions inventory will be enhanced over time using facility-level remote sensing methods for the detection, location and calculation of the required GHG data. By including the facility-level remote sensing option in the final rule, both Reporters and the EPA would benefit as follows: (1) Reporters will have more choices and thus greater flexibility to

decide the most cost-effective method to meet the requirements; (2) Reporters will be empowered to migrate from a traditional, component-based technique to an integrated, total-facility approach; (3) Reporters can realize higher accuracy, traceability and comparability of the emission inventories; and (4) EPA will further promote the use of green technology. Our recommendation is to expand the allowed use of the remote sensing option to directly detect, measure, and quantify facility-level emissions across all applicable sectors affected by this proposed rule. Our recommendations align with and are supported by the extensive work that has been sponsored by EPA, DOE, DOT, other U.S. agencies, international institutions as well as research conducted by academia. In addition, ITT's practical experience using airborne remote sensing throughout North America to perform natural gas system leakage surveys, landfill emission monitoring and coal bed methane exploration supports our recommendation.

Response: EPA specifically designed the reporting program to provide not only facility-wide emissions data, but also data broken out by source category and, for many source categories, at the process line or unit level. Where feasible, EPA has selected methods that will determine the emissions for individual process lines and emissions units so that EPA can use the collected data to verify the reported facility-level emissions data, assess the contribution of individual processes and units to overall GHG emissions, better understand the variability in emissions between facilities, and analyze the factors that influence GHG emissions. For most facilities, the remote sensing methods recommended by the commenter would not provide the accurate process and unit-level data necessary to make these determinations. In addition, depending on the remote sensing methodology and the source characteristics, proper setup, operation, and modeling to relate remote sensing concentrations to actual mass emissions can be complex and uncertain.

Commenter Name: See Table 9
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0635
Comment Excerpt Number: 15

Comment: Measurement choices principally determine data quality. As a general matter, and as EPA recognizes in the Regulatory Impact Analysis ('RIA') for this rule, well-calibrated and maintained continuous emission monitoring systems ('CEMS'), and other forms of direct measurement devices, produce the lowest uncertainty in most emissions measurements. But, according to the preamble, in attempting to "strike[ ] a balance between data accuracy and cost," the proposed rule requires CEMS only for "facilities that already are required to collect and report data using CEMS under other Federally enforceable programs." Other facilities, the preamble continues, are given the choice to use CEMS or " facility-specific GHG calculation methods." Broadly speaking, the proposed rule utilizes three different methodologies for emissions reporting. First, in a few limited instances for small sources, it allows the use of default emissions factors. An 'emission factor' is a conversion factor used to "relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant"[footnote: U.S. EPA, Office of Air Quality Planning and Standards, AP-42 Fifth Edition, Compilation of Air Pollutant Emission Factors ('AP-42') Introduction at 1 (Jan. 1995); see also Intergovernmental Panel on Climate Change, Amit Garg et al., Introduction to Volume 2: Energy, in 2006 IPCC Guidelines for National Greenhouse Gas Inventories ('2006 IPCC Guidelines') 1.6-1.8 (discussing factors used in IPCC monitoring tiers).] (one might, for instance, derive a factor for converting tons of coal burned into tons of GHG emitted, or for converting tons of coal mined into tons of GHG emitted as a result of that mining). Default factors are constructed from national averages or other large pools of data. Second, the rule

employs a wide range of facility-specific input-based measures, frequently relying on emission factors constructed for a specific source. Third, in some instances the rule requires facilities to use CEMS and other forms of direct measurement to quantify emissions. Experience with other emissions measuring programs provides some general principles for evaluating these approaches. Generally, accuracy and precision increase as methods move towards direct measurement. Initially, default emissions factors should be viewed with considerable caution. Because using default emission factors is often somewhat cheaper and easier than directly measuring emissions, these approaches are common in reporting rules, both for GHGs and other pollutants. Because they are commonly used, and even acceptable in some circumstances, their drawbacks are also well-known. On this point, EPA's cautious description of default factors in its emission factor compilation, AP-42, is worth repeating: Average emissions differ significantly from source to source and, therefore, emission factors frequently may not provide adequate estimates of the average emissions for a specific source. The extent of between-source variability that exists, even among similar individual sources, can be large depending on process, control system, and pollutant. Although the causes of this variability are considered in emission factor development, this type of information is seldom included in emission factor test reports used to develop AP-42 factors. As a result, some emission factors are derived from tests that may vary by an order of magnitude or more. Even when the major process variables are accounted for, the emission factors developed may be the result of averaging source tests that differ by factors of five or more. [footnote: 59 AP-42, Introduction at 3]. Thus, default factors mask a high degree of source-specific variability, and so can be substantially inaccurate for individual sources. As EPA explained, "source-specific tests or continuous emission monitors can determine the actual pollutant contribution from an existing source better than can emission factors," and, indeed, a recent EPA study concluded that many emissions factors produce estimates tainted by considerable uncertainty.61 EPA unsurprisingly recommends that default emissions factors generally be used only as "a last resort." [footnote: Id. at 3; See RTI International, Emissions Factor Uncertainty Assessment (Feb. 2007) (Ex. 8); Id. at 3-4]. The Intergovernmental Panel on Climate Change ('IPCC') guidance on national GHG inventories is generally in accord, classing generic fuel-based emissions factors, or factors based upon national averages, as lower-quality methods. [footnote: See 2006 IPCC Guidelines at 1.6-1.764]. On the strong end of the scale, direct measurement technologies can provide every high quality data. The best known of these technologies, CEMS, have been in use since the mid-1970s and are able to directly sample and characterize emissions. [footnote: See generally James A. Jahnke, Continuous Emission Monitoring (2nd edition) (2000)]. Because of their high accuracy and precision, CEMS are widely required in EPA regulations, including in the Acid Rain Program, which is implemented under Title IV of the Clean Air Act, and in many New Source Performance Standards. Measuring stack emissions with CEMS becomes more difficult as possible emissions outlets proliferate. In highly complex systems, where gases may escape through many vents, as well through leaks, it may be more practical to directly measure emissions at the border of a site, using so-called 'fenceline' technologies, some of which have already been used to measure GHGs like methane. Many of these technologies rely on differences between the ways various gases absorb energy to characterize gas concentrations along a beam of light tracing a site's 'fenceline.' Differential absorption lidar ('DIAL'), for instance, calculates gas concentrations based upon the way molecules in the air react to a laser beam fired through the area being measured. [footnote: 65 See, e.g., NOAA, Differential Absorption Lidar, available at:http://www.esrl.noaa.gov/csd/instruments/lidar/dial.html (Ex. 9)]. Solar Occultation Flux ('SOF') measurement works similarly, but relies on the sun as the light source.[footnote: See, e.g., J. Mellqvist et al., The Solar Occultation Flux Method, a nouvelle technique for quantifying fugitive gas emissions, available at:http://www.fluxsense.se/reports/paper%201%20final%20lic.pdf (Ex 10)]. Like CEMS, such

technologies can achieve greater accuracy than emissions estimates. Finally, in between direct measurement and default emissions factors, lies the large universe of site-specific calculation approaches and site-specific emissions factors, which rely on direct measurement of at least some parameters at a given facility and upon engineering data. These measurements are then used to calibrate emission factors or other estimation techniques. These methods, if performed carefully, significantly improve upon the accuracy of default emissions factors but, because they account poorly for malfunctions, leaks, and some complex processes, are not generally equivalent to direct measurement. They must, therefore, be carefully applied. A chart EPA prepared for its AP-42 compilation [footnote: 67 AP-42, Introduction at 4] provides a useful way of thinking about these distinctions: [see submittal for chart showing risk sensitivity emission estimation approaches.] Emission factors – even default factors – can sometimes produce reliable emissions estimates, but the spread of possible outcomes is very large. Sometimes, an emission factor may produce reliable results; other times (perhaps most times) it may not. As methodologies become more source specific and more measurement-based, the chance of producing high quality data rises. Site-specific calculation methods generally trump default factors. And CEMS (and other direct measurement technologies) yield data that is more likely to be accurate and precise than default factors. The task, then, is to develop guidelines for when each technique should be used. Although direct measurement is generally preferable to emissions estimations, in some circumstances the use of estimation techniques leads to especially inaccurate and imprecise data. Experience with emission estimation approaches provides some general principles for circumstances in which this is the case. These lessons include: First, because emission factors (and other estimation approaches) are based on modeling how a given process or facility works, they are most likely to generate precise and accurate results when applied to simpler processes and more uniform fuels. Thus, one might expect estimates of emissions from a natural gas-fired power plant, which relies upon a relatively uniform fuel being supplied at a uniform feed rate, to be better characterized by estimation methods than emissions from a plant burning coal or municipal solid waste, which are significantly more variable fuels and are burned in more complicated systems. EPA follows this approach in the successful Acid Rain Program. Because this program "has accounted for the largest quantified human health benefits of any federal regulatory program implemented" in the last fifteen years, with benefits exceeding costs by at least a 40:1 ratio, its lessons are worth studying.[footnote: See John Schakenbach, Robert Vollaro, & Reynaldo Forte, U.S. Office of Atmospheric Programs, Fundamentals of Successful Monitoring, Reporting, and Verification under a Cap-and Trade Program ('Fundamentals'), 56 J. of the Air & Waste Mgmt. Ass'n 1576, 1576 (Nov. 2006) (Ex. 11).] Under that program, oil- and gas-fired plants may report SO2 emissions using engineering calculations based upon fuel flow and composition, but coal-fired plants are required to use CEMS. Thus, as processes grow more complex, and fuels more variable, CEMS requirements tighten. As EPA explains in its 'plain English' guide to the regulation, with a very few exceptions, "[i]n general, if a unit is coal-fired or combusts any type of solid fuel, the basic continuous monitoring provisions . . . require the use of CEMS for all monitored parameters." [footnote: U.S. EPA, Plain English Guide to the Part 75 Rule at 9 (2005). It is true that the Acid Rain Program does allow coal plants to report CO_2 emissions using engineering calculations rather than CEMS if they so choose. See 40 C.F.R. § 75.10(a)(3). If that choice is appropriate for the Acid Rain Program, where CO_2 emissions are a relatively ancillary concern, it is certainly not so for GHG reporting, as we discuss below. In any event, no coal-fired plants presently use engineering calculation to report its emissions. See id. at 18 n. 11.] EPA staff scientists have also made this point, writing: EPA believes that SO_2, NOx, and CO_2 emissions from a coal-fired source will be more accurate if measured by CEMS because of the variable composition of coal and the potential inaccuracies of many coal consumption techniques.[footnote: 72 Schakenbach et al., Fundamentals, supra n. 68, at 1,582.] This preference for direct measurement for solid

fuels and complex systems should continue in the new GHG reporting system. Second, because estimation approaches tend to assume that a plant is smoothly functioning, without leaks or malfunctions, they may underestimate emissions. This problem grows more acute as systems grow more complex and harder to maintain, and process emissions grow correspondingly more diverse and more difficult to model. As AP-42 explains, "[p]arameters that can cause short-term fluctuations in emissions are generally avoided in testing and are not taken into account in test evaluation,"[footnote: 73 AP-42, Introduction at 4.] sources whose 'short-term fluctuations' produce significant emissions are likely to be poorly characterized. Petroleum refineries provide a useful case study in this context. These facilities are extraordinarily complicated and are also prone to malfunctions and fugitive emissions. Two major refinery studies conducted by the Texas Commission on Environmental Quality document the stark divergence between emissions estimates and reality.[footnote: See generally Alex Cuclis, Houston Advanced Research Center, Underestimated Emissions Inventories (2009) (canvassing studies) (Ex. 12).] These two studies were conducted in 2000 and 2007 by hundreds of scientists and were designed to better characterize air quality in the greater Houston area. Among other analyses, they directly measured area volatile organic compound emissions, using both the SOF technique and laser spectroscopy from aircraft, and compared those measurements to inventory estimates. The results were striking: The 2000 study determined that refinery inventory estimates understated highly reactive volatile organic compound emissions by one to two orders of magnitude. Seven years later, despite Commission's best efforts to improve its measurements and reduce fugitive emissions, inventory estimates were still off by an order of magnitude. [footnote: 75 See generally Ellis Cowling et al., Final Rapid Science Synthesis Report: Findings from the Second Texas Air Quality Study (2007), available at: http://www.tceq.state.tx.us/assets/public/implementation/air/texaqs/doc/rsst_final_report.pdf (Ex 13).; See id. at 46-56.; See id. at 53.; See id. at 54-55.] much of the difference seems to arise from large-scale leaks, which are not well-captured by emissions factors. [footnote: See Cuclis, supra n. 74, at 3-4] As methane and other GHGs may seep out of the same sort of leaks producing volatile organic compound emissions in the TCEQ studies, these results are troubling. And, indeed fenceline measurements of Canadian natural gas processing plants discovered methane emissions roughly an order of magnitude higher than estimated. [footnote: See Allan K. Chambers et al., DIAL Measurements of Fugitive Emissions from Natural Gas Plants and the Comparison with Emission Factor Estimates (also finding fenceline measurements of Canadian natural gas processing plants to be roughly an order of magnitude higher than estimated emissions of volatile organic compounds and benzene) (Ex 14).] Other refinery studies, comparing fenceline data to engineering estimates have come to similar conclusions, documenting estimated emissions as much as 20 times lower than measured emissions. [Footnote: See Cuclis, supra n. 74, at 10 (summarizing the results of fenceline fugitive emissions studies at 35 refineries and find in the measured amounts 5-20 times higher than the inventory estimates)]. In view of these results, emission factor estimates for sources with many complex processes, and with a high potential for fugitive emissions, should be treated with considerable caution, be appropriately discounted, and be disfavored if direct measurements can cost-effectively be made. As we later discuss, we strongly urge EPA to establish programmatic reviews of protocols using such approaches in this context, and to move these sources rapidly towards direct measurement. Third, there is growing evidence that GHG emissions from power production are characterized differently by calculation methods than they are by direct measurement. Generally, calculation approaches produce significantly lower emissions figures than direct measurement. The leading study on this point concerns power plant CO_2 emissions. Power plants within the Clean Air Act's Acid Rain Program report CO_2 emissions to the EPA; essentially all coal-fired plants do so using CEMS, while most oil- and gas-fired plants use site-specific emissions calculations. The Energy Information Administration ('EIA') also calculates

emissions for these plants, but uses fuel consumption data rather than the CEMS information. These parallel data sets allowed US Geological Survey scientists to compare measured and estimated emissions for 2900 plants, including the 828 plants which report using CEMS measurements (which are, almost entirely, coal plants).[footnote: see Katherine V. Ackerman & Eric T. Sundquist, Comparison of Two U.S. Power-Plant Carbon Dioxide Emissions Data Sets, 42 Environmental Science & Technology 5,688, 5,688 (June 2008) (Ex. 15); See id. at 5,689.] They documented significant divergences between the two data sets. The study measured both the average signed relative difference between the data sets and the absolute difference between them. Most strikingly the average signed relative difference between measured and estimated CO_2 emissions for plants using CEMS was 4.6% and the absolute value of the relative difference between the matched pairs was 17.1%, indicating that, despite the comparatively small signed difference, there were large differences (both positive and negative) between measured and estimated emissions. Put a bit differently, not only were directly measured emissions generally higher than estimated emissions, the total difference between the two methods was even larger. The study authors summed up their results as follows: Plants that use CEM methods in eGRID [the EPA's system] and fuel calculations in EIA had systematically higher emissions in eGRID, both at the individual plant level and conterminous U.S. total level. Because conterminous U.S. total power-plant emissions were dominated by large coal-fired plants that use CEM systems, resolving those differences would be an efficient way to improve accuracy and reduce uncertainties in inventories of national greenhouse gas emissions.[footnote: Id at 5,689-90 & Table 1. The distinction between the two measures is between an average signed difference – which is generated by adding up all the paired differences, positive or negative (e.g., -5~5~1 =1) and dividing by the number of data pairs – and the average absolute difference, which is calculated by adding the absolute value of those differences (e.g. 5~5~1=11), and so measures the total variation between the pairs because oppositely-signed differences do not cancel each other out. ; Id. at 5,692] A second, smaller study, canvassing several coal-fired plants and a gas- and oil-fired boiler found similar results. For one 500 MW bituminous boiler, flue gas CO_2 measurements were not only 15% higher than estimated emissions, they were not even correlated with emissions estimated using engineering calculations. In another, measured emissions were between 21% and 26% higher than estimated emissions. The study's authors suggested that much of this uncertainty was generated by the scales used to measure the coal, which are located in line with coal feeding systems, and so cannot be calibrated without slowing plant operations.[footnote: 87 See Scott Evans et al., How Reliable are GHG Combustion Calculations and Emission Factors?, Extended Abstract #57, First International Greenhouse Gas Measurement Symposium; (Mar. 22-25, 2009) (Ex. 16); 88 Id. at 5; Id. Id. at 5. Interestingly, though, measured emissions were also higher for the gas- and oil-fired boiler, suggesting that emissions calculations may sometimes fail even for simpler sources. See id. at 6-7.] As a result, the fuel flow measures used to calculate emissions may often diverge significantly from actual flows, causing the emissions estimates themselves to miss the actual measured emissions values. This sort of difference – whether documented in individual plants or across a sector, as in the US Geological Survey study – should significantly influence EPA's decisions about how and when it allows emissions estimations, rather than direct measurement. Particularly for solid fuel-fired boilers, and for systems that have similar characteristics, emissions estimates may generate systematically low emissions values. Fourth, because of such divergences between estimated and measured data, and because estimates often sensitively depend upon the quality of input data, carefully and transparently characterizing the accuracy and precision of all data is centrally important. As the IPCC puts it, "[u]ncertainty estimates are an essential element of a complete inventory of greenhouse gas emissions and removals." [footnote: 91 See Christopher Frey et al., Uncertainties in Volume I: General Guidance and Reporting, 2006 IPCC Guidelines 3.6-3.9] Moreover, emissions calculations generally involve more uncertainty (generated both by

inaccuracy and imprecision) than direct measurements. Characterizing data quality is always important. But, as the above discussion of refinery and power plant emissions suggests, calculation methods are likely to create unnecessary uncertainty. An expert panel EPA convened concurred with this view in the Regulatory Impact Analysis for the proposed rule. The panel consistently viewed uncertainties associated with CEMS as lower than those connected with engineering estimates. For instance, the expert panel pegged uncertainties at 10% for calculated emissions from electricity generation, but at only 7% for CEMS measurement of those emissions; 18% for calculated petroleum refinery emissions but only 7% for CEMS; and 17% for calculated cement emissions, but, again, 7% for CEMS.92 As uncertainty increases, regulatory decisions become more difficult to make. Opting for direct measurement, rather than calculation methods thus allows for better designed regulations, more knowledge useful to all parties, and more efficient emissions reductions.

Response: EPA thanks the commenter for their input. Please see the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding direct measurement. Although we agree that CEMS typically provide the most accurate and reliable data, many of the alternative monitoring methods we selected rely on accurate mass balance calculations that use data collected from calibrated flow meters and frequent collection and analysis of inputs. Site-specific calculations of this type will provide data of sufficient quality and reliability for informing future policy decisions, while also not placing too great a burden on industry. In addition, the QA/QC, missing data, and recordkeeping requirements, combined with the verification procedures performed by EPA, will ensure the data are complete, accurate, and reliable. EPA agrees with the commenter that default emission factors are generally a less accurate method for determining emissions from specific units and processes at a specific facility. However, in particular cases, such as GHG emissions from combustion units burning fuels with little variability (e.g., natural gas), default factors in combination with data on the quantity of the fuel combusted (e.g., from fuel purchase records or calibrated flow meters) provide accurate emission estimates. EPA has restricted the use of default emission factors to those processes where they are reasonably accurate and where other more accurate methods were determined to place too great a burden on reporters. Default factors are used in some situation where estimated emissions will not significantly impact the overall GHG emissions from the emission unit. For example, N_2O and CH_4 emissions from all combustion units are calculated using default emission factors because the N_2O and CH_4 emissions are relatively low when compared to the CO_2 emissions. For additional information on the selection of the general monitoring approach, see the preamble response on the general monitoring approach. For information on the method selected for a specific source category and changes made since proposal, see the technical support documents, preamble sections, and comment response volumes for the source category.

Commenter Name: John Bosch
Commenter Affiliation: BoschEnviron
Document Control Number: EPA-HQ-OAR-2008-0508-0212i
Comment Excerpt Number: 1

Comment: I am urging the agency to insist upon actual continuous measurements of emissions, preferably at the fenceline using ground-based or airborne techniques because of the egregious mission of fugitive losses that we now have and cannot account for using normal emission factors. I notice emission factors are rather strewn throughout the estimate of the document, and I urge, again, the agency to reward measurements very highly. My history at EPA is I formulated the original emission inventory techniques for the criteria and air toxic pollutants down at

Research Triangle Park and actually managed the system, emission inventory system and compliance systems, for many years. More recently, the last 15 years, I was devoted to finding better ways, more accurate ways of measuring emissions, realizing that our emission factor techniques, which I actually had implemented AP-42, were very inaccurate -- very inaccurate, inevitably low, often to an order of one-tenth of the actual emissions. So the problem we see is specifically with the oil and gas, natural gas systems, the landfills, and with petroleum and the whole petrochemical industries. We will see losses, that the actual losses of methane in particular -- and I will concentrate just on methane -- will be maybe an order of magnitude, based on studies we have seen, at least that over and above what the emission factors are estimating. This is because of leaks, because of unknown breaks in the processes, because of start-up situations and general poor maintenance. The only way to determine what the actual emissions are is to actually do continuous fenceline monitoring, of which there are many techniques I will get to in a moment. So the problem is these estimate we now have using emission factors are inevitably low. They do not carry specific situations of that facility. So the pressures are there to use these factors because they are very simple and easy to use. Fugitive losses that are not controlled or not considered in these analyses and, as a result, do not represent, then they are just guesses. If you don't measure it, basically you are guessing. If you proceed with using generic emission factors, which we did back in the '70s and '80s, and have made costly mistakes in our strategies because of that, if you do that, it would be very difficult to change that, to go back to more difficult, more consistent ways of measurement. So I urge you to do it systematically in the present time in the Final Rule, original rule. Eventually, these on-site continuous measurements enable you to know what the short-term emissions are, the spikes you will see, which will be essential for modeling down the line and will be used, in essence, by the criteria and air toxins programs at the agency now underway. So integrate with these programs using full monitoring and measurement capabilities. The solution. I hosted a number of international conferences on remote sensing, using a lot of work with Department of Defense on studies and research to better these techniques over the past decade. Many of them are now in the commercial arena, can be used. I was recently chairing a session on greenhouse gas measurements and policy issues in San Francisco, and, in fact, there were just wonderful new techniques that were very efficient and effective in measuring emissions, both airborne and fenceline. So they do work, they are in existence, and I urge, again, the agency to go full bore, bite the bullet now, and insist on proper measurement.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility-specific calculation methods. The rule allows very limited use of default emissions factors as explained in the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 15. For the response to the comment on remote monitoring, see the response to comment EPA-HQ-OAR-2008-0508-0601, excerpt 1 above. Note that EPA is not going final with several subparts, including subpart W (Oil and Natural Gas Systems). As we consider next steps, we will be reviewing the public comments and other relevant information. Therefore, we are not responding to comments on subpart W at this time.

For additional information on our general approach to selecting monitoring methods, see the preamble response on the general monitoring approach. For information on the method selected for a specific source category and changes made since proposal, see the technical support documents, preamble sections, and comment response volumes for the source category.

Commenter Name: Michael Garvin
Commenter Affiliation: Pharmaceutical Research and Manufacturers of America (PhRMA)

Document Control Number: EPA-HQ-OAR-2008-0508-0959.1
Comment Excerpt Number: 18

Comment: Unlike many other regulations that contain specific methodologies to estimate emissions, the proposed GHG reporting rule does not provide a mechanism for facilities to petition EPA for approval of an alternative method. For example, if a facility is required by the current proposed language to calculate its carbonate emissions, the methods specified in the rule may be not as accurate as the use of process chemistry data would be. As currently written, the facility would be forced into using the methods outlined in the rule even if more accurate GHG emissions estimates could be obtained from the alternative method. Therefore, PhRMA respectfully requests that EPA include provisions in the rule to allow facilities to petition for the use of alternative calculation methods.

Response: The goal of the reporting program is to provide accurate, economy-wide data on GHG emissions to inform policy decisions and to aid in the development of future regulatory programs. The data collected under this rule will help EPA determine the relative emissions of specific industries, the variability in emissions across each source category, and the factors that influence GHG emission rates. To meet this goal, EPA determined that data collected using a consistent protocol would provide reliable data of known quality for each source category. EPA decided not to allow facilities to petition for approval of alternative monitoring methods because the reported data collected would not be comparable across all facilities in a source category. In addition, such a process would add complexity to implementation of the rule. For more information on use of other calculation methods, please see response to EPA-HQ-OAR-2008-0508-0533.1, excerpt 3. For additional information on our general approach to selecting monitoring methods, see the preamble response on the general monitoring approach. For information on the method selected for a specific source category and changes made since proposal, see the technical support documents, preamble sections, and comment response volumes for the source category.

Commenter Name: Linda Farrington
Commenter Affiliation: Eli Lilly and Company (Lilly)
Document Control Number: EPA-HQ-OAR-2008-0508-0680.1
Comment Excerpt Number: 14

Comment: Lilly strongly urges the Agency to provide a process for facilities to solicit and receive EPA approval to use alternative GHG emission calculation methods. The proposed mandatory GHG reporting rule includes very detailed and prescriptive methodologies for estimating emissions. These are likely to be sufficient in most cases, but we anticipate the need for additional flexibility for some industrial sectors. A few examples are provided below: 1. Data from an existing TOC CEMS installed on a thermal oxidizer could be used to estimate CH_4 emissions instead of conducting a stack test to establish a source specific CH_4 emission factor. 2. If default emission factors are not provided in the proposed rule, a facility should be allowed to use emission factors from other published sources (i.e., AP-42, EIIP, IPCC) in lieu of conducting stack testing to determine source specific emission factors. [Footnote: Emission Inventory Improvement Program (EIIP), Intergovernmental Panel on Climate Change (IPCC)]

Response: Please see the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding direct measurement. Regarding the request for a petition procedure, see the response to comment EPA-HQ-OAR-2008-0508-0959.1, excerpt 18. For responses to specific monitoring

methods and emission factors allowed for combustion sources, see the preamble section and comment response document for subpart C, general stationary fuel combustion sources.

Commenter Name: Shawne C. McGibbon
Commenter Affiliation: Small Business Administration (SBA)
Document Control Number: EPA-HQ-OAR-2008-0508-0979.1
Comment Excerpt Number: 4

Comment: The proposed GHG rule contains emission calculation formulas for various industries to use where direct emission measurements are not required. While these calculation formulas are generally a benefit to reporting facilities, some small entity reporters may have difficulty using them. Where small entities in a particular industry can benefit from a simplified emission estimation method, as developed by a trade association or other organization, EPA should have a process for approving that estimation method. EPA should therefore develop a petition procedure for approving alternative emission calculation methodologies where appropriate.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. However, EPA will provide outreach, training, tools, and compliance assistance to help potential reporters determine how to comply with the reporting requirements. EPA will also provide a mechanism for reporters to submit questions to EPA. See the preamble for the full response on the general monitoring approach and compliance assistance. Regarding the request for a petition procedure, see the response to comment EPA-HQ-OAR-2008-0508-0959.1, excerpt 18.

Commenter Name: Rich Raiders
Commenter Affiliation: Arkema Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0511.1
Comment Excerpt Number: 32

Comment: EPA has established a procedure, used in several MACT standards, for facilities to document and request authorization for site-specific compliance determinations for situations not addressed in the standard MACT requirements for a source category. EPA should utilize these concepts to address local, site-specific, situations where a standard monitoring regulation may not encompass all process realities, but where the PSM approach outlined above is not necessarily appropriate or available.

Response: The purpose of this rule is to collect data for use in developing future GHG policies and programs. To serve the intended purpose, the data must be collected according to consistent methodologies. Please see the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding direct measurement. EPA is not allowing facilities to petition to use an alternative monitoring approach as explained in response to comment EPA-HQ-OAR-2008-0508-0959.1, excerpt 18.

Commenter Name: Claire Olson
Commenter Affiliation: Basin Electric Power Cooperative
Document Control Number: EPA-HQ-OAR-2008-0508-0637.1
Comment Excerpt Number: 4

Comment: Due to the unique nature of the Great Plains Synfuels Plant (GPSP), it does not fit well into any of the specific source categories indentified in the proposed rule. Rather, portions or processes of the GPSP fit into a variety of specific source categories. There may be other facilities with a similar situation. Therefore, Basin Electric requests that an additional source category be set up for these types of facilities. The proposal would involve providing a facility-wide GHG emissions reporting based on a carbon balance of feedstocks, fuels, and exported products. These material systems are metered and have measurement systems along with chem-lab analyses of carbon content to provide an acceptable accuracy and inventory. This type of proposal is logical for facilities that have multiple emission sources and multiple internally generated fuels. The GPSP facility has multiple emission points with boilers, start-up boilers, superheaters, coal lock vents, flares, feed gas heater, solution regenerator vent, and fugitives. For example, the three industrial boilers have multiple fuels with varying feed rates of different gases and liquids, which are all byproducts of the gasification process. The mass balance methodology would provide a simplified and consistent basis to quantify GHG emissions. This approach would be much more cost-effective and provide results within the expected accuracy ranges. Many protocols recognize a de-minimis exclusion of around 5%. The mass balance methodology would capture all the GHG emissions from multiple sources and meet this type of + or – accuracy range. Facilities in this new category would not be subject to the reporting under the stationary fuel combustion sources and would not have to use the tier 3 emission accounting methodology. The specified mass balance methodology would provide a better comprehensive picture of GHG emissions as these combustion sources would be included in the mass balance reporting for the GPSP. The complexity of the multiple inputs to the boilers and combustion sources elevates the concerns for accuracy and consistency in reporting.

Response: Many facilities contain combustion units and multiple process source categories. Under the rule, such facilities would calculate and report emissions from each source category at their facility using the methods specified in the rule. Facilities are required to calculate emissions only from sources for which there are methodologies in the rule. This approach provides consistent emissions data of known accuracy that is comparable across facilities in each source category for use in developing GHG policies and programs. EPA specifically designed the reporting program to provide not only facility-wide emissions data, but also data broken out by source category and, for many source categories, at the process line or unit level. Where feasible, EPA has selected methods that will determine the emissions for individual process lines and emissions units so that EPA can use the collected data to verify the reported facility-level emissions data, assess the contribution of individual processes and units to overall GHG emissions, better understand the variability in emissions between facilities, and analyze the factors that influence GHG emissions. The facility-wide mass balance approach recommended by the commenter would not provide the process and unit-level data necessary to make these determinations. For additional information on our general approach to selecting monitoring methods, see the preamble response on the general monitoring approach. For information on how EPA selected the source categories, see section IV.B of the proposal preamble (74 FR 16465, April 10, 2009) and the section of the preamble to the final rule that contains responses to comments on source categories to report.

Commenter Name: See Table 6
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0679.1
Comment Excerpt Number: 29

Comment: The rule should provide a mechanism for facilities making permanent changes, such as removing equipment from their site, to notify EPA and end reporting. Should later modifications to the facility result in emissions greater than the applicability threshold re-entry would be handled as described in the proposed rule. 8. Emission Calculation Methodologies EPA proposes specific methodologies for direct measurements of emissions and key parameters in order to calculate GHGs emissions for the covered sectors. EPA specifies that emissions should be calculated and reported only for those sources for which methods are provided in the applicable subparts. EPA is interested in receiving data and other technical information relevant to their method selection approach: "We solicit comment on whether the methodologies selected by EPA are appropriate for each source category or whether alternative approaches should be adopted". If suggesting an alternative methodology (e.g., using established industry default factors or allowing industry groups to propose an industry specific emission factor to EPA), please discuss whether and how it provides complete and accurate emissions data, comparable to other source categories, and also reflects broadly agreed upon calculation procedures for that source category". (74 FR 68, page 16461) API comments API previously commented to EPA that the reporting program ought to be consistent with, and adopt elements from, existing reporting protocols and guidelines, such as the API Compendium of GHG Emission Methodologies for the Oil & Gas Industry. The guidance provided by the API Compendium comprises robust, consistent and evergreen methods that are based on best available data, and API is pleased to note that EPA is citing this document as one of its references for developing the GHG calculation methods for this rule. The methods provided by the API Compendium are endorsed broadly by the worldwide oil and natural gas industry, and many companies have already incorporated them into their GHG estimation and reporting endeavors. The API Compendium is maintained evergreen and its 2009 Edition will be published in June 2009. Some of the revisions contained in the 2009 Edition, which are of particular relevance to this rulemaking, include an expanded discussion of emission estimation approaches for sources such as: dehydration operations, acid gas removal, tank flashing, pneumatic devices, hydrogen plants, catalytic cracking units, asphalt blowing, and wastewater treatment. The 2009 API Compendium will also include updated referenced emission factors data to represent 95% confidence intervals, where data were available to make these revisions, such as for the 1996 EPA/GRI methane emissions characterization study. EPA adoption of the methods outlined in the API Compendium for the various source categories and segments of the industry, would result in well documented, accurate and consistent GHG reporting and contribute to minimizing the extra burden this proposed rule is imposing on the industry, as discussed above. In many places the rule has specified only one methodology; many methods might be applicable with equivalent accuracy with lower data gathering. In other air programs multiple methods are allowed. The same flexibility should be afforded to GHG reporting. API has been engaged in GHG emission calculation methodology development for over a decade and is aware of the dynamic nature of the field and the emergence of new measurements and estimation techniques. Therefore it is imperative that EPA should provide a clear and efficient method for approval of alternatives to the methods prescribed in the proposed rule.

Response: In response to comments, EPA has added provisions that allow facilities to cease reporting if they either reduce emissions below a specified level for multiple years or close all GHG-emitting processes covered by the rule. For a discussion of these changes, see the preamble

for the response on reporting frequency and provisions to cease reporting. See response to comment EPA-HQ-OAR-2008-0508-0959.1, excerpt 18, regarding the importance of using consistent methods. See also the response to EPA-HQ-OAR-2008-0508-952.1, excerpt 66, for the response to the comment on allowing facilities to select any monitoring approach using available process information. For further discussion see the preamble for the response on the general monitoring approach.

For the response to the comment on using API methods for petroleum refineries, see the comment response document volume for subpart Y. For information on changes made to the reporting requirements for this source category, see section III.Y in the preamble. Also, EPA is not going final with subpart W (Oil and Natural Gas Systems). As we consider next steps, we will be reviewing the public comments and other relevant information. Therefore, we are not responding to comments on subpart W at this time.

Commenter Name: Robert J. Martineau, Jr
Commenter Affiliation: Counsel, Waller Lansden Dortch & Davis, LLP
Document Control Number: EPA-HQ-OAR-2008-0508-0414.1
Comment Excerpt Number: 11

Comment: EPA has proposed Option 2 as set forth in the Preamble, which is a mix of direct emission monitoring (e.g., GEMS) and facility calculations, to determine emissions at a facility. Nissan generally supports this hybrid approach with two caveats. First, the requirement to include direct emissions data (e.g., GEMS) should be reserved for only the largest GHG emissions units covered under this reporting rule. GEMS are expensive to purchase, expensive to operate, require ongoing maintenance, and need periodic recalibrations. This rule is not like the acid rain program where the need for precise emissions figures to demonstrate compliance with the cap and trade program is necessary. Less costly but reasonably accurate emission calculations methods are available and adequate in most cases under this rule. If and when particular units are subject to emission limits under a substantive requirement, CEMs may be justified on a broader array of sources, but in this rule EPA should limit carefully the number of units or sources that are required to have GEMS instead of allowed to use source specific emission calculations. Likewise, for very small emissions units at a covered facility EPA should consider Option 4. If smaller emissions units, for example those providing less than five percent of a sources GHGs, are not excluded altogether as de minimis (see comment above), then the most simple emissions calculation methodology reasonably available should be used. If the facility is over the 25,000 ton threshold, spending additional resources to move from Option 4 to Option 3 for small units that may emit only 100 or 200 tons of CO, is simply posing an additional burden that is not justified. Determining with precise calculations emissions from these small units will not change any of the policy considerations, change the emission's profile at the facility, or change the significance one attaches to that facility in terms of its carbon footprint.

Response: Please see the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding direct measurement. For the response to the comment on allowing facilities to select any monitoring approach using available process information, see the response to EPA-HQ-OAR-2008-0508-952.1, excerpt 66. See the preamble for the full response on the general monitoring approach. See the preamble section and comment response document on subpart C for discussion of changes to the CEMS provisions made in response to comments.

Commenter Name: Gregory A. Wilkins
Commenter Affiliation: Marathon Oil Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0712.1
Comment Excerpt Number: 11

Comment: Marathon agrees that direct measurement of CO 2 (option 1 in the preamble) is difficult or infeasible and also unreasonably costly. This method would require Continuous Emission Monitors (GEMS) which have rigorous QA/QC requirements and are expensive to purchase, install (especially retrofit in some cases), calibrate, and maintain. For this reason, Marathon opposes the mandated use of CEMs at any source where a CEM does not currently exist or where a CEM currently exists but does not monitor CO_2. EPA makes the comment on page 74 FR 16475 of the preamble that, the emissions rate of CO_2 is directly proportional to the carbon content of the fuel". This supports not using CEMs in lieu of the carbon content monitoring. Carbon content monitoring would be as accurate as direct measurement but emission factors arc preferred for reasons stated below.

Response: Please see the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding direct measurement. See the preamble for the response on the general monitoring approach. The additional cost of upgrading an existing CEMS is relatively low and these facilities are already required to perform calibration, quality assurance, and maintenance of their existing systems. For responses to comments on the CEMS provisions, see the preamble section and comment response documents on Subpart C (General Stationary Fuel Combustion). For responses to comments on the costs of CEMS see the comment response document for subpart C. Also see the Regulatory Impact Analysis (RIA) for the final rule for additional information on compliance costs.

Commenter Name: Michael Carlson
Commenter Affiliation: MEC Environmental Consulting
Document Control Number: EPA-HQ-OAR-2008-0508-0615
Comment Excerpt Number: 10

Comment: Contra EPA, for most facilities Monitoring Option 2 would not avoid “the cost of installing and operating CEMS” (16475). Under Option 2, according to the agency, facilities that already use CEMS would still be required to use them for purposes of the GHG reporting rule. As the agency correctly points out earlier (Ibid.), most existing CEMS would require upgrading to also monitor CO_2. The cost for installing, maintaining, and operating CO_2 monitors is considerable. According to the agency, an appropriate upgrade of the existing CEMS would be required: (1) If the gas monitor is neither a CO_2 concentration monitor nor an O2 concentration monitor and (2) if a flow monitor is not already installed (16483). Moreover, the CO_2 (or O2) monitor on the CEMS would have to be certified and regularly quality-assurance tested (Ibid.). Thus, we urge that the use of CEMS be made optional under Option 2.

Response: Please see the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding direct measurement. For responses to comments on the costs of CEMS see the comment response document for subpart C. Also see the Regulatory Impact Analysis (RIA) for the final rule for additional information on compliance costs.

Commenter Name: Dale Backlund, Regulatory Affairs Leader, The DOW Chemical Company and Victoria Evans, National Practice Leader for Greenhouse Gases, URS Corporation
Commenter Affiliation: none
Document Control Number: EPA-HQ-OAR-2008-0508-1338
Comment Excerpt Number: 9

Comment: The California based operations for The Dow Chemical Company does not support nor see the value in installing, calibrating, and maintaining continuous emission monitor systems(CEMS). The emissions of C02 are in tens of tons, not parts per million. Engineering judgment or annual feed stream composition should be adequate to arrive at a greenhouse gas emission rate.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0414.1, excerpt 11 above.

Commenter Name: Leslie Sue Ritts
Commenter Affiliation: National Environmental Development Association
Document Control Number: EPA-HQ-OAR-2008-0508-0504.1
Comment Excerpt Number: 18

Comment: EPA proposes several options for direct or indirect emissions measurement of GHGs as a means of complying with the proposed rule. The Agency's preferred option, Option 2, id., at 16475, would require facilities that do not have units that have CEMS installed to have the choice of directly measuring emissions or using facility-specific GHG calculation methods. Facility-specific measurement and calculation methods for each category for which EPA proposes a subpart, may include allowance for mass balances, measurement of fuels, raw materials or other procedures that rely on plant's specific data. EPA determined that simplified calculations based on total annual production and EPA-supplied emission factors, would not be adequate for purposes of this rule in general because they would not be site-specific. Id. Further, the rule also requires significant calibration and validation of instrumentation used for emission measurements from monitors and other source performance testing analytical equipment, as well as the development of quality assurance/quality control plans to verify that periodic measurements are accurate and replicable. NEDA/CAP submits that requirements for direct measurements of GHGs for all sources categories is misguided and should await individual regulation of the source categories to reduce emissions. Except where CO_2 monitors are already required to be installed for certain Acid Rain Regulation-Affected Emission Units, NEDA/CAP Opposes Direct GHG Emission Monitors. Emission measurement technology is expensive and installation of such instrumentation and/or other apparatus for collecting direct emissions or parametric information is time-intensive and disrupts manufacturing. Moreover, for most sources it is not necessary because CO_2 and other GHGs that must be reported can be calculated. For instance, for combustion emissions, emissions measurements should be based on fuel input and emission factors representing carbon per fuel source." Thus, even if direct measurement had the highest degree of certainty, which is debatable, NEDA/CAP opposes direct measurements for the simple reason that most facilities outside of the large electrical utility industry do not currently own or operate CEMs to measure GHG emissions. Such CEMs involve considerable capital investment in the range of $30,000- to-several $$million per stack, with annual operating and maintenance budgets of generally $30,000 -$50,000. EPA has failed to establish why these costs are reasonable in light of the dependability of engineering calculations for each industry to be regulated under this rule. Given the objective of this reporting rule, NEDA/CAP submits that the public ought to be able to benefit from the general information that can be obtained through

estimations of GHG emissions in much the same way as it benefits from emissions estimations under the TRI program and the spill prevention, control and countermeasure ("SPCC") program. In the final rule, it is incumbent on EPA to provide a very clear explanation of why these programs do not provide adequate information to the public and direct emissions measurements, calibration of measurement instruments and other QA/QC protocols will yield timelier, accurate, and complete information to the public.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach. For the response to the comment on the CEMS requirements, see the response to comment DCN: EPA-HQ-OAR-2008-0508-0414.1, excerpt 11 above.

The primary purpose of this rule is to provide policy makers and regulators with accurate economy-wide data on GHG emissions for use in developing GHG policies and programs. Although we do not yet know what final policy direction will be taken, the data collected under this rule has been designed to support a number of possible policy options that would require accurate and reliable data. Use of consistent and reasonably accurate GHG calculation methods for each source category, robust recordkeeping, QA/QC, and missing data provisions are essential to assure the data is complete, accurate, and reliable. Although EPA may need to collect additional data for the development of specific regulatory programs (e.g., indirect emissions or data on offsets), the data reported under this rule will provide a better understanding of GHG emissions from different industries and enable us to identify the factors that influence the GHG emission rates, set baseline emissions, and track trends in GHG emissions. Once policy decisions have been made and new regulatory programs developed, EPA can review the rule and make any modifications needed to implement such programs.

Commenter Name: William C. Herz
Commenter Affiliation: The Fertilizer Institute (TFI)
Document Control Number: EPA-HQ-OAR-2008-0508-0952.1
Comment Excerpt Number: 66

Comment: EPA solicits comments on the Agency's rationale for monitoring requirements, again citing the need for collecting data of sufficient accuracy and quality to inform future climate policy and regulation. 74 Fed. Reg. at 16,474. Given that EPA has not provided a sufficient rationale for the accuracy and quality of data required to support data solely from "Option 2: Combination of Direct Measurement and Facility-Specific Calculations," TFI suggests that the "Reporter's Choice of Methods" is the appropriate option for reporting data. TFI refutes the Agency's assertion that this option would result in variable reported data of unknown accuracy and reliability because the annual report would require sufficient documentation to determine accuracy and reliability, and EPA has proposed self-certification with EPA verification in the NPRM. 74 Fed. Reg. at 16,477. TFI also disagrees that the data would not be comparable, as all data reported would have consistent reporting units and EPA has not provided any justification for statistical accuracy of data. TFI suggests that providing covered facilities the flexibility to select among measurement and calculation methods would allow regulated entities to tailor reporting requirements to the unique processes, equipment, physical and economic restrictions at specific facilities. TFI again requests adequate justification for the need for monitoring data to support policy decisions.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. EPA's goal in developing this rule was to collect data of known quality that is generated using consistent protocols. Allowing facilities to use alternative methods instead of the methods specified in the rule would result in uncertainty in data quality and impact our ability to use the data for making policy decisions or designing new regulatory programs. For example, if one facility calculates their CO_2 emissions using a default emission factor, the resulting data could not be readily compared with data submitted by another facility where emissions were calculated using site-specific values. Although both facilities would report CO_2 emissions in the same units of measure, the accuracy of the emissions estimates would vary significantly and could mask differences in emissions between the two facilities. The resulting data would be of limited use for comparing the relative emissions from different facilities within each source category, identifying factors that affect emission rates, and tracking trends in GHG emissions. For information on the method selected for a specific source category and changes made since proposal, see the technical support documents and comment response volumes for the source category. For additional information on our general approach to selecting monitoring methods, see preamble for the response on the general monitoring approach.

Commenter Name: Juanita M. Bursley
Commenter Affiliation: GrafTech International Holdings Inc. Company (GrafTech)
Document Control Number: EPA-HQ-OAR-2008-0508-0686.1
Comment Excerpt Number: 1

Comment: As a general comment, GrafTech believes that EPA has no justification for making any of the GHG reporting rule requirements more onerous in any way than the existing Title V permit program requirements under the Clean Air Act (CAA) covering listed priority and hazardous air pollutants. Likewise, the need for accurate emissions data, and supporting information for the purpose of verifying submitted data, is in no way more critical for GHG than the existing right-to-know reporting programs for SARA listed toxic substances and extremely hazardous substances, which, for example, do not require a facility to add or upgrade existing equipment to measure their emissions, and furthermore allow each reporting facility to use sound engineering methods, standard published emission factors, process knowledge, etc. to estimate and report emissions.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. See the preamble for the response on the general monitoring approach. For the response to the comment on allowing facilities to select any monitoring approach using available process information, see the response to EPA-HQ-OAR-2008-0508-952.1, excerpt 66 above.

Commenter Name: See Table 6
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0679.1
Comment Excerpt Number: 7

Comment: "EPA crafted the requirements in this rule with the potential monitoring, recordkeeping and reporting requirements for any future regulations addressing GHG emissions in mind. EPA solicits comment on all of these possible approaches, including whether EPA should commit to revisit the continued necessity of the reporting program at a future date". (74

FR 68, page16478) API comments Reporting requirements should be designed to meet the information collection needs to inform national GHG policy decisions without predetermining the structure of the eventual regulatory framework. These requirements ought to be consistent with, and adopt elements from, existing reporting protocols and guidelines, for example, the API/IPIECA Reporting Guidelines and API's "Compendium of GHG Emissions Methodologies for the Oil and Gas Industry" (API Compendium), which are widely used by the oil and natural gas industry worldwide. These guidelines and other existing protocols may all be acceptable within the context of 'best available data' for MRR. The MRR should not impose any new measurement requirements or mandate installation of new instrumentation, and should not require either capital expenditures, or excessive operating expenses, to report GHG data to EPA. Examples for such overly burdensome requirements include: leak detection and quantification programs; use of Hi-flow samplers and component 'bagging'; installation of new channels on existing CEMS; fuels carbon content analysis; storage tank flow measurements and head space analysis; flare velocity metering; and fuel combustion metering. EPA should review the need for annual leak detection surveys and leak quantification, especially for remote locations and for areas where logistically it is overly burdensome to perform the specified tests at the proposed frequency. API is proposing a range of alternative approaches to measurements and monitoring under Section III.13 below, with additional applicable comments under the respective subparts. As a practical matter EPA should consider industry's inability to install, test and calibrate all flow meters, and other required instrumentation, and develop the appropriate data archiving systems, within the exceedingly short duration between the expected rule promulgation and effective date. Moreover, where new instrumentation has to be installed or existing instrumentation upgraded, such modifications could not be implemented while process units are up and running. API does not believe that it is EPA's intent to mandate units shutdown for improved data collection. A better approach is to rely on 'best available data' until the instrumentation upgrades can be installed during the next unit shutdowns for scheduled maintenance. By utilizing a 'best available data' approach, without mandating new monitoring and measurement obligations immediately, EPA's MRR will be easier to implement in practice and be more appropriate with the stated intent and consistent with previous data collection activities undertaken under the authority of Section 114 of the CAA.

Response: The rule is designed to provide policy makers and regulators with accurate economy-wide data on GHG emissions. The data collected under this rule will be used to provide a better understanding of GHG emissions from different industries; identify the factors that influence the GHG emission rates; set baseline emissions; and track trends in GHG emissions and determine the effectiveness of any new regulatory programs. While the rule collects data that will be of use in implementing a number of potential climate policies, it does not in any way pre-determine any specific GHG regulatory program. Since Congress is currently debating possible policy options, EPA did not tailor the reporting rule to any specific program. For this reason additional data may need to be collected once new legislation is enacted. EPA agrees that the time allowed in the proposed rule for installing and calibrating monitoring devices may be insufficient for some facilities. Therefore, EPA revised the rule to allow reporters to use best available data during the first three months of the program to allow more time for installation of new monitoring devices and calibration of flow meters and other monitoring devices. EPA has also revised the rule to allow additional time for calibrating certain types of flow meters and greater flexibility in when they are recalibrated. For those sources required to use CEMS, EPA has retained the provisions from the proposal that allows a January 1, 2011 compliance date for those facilities that have to install a diluent gas monitor, flow monitor, or both to comply with the Tier 4 monitoring method in subpart A (see 74 FR 16488, April 10, 2009). For additional information on the use of best available data for 2010, see the preamble for the response on the selection of the initial reporting

year. For additional information on the changes to the QA/QC requirements for flow meters, see the preamble responses to comments on general monitoring requirements and general stationary combustion (subpart C) monitoring and QA/QC requirements. For the response to the comment on allowing facilities to select the monitoring approach and use best available data, see the response to DCN: EPA-HQ-OAR-2008-0508-952.1, excerpt 66 above. For additional information on our general approach to selecting monitoring methods, see the preamble for the response on the general monitoring approach. For the response to the comment on using API methods for petroleum refineries, see the comment response document volume for subpart Y. For information on changes made to the reporting requirements for this source category, see petroleum refineries section in the preamble. EPA is not going final with subpart W (Oil and Natural Gas Systems). As we consider next steps, we will be reviewing the public comments and other relevant information. Therefore, we are not responding to comments on subpart W at this time.

Commenter Name: Blair Wheeler
Commenter Affiliation: Aspen Technology, Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0488.2
Comment Excerpt Number: 1

Comment: The example detailed below pertains to the Petroleum Refining Sector. However, these technologies can also be applied in nearly 20 other process industry segments of those outlined in "Subpart under proposed 40 CFR part 98." Process models provide a proven framework for reconciling raw measurements using rigorous mass and energy balance equations. Application of this technology will substantially improve the accuracy and rigor of the GHG emissions calculations, enabling industry to meet GHG regulatory requirements in a cost effective and verifiable manner. The reconciled GHG emission calculations can be stored along with raw measurements in the process historian, enabling future verification and analysis. Petroleum Refining example Aspen Technology recommends that all petroleum refineries gather operating data by direct measurement and transmit this information to a computerized data historian. These direct measurements can then be used in process unit specific calculations to calculate the carbon emissions from each source. The calculated carbon emissions from each source are then transmitted back to the data historian. Both the direct data measurements and the calculated carbon emissions are historized, allowing easy verification and audit. Direct viewing of the calculated carbon emissions is then available at the refinery for informational purposes, as well as potential reduction activities locally. In addition, the calculated carbon emissions are available for indirect viewing (e.g., Carbon Emission Dashboard) over the Web (e.g., corporate headquarters) for reporting purposes and auditing. This approach is quite similar to a "best practices" approach that petroleum refiners employ today to gather process information and calculate key process indicators (KPI's) for best economic refinery operation. Reporting is also similar to a best practice approach used today by refiners. As a natural extension of current best practices, this approach minimizes incremental costs to install and operate while providing for timely, auditable carbon emissions reports for both the operating companies as well as the EPA. [See DCN:EPA-HQ-OAR-2008-0508-0488.2 for detailed schematic of proposed alternative monitoring approach]

Response: EPA thanks the commenter for their input. In order to collect uniform data, this rule specifies the procedures that must be used to monitor and calculate GHG emissions from each source category covered by the rule and does not require the use of process models. Electronic recordkeeping systems that can store data and perform the calculations and QA checks that are

specified in the rule may be beneficial for some larger sources, it is not required by this rule. Records may be kept either in an electronic or hard-copy form. If an electronic system is used to maintain records, the reporter must be able to make the software used to access the records available to EPA and provide printed copies of the records for audits upon request. For information on changes made to the reporting requirements for this source category, see petroleum refineries section in the preamble. EPA is not going final with subpart W (Oil and Natural Gas Systems). As we consider next steps, we will be reviewing the public comments and other relevant information. Therefore, we are not responding to comments on subpart W at this time.

Commenter Name: Rich Raiders
Commenter Affiliation: Arkema Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0511.1
Comment Excerpt Number: 56

Comment: Many existing EPA stack test protocols require facilities to determine CO_2 concentrations in stack gas flows during each test run. In many, but not all, situations, current performance test protocols also require facilities to determine methane ("CH_4") concentrations in stack gas during test runs. Other test protocols may have historically required measurement of other GHGs. EPA should allow owners and operators to bring historic stack test data, developed over the last ten years, forward into Part 98 and not require operators to recollect existing GHG emissions information. EPA has developed emissions factors for a variety of air emissions sources for the last forty years. These factors, compiled in the AP-42 library, the FIRE database, and the Locating and Estimating ("L&E") publication series, describe emissions of a variety of compounds from a wide range of industrial emissions sources. Many of these source categories, such as fuel combustion, many chemical manufacturing process industries, and landfill operations, already include many EPA-calculated GHG emission factors. EPA should utilize this existing GHG emission factor library as much as possible to minimize the GHG reporting compliance burden on many reporters. For example, Subpart C incorporates much of this knowledge in the proposed Tier I GHG reporting requirements.

Response: EPA's goal in developing this rule is to collect facility and unit-level data of known quality that is generated using a consistent protocol. There are limited cases in the rule where the use of emissions factors and/or stack testing is appropriate. However, generally, while default emission factors are acceptable for estimating national emissions, in many cases they are inherently inaccurate for determining emissions from a single process or emission unit. The default emission factors provided in AP-42 and other sources are generally averages of all available data that met certain quality criteria. The data used in the average often exhibits wide variability and the average factor does not take into account site-specific differences in process design and operation. The accuracy of the emissions calculated using a default emission factor depends on the type of process and the quality of the data on which the default emission factor was based. For example, emissions calculated using a default emission factor may not be representative of a source's actual emissions, when the emission factor used was based on poor quality data, data from a small sample of sources, and/or there was considerable variability in emissions between sources selected for averaging. Furthermore, emissions calculated using these factors would not be useful for many of the purposes for which EPA designed the reporting program. For example, EPA plans to use the data to determine actual emissions for individual processes, the variability in emissions between facilities, and the factors that influence GHG emissions. For this reason, EPA has restricted the use of default emission factors to those

processes where they are reasonably accurate and where other more accurate methods were determined to place too great a burden on reporters (for example, the tier 1 factors for combustion of specific fuels in smaller combustion units).

For most source categories, EPA also decided not to allow results from old performance testing to estimate GHG emissions. EPA determined that data collected using a consistent protocol was the best means to ensure the collection of reliable data of known quality for each source category. Since only a few facilities have previously measured GHG emissions, a one-time stack test performed sometime in the past may not be representative of current operations, and different test methods may have been used, the accuracy of the reported emissions be would unknown and the data of limited use for determining the variability in emissions between similar facilities or tracking future trends in emissions.

Commenter Name: Kusai Merchant
Commenter Affiliation: Environmental Defense Fund
Document Control Number: EPA-HQ-OAR-2008-0508-0212.1h
Comment Excerpt Number: 1

Comment: Good data is the essential benchmark for good policy. EPA's leadership in developing and implementing a well-designed mandatory reporting rule is vital, regardless of one's preferences in climate policy protection. The nation cannot effectively measure progress towards reaching emissions reduction goals without rigorous reliable data. Decision-makers must have broad and accurate data to evaluate the efficacy of public policy and to implement new programs. To promote accuracy and certainty, the national emission reporting framework should seek direct measurement of emissions and fuel use wherever possible. Emissions factors and modeling should be used only when direct measurement is impractical.

Response: EPA agrees with the commenter that the data must be of high quality for use in making policy decisions and designing new regulatory programs. Where possible, EPA selected monitoring methods that use direct measurement of emissions or facility-specific measurements of parameters to determine GHG emissions. For additional information on our general approach to selecting monitoring methods, see the preamble response on the general monitoring approach. For information on the method selected for a specific source category and changes made since proposal, see the technical support documents and comment response volumes for the source category.

Commenter Name: Jeffrey L. Clark
Commenter Affiliation: Environmental Coordinator, Teck Alaska Incorporated
Document Control Number: EPA-HQ-OAR-2008-0508-0142
Comment Excerpt Number: 1

Comment: I have concerns on the term “appropriate level of accuracy” which was mentioned several times in the Preamble of the proposed rules. If EPA is only requiring large producers of GHG to report emissions and is estimating all other sources, then why would it be necessary to use the overly complicated calculation methods to attempt to precisely measure the GHG emissions of large producers when any gains in the level of accuracy could be easily overwhelmed by the inaccuracies of the estimation of all other producers of GHG? I think the

complex calculations and testing required by these rules will not result in an improvement in the overall accuracy of GHG emissions.

Response: The selected threshold of 25,000 metric tons of CO_2e covers approximately 85% of U.S. emissions. Collecting accurate, detailed data on facilities above certain thresholds (consistent with the Appropriations Act) will allow EPA and other stakeholders to analyze and design GHG policies and programs. Such policies and programs are likely to focus, as least initially, on the larger facilities where there is potential for greater emissions reduction at a reasonable cost. For further discussion of the selected monitoring approach, see the preamble response on the general monitoring approach.

Commenter Name: Gregory A. Wilkins
Commenter Affiliation: Marathon Oil Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0712.1
Comment Excerpt Number: 35

Comment: The reporting rule should not require any new measurement requirements but instead allow reporters to utilize best existing data. Capital and other expenditures should not be imposed to obtain information prior to any final regulatory framework.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. See also the response to comment EPA-HQ-OAR-2008-0508-0631.1, excerpt 13, discussing EPA's revision of the rule to allow reporters to use best available data during part of 2010. See the preamble for the response on the general monitoring approach. EPA conducted an analysis of the economic impacts for this rule and determined that the costs for each affected entity are low. EPA estimates the average cost-to-sales ratios for industries affected by the rule are less than 1 percent. These low average cost-to-sales ratios indicate that the rule is unlikely to result in significant changes in prices, production, or other behavioral changes, such as relocating to outside the United States. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts."

Commenter Name: Karen St. John
Commenter Affiliation: BP America Inc. (BP)
Document Control Number: EPA-HQ-OAR-2008-0508-0631.1
Comment Excerpt Number: 13

Comment: BP urges the EPA to enhance the flexibility in its requirements on calculating and measuring GHG emissions and on monitoring and quality assurance/quality control (QA/QC). As noted by EPA in the Preamble of the proposed rule, the Agency aims to obtain data of sufficient quality to inform climate policy while at the same time reduce the need for unnecessary new estimation and monitoring techniques. As a practical matter EPA should consider industry's inability to install, test and calibrate all flow meters, and other required instrumentation, and to develop the appropriate data archiving systems, within the exceedingly short duration between the expected rule promulgation date and the date the rule goes into effect. Moreover, where new instrumentation has to be installed or existing instrumentation upgraded, such modifications may not be safe to implement while process units are up and running and

could require a process shutdown. Reporting requirements should be designed to meet the information collection needs to inform national GHG policy decisions without predetermining the structure of the eventual regulatory framework. Until national climate policy and regulatory policy direction is set by the U.S. Congress and the Obama Administration, we recommend that EPA allow facilities and companies to use "best available data" which allows sources to rely on existing data gathering systems and offers flexibility in the methods used to calculate, measure and monitor GHG emissions. The final rule should not impose any new measurement requirements or mandate installation of new instrumentation, and should not require either capital expenditures, or excessive operating expenses, to report GHG data to EPA.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. EPA agrees that the time allowed in the proposed rule for installing and calibrating monitoring devices may be insufficient for some facilities. Therefore, EPA revised the rule to allow reporters to use 'best available data' during part of 2010 to allow more time to install, test and calibrate flow meters and other monitoring devices. EPA has also revised the rule to allow greater flexibility for completing the initial calibration and subsequent recalibration of flow meters. For additional information on the use of best available monitoring methods, see the preamble for the response on the selection of the initial reporting year and use of best available monitoring methods For additional information on the changes to the QA/QC requirements for flow meters, see the preamble for the response to comments on the monitoring and QA/QC requirements for subpart C. EPA is not allowing facilities to indefinitely use 'Best Available data' and methods of the facilities own choice instead of the methods specified in the rule for reasons explained in the preamble response on general monitoring requirements.

Please see the response to comment EPA-HQ-OAR-2008-0508-0712.1, excerpt 35 regarding EPA's analysis of the economic impacts for this rule. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts."

Commenter Name: Leslie Sue Ritts
Commenter Affiliation: National Environmental Development Association
Document Control Number: EPA-HQ-OAR-2008-0508-0504.1
Comment Excerpt Number: 11

Comment: NEDA/CAP respectfully submits that there is no reasonable basis in EPA's proposal, or underlying documentation, for asserting that calibration plans or direct emissions monitoring is necessary for accomplishing the goals of the proposed reporting rule. Carbon-related emissions are fully able to be estimated without direct emissions measurements. CEMs are expensive and unnecessary and the same information can be obtained for combustion and other sources by largely existing fuel flow measurement and default emission factors. In some cases, an engineering calculation may be more robust than direct emissions measurements, because of interference from other air constituents and the volume of air itself emitted from stacks that may make CEMs or stack-testing inferior to GHG engineering calculations. EPA should rethink its bias for "monitoring" because it is not justified. While NEDA/CAP admits with regard to other pollutants regulated under the Clean Air Act, direct emissions measurements or continuous parametric monitoring may be more reliable (and our members have contributed resources into testing and developing emission protocols to increase the accuracy of EPA reference methods and other data techniques for increasing the accuracy of these measurements), reporting carbon

from many source categories is not nearly as difficult as EPA presents in the proposal. Particularly for combustion emissions, emission measurements should be based on fuel input and emission factors representing carbon per fuel source.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. For responses to comments on the CEMS provisions, see the preamble section and comment response documents on Subpart C (General Stationary Fuel Combustion). For discussion of the selected monitoring approach, see the preamble response on the general monitoring approach.

Commenter Name: Douglas P. Scott
Commenter Affiliation: The Climate Registry
Document Control Number: EPA-HQ-OAR-2008-0508-0567.2
Comment Excerpt Number: 7

Comment: The Registry recommends EPA consider allowing mass balance calculations in addition to direct measurement as appropriate quantification methods. EPA asserts that Continuous Emissions Monitoring Devices (CEMS) are the most accurate method for quantifying emissions (direct measurement). Others argue that mass balance methods can be more accurate when the carbon content of the fuel is measured through testing. The Registry has grappled with the debate over the accuracy of emissions from measurement devices or calculation methods and has found convincing arguments for both. For example, industry often argues that CEMS either under- or over- estimates emissions based on the assumptions built into the device (shape of stack etc.), or that CEMS devices may not be consistently calibrated or maintained, and therefore may produce erroneous results. Finally, since CEMS were not specifically designed to measure GHG emissions, EPA may wish to carefully consider their usage on various sources and emissions to determine their appropriateness.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. Because the purpose of this rule is to collect data for use in developing future GHG policies and programs, we believe the data must be collected according to consistent methodologies. For most source categories, emissions are calculated using facility-specific factors (such as carbon content and flow rate) that provide relatively high quality data. For example, many source categories are required to use a mass balance approach in which they must use data collected from calibrated flow meters or other monitors, and regular sampling and analysis of the carbon content of feedstocks, products, and byproducts (as applicable). In general stationary fuel combustion different tiers are outlined for estimating emissions based on the size, fuel type and operating conditions of the equipment. EPA also included quality assurance, missing data, recordkeeping, and compliance enforcement provisions, which will ensure affected facilities report accurate and reliable data in accordance with the methods specified in the rule. For responses to comments on the CEMS provisions and the tiers for reporting, see the preamble section and comment response documents on Subpart C (General Stationary Fuel Combustion).

Commenter Name: Stephen E. Woock
Commenter Affiliation: Weyerhaeuser Company
Document Control Number: EPA-HQ-OAR-2008-0508-0451.1
Comment Excerpt Number: 7

Comment: Weyerhaeuser believes EPA's design of a national, uniform GHG reporting rule should look forward to how the information is likely to be used in a national program to address GHG levels in the atmosphere. Importantly, EPA should also look backward to bring into the reporting rule the practical methodologies and key decisions that have been developed and accepted internationally through projects such as the WRI-WBCSD Greenhouse Gas Reporting Protocol Initiative, and which have already been implemented by businesses and industries over the past several years. In many respects EPA has done just that, for example, in its decisions on separate reporting of biomass and excluding biomass from the applicability threshold, and on excluding agriculture and other land use activities such as forestry from reporting, all of which we support. EPA has also proposed to adopt several well established methodologies using facility activity data, such as company records for fuel usage and established default emission factors. But still, we find in several provisions EPA has proposed significantly burdensome sampling and testing requirements that we believe over-proscribe what is needed to obtain sufficiently accurate information on GHG emissions.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the response on the general monitoring approach. As stated by the commenter, EPA reviewed existing programs and protocols and the GHG monitoring and calculation in the rule are consistent with such protocols where appropriate given the purpose of the GHG reporting rule. The rule is designed to collect sufficiently accurate data using consistent methods for each facility and each source category within the facility so that the data can be used to analyze and develop future GHG policies and programs. In response to comments, EPA has revised some of the monitoring and GHG calculation methods for individual source category subparts. See the preamble sections and comment response document volumes for each source category for discussion of rule changes and responses to source category-specific comments.

Commenter Name: See Table 2
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0509.1
Comment Excerpt Number: 11

Comment: If EPA in fact intends to require sources to install CO_2 monitors, EPA needs to state explicitly when such monitors will be required. EPA also needs to justify requiring that additional monitoring equipment when alternative emission calculation methodologies are available and where the data being collected is in any event only for informational purposes and not for demonstrating compliance with an emission limitation.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. In the final rule, EPA has clarified when CEMS are required. In addition, for responses to comments on the CEMS provisions, see the preamble section and comment response documents on Subpart C (General Stationary Fuel Combustion).

It is true that the purpose of the rule is not to demonstrate compliance with an emission limitation, but rather to collect data for use in developing future GHG policies and programs. The data collected under this rule will help EPA determine the relative emissions of specific industries, the variability in emissions across each source category, and the factors that influence

GHG emission rates. To meet this goal, EPA determined that data collected using a consistent protocol would provide reliable data of known quality for each source category.

Commenter Name: Lisa D. Schmidt
Commenter Affiliation: Dow Corning Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0562
Comment Excerpt Number: 7

Comment: EPA's planned requirement of installation of monitoring instrumentation is overly prescriptive relative to other air emission regulations given the emission thresholds considered here, and will add unwarranted cost to our operations. We request that the rule be changed so that existing instrumentation, established engineering calculations, and chemical composition data be used to determine emission totals rather than the prescribed sampling, calibration, and monitoring rules that are proposed.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. Please see the response to comment EPA-HQ-OAR-2008-0508-0712.1, excerpt 35 regarding EPA's analysis of the economic impacts for this rule. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts."

Commenter Name: See Table 5
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0433.1
Comment Excerpt Number: 6

Comment: Asserts that flexibility is necessary in the development of reporting methods and that the level of calculation detail should be proportional to the level of GHG emission contribution. With that in mind, we agree with the tiered approach for calculating CO_2 emissions from combustion sources. We have supported that, whenever possible, calculations will be more cost-effective than measurement and can be just as accurate.

Response: EPA thanks the commenter for their input. See the preamble for the response on the general monitoring approach. The final rule retains the tiered approach for calculating CO_2 emissions from combustion sources.

Commenter Name: David Fairfield
Commenter Affiliation: National Grain and Feed Association (NGFA)
Document Control Number: EPA-HQ-OAR-2008-0508-0463.1
Comment Excerpt Number: 3

Comment: The NGFA supports EPA's proposed monitoring approach. We believe that the approach and its corresponding GHG calculation methodology provides needed flexibility for facilities and will provide the agency with data of sufficient quality for use in developing future climate change policy. The NGFA does not support the option considered by EPA that would require continuous emission monitoring systems for all source categories where direct

measurement is feasible. We believe that such an approach would place an unreasonably high cost burden on facilities with no commensurate benefit in the accuracy of emissions reporting.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. Please see the response to comment EPA-HQ-OAR-2008-0508-0712.1, excerpt 35 regarding EPA's analysis of the economic impacts for this rule. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts."

Commenter Name: J. Southerland
Commenter Affiliation: None
Document Control Number: EPA-HQ-OAR-2008-0508-0165
Comment Excerpt Number: 27

Comment: The more you report, the more it costs and the more (unuseful) data you have to deal with. "Simple calculation methods that rely on default factors and assumptions" will NEVER qualify as a monitoring or testing method. Monitoring in a technical context will almost always mean the involvement of some sort of measurement equipment connected directly to the emitting source with a subsequent reporting capability. Those in Section V that do not meet this criteria should be re-labeled.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility-specific calculation methods. See the preamble for the response on the general monitoring approach. For information on the method selected for a specific source category and changes made since proposal, see the technical support documents and comment response volumes for the source category.

Commenter Name: Ushma N. Domadia
Commenter Affiliation: Drexel University Earle Mack College of Law
Document Control Number: EPA-HQ-OAR-2008-0508-0234
Comment Excerpt Number: 3

Comment: It seems prudent that the EPA prefers a combination of measuring emissions through a combination of direct measurement and facility- specific measurement. Direct Measurement would be ideal, as it would keep all records consistent and constraining factors such as calibration and variety of measurement tools would not skew the data. However, direct measurement would be too costly for all facilities that fall under 40 CFR Part 87 to install, operate, and maintain emission monitors. Under the proposed combination system, there may be a lack of standardized data, in an effort to reduce cost. It will be easier to get facilities to comply, as they will have a choice of using methods could include mass balance; measurement of the facility's use of fuels, raw materials, or additives combined with site-specific measured carbon content of materials. Ideally, all facilities would have the funds to install continuous emission monitoring systems (CEMS), but this may be a goal for later when the reporting policies are more defined and adopted.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement.

Commenter Name: Dale E. Furrow
Commenter Affiliation: The George Washington University School of Public Health MPH Candidate
Document Control Number: EPA-HQ-OAR-2008-0508-0219.1
Comment Excerpt Number: 3

Comment: When considering effective enforcement of the rule, it may be difficult to standardize requirements for different sectors because of its complexity. The rule appears to allow for a number of reporting methodologies including hybrid approaches and alternative technical methods for calculating or measuring emissions. Rather than determining which method would provide the most statistically reliable data, EPA appears to have relinquished enforcement of a comprehensive accounting of emissions to avoid imposing new requirements on the various sources already covered under other mandatory and voluntary systems. A common method for measuring emissions should be developed and released as a guidance document; otherwise, matching of data points reported under different criteria may decrease confidence in results.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. We agree that collecting data using a consistent protocol would provide reliable data of known quality for each source category. Some source category subparts do provide different calculation methods for different types of units or provide some flexibility in monitoring equipment in order to make use of existing equipment and methods that provide reasonably accurate emissions data and reduce the burden on reporters. However, the allowable monitoring and calculation methods for each source category are clearly spelled out in the rule. EPA will enforce the rule to be sure that facilities report the specified data and correctly use the methods contained in the rule.

Commenter Name: P. Hill
Commenter Affiliation: Drexel University
Document Control Number: EPA-HQ-OAR-2008-0508-0232.1
Comment Excerpt Number: 5

Comment: Direct measurement is preferable to facility-specific calculations simply because it affords the highest degree of accuracy and reliability, simple calculation methods carry the very real risk that it will not be clear if they are accurate until they have been relied upon for some time, clearly they pose an unreasonable risk of what could be very costly mistakes. Option 4, allowing recorders to choose their method of collection, undermines the comparability of the information and frustrates the whole purpose of the rule- it smacks of agency capture by lobbyists for higher-emitting industries and companies, and frankly is beneath the consideration of any self-respecting scientist or policy expert.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Greg Scott
Commenter Affiliation: National Petrochemical & Refiners Association
Document Control Number: EPA-HQ-OAR-2008-0508-0212w
Comment Excerpt Number: 6

Comment: NPRA also recommends using the existing engineering calculation methodologies, rather than the new ones developed for this rulemaking.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the response on the general monitoring approach. In developing the reporting rule, EPA reviewed existing methods, protocols, and ISO standards, incorporating these methods, as appropriate, into the rule. EPA has selected methods that provide relatively accurate data of know quality at a reasonable cost

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Commenter Name: Craig Holt Segall
Commenter Affiliation: Sierra Club
Document Control Number: EPA-HQ-OAR-2008-0508-0228n
Comment Excerpt Number: 4

Comment: As a general matter, we support direct measurement over other modeling choices. We know that in the past modeling tends to assume, unless it is carefully designed, smooth operations. Doesn't take into account some events and similar malfunctions. It is more of a ground tweaking for facilities specific measures the better. We understand that there are costs and management considerations there that is important to prepare for it. More data rather than less.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Peter Boag
Commenter Affiliation: Canadian Petroleum Products Institute (CPPI)
Document Control Number: EPA-HQ-OAR-2008-0508-0428.1
Comment Excerpt Number: 3

Comment: CPPI remains concerned over the prescriptive nature of the approaches being taken by both the WCI and EPA. The principle of “best available data” should prevail at least in the initial implementation stages until confidence in a fully mature system is developed.

Response: Because the purpose of this rule is to collect data for use in developing future GHG policies and programs, the data must be collected according to consistent methodologies. See the preamble for the response on the general monitoring approach. See also the response to comment EPA-HQ-OAR-2008-0508-0631.1, excerpt 13, discussing EPA’s revision of the rule to allow reporters to use best available data during the first quarter of data collection. See the preamble response on the selection of the initial reporting year and use of best available monitoring methods.

Commenter Name: Stephen E. Woock
Commenter Affiliation: Weyerhaeuser Company
Document Control Number: EPA-HQ-OAR-2008-0508-0451.1
Comment Excerpt Number: 3

Comment: We direct EPA's attention to unnecessary requirements to use Continuous Emissions Monitor systems (CEMs) when alternative use of engineering calculations, emission factors and activity data would achieve the necessary accuracy.

Response: Because the purpose of this rule is to collect data for use in developing future GHG policies and programs, we believe the data must be collected according to consistent methodologies. See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement.

The use of default emission factors is generally a less accurate method for determining emissions from specific units and processes at a given facility. However, in particular cases, such as GHG emissions from combustion units burning fuels with little variability (e.g., natural gas), default factors in combination with data on the quantity of the fuel combusted (e.g., from fuel purchase records or calibrated flow meters) provide accurate emission estimates. EPA has restricted the use of default emission factors to those processes where they are reasonably accurate and where other more accurate methods were determined to place too great a burden on reporters. Default factors are used in some situation where estimated emissions will not significantly impact the overall GHG emissions from the emission unit. For example, N_2O and CH_4 emissions from all combustion units are calculated using default emission factors because the N_2O and CH_4 emissions are relatively low when compared to the CO_2 emissions. See the preamble for the full response on the general monitoring approach.

Commenter Name: Kathleen M. Sgamma
Commenter Affiliation: Independent Petroleum Association of Mountain States (IPAMS)
Document Control Number: EPA-HQ-OAR-2008-0508-0521.1
Comment Excerpt Number: 6

Comment: The rule should not impose any new measurement requirements but should allow reporters to utilize the best existing data. Capital expenditures from reporting entities should not be required prior to a final regulatory framework.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. In the rule, best available monitoring methods may be used for the first quarter of data collection. See the preamble for the responses on the general monitoring approach and the initial reporting year and best available monitoring methods. Please see the response to comment EPA-HQ-OAR-2008-0508-0712.1, excerpt 35 regarding EPA's analysis of the economic impacts for this rule. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts."

Commenter Name: Peter Boag
Commenter Affiliation: Canadian Petroleum Products Institute (CPPI)
Document Control Number: EPA-HQ-OAR-2008-0508-0428.1
Comment Excerpt Number: 4

Comment: Cap and Trade and intensity based framework each require the same level of accuracy. In that regard the Alberta experience is valuable. All climate change strategies to date have attempted to price emissions, be it $25, 250, 15. Cap and Trade does not in and of itself present specific requirements for precision unless the WCI or EPA can demonstrate this. In this regard, CPPI believes Alberta has established a reporting requirement that incorporates continuous improvement.

Response: EPA thanks the commenter for their input. The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Henry Derwent
Commenter Affiliation: International Emissions Trading Association (IETA)
Document Control Number: EPA-HQ-OAR-2008-0508-0512.1
Comment Excerpt Number: 4

Comment: Monitoring and reporting needs to consider the international, well-known monitoring principles of Relevance, Accuracy, Completeness, Conservativeness, Transparency, Consistency, Cost effectiveness, and Comparable boundaries across installations – the terms and their definitions are from ISO14064-1:2006, the only international standard in operation on this subject matter. [FOOTNOTE: Reference ISO14064-1:2006 - Greenhouse gases. Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals). IETA suggests that EPA in formalizing its rule takes these principles and their definitions into consideration.

Response: EPA thanks the commenter for their input. In developing the reporting rule, EPA reviewed existing methods, protocols, and ISO standards. EPA has selected methods that provide relatively accurate data of know quality at a reasonable cost. In addition, the QA/QC, missing data, and recordkeeping requirements, combined with the verification procedures performed by EPA, will ensure the data are complete, accurate, and reliable. Regarding transparency, the reports contain GHG emissions data and other data elements used to calculate GHG emissions and collected data, excluding CBI, will be made available to the public.

Commenter Name: David Stirpe
Commenter Affiliation: Alliance for Responsible Atmospheric Policy (ARAP)
Document Control Number: EPA-HQ-OAR-2008-0508-0527.1
Comment Excerpt Number: 5

Comment: The Alliance is concerned that reporting to the level of precision required by the proposed regulations is not attainable in all instances and requires a level of precision not previously required under the existing TRI reporting requirements.

Response: In developing the reporting rule, EPA reviewed existing methods, protocols, and ISO standards. EPA has selected methods that provide relatively accurate data of know quality at a reasonable cost. See the preamble for the response on the general monitoring approach.

Commenter Name: Doug MacTaggart
Commenter Affiliation: C-Lock Technology, Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0502.1
Comment Excerpt Number: 5

Comment: As a general principal, C-Lock believes that it is important that the method selected by each facility be approved by a disinterested third-party panel or by the EPA and associated with well-defined uncertainty bounds. An additional measure to consider would be the publication of confidence ratings (as in the DOE 1605(b) technical guidelines) associated with each quantification or monitoring method for a source category. With respect to the monitoring options proposed by the EPA, we believe that each has serious shortcomings. Options 1 and 2 evince a too-uncritical acceptance of CEMS methodology. C-Lock believes that facilities should have a primary option to quantify emissions using methodology based on amounts and characteristics of fuels consumed, and that such methodology, if robustly applied, can produce emissions estimates that are more accurate than estimates produced by CEMS methodology.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach. Regarding the comment on fuel consumption, subpart C (general stationary fuel combustion) requires certain large combustion units to use CEMS, but for many combustion units, reporters can use the simpler Tier 1 or Tier 2 methodologies that rely on fuel characteristics and the amount of fuel consumed. See the preamble section and comment response document on general stationary fuel combustion for responses to comments on use of CEMS and other methodologies for combustion sources.

Commenter Name: Nancy N. Young
Commenter Affiliation: Air Transport Association of America, Inc. (ATA)
Document Control Number: EPA-HQ-OAR-2008-0508-0522.1
Comment Excerpt Number: 5

Comment: The logical and reasonable corollary of the Congressional directive to use existing CAA authorities to develop the GHG reporting rule is that EPA should use established estimation and reporting methodologies and approaches developed under current programs. Any new reporting regime should be directed at developing complementary GHG procedures and approaches that will, whenever possible, minimize burdens and take advantage of what is already known and available with respect to calculation of emissions associated with downstream source categories. This is particularly true for sources whose emissions are primarily a function of fuel consumption, given the existence of established conversion ratios and testing and certification procedures. Once again, it is important, given the massive scope and reach of the GHG Reporting Rule, that it be manageable and workable, both from the perspective of the Agency and the regulated community. The Proposed Reporting Rule focuses to a significant degree on bottom-up data from individual down-stream sources that exceed defined emissions thresholds. It is therefore essential to the development of a coherent, consistent and accurate national reporting regime that the reporting requirements look to procedures, methods and regulatory norms that the

regulated community has already come to know and understand. For example, the reporting program can build upon long-established "downstream" manufacturer reporting requirements in CAA programs that regulate vehicle and engine emissions of criteria pollutants (e.g., hydrocarbons, NOX, CO, and PM). These programs include emissions standards, testing procedures, and emissions certification and compliance requirements based on emission rates over prescribed test cycles (e.g., grams of pollutant per mile or grams per kilowatt-hour) that can be extended to CO_2 fuel metrics and/or accepted fuel consumption conversion ratios for gasoline and diesel powered vehicles. At the same time, such an approach will also serve to further the understanding of the affected GHG emissions processes.

Response: As detailed in section V. of the proposal preamble (74 FR 16448, April 10, 2009) and the technical support documents for the proposed rule, EPA reviewed existing methods in developing the reporting rule and has been consistent with those methods, where appropriate. We note that the rule requires reporting by motor vehicle and engine manufacturers, but does not require reporting of fleet vehicle or other vehicle emissions by vehicle owners and operators. See the preamble section and comment response document on mobile source for responses to comments on the reporting requirements and methodologies for mobile sources.

Commenter Name: Henry Derwent
Commenter Affiliation: International Emissions Trading Association (IETA)
Document Control Number: EPA-HQ-OAR-2008-0508-0512.1
Comment Excerpt Number: 6

Comment: IETA suggests that for sectors and organizations that do not currently have a CEMS reporting requirement, EPA use the well proven offset and EU ETS approach of input data derived GHG emissions that are verified to ensure the level of confidence is comparable to that associated with CEMS.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the response on the general monitoring approach. EPA reviewed EU ETS and other existing GHG calculation procedures and protocols during development of the rule, as documented in the technical support documents for the proposed rule and the program review memorandum in the docket. Where feasible, the rule is consistent with existing methodologies. For changes made in response to public comments, see the preamble sections and comment response documents on specific source categories. Note that the rule does not require reporting of offsets as explained in the preamble section on source categories to report.

Commenter Name: See Table 1
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0358
Comment Excerpt Number: 7

Comment: I urge the EPA to continue to strengthen the rule by requiring accurate direct emissions measurements whenever possible.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods.

Commenter Name: Patrick J. Nugent
Commenter Affiliation: Texas Pipeline Association (TPA)
Document Control Number: EPA-HQ-OAR-2008-0508-0460.1
Comment Excerpt Number: 6

Comment: "Option 3" is the best of the monitoring approaches that have been proposed. Of the four monitoring approaches discussed in the preamble, TPA believes that the most appropriate for fugitive emissions would be "Option 3." See 74 Fed. Reg. 16474-75. Option 3 would allow facilities to calculate emissions using EPA-supplied default factors and inputs that may already be measured. As stated in these comments, allowing regulated entities to comply by using accepted and readily understood emission factors, such as those in the API Compendium, would strike the best balance between accuracy and cost-effectiveness.

Response: Note that EPA is not going final with several subparts, including subpart W (Oil and Natural Gas Systems). As we consider next steps, we will be reviewing the public comments and other relevant information. Therefore, we are not responding to comments on subpart W at this time.

Commenter Name: Jack Gehring et al.
Commenter Affiliation: Caterpillar Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0499.1
Comment Excerpt Number: 22

Comment: The need for operational compliance flexibility for covered entities must be a paramount consideration in EPA's development of the Reporting Rule. Consistent with EPA's overall objectives of obtaining quality data and maximizing data coverage while minimizing burdens on covered entities, the Reporting Rule must allow facilities the flexibility to obtain and use existing data where available, avoid incremental costs related to physical facility changes (e.g., through addition of fuel flow meters), and modify their operations and facilities in the future without negatively impacting compliance. As experience with other regulatory programs has demonstrated, failure to allow facilities appropriate flexibility will place industry at a competitive disadvantage by hampering their ability to quickly modify their operations to satisfy critical business needs.

Response: The goal of the reporting program is to provide accurate, economy-wide data on GHG emissions to inform policy decisions and to aid in the development of future regulatory programs. The data collected under this rule will help EPA determine the relative emissions of specific industries, the variability in emissions across each source category, and the factors that influence GHG emission rates. To meet this goal, EPA determined that data collected using a consistent protocol would provide reliable data of known quality for each source category. Therefore, the final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Note that in response to comments, EPA has allowed additional time for facilities that must install monitoring instruments. The final rule includes provisions for use of best available data for part of 2010. In addition, new flow meter requirements in subpart A and changes to

individual subparts such as subpart C (general stationary fuel combustion) allow additional monitoring flexibility and additional time for calibration.

Commenter Name: Benjamin Brandes
Commenter Affiliation: National Mining Association (NMA)
Document Control Number: EPA-HQ-OAR-2008-0508-0466.1
Comment Excerpt Number: 22

Comment: NMA supports EPA's identified Option 2 for monitoring stated in the preamble: Combination of Direct Emission Measurement and Facility-Specific Calculations. 74 Fed. Reg. 16,474. It does make sense to require CEMS on those facilities that are required to collect data and report on that basis under other federally enforceable programs. NMA believes, however, that it would be overly burdensome if EPA were to require installation of CEMS on other facilities, for instance on those not already required to have CEMS for other federal programs. This would be true particularly in light of the potentially temporary nature of this regulation and the potentially large number of impacted sources that will fall under its purview.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Jeff A. Myrom
Commenter Affiliation: MidAmerican Energy Holdings Company
Document Control Number: EPA-HQ-OAR-2008-0508-0581.1
Comment Excerpt Number: 27

Comment: MidAmerican submits that Option 2 provides for a reasonable balance of data quality and the cost of obtaining that data.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Keith Epperson
Commenter Affiliation: American Feed Industry Association (AFIA)
Document Control Number: EPA-HQ-OAR-2008-0508-0399.1
Comment Excerpt Number: 3

Comment: Within the proposed rule, EPA states that it considered several options for monitoring methods that would be used to determine a facility's GHS emissions. EPA further states that the agency selected a combination of direct measurements and facility-specific calculations as its preferred monitoring approach. This approach would require direct measurement of emissions from units at facilities that already are required to collect and report data using continuous emission monitoring systems under other federally enforceable programs, while allowing other facilities to either directly measure emissions or to use facility-specific GHG calculation methods. AFIA supports EPA's proposed monitoring approach. We believe that the approach and its corresponding GHG calculation methodology provides needed

flexibility for facilities and will provide the agency with data of sufficient quality for use in developing future climate change policy. AFIA does not support the option proposed by EPA that would require continuous emission monitoring systems for all source categories where direct measurement is feasible. We believe that such an approach would place an unreasonably high cost burden on facilities with no commensurate benefit in the accuracy of emissions reporting.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding when the use of direct measurement is required. See the preamble for the full response on the general monitoring approach.

Commenter Name: Gregory M. Adams
Commenter Affiliation: Sanitation Districts of Los Angeles County
Document Control Number: EPA-HQ-OAR-2008-0508-0710.1
Comment Excerpt Number: 4

Comment: The EPA, state and regional efforts are overly fixed on IPCC methodologies developed in the mid-1990's. An unwillingness to seriously consider alternative approaches could undermine the accuracy of the program's results and misdirect efforts to tackle the sources of climate change. For example, in their review of the methodology for estimating N20 emissions from POTWs, the National Association of Clean Water Agencies has prepared an extensive database, at EPA request, of the nitrogen loading to POTWs. This data clearly demonstrates that the nitrogen loading assumed by the IPCC methodology vastly overstates the actual condition. Moreover, the nation's entire N20 emissions estimate from POTWs is leveraged against the results of a 1995 paper focused on a 1.06 MGD POTW serving roughly 12,500 college students in New Hampshire. Alternative emissions estimation approaches based on sound science and the well-documented experience of waste management professionals should be welcomed when refining the estimation techniques.

Response: In developing this rule, EPA reviewed a range of GHG monitoring and calculation methods, including methods developed or used by the IPCC, international programs, State and regional programs, Federal voluntary programs, GHG registries, NGOs, and industry associations. See also response to comment EPA-HQ-OAR-2008-0508-0959.1, excerpt 18, relating to alternative calculation methods. Note that EPA is not going final with several subparts, including subpart II (Wastewater). As we consider next steps, we will be reviewing the public comments and other relevant information. Therefore, we are not responding to comments on subpart II at this time.

Commenter Name: Thomas W. Easterly
Commenter Affiliation: Indiana Department of Environmental Management (IDEM)
Document Control Number: EPA-HQ-OAR-2008-0508-0525.1
Comment Excerpt Number: 23

Comment: If U.S. EPA proceeds with this proposed reporting rule, U.S. EPA must ensure that the reporting methodologies selected are appropriate for each source category in order to simplify any applicable reporting requirements.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the response on the general monitoring approach. In response to specific comments on the GHG monitoring and calculation requirements for individual source categories, EPA has modified methodologies for some source categories. For further information, see the preamble sections and comment response document volumes on each applicable source category.

Commenter Name: Karl Pepple
Commenter Affiliation: City of Houston, Texas
Document Control Number: EPA-HQ-OAR-2008-0508-0699.1
Comment Excerpt Number: 5

Comment: The City has expressed its support for good data in many comments filed with the USEPA, including its petition filed under the Data Quality Act. Therefore, the City is concerned that in some circumstances where continuous emissions monitoring data or other monitoring data is available but not currently required, the USEPA will allow facilities to continue to calculate emissions, even though monitoring and modeling studies show that calculating emissions results in gross underreporting. USEPA should mandate the collection of emissions data where it is feasible. Estimates should only be used when the formulas have been developed and actual emissions data are not feasible to obtain.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach. In developing the rule, our goal was to collect accurate data of known quality, while balancing the need for accurate data against the burden of collecting the data. For this reason, the rule makes use of existing monitoring equipment (e.g., flow meters, weighing scales, CEMS, etc.) to the extent feasible and requires facilities to calibrate monitoring equipment to certain specifications. In addition, facilities and suppliers must perform regular QA/QC procedures (e.g., re-calibrating meters), maintain a written monitoring plan, and keep records of the results of calibrations and estimates of accuracy for measurement devices. Although differences in the accuracy of GHG emissions reported by different source categories is unavoidable due to the nature of the source categories, EPA believes that the methods in the rule will achieve an appropriate level of data quality for the intended purpose.

Commenter Name: Alison A. Keane
Commenter Affiliation: National Paint & Coatings Association, Inc. (NPCA/FSCT)
Document Control Number: EPA-HQ-OAR-2008-0508-0593.1
Comment Excerpt Number: 12

Comment: EPA proposed four distinct options for measurement and calculation methods and selected Option 2 as its preferred choice – a combination of direct measurement and facility specific calculations. Under this option, EPA would: "require direct measurement of emissions from units at facilities that already are required to collect and report data using CEMS under other Federally enforceable programs (e.g., ARP, NSPS, NESHAP, SIPs). In some cases, this may require upgrading existing CEMS that currently monitor criteria pollutant to also monitor CO_2. Facilities that do not have units that have CEMS installed would have the choice to either directly measure emissions or to use facility -specific GHG calculation methods. The

measurement and calculation methods for each source category would be specified in each subpart." NPCA disagrees with EPA's selection and requests that EPA instead institute Option 3 – Simplified Calculation Methods. EPA -supplied default emission factors are readily available and calculations of emissions using simple inputs such as natural gas consumption are straightforward. Option 3 maintains flexibility for industries that are not listed source categories while still requiring sufficient robust reporting for those that are. Furthermore, Option 3 would allow for the use of World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) protocols. These emission factors are well accepted globally and can also be easily adopted by reporters who are unfamiliar with them because they are uncomplicated and do not require ample staff time for training.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the response on the general monitoring approach. EPA has restricted the use of default emission factors to those processes where they are reasonably accurate and where other more accurate methods were determined to place too great a burden on reporters (for example, the tier 1 factors for combustion of specific fuels in smaller combustion units). In general, the rule does not use default emission factors because they are less accurate than the selected options, do not take advantage of available site-specific data, and do not account for facility-specific differences in process design, operation, raw materials used, etc. In response to the commenter's suggestion that default factors would be useful for reporting source categories that are not listed, the rule requires reporting only of emissions from sources for which methodologies are contained in the rule, and does not require facilities to estimate GHG emissions from other sources.

Commenter Name: Sean M, O'Keefe
Commenter Affiliation: Hawaiian Commercial and Sugar Company (HC&S)
Document Control Number: EPA-HQ-OAR-2008-0508-1138.1
Comment Excerpt Number: 7

Comment: According to the preamble of the proposed rule, EPA considered four options for monitoring greenhouse gas (GHG) emissions under the rule. One of these, designated as Option 1, would require direct measurement of GHGs for all source categories where direct measurement is feasible, and would require installation of Continuous Emissions Monitoring Systems (CEMS) for carbon dioxide in the stacks from stationary combustion units and industrial processes. A second option, Option 2, would require direct measurement of emissions from units at facilities already required to collect and report data using CEMS, which may require upgrading existing CEMS to measure CO_2 emissions. Option 2 would allow facilities that do not have units with CEMS installed to either directly measure emissions or to use facility-specific GHG calculation methods. A&B strongly opposes mandatory direct measurement of GHG emissions where the installation of new CEMS or upgrades to existing CEMS would be required. We believe that estimates of GHG emissions that are sufficiently accurate to meet the objectives of the proposed rule can be obtained through the use of facility-specific GHG calculation methods and/or simplified calculation methods using default emission factors, and do not believe that the cost of installing, operating, and maintaining new CEMS (under Option 1), or of installing upgrades to existing CEMS (under Option 2) is warranted by any marginal increase in the accuracy of emissions estimates that would result. Annual reporting of emissions of criteria pollutants is already required for all major sources under state permitting programs implementing Title V of the Clean Air Act; these sources have never been required to install or

modify CEMS solely for the purpose of complying with emissions reporting requirements. Accordingly, we do not believe that the GHG reporting rule should require CEMS for monitoring GHG emissions at any facility. The rule should, however, allow facilities that wish to monitor GHG emissions using CEMS the option of doing so.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. See the preamble for the full response on the general monitoring approach. Please see the response to comment EPA-HQ-OAR-2008-0508-0712.1, excerpt 35 regarding EPA's analysis of the economic impacts for this rule. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts."

Commenter Name: Steven M. Pirner
Commenter Affiliation: South Dakota Department of Environment and Natural Resources (SD DENR)
Document Control Number: EPA-HQ-OAR-2008-0508-0576
Comment Excerpt Number: 11

Comment: EPA requests comments on four monitoring approach options and on other potential options and their advantages and disadvantages. Option 1 would require direct measurements of greenhouse gas emissions for all source categories where direct measurement is feasible. Option 2 would require a combination of direct measurement and facility-specific calculations. Option 3 would require simplified calculation methods. Option 4 would require reporter's choice of methods. EPA selected Option 2 because it will result in relatively high quality data for use in developing climate policies and supporting a wide range of potential future policy options. SD DENR agrees.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Gregory A. Wilkins
Commenter Affiliation: Marathon Oil Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0712.1
Comment Excerpt Number: 12

Comment: Marathon proposes that Option 4 (allowing the reporter to choose the methodology used for emission calculations) he allowed under this rule. This option would allow the use of emission factors and would still permit the option for the regulated entity to choose direct monitoring or fuel sampling. In developing an accurate emission factor, the carbon content of fuels is measured and for many fuels has limited variability. Hence the factors developed would themselves be consistent and accurate as they are based on these fuel samples. These include emission factors identified in the API Compendium and facility derived emission factors. Also, CO_2 emissions are not nearly as affected by the combustion source as (for example) NOx emissions (due to burner type and high nitrogen content of air). Although fuel sampling is a

method provided in the API Compendium, it is much more rigorous and costly than using emission factors that are also provided in the API Compendium. Flexibility should be given for the regulated entity to choose sampling, the use of emission factors, or direct measurement. The facility should be allowed to determine the level of detail and estimation approach they choose to report against as long as they are using industry accepted and vetted practices like those provided in the API Compendium. Because EPA has not proposed nor made any decisions on any related emissions trading program, it is not appropriate to require this level of detail for emissions inventory purposes. The level of monitoring in this rule is very stringent, and needlessly so, when other methods can be offered to allow a facility to have the flexibility to choose the one that would be most accurate without incurring unnecessary expenses. EPA should use the TRI reporting rule as an example.

Response: The goal of the reporting program is to provide accurate, economy-wide data on GHG emissions to inform policy decisions and to aid in the development of future regulatory programs. The data collected under this rule will help EPA determine the relative emissions of specific industries, the variability in emissions across each source category, and the factors that influence GHG emission rates. To meet this goal, EPA determined that data collected using a consistent protocol would provide reliable data of known quality for each source category. The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility-specific calculation methods. The rule allows limited use of default emissions factors as explained in the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 15.

Commenter Name: Dan Elwell
Commenter Affiliation: Aerospace Industries Association (AIA)
Document Control Number: EPA-HQ-OAR-2008-0508-1140.1
Comment Excerpt Number: 12

Comment: Since most of the GHG emissions can be calculated with a high degree of accuracy, direct measurements are unnecessary. Measurement equipment is expensive, as is installation and adjustment which interfere with production timelines.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding when the use of direct measurement is required. Please see the response to comment EPA-HQ-OAR-2008-0508-0712.1, excerpt 35 regarding EPA's analysis of the economic impacts for this rule. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts."

Commenter Name: See Table 5
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0433.2
Comment Excerpt Number: 13

Comment: NPRA believes that flexibility is necessary in developing reporting methods and that the level of calculation detail should be proportional to the level of GHG emission contribution. With that in mind, we are in agreement with the tiered approach for calculating CO_2 emissions

from combustion sources. We have supported that, whenever possible, calculations will be more cost-effective than measurement and can be just as accurate. Installing continuous emissions monitors (CEMs) imposes a high initial and ongoing cost and CEMs are not appropriate for small units. In addition, in some cases it is not clear that CEMs will provide any improvement in reporting accuracy. Given that the data will ultimately be verified, we strongly believe that industry should be given the flexibility to choose the method that will be the most cost-effective and accurate at the same time.

Response: The goal of the reporting program is to provide accurate, economy-wide data on GHG emissions to inform policy decisions and to aid in the development of future regulatory programs. The data collected under this rule will help EPA determine the relative emissions of specific industries, the variability in emissions across each source category, and the factors that influence GHG emission rates. To meet this goal, EPA determined that data collected using a consistent protocol would provide reliable data of known quality for each source category. The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility-specific calculation methods. See the preamble for the full response on the general monitoring approach. For general stationary fuel combustion sources, EPA has retained the tiered approach for calculating CO_2 emissions.

Commenter Name: [name not given]
Commenter Affiliation: Graphic Arts Coalition (GAC)
Document Control Number: EPA-HQ-OAR-2008-0508-0701.1
Comment Excerpt Number: 13

Comment: EPA proposed four distinct options for measurement and calculation methods and selected Option 2 as its preferred choice – a combination of direct measurement and facility specific calculations. Under this option, EPA would: "require direct measurement of emissions from units at facilities that already are required to collect and report data using CEMS under other Federally enforceable programs (e.g., ARP, NSPS, NESHAP, SIPs). In some cases, this may require upgrading existing CEMS that currently monitor criteria pollutants to also monitor CO_2. Facilities that do not have units that have CEMS installed would have the choice to either directly measure emissions or to use facility-specific GHG calculation methods. The measurement and calculation methods for each source category would be specified in each subpart." The GAC disagrees with EPA's selection and suggests that EPA go with Option 3 – Simplified Calculation Methods. EPA-supplied default emission factors are readily available and calculations of emissions using simple inputs such as natural gas consumption are fairly uncomplicated. Option 3 provides flexibility for industries that are not listed source categories while still requiring sufficient robust reporting for those that are.

Response: Please see response to comment EPA-HQ-OAR-2008-0508-0593.1, excerpt 12.

Commenter Name: Donald R. Schregardus
Commenter Affiliation: Department of the Navy, Department of Defense (DoD)
Document Control Number: EPA-HQ-OAR-2008-0508-0381.1
Comment Excerpt Number: 14

Comment: DoD supports EPA's proposed selection of option 2 (combination of direct measurement and facility-specific calculations). Per Section IV.H. (74 FR 16475), EPA explains

its decision to propose option 2 as the general monitoring approach. Option 2 strikes a balance between data accuracy and cost. It makes use of existing data and methodologies to the extent feasible, and avoids the cost of installing and operating continuous emission monitoring systems (CEMS) at numerous facilities. Because this option specifies methods for each source category, it should result in data that are comparable across facilities. We recommend that EPA promulgate the GHG reporting Rule using option 2 as the general monitoring approach.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Renae Schmidt
Commenter Affiliation: CITGO Petroleum Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0726.1
Comment Excerpt Number: 5

Comment: CITGO strongly believes that the EPA should allow other reasonable and defensible calculation protocols especially with the smaller emission source categories. CITGO does agree that formal monitoring and calculation protocols be established for the larger source categories that could at some time in the future be subject to defined GHG management programs.

Response: The goal of the reporting program is to provide accurate, economy-wide data on GHG emissions to inform policy decisions and to aid in the development of future regulatory programs. The data collected under this rule will help EPA determine the relative emissions of specific industries, the variability in emissions across each source category, and the factors that influence GHG emission rates. To meet this goal, EPA determined that data collected using a consistent protocol would provide reliable data of known quality for each source category, including smaller emission source categories. Simplified methods are provided for a number of smaller emissions sources within a facility. For information on the method selected for a specific source category and changes made since proposal, see the technical support documents and comment response volumes for the source category.

Commenter Name: Stephen B. Kemp
Commenter Affiliation: Occidental Chemical Corporation (OCC)
Document Control Number: EPA-HQ-OAR-2008-0508-0644.1
Comment Excerpt Number: 3

Comment: Allow facilities to estimate GHG emissions based on existing available technology, methods and data already in use pursuant to a host of other federal and state air emissions regulations. Doing so will result in values of equal or greater accuracy at much lower cost than mandating the use of specific calculation methodologies or the installation of fuel monitoring or emissions monitoring equipment. Methodologies for estimating GHG emissions are still evolving and EPA should offer options for estimation methodology through reporting guidance, rather than mandating certain current methods by regulation. This has proved to be a successful approach in several state emission inventory programs, and would allow flexibility based on specific facility and equipment configurations.

Response: Please see response to comment EPA-HQ-OAR-2008-0508-00726.1, excerpt 5.

Commenter Name: See Table 4
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0440.1
Comment Excerpt Number: 13

Comment: EPA does not require continuous emissions monitoring of meat industry combustion devices, but provides options for calculating GHG emissions. In its proposal, EPA agrees that indirect estimation is more cost-effective and reliable.

Response: EPA thanks the commenter for their input. EPA is not going final with subpart M (Food Processing). As we consider next steps, we will be reviewing the public comments and other relevant information. Therefore, we are not responding to comments on subpart M at this time. As noted by the commenter, food processing facilities will be subject to the reporting provisions under subpart C for stationary fuel combustion devices if the facility exceeds the 25,000 metric tons CO_2e emission threshold in the rule. The final subpart C retains the tiered approach that allows specified calculation methods rather than CEMS for most combustion units.

Commenter Name: Laurie Burt
Commenter Affiliation: Massachusetts Department of Environmental Protection
Document Control Number: EPA-HQ-OAR-2008-0508-0453.1
Comment Excerpt Number: 13

Comment: Under Section IV H of the Preamble, Rationale for Monitoring Requirements, EPA requests comment on the selected monitoring requirement. Massachusetts supports EPA's proposal to use Option 2: Combination of Direct Emission Measurement and Facility-Specific Calculations for its monitoring requirements. Massachusetts supports the use of the most accurate data available at a reasonable cost. For many sources this data is already available, such as requiring direct emissions measurement at facilities already using continuous emissions monitors (CEMS) and requiring suppliers to report production, import, and export data. For other sources, either direct measurement of emissions or facility-specific GHG calculation methods will provide a higher level of data accuracy than use of generic emission factors. Use of Option 2 by EPA will also be consistent with Massachusetts' GHG Reporting Rule, which requires the use of the most accurate data available.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Angela Burckhalter
Commenter Affiliation: Oklahoma Independent Petroleum Association (OIPA)
Document Control Number: EPA-HQ-OAR-2008-0508-0386.1
Comment Excerpt Number: 16

Comment: EPA requests comments on its selection of a combination of direct measurement and facility-specific calculations. Annual emissions reports that are subject to a permit do not require

the use of direct measurement requirements. The emission reports are based on acceptable calculation methods using emission factors. We are very concerned with the availability of qualified consultants and equipment to conduct all the direct measurement requirements in the proposed rule. Reporting entities should be able to use existing available data or currently accepted engineering calculation methods and emission factors to meet EPA's requirements and not be subject to costly and burdensome direct measurement requirements.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. See the preamble for the full response on the general monitoring approach. Please see response to comment EPA-HQ-OAR-2008-0508-00726.1, excerpt 5 regarding the importance of using consistent protocols for reporting. To assist reporters in complying with the rule, EPA is providing an electronic reporting system to assist the reporter with data entry, calculations, and report submittal. We are also preparing guidance materials and training.

Commenter Name: Thomas W. Easterly
Commenter Affiliation: Indiana Department of Environmental Management (IDEM)
Document Control Number: EPA-HQ-OAR-2008-0508-0525.1
Comment Excerpt Number: 19

Comment: A significant number of facilities in Indiana will have to install new or modify existing CEMS and CERMS to comply with the proposed reporting rule. The direct measurement option is the most costly as facilities would need to install, operate, and maintain emission monitors. Therefore, U.S. EPA should not proceed with this option.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement. Please see the response to comment EPA-HQ-OAR-2008-0508-0712.1, excerpt 35 regarding EPA's analysis of the economic impacts for this rule. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts."

Commenter Name: Joseph A. D'Amico
Commenter Affiliation: Foundation Coal Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0421.2
Comment Excerpt Number: 4

Comment: The reporting requirements are a burden in that they require precise measurements of emissions. These measurements take massive amounts of time to record, review and report their accuracy.

Response: See the preamble for the response on the general monitoring approach. See response to EPA-HQ-OAR-2008-0508-0525.1 excerpt 19 above regarding EPA's estimate of burden.

Commenter Name: Donald R. Schregardus
Commenter Affiliation: Department of the Navy, Department of Defense (DoD)
Document Control Number: EPA-HQ-OAR-2008-0508-0381.1
Comment Excerpt Number: 16

Comment: Although the rule offers methods for estimating missing data, facilities still may not have the data needed to calculate emissions in accordance with the methodologies provided in the rule. The rule should allow the use of approved alternative methodologies. Allowing alternative methodologies to be used would assist facilities in determining applicability and preparing emissions reports. EPA has allowed flexibility in the use of emissions calculation methodologies in other rules. For example, the General Conformity Rule, at 40 CFR § 93.159(b), provides that "The analyses required under this subpart must be based on the latest and most accurate emission estimation techniques available as described below, unless such techniques are inappropriate. If such techniques are inappropriate and written approval of the EPA Regional Administrator is obtained for any modification or substitution, they may be modified or another technique substituted on a case-by- case basis or, where appropriate, on a generic basis for a specific Federal agency program." We recommend that EPA allow alternative calculation methodologies to be used with the "Approval of the Administrator or designated representative."

Response: The goal of the reporting program is to provide accurate, economy-wide data on GHG emissions to inform policy decisions and to aid in the development of future regulatory programs. The data collected under this rule will help EPA determine the relative emissions of specific industries, the variability in emissions across each source category, and the factors that influence GHG emission rates. To meet this goal, EPA determined that data collected using a consistent protocol would provide reliable data of known quality for each source category. To assist reporters in complying with the rule, EPA is providing an electronic reporting system to assist the reporter with data entry, calculations, and report submittal. We are also preparing guidance materials and training. For the response to the comment on allowing facilities to select any monitoring approach using available process information, see the response to EPA-HQ-OAR-2008-0508-952.1, excerpt 66. For responses to general comments on missing data procedures, see the comment response document volume on Approach to Verification and Missing Data. For responses to comments and discussion of changes to the specific missing data procedures in the individual source category subparts of the rule, see the preamble sections and comment response document volumes for the individual source categories.

Commenter Name: Kyle Pitsor
Commenter Affiliation: National Electrical Manufacturers Association (NEMA) Magnet Wire Section
Document Control Number: EPA-HQ-OAR-2008-0508-0622.1
Comment Excerpt Number: 1

Comment: The NEMA Magnet Wire EHS Committee appreciates that the U.S. Environmental Protection Agency (EPA) has determined that facilities with greenhouse gas (GHG) emitting sources need only to report direct emissions. By excluding indirect emissions from the facility's calculations, the rule discourages double-counting of emissions among upstream and downstream sources and will help EPA achieve a more accurate aggregated total of such emissions.

Response: EPA thanks the commenter for their input.

Commenter Name: Keith Adams
Commenter Affiliation: Air Products and Chemicals, Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-1142.1
Comment Excerpt Number: 18

Comment: EPA solicits comment on whether the methodologies selected by EPA are appropriate for each source category or whether alternative approaches should be adopted (74 FR 68, page 16461). Air Products believes that flexibility is necessary in developing reporting methods and the level of calculation detail should be proportional to the level of GHG emission contribution. With that in mind, we are in agreement with the tiered approach for calculating CO_2 emissions from combustion sources. We have supported that calculation-based methods will often be more cost-effective than measurement and can be just as, and often more, accurate. Installing continuous emissions monitors (CEMs) imposes a high initial and ongoing cost and CEMS are not appropriate for small units. In addition, in some cases it is not clear that CEMs will provide any improvement in reporting accuracy. Given that the data will ultimately be verified, we strongly believe that industry should be given the flexibility to choose the method that will be the most cost-effective and accurate at the same time.

Response: See response to EPA-HQ-OAR-2008-0508-0433.2 excerpt 13 above regarding the importance in using consistent measurement protocols. The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach. EPA has retained the tiered approach for stationary combustion sources.

Commenter Name: John Robitaille
Commenter Affiliation: Petroleum Association of Wyoming (PAW)
Document Control Number: EPA-HQ-OAR-2008-0508-1603
Comment Excerpt Number: 11

Comment: Data collection should rely on ’best available data’, and industry endorsed methodologies, and should not mandate any new measurement methods or significant new capitol or operating expenditures.

Response: For the response to this comment, see the preamble response on the initial reporting year and best available monitoring methods.

Commenter Name: Keith Overcash
Commenter Affiliation: North Carolina Division of Air Quality (NCDAQ)
Document Control Number: EPA-HQ-OAR-2008-0508-0588
Comment Excerpt Number: 22

Comment: We agree on that if the ultimate goal of the rule is to have facility-level information, then option 2 as selected by EPA is appropriate.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the response on the general monitoring approach.

Commenter Name: Scott Evans
Commenter Affiliation: CleanAir Engineering (Clean Air)
Document Control Number: EPA-HQ-OAR-2008-0508-0696.1
Comment Excerpt Number: 8

Comment: Many commenters will undoubtedly urge EPA to follow ISO 14064 and other ISO standards in this reporting protocol. These standards, the commenters will argue, are international consensus standards that the U.S. had a voice in developing. We would like to make two comments on this issue. First, the U.S. has a very limited voice in the ISO standards development process. While each European state has a separate vote, the U.S. has but one. The result is heavy European domination of the process with the U.S. being easily outvoted on key issues. Having participated in the ISO standards development process in the past, we have some direct experience in this area. While we strongly support the consensus standard development process, we as a nation cannot be enslaved to the process when the result is not in our national interest. The excessive bureaucracy and cost inherent in the ISO approach to GHG reporting can be easily avoided with minimal impact on data reliability. Furthermore, the ISO GHG standards were developed without the benefit of hindsight that is available now to us. We have had an opportunity to watch the EU- ETS system operate for a while now. We have been able to observe what has worked and what has not. It would be foolish to blindly adopt the same ISO approach without applying the lessons learned. In summary, we feel it is best to use the ISO standards as a model, but not to blindly follow them if there is a better approach. We need to develop a program that meets the unique needs of the U.S. in an efficient, cost-effective manner. Once the program is up and running and successful, we can then sit down with the Europeans and harmonize the standards based on what each of us has learned in the process.

Response: In developing the rule, EPA considered available monitoring methods and protocols for each source category. These included, for example, IPCC methods, EU and other international GHG reporting programs, state programs, TCR, WRI/WBCSD, various industry associations, and Federal voluntary GHG programs. We have selected appropriate protocols to meet the objectives of this reporting rule as documented in the proposal preamble, technical support documents and the final preamble and comment response document volumes for the individual source categories. For responses to general comments on verification, see the comment response document volume on Approach to Verification and Missing Data.

Commenter Name: Dean C. DeLorey
Commenter Affiliation: Beet Sugar Development Foundation (BSDF) Environmental Committee
Document Control Number: EPA-HQ-OAR-2008-0508-0559.1
Comment Excerpt Number: 8

Comment: EPA has selected a combination of direct measurement and facility specific calculations for the inventory reporting requirements. We recommend not requiring any additional monitoring systems (i.e., CEMS) for GHG reporting. This approach is appropriate as fuel consumption and consistent calculation methods should provide sufficiently accurate data.

Focusing too much effort on the inventory even though accuracy is necessary, will take away from efforts to maintain business in difficult economic times and future initiatives to reduce GHG emissions.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0490.1, excerpt 15 regarding use of direct measurement.

Commenter Name: Chris Korleski
Commenter Affiliation: State of Ohio Environmental Protection Agency
Document Control Number: EPA-HQ-OAR-2008-0508-0598.1
Comment Excerpt Number: 11

Comment: Ohio EPA agrees with U.S. EPA's approach to incorporate a combination of direct emissions measurement and facility specific calculation methods. Where it is not technically feasible for sources to directly measure GHG emissions, such as through a continuous emissions monitoring system (GEMS), the source should be able to utilize facility specific calculation methods to measure GHG emissions. This option strikes a good balance between reducing cost by not requiring direct measurement equipment installation for all sources while providing a reasonably high degree of certainty that incorporates existing practices at facilities.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Larry R. Soward
Commenter Affiliation: Texas Commission on Environmental Quality (TCEQ)
Document Control Number: EPA-HQ-OAR-2008-0508-0619
Comment Excerpt Number: 11

Comment: The proposed monitoring requirements, allowing for the use of monitors and estimated emissions are appropriate and reasonable.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Bob Dinneen
Commenter Affiliation: Renewable Fuels Association (RFA)
Document Control Number: EPA-HQ-OAR-2008-0508-0494.1
Comment Excerpt Number: 12

Comment: EPA considered four general approaches for monitoring requirements under the Proposed Rule. These options included: (1) direct emission measurements (e.g., continuous emission monitoring systems ("CEMS")); (2) combination of direct emission measurement and facility-specific calculations; (3) simplified calculation methods; and (4) reporter's choice of methods. 74 Fed Reg. at 16,474-16,475. Option 4 would give reporters flexibility to select any measurement or calculation method and any emission factors for determining emissions. Id. at

16,475. The Proposed Rule proposes Option 2 as the general monitoring approach. Option 2 would require direct measurement of emissions from units at facilities already required to collect and report data using CEMS under other programs. For facilities that have units that do not have CEMS installed, they would have the choice to directly measure emissions or to use facility-specific calculations, which would be identified in each subpart. RFA agrees that generally requiring CEMS is not warranted, unless facilities already utilize such systems. While EPA should provide guidance as to how to make these calculations, facilities should be given the option to use CEMS or utilize other reasonable methods to determine GHG emissions. Such reports should provide EPA with sufficient facility-specific information to inform future policy.

Response: The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. Please see the response to comment EPA-HQ-OAR-2008-0508-0433.2, excerpt 13 regarding the importance of using consistent monitoring methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: Claire Olson
Commenter Affiliation: Basin Electric Power Cooperative
Document Control Number: EPA-HQ-OAR-2008-0508-0637.1
Comment Excerpt Number: 1

Comment: Basin Electric agrees with EPA's recognition that overly burdensome reporting requirements are not necessary to supply the data needed. Basin Electric concurs with the general premise that the GHG reporting rules being developed by EPA should have reasonable reporting requirements that accurately depict GHG emissions, but minimize the reporting burden.

Response: EPA thanks the commenter for their input. For additional information, see the preamble response on the general monitoring approach.

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2. NEED FOR DETAILED DATA COLLECTION

Commenter Name: Michael Garvin
Commenter Affiliation: Pharmaceutical Research and Manufacturers of America (PhRMA)
Document Control Number: EPA-HQ-OAR-2008-0508-0959.1
Comment Excerpt Number: 3

Comment: As we have commented previously in regard to EPA's Announcement of Proposed Rulemaking (ANPR) on GHGs, many PhRMA member companies have demonstrated their commitment to taking action to reduce GHG emissions by implementing extensive voluntary efforts to reduce their carbon footprints. A number of our companies have partnered with EPA through the Climate Leaders Program in which companies commit to reducing their impact on the global environment by setting long term reduction goals and annually reporting their progress to EPA. [Footnote: PhRMA member companies which are also EPA Climate Leaders Partners include: Abbott Laboratories, Genzyme Corporation, Johnson & Johnson, Merck & Co., Inc., Novartis Corporation, Pfizer Inc., and Roche Group. These voluntary efforts have achieved real results, as outlined on the Climate Leaders website. In order to help ensure that companies who

have taken voluntary measures are not penalized, and in order to ensure that companies have an incentive to voluntarily reduce their GHG emissions in advance of a mandatory GHG emissions reduction framework, PhRMA requests that the EPA support use of the data collected through the GHG Reporting Rule as the basis for providing credit for early action taken to reduce GHG emissions in future climate change regulation or legislation. In addition, some pharmaceutical facilities would be brought into the proposed rule due to presence of cogeneration units at their sites. These cogeneration units improve the GHG emissions profile of the site by replacing electricity purchased from the grid with site-generated electricity. These cogeneration units typically operate more cleanly and more efficiently -- and generate less GHG emissions -- than utility units that produce electricity for the commercial grid. If these facilities shut down their cogeneration units, they would not be subject to this reporting rule, but the overall GHG emissions profile in that area would be higher due to the need to increased production to the grid from less efficient utility units.

Response: EPA supports the voluntary actions taken by PhRMA members to reduce their GHG emissions. EPA also supports the use of cogeneration units as means of reducing overall GHG emissions. EPA has adopted a tiered approach to reporting CO_2 emissions from stationary combustion units that allow simplified methods to be used for many units, thereby reducing the burden on facilities. Simplified methods using emission factors were also adopted for calculating NO_2 and CH_4 emissions from stationary combustion units. Facilities with two or more small stationary combustion units can group their units and report the emissions from the group of combustion units rather than for each individual unit.

Please see the response to comment EPA-HQ-OAR-2008-0508-0712.1, excerpt 35 regarding EPA's analysis of the economic impacts for this rule. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts."

Commenter Name: See Table 2
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0509.1
Comment Excerpt Number: 1

Comment: The Proposed Rule sets out a highly detailed set of requirements to collect GHG emissions data and related information from every facility above the stated thresholds (which includes every cement manufacturing plant). The requirements cover not only emissions estimation and reporting but also monitor specifications, requirements for a quality assurance program, and other mandates. The level of detail and the prescriptive nature of the Proposed Rule might be appropriate for emissions monitoring and reporting requirements to demonstrate compliance with specific emissions limitations, but they go far beyond what is needed in order to understand the amounts and sources of national GHG emissions for purposes of designing regulatory programs. Indeed, EPA has relied on far less comprehensive data collection efforts for virtually every Clean Air Act rulemaking it has conducted. EPA's primary justification for imposing such an unprecedented recordkeeping and reporting burden apparently is that the data generated may be necessary or desirable for the purposes of allocating GHG emission allowances under some emissions trading scheme for which EPA currently lacks statutory authority. It is uncertain whether Congress will ever give EPA that authority, which subset of sources will require emission allowances, how they will be allocated, and so forth. Indeed, there

have been legislative proposals that involve little or no allocation of emission allowances based on past emissions. Imposing a huge recordkeeping and reporting burden on the economy on the speculative assumption that the information required to be collected will be needed under future legislation is unnecessary and arbitrary and capricious.

Response: This rule was developed in response to FY2008 Consolidated Appropriations Act, which authorized funding for EPA to develop a rule to require "mandatory reporting of GHG emissions above appropriate thresholds in all sectors of the economy of the United States." (see Consolidated Appropriations Act, 2008, Pub. L. No.110-161, 121 Stat 1844, 2128 (2008)). EPA has taken steps to reduce the reporting burden on industry while collecting data of sufficient reliability and quality to be of use to policy makers. For this reason, EPA intentionally selected a threshold that would maximize coverage of all sectors of the economy while excluding smaller emitters. EPA also included simplified estimation methods for a number of smaller sources (e.g., small stationary combustion units). The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods, for reasons discussed in the preamble and the section of this comment response document on the general monitoring approach.

The primary purpose of this rule is to provide policy makers and regulators with accurate economy-wide data on GHG emissions for use in developing GHG policies and programs. Although we do not yet know what final policy direction will be taken, the data collected under this rule has been designed to support a number of possible policy options and potential programs that would require accurate and reliable data. For example, the data may be used to analyze policy options or set emissions standards for various types of processes and emission units. For these types of regulatory programs, the quality of the data is extremely important. Use of consistent and reasonably accurate facility-specific GHG calculation methods for each source category, robust recordkeeping, QA/QC, and missing data provisions are essential to assure the data is complete, accurate, and reliable. Also see Volume 9, the response to comments on legal issues for a discussion of EPA’s authority under CAA sections 114 and 208.

In selecting the calculation methods for each source category, EPA carefully weighed the need for accurate data against the burden the increased accuracy would place on affected industries. For more information on the selection of the monitoring methods for cement manufacturers, see the preamble to the proposed rule (74 FR 16488, April 10, 2009) and the Technical Support Document for process emissions from cement production. For changes made to the monitoring methods after proposal, see the preamble section on cement production.

As noted by the commenter, the rule requires facilities to report several additional data elements along with their actual GHG emissions. These data elements will serve two important purposes. First, the data will be used by EPA to verify the reported emissions. (For additional information on EPA's approach to verifying emissions, see the preamble for the response on the emissions verification approach.) Second, the facility, process and unit-level data will enable EPA to assess the contribution of individual processes and units to overall GHG emissions, better understand the variability in emissions between facilities, and analyze the factors that influence GHG emissions. For additional information and responses to comments on why specific data elements are reported, see the preamble sections and comment response document volumes for Subpart A: Content of Annual Reports and the individual source category subparts (e.g., cement production).

EPA conducted an analysis of the economic impacts for this rule and determined that the costs for affected entities are low. EPA estimates the average cost-to-sales ratios for industries affected

by the rule are less than 1 percent. These low average cost-to-sales ratios indicate that the rule is unlikely to result in significant changes in prices, production, or other behavioral changes, such as relocating to outside the United States. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts.

Commenter Name: John Piotrowski
Commenter Affiliation: Packaging Corporation of America (PCA)
Document Control Number: EPA-HQ-OAR-2008-0508-1029.1
Comment Excerpt Number: 1

Comment: The Rule would impose detailed recordkeeping, calculation documentation, quality assurance, maintenance, repair and calibration records, process logs, and data gap reconciliations that are massive in scope. The proposed recordkeeping requirements rival, if not exceed, those required under Title 5 of the Clean Air Act (CAA) for major sources, and this for a compound that has not even been designated as a pollutant. These extensive requirements mirror those employed in the Acid Rain, New Source Review and other related CAA programs. It appears that the Agency anticipates regulating carbon dioxide under the CAA despite an existing legislative proposal to manage carbon dioxide in a different fashion.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0509.1, excerpt 1 above, as well as the comment response document on Subpart A, content of annual report.

Commenter Name: Lorraine Krupa Gershman
Commenter Affiliation: American Chemistry Council (ACC)
Document Control Number: EPA-HQ-OAR-2008-0508-0423.2
Comment Excerpt Number: 4

Comment: EPA discusses how detailed data, above and beyond emissions, will have to be submitted to the Agency under Part 98. This represents a significant departure from other EPA programs. As is the norm in such programs as TRI under 40 CFR 372 or the air emission inventory under 40 CFR 51, Subpart A, EPA and the states require only that the final data be submitted and certified. Furthermore, affected facilities are required to maintain all supporting documentation and to make it available to EPA or a state agency upon request. EPA has given no rationale as to why it seeks to abandon this approach and require that all supporting data be submitted so that EPA can perform ³quality assurance reviews.´

Response: See the response to comment EPA-HQ-OAR-2008-0508-0509.1, excerpt 1 above, as well as the comment response document on Subpart A, content of annual report.

Commenter Name: Dan F. Hunter
Commenter Affiliation: ConocoPhillips Company
Document Control Number: EPA-HQ-OAR-2008-0508-0515.1
Comment Excerpt Number: 1

Comment: ConocoPhillips understands EPA's intent to gather accurate data to support climate change policy. ConocoPhillips is a member of United States Climate Action Partnership (USCAP), which supports an integrated approach to climate policy that includes a cap and-trade program as a core element. As such, we recognize that high quality data will provide the necessary foundation for any regulatory system that places a value on carbon greenhouse gas emissions. However, the measurement and data collection requirements in certain sections of the proposed rule go beyond what we think is necessary at this time for policy development and would place a new significant burden on ConocoPhillips resources. Until Federal climate protection legislation is passed, ConocoPhillips urges EPA to make reporting requirements fit-for-purpose, limiting those requirements to only best available data based on existing measurement, monitoring, equipment, and estimation methods. The appropriate regulatory reporting and data quality requirements can be structured in the future to meet whatever legislative action is passed to address climate change.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0509.1, excerpt 1 above, as well as the comment response document on Subpart A, content of annual report.

Commenter Name: Gregory A. Wilkins
Commenter Affiliation: Marathon Oil Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0712.1
Comment Excerpt Number: 22

Comment: Marathon opposes the immense amount of data that EPA requires to be submitted with the annual report including QA/QC information, calibration results, carbon content, and data substitution information. Marathon proposes that only the calculated emissions be submitted directly to the EPA. This would reduce burden for both reporting entities and the EPA. If and when the EPA determines to audit the facility, all of the data will be required to be brought forward at that point and made available to the EPA for verification. This scenario for reporting fits with the TRI reporting model. Further comments are addressed on this issue later in this letter in the various subparts that contain additional reporting requirements.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0509.1, excerpt 1 above, as well as the comment response document on Subpart A, content of annual report. For responses to general comments on verification, see the comment response document volume on Approach to Verification and Missing Data.

Commenter Name: Shannon Broome
Commenter Affiliation: Air Permitting Forum
Document Control Number: EPA-HQ-OAR-2008-0508-0524.1
Comment Excerpt Number: 1

Comment: EPA should narrow the scope of the rule to avoid placing undue burdens on industry. The FY 2008 Consolidated Appropriations Act granted EPA one-time funding "for activities to develop and publish a draft rule . . . and a final rule . . . to require mandatory reporting of greenhouse gas emissions above appropriate thresholds in all sectors of the economy of the United States." In so doing Congress directed EPA to use its "existing authority under the Clean Air Act."2 In the Proposed Rule, EPA cites to Sections 114 and 208 of the Act for authority, 74 Fed. Reg. 16,448, 16,454-16,455 (Apr. 10, 2009), provisions under which EPA has historically

obtained information necessary to ensure compliance with requirements under the Act and provide information for development of rules mandated by the Act. Consistent with this purpose, it makes sense for EPA to craft this rule to obtain the information that would actually be needed to develop a planned regulatory program, which stands in contrast to the scope of the program that is being proposed here.[Footnote: See Clarifying Statement, 123 Cong. Rec. H 8662 (Aug. 4, 1977), as reprinted in 1977 U.S.C.C.A.N. 1502, 1573. See also United States v. Louisiana Pac. Corp., 908 F. Supp. 835, 841 (D. Colo. 1995) ("Section 7414 grants broad authority to the Administrator to ensure compliance with the CAA through recordkeeping, monitoring, and inspections.")] The requirements in the proposal seem to be unduly burdensome for the purposes EPA has identified -- i.e., development of public policy, particularly the attachment of significant liability for this very complex reporting scheme. EPA historically has used its authority under Sections 114 and 208 to obtain information in a limited manner, recognizing that such requests can be time consuming and costly. [Footnote: Natural Res. Def. Council v. EPA, 529 F.3d 1077, 1085 (D.C. Cir. 2008).] In addition, EPA already has substantial information available to inform public policy. In identifying the source categories to be covered by the Proposed Rule and the thresholds for mandatory reporting that will apply to those source categories, EPA looked to its Inventory of U.S. Greenhouse Gas Emissions and Sinks. While EPA explains that it needs additional information because current inventories do not provide facility-specific information, it remains unclear why such facility-specific information is necessary to develop a policy to address national GHG emissions. We encourage EPA to consider ways to narrow and tailor this proposal so that it focuses on information that would actually be used to develop a regulatory program (and also recognizing that legislation may soon address the type and scope of the program, meaning that EPA's final approach may need to be tailored to any comprehensive GHG legislation that is enacted).

Response: The goal of the reporting program is to provide accurate, economy-wide data on GHG emissions to inform policy decisions and for use in the development of future regulatory programs. EPA designed the reporting program to provide accurate picture of GHG emissions for facilities above the thresholds, broken down by source category and, where feasible, by process or unit. An accurate accounting of facility GHG emissions is an important first step for developing future GHG regulations. Although EPA already has estimates of GHG emissions for a variety of industrial sectors, this data is not consistent of sufficient quality or detail. For example, data from the annual U.S. inventory is a top down approach that uses national statistics and emission factors to estimate emissions. It does not provide accurate facility-level GHG emission estimates that reflect site-specific information, or the data typically relied on for developing New Source Performance Standards, which would require information on specific processes and emission units. No matter which approach is ultimately selected, EPA will need reliable data for analyzing and perhaps designing regulatory programs. (For additional discussion of the need for and uses of the data elements reported, see the response to comment EPA-HQ-2008-0508-0509.1, excerpt 1 above, and the comment response document on Subpart A: Content of Annual Report.) The monitoring, reporting, recordkeeping, QA/QC, missing data, and enforcement provisions contained in the reporting rule are necessary to assure affected facilities report accurate and reliable data. Without enforcement provisions, EPA would not be able to ensure that facilities submit their reports on time and report truthful, complete, and accurate data. As with other CAA rules, EPA has discretion to pursue a variety of informal and formal actions in order to achieve compliance and will provide assistance for facilities that encounter difficulties complying with the rule. See the preamble for additional discussion of and responses to comments on compliance and enforcement. Also see Volume 9, the response to comments on legal issues for a discussion of EPA's authority under CAA sections 114 and 208.

EPA has been mindful of the cost to reporters in developing the reporting rule. In developing the rule, we carefully balanced the need to collect economy-wide information of sufficient accuracy and detail, against the burden the data collection and reporting requirements impose on the regulated community. We intentionally selected source categories that were known to be high emitters of GHGs and selected a threshold that would provide sufficient coverage of all sectors of the economy while excluding smaller emitters for whom the burdens of reporting would be greater. In response to public comments, EPA has made changes to the GHG calculation and monitoring methods in some of the source category subparts to reduce the industry burden while still collecting accurate GHG data. For more information on selection of the threshold, see the preamble for the response on the threshold. For additional information on how EPA selected the source categories, see the preambles for the proposed and final rules. For information on rule changes and responses to comments on the GHG calculation and monitoring methods for individual source categories, see the preamble sections and comment response documents for the relevant source categories.

Commenter Name: William C. Herz
Commenter Affiliation: The Fertilizer Institute (TFI)
Document Control Number: EPA-HQ-OAR-2008-0508-0952.1
Comment Excerpt Number: 64

Comment: Throughout the NPRM, EPA justifies the need for collection of facility-specific GHG emissions data as providing “comprehensive and accurate data which would inform future climate change policies.” 74 Fed. Reg. at 16,456. However, the NPRM does not provide any justification for gathering data at the level of specificity proposed, how the collected data will supplement existing GHG emissions data, nor how the data will improve the accuracy of future national-level inventories. See, e.g., 74 Fed. Reg. at 16,461. Data quality objectives are used by EPA as qualitative and quantitative statements of the overall level of uncertainty that a decision-maker is willing to accept in results or decisions derived from environmental data, providing the statistical framework for planning and managing environmental data operations consistent with the data-user’s needs. Given an annual estimated cost of $145 million for its GHG reporting rule, EPA should forego finalization of the NPRM until it has either justified the specificity of data required of reporting entities or revised the data gathering and reporting requirements to meet defined data quality objectives, while allowing reporting facilities flexibility to gather or calculate data in an economical and feasible manner. Specifically, TFI requests that EPA justify, prior to the finalization of the NPRM, the additional $145 million/year in costs for GHG emissions data, the purpose for the high level of specificity in the required reporting, EPA’s data quality objectives for these reports, how these reports are intended to complement the Inventory, and why the requirements of the Inventory do not satisfy the requirements of the 2008 Consolidated Appropriations Act (74 Fed. Reg. at 16,455). TFI also requests some justification for why EPA states that data collected under the NPRM would not replace the national emissions data found in the Inventory. 74 Fed. Reg. at 16,466.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0524.1, excerpt 1 above. In addition to the information contained in the response above, the commenter asks why the data collected under the reporting rule will not replace the U.S. GHG inventory. The inventory is prepared for the UNFCCC using the methods provided by the Intergovernmental Panel on Climate Change (IPCC). These methods apply a "top down" approach that relies on default emission factors, energy data and other national statistics to calculate GHG emissions for the entire nation. This approach does not provide facility and unit level data that is needed for

making policy decisions and developing regulations. Conversely, the data collected under the reporting rule will not replace the national GHG inventory because it does not provide full coverage of all emissions as required by the UNFCCC. In contrast to the inventory, the reporting rule only collects data from large emitters in certain source categories and does not collect data on GHG "sinks". While the data collected under the reporting rule cannot replace the inventory, it can be used to determine whether the methods and approaches used to prepare the national inventory are appropriate by providing data that can be used to evaluate and refine the approaches used in the inventory. For example, the IPCC methods used to calculate GHG emissions generally rely on activity data and default emission factors. The data collected under this rule may be used to evaluate and refine many of the default emission factors currently used to prepare the inventory.

Commenter Name: Gregory A. Wilkins
Commenter Affiliation: Marathon Oil Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0712.1
Comment Excerpt Number: 33

Comment: Marathon would like EPA to recognize that the data collected for other emission estimation programs such as the TRI, require emission estimations only and the same data collection approaches should apply to this rule. TRI does not require new monitoring to be conducted or specific required calculation methodologies, but instead allows the estimations to be made using data already collected and existing engineering practices. Also, it is not nearly as prescriptive. The TRI does not require submission of monitoring data, calculations, calibration information, process unit specifics, or other information currently required in this proposed rule. The TRI report is extensive but this rule will be even more so. Marathon requests that EPA reevaluate the request for some of the reporting requirements (product and crude characteristic reporting, process operating information including throughput and rated heat capacity, methodologies used, volume of fuel used, the carbon content values used, calibration information, etc) listed in this rule and the need for this information.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0524.1, excerpt 1 above.

Commenter Name: Gregory A. Wilkins
Commenter Affiliation: Marathon Oil Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0712.1
Comment Excerpt Number: 32

Comment: EPA states on page 74 FR 16456 of the preamble that, "we also acknowledge...there may be need to collect additional data from sources subject to this rule as well as other sources depending on the types of policies the Agency is developing and implementing." Marathon understands the potential need for adaptation in this rule to meet both current and future Agency needs. However, Marathon also feels that the rule as currently developed is overly burdensome in the requirements for reporting, monitoring, and recordkeeping. Marathon also understands the Agency’s desire for consistency and comparability of emissions across multiple years but believe this goal can be accomplished with a less stringent rule. Additional details of where Marathon feels the rule is overly stringent are provided in the comments for each subpart. However, our overarching comment is that the rule must balance costs with the benefits. It is obvious in this proposed rule that more information than is truly needed is being required to be collected,

analyzed, and reported. In addition, some of this information is not needed for emissions estimation (i.e. electricity, crude oil information, product characteristics, and process unit characteristics), yet is being required. EPA can request additional information at the appropriate time when this information is needed in the future (when a policy or legislation is brought into affect). It makes sense for EPA to collect this additional information only as it becomes necessary to do so.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0524.1, excerpt 1 above. Also see the comment response document on Subpart A: Content of the Annual Report and the preamble sections and comment response documents for individual source category subparts for further discussion of the need for reporting individual data elements required by each subpart.

Commenter Name: Eric Holdsworth
Commenter Affiliation: Edison Electric Institute
Document Control Number: EPA-HQ-OAR-2008-0508-0212c
Comment Excerpt Number: 4

Comment: I would just note in general one overarching issue we find is that the purpose of the program itself is a bit unclear. We are not really sure if it is to develop an emissions inventory or is it to serve as a precursor to a regulatory program,

Response: The primary purpose of this rule is to provide policy makers and regulators with accurate economy-wide data on GHG emissions to assist them in making policy decisions and developing regulatory programs. Facility level GHG data is needed to analyze the impacts of potential policies and to design future regulatory programs. The data collected under this rule will provide a better understanding of GHG emissions from different industries as well as from individual facilities. It will also be used to help identify the factors that influence the GHG emission rates and to track trends in GHG emissions. Once GHG policies are determined, the data will be used to design the subsequent regulatory programs. Once regulatory programs have been developed and implemented, the data reported under this rule may be used to determine the effectiveness of the new regulatory programs.

Commenter Name: J. Spirito
Commenter Affiliation: None
Document Control Number: EPA-HQ-OAR-2008-0508-0238.1
Comment Excerpt Number: 3

Comment: While I understand that the agency must act pursuant to the authority which is statutorily conferred on it by Congress and according to the mandate of the President. The proposed rule notes that climate change has been in existence since the early years of the industrial revolution. The agency must articulate a reason why monitoring and not some more proactive approach to greenhouse gas emission is appropriate. Some consider the science on global warming still out, but most do not, it is real. If the agency articulated that measuring is necessary to identify the main polluters or the pollutants with the greatest greenhouse effect this would go a great deal to establishing why monitoring is the necessary step at this time.

Response: This rule is a single action focused on the reporting of GHG emissions data consistent with the 2008 Appropriations Act. Development of GHG reduction requirements are outside the

scope of this rulemaking. See the preamble to the final rule for a discussion of some of the other Federal actions underway at this time.

Commenter Name: See Table 9
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0635
Comment Excerpt Number: 84

Comment: In many instances, there is already sufficient data for many GHG emission sources (e.g. compressor seals, flares, pneumatics, well venting, etc.) to support emission control. In these cases, we urge EPA to move swiftly to emission control rule-making, although by separate notice so as not to delay the final GHG mandatory reporting rule. Controlling leaks that would otherwise have to be monitored can be quite profitable for industry. For example, the government of Alberta, Canada found that it was more cost effective to require mandatory compressor seal detection and repair program than it was to require more rigorous emissions testing and quantification. [footnote: 44 Alberta, Canada government official statements at May 2008, Western Regional Air Partnership Meeting in Denver, Colorado.] Additionally, there is already sufficient industry data to show that pneumatic devices can be converted from high-bleed to low-bleed devices and gas-assist devices can be converted to compressed air assist. Data supplied by industry under the Natural Gas Star Program has shown that well venting ('green completions') are technically feasible under most conditions, and financially attractive. For example, one operator cited a $128,000 net profit by selling the gas, rather than venting it.[footnote: 345 Williams Experience in Methane Emissions Mitigation, Producers and Processors Technology Transfer Workshop, Western Gas Resources and EPA's Natural Gas STAR Program Rock Springs, WY May 11, 2006.]

Response: EPA is not going final with several subparts, including subpart W (Oil and Natural Gas Systems). As we consider next steps, we will be reviewing the public comments and other relevant information. Therefore, we are not responding to comments on subpart W at this time.

Commenter Name: Noor Osman
Commenter Affiliation: National Petrochemical & Refiners Association
Document Control Number: EPA-HQ-OAR-2008-0508-0220.1
Comment Excerpt Number: 4

Comment: Mandatory reporting is a positive and necessary step forward in the greenhouse gas reporting process, as voluntary reporting processes have proven unproductive for various reasons. An empirical analysis of electric utilities participation in the Department of Energy's voluntary greenhouse gas registry (the law that created this program is referenced as 1650b) indicated that firms were "more likely to participate when the cost of participation was lower and the pressure to participate was higher." Mandatory reporting of emissions eliminates this issue entirely. The same empirical analysis also found that "participating in the 1605b program has no statistically significant effect on the firm's carbon intensity, i.e. carbon emissions per unit of electricity generated. This suggests that firms participation may be a form of green wash, that is, a firms attempt to appear more environmentally friendly than it truly is." Due to the fact that participation in this program would be mandatory, firms could not leverage their supposed "participation" to mislead the public in terms of how environmentally friendly they may or may not be.

Response: EPA thanks the commenter for their input. This rule requires mandatory reporting in order to collect comprehensive and accurate data from all facilities and suppliers above the thresholds. However, EPA also recognizes the success of many voluntary programs in achieving GHG reductions, and supports and encourages participation in such programs.

Commenter Name: Douglas P. Scott
Commenter Affiliation: Illinois Environmental Protection Agency (Illinois EPA)
Document Control Number: EPA-HQ-OAR-2008-0508-0387.1
Comment Excerpt Number: 5

Comment: The data collected should be comprehensive, high quality, reliable and consistent with its intended use in policy and regulatory development. A key component of any successful GHG reduction regulatory program will be a system for reporting GHG emissions that provides a clear understanding of the GHG emissions from the GHG emission sources.

Response: EPA agrees with the commenter on the importance of collecting high quality, reliable, and consistent data is important for informing future regulatory development. As described in previous responses, the program has been designed to provide detailed facility data, broken down by source category (and for many source categories, at the process or unit level). We are also requiring reporting of the data elements needed for EPA to verify the reported emissions. EPA plans to make the verified data publically available with a timely manner after the reporting deadline. Allowing access to the data reported under this rule will help build public confidence in the quality of the data collected.

Commenter Name: Steven D. Meyers
Commenter Affiliation: General Electric Company (GE)
Document Control Number: EPA-HQ-OAR-2008-0508-0532.1
Comment Excerpt Number: 1

Comment: EPA indicates in the preamble to the proposed rule that its primary objective in establishing the Mandatory Program is to meet the requirements of the FY2008 Consolidated Appropriations Act using existing CAA authority. EPA continues to indicate that the Mandatory Program is not designed to measure GHG reductions. However, given that Congress is currently working on cap and trade legislation, the American Clean Energy and Security Act of 2009, it is our belief that a cap and trade program of some kind will eventually be passed by Congress and signed into law by President Obama. While we understand that it is not possible for EPA to anticipate all of the provisions of a future cap and trade program, EPA should build the Mandatory Program to establish a baseline for all affected sources and to measure reductions as future cap and trade requirements take effect.

Response: See the response to comment EPA-HQ-OAR-2008-0509.1, excerpt 1 regarding the goal of the program, and the importance of collecting data to inform future climate policies. Although the program has been carefully designed to meet the data requirements of future regulatory programs, EPA cannot anticipate all possible future policy directions and regulatory requirements. Changes to the reporting rule may be necessary in the future as new legislation is enacted and new regulations developed. For example, there may be a need to collect additional data from certain types of facilities for developing offsets or regulating indirect emissions.

Commenter Name: J. L. Dougherty
Commenter Affiliation: Drexel University Earle Mack College of Law
Document Control Number: EPA-HQ-OAR-2008-0508-0235.1
Comment Excerpt Number: 3

Comment: Another benefit would be allowing better tracking of companies' emissions of GHGs. Perhaps down the road incentives for those good corporate citizens or punishments for polluters that are not making an attempt at reducing their GHG footprint would be based off of this data. This information would also assist the EPA in its assessment of various areas of the country to be concerned about based on raw data supplied to the agency.

Response: EPA thanks the commenter for their input.

Commenter Name: Tara Ann Rabenold
Commenter Affiliation: Drexel University
Document Control Number: EPA-HQ-OAR-2008-0508-0226.1
Comment Excerpt Number: 3

Comment: This would hopefully educate the Federal government about the high amount of pollutants emitted each day, month, or year. I agree that this will allow the government to better create environmental policy.

Response: EPA thanks the commenter for their input.

Commenter Name: [name not given]
Commenter Affiliation: Texas Association of Business
Document Control Number: EPA-HQ-OAR-2008-0508-0698
Comment Excerpt Number: 1

Comment: Within its authority to adopt a greenhouse gas reporting rule, EPA has considerable flexibility and discretion to establish specific reporting requirements, including thresholds for reporting, frequency and timing, and the form and content of reports. The objective of the rule should be to provide useful information to support subsequent policy implementation while remaining consistent with potential future federal statutory directives.

Response: See the response to comment EPA-HQ-OAR-2008-0509.1, excerpt 1 regarding the goal of the program, and the importance of collecting data to inform future climate policies.. To the extent possible, EPA has designed the program to provide information needed for a wide-range of potential future regulatory programs. However, a program of this type cannot anticipate all possible future policy directions and regulatory requirements, nor should it attempt to do so. Changes to the reporting rule may be necessary in the future as new legislation is enacted and new regulations developed.

Commenter Name: [name not given]
Commenter Affiliation: Texas Association of Business
Document Control Number: EPA-HQ-OAR-2008-0508-0698
Comment Excerpt Number: 3

Comment: The federal rule should only be as detailed and prescriptive as required to meet the national policy objectives and not be required to cover every provision of more local programs.

Response: EPA agrees with the commenter's assertion that the reporting rule should be only as detailed and prescriptive as necessary to meet the objective of providing accurate, economy-wide data for informing future policy decisions. Where possible, EPA selected methods that made use of data already collected by facilities. For smaller sources at facilities, EPA provided simplified methods (e.g., stationary combustion units). Although some of the data collected under this rule may overlap with data already submitted to state or local agencies, this rule does not incorporate any specific data collection provisions of any state or local program. In addition, many of the state and local reporting programs differ considerably from this rule in several significant ways, including the type and size of industries required to report and the type of data reported. The records required to be collected and data elements reported under this rule have been selected because they will be used either to verify reported emissions data or to inform future policy decisions. EPA is committed to working with state and local agencies to provide timely access to the verified emissions data collected under this rule. EPA plans to establish mechanisms to share data efficiently, to harmonize data systems to the extent possible to reduce the burden on reporters.

Commenter Name: Timothy O'Connor
Commenter Affiliation: Environmental Defense Fund
Document Control Number: EPA-HQ-OAR-2008-0508-0228h
Comment Excerpt Number: 2

Comment: The foundation of our argument really is that we need good data, both in the states as well as federally, so that we can develop good policy. There is a lot of goods in that statement, and realize that we could use some different adjectives. But when we say good, it doesn't mean perfect. It doesn't mean necessarily a hundred percent accurate. What it means is we need strong data that people believe in, that is as accurate as possible, that is grounded on what we believe is direct measurement, and direct measurement both of the emissions and fuel use data rather than modeling and general emission calculations. Because we feel that it is this data that is as good as possible, as good as we can get it, is what is going to be needed by policy makers to evaluate both the progress of the various programs regardless of what your stance on how you make -- solve climate change, regardless of all these programs is going to be needed as well as the foundation of how we are going to decide about future programs that we are going to develop.

Response: EPA thanks the commenter for their input and has designed the program to provide consistent, high quality data for use in policy and program development. The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility specific calculation methods. See the preamble for the full response on the general monitoring approach.

Commenter Name: George H. Berghorn
Commenter Affiliation: Michigan Forest Products Council (MFPC)
Document Control Number: EPA-HQ-OAR-2008-0508-0721.1
Comment Excerpt Number: 1

Comment: Several renewable fuel efforts have occurred outside of recent discussions about federal climate legislation. There is a great deal of uncertainty around the direction of federal climate change policy; however, much discussion centers around the possibility of "cap and trade" legislation within the coming year. Several regional efforts have begun to address such policies leading to further uncertainty about how multi-layered efforts will be addressed by industry sectors across the country. While we agree that the availability of information will be an important driver in this process, enacting mandatory greenhouse gas reporting rules before final climate policies are in place is at best "putting the cart before the horse" and at worst adding additional rules and protocols that may be discarded before they can be fully understood, but after the costs of compliance have been paid.

Response: See the response to comment EPA-HQ-OAR-2008-0509.1, excerpt 1 regarding the goal of the program, and the importance of collecting data to inform future climate policies. As policy decisions are made and new programs are developed, EPA can review this rule to determine if adjustments are needed to align it with such programs. EPA recognizes that additional data (e.g., data on indirect emissions or offsets) may need to be collected once new legislation is enacted or new programs developed.

Commenter Name: See Table 3
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0477.1
Comment Excerpt Number: 3

Comment: Implementing a reporting rule prior to the adoption of a specific regulatory policy for GHGs is both inefficient and inappropriate. Any reporting requirement broad enough to include all the data needed by all possible regulatory policies must include many items that will be unnecessary when one specific policy is adopted. As a result, many entities covered in such a reporting rule are likely to be required to make unnecessary expenditures on monitoring equipment and internal reporting systems, and some may then be required to install different equipment or modify reporting systems to comply with the requirements and standards set forth when a specific regulatory policy is adopted. [See DCN:EPA-HQ-OAR-2008-0508-0477.1 for table illustrating a range of policy types and their potential associated reporting and compliance systems needs.] Given the range of polices that could be adopted, it is doubtful that EPA could select just one reporting requirement that provides exactly the information required – neither more nor less – by a future policy not yet designed in detail. Instead, the proposed rule takes a least-common-denominator approach, proposing data collection broad enough to serve come-what-may future regulatory approaches. Because the rule is far-reaching and requires information collection that may not be needed depending on the ultimate policy selected, it is quite possible that the rule would have to be significantly modified once regulatory regimes are established. We urge EPA to defer monitoring and reporting requirements for specific sectors until a policy is developed, as the level of detailed data required to support policy assessment and compliance will depend on the type of policy adopted and the purposes of the data collection. The Act does not dictate monitoring and reporting requirements for all sectors by a date certain, but merely that EPA finalize a rule. EPA has the flexibility in such a rule to phase in reporting

requirements in coordination with regulatory regimes. In the meantime the monitoring rule could focus on how to make use of significant existing GHG data in furthering EPA's policy decisions on GHG regulations.

Response: See the responses to comments EPA-HQ-OAR-2008-0508-0524.1, excerpt 1, and EPA-HQ-OAR-2008-0509.1, excerpt 1, regarding the goal of the program, and the importance of collecting data to inform future climate policies. As policy decisions are made and new programs are developed, EPA can review this rule to determine if adjustments are needed to align it with such programs. EPA recognizes that additional data (e.g., data on indirect emissions or offsets) may need to be collected once new legislation is enacted or new programs developed.

Commenter Name: Melinda L. Tomaino
Commenter Affiliation: Associated General Contractors of America (AGC)
Document Control Number: EPA-HQ-OAR-2008-0508-0628.1
Comment Excerpt Number: 2

Comment: At the same time EPA is soliciting comment on its proposed reporting rule for greenhouse gases, the U.S. Congress is actively pursuing greenhouse gas controls through legislation. In fact, EPA maintains that its reporting rule will inform and support future requirements for controls of such emissions. EPA was not charged with developing an ongoing reporting program that will address all emissions from all sources; and the agency has discretion in determining what sectors must report, the emissions threshold that would trigger such reporting (must include large emitters), and for how long regulated facilities must report. AGC urges EPA to collect only the data needed to fulfill its obligation under the appropriations bill (H.R. 2764, Public Law No. 110-161) and wait until after Congress finalizes climate legislation to establish a full EPA reporting program. This will allow EPA to ensure that its reporting requirements are, in fact, needed (i.e., that reporting is not part of any new legislation), and that EPA's program addresses and supports Congressional efforts.

Response: See the response to comment EPA-HQ-OAR-2008-0509.1, excerpt 1 regarding the goal of the program, and the importance of collecting data to inform future climate policies. As policy decisions are made and new programs are developed, EPA can review this rule to determine if adjustments are needed to align it with such programs. For more information on how EPA selected the source categories and the reporting thresholds, see Section IV.B (Rationale for Selection of Source Categories to Report) and Section IV.C (Rationale for Selection of Thresholds) in the preamble to the proposed rule (see 74 FR 16488, April 10, 2009). Also see the preamble to the final rule for responses to comments on the source categories to report and the thresholds.

Commenter Name: See Table 8
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0395.1
Comment Excerpt Number: 4

Comment: EPA suggests that, "In addition, the data collected on some source categories such as landfills and manure management, which can be covered by the CAA, could also potentially help inform offset program design by providing fundamental data on current baseline emissions for these categories." We disagree with this statement. A mandatory reporting requirement is not a

required prerequisite for the development of a voluntary offset program. Already today, there are several options for agricultural producers to determine carbon offset management practices that can be marketed in established trading programs. TCFA members are interested in potential opportunities that may exist to create voluntary offsets as a way to decrease costs of a cap and trade program anticipated to be passed by Congress. These kinds of voluntary opportunities should be allowed and encouraged rather than using the strong arm of the federal government to regulate minor emission sources, like agriculture, under a mandatory program.

Response: See the response to comment EPA-HQ-OAR-2008-0509.1, excerpt 1 regarding the goal of the program, and the importance of collecting data to inform future climate policies. At this time, we do not know what types of facilities will be regulated or whether future regulatory programs will include an offset program. EPA is supportive of the various voluntary programs currently in place. We reviewed the GHG methodologies used in these programs in developing the rule. We recognize the success of such programs in achieving GHG emission reductions and encourage participation in such programs. However, a mandatory reporting program is necessary to provide policy makers with the comprehensive, detailed and accurate data necessary to analyze and develop future policies and programs. For more information on why manure management was selected as one of the source categories to report and responses to comments on manure management reporting requirements, see the preambles for the proposed and final rule and the comment response document volume on manure management.

Commenter Name: Skiles W. Boyd
Commenter Affiliation: DTE Energy
Document Control Number: EPA-HQ-OAR-2008-0508-0606.1
Comment Excerpt Number: 4

Comment: As stated in the preamble, EPA intends to use the emission inventory gathered under this proposal to further discussions and provide information to the development of domestic climate change policy. If the intention of the data gathering is to develop a cap and trade program, EPA should recognize the seasonal fluctuations of some utility operations. For example, warmer winter weather will decrease the need for a gas utility to tap into gas storage resulting in reduced operations of compressors and other associated equipment. Emissions for that season will definitely be lower in comparison to colder winters which will require extensive use of compressors causing emissions to be higher. These types of seasonal operation changes should be understood and addressed so that differences in emissions reporting from year to year do not penalize utilities.

Response: EPA thanks the commenter for their input. EPA plans to collect GHG emissions data over a period of several years so that information on seasonal fluctuations in emissions will be collected. At this time, EPA does not know what types of regulatory programs will be developed. Future regulations will be developed as separate rulemaking actions following public notice and comment processes. We encourage the commenter to participate in future regulatory development processes.

Commenter Name: J. Southerland
Commenter Affiliation: None
Document Control Number: EPA-HQ-OAR-2008-0508-0165
Comment Excerpt Number: 2

Comment: The importance of this issue can not be dismissed. If the emissions of greenhouse gases (GHG) are to be reduced by as much as 80%, as may be necessary to stabilize atmospheric concentrations, there must be adequate and accurate accounting. The establishment of a system to do this will likely only have one shot and must cover everyone in a manner that is paralleled to a monetary system. The currency must be valid and backed up by real data of high quality that covers all emissions, natural and man made, in some manner. Perhaps some of these emissions will need to be done separately from a reporting system that involves individual companies or other entities. An adequate assessment should reflect all emissions and sinks to represent a closed body which can be better analyzed to determine next steps and what may be possible.

Response: See the response to comment EPA-HQ-OAR-2008-0509.1, excerpt 1 regarding the goal of the program, and the importance of collecting data to inform future climate policies. For the response to comments on why carbon sinks and sequestration are not included in this reporting rule, see the preamble section on source categories to report. As policy decisions are made, EPA will re-assess the need to collect additional data on carbon sinks.

Commenter Name: Nancy N. Young
Commenter Affiliation: Air Transport Association of America, Inc. (ATA)
Document Control Number: EPA-HQ-OAR-2008-0508-0522.1
Comment Excerpt Number: 6

Comment: The approach reflected in the Proposed Reporting Rule will also have the ancillary benefit of improving the development of future national inventories for particular source categories or sectors by advancing the understanding of emission processes and monitoring methodologies. Facility, unit, and process level GHG emissions data for industrial sources can serve to improve the accuracy of the National Emission Inventory by confirming the national statistics and emission estimation methodologies used to develop the top-down inventory. The results can indicate shortcomings in the national statistics and identify where adjustments may be needed. Although the data collected would not replace the system in place to produce the comprehensive annual National Emissions Inventory, by ensuring the use of existing approaches and methodologies, it can also serve as a useful tool to better improve the accuracy of future national-level inventories.

Response: EPA agrees with the commenter that the reported data will serve several useful purposes. In addition to the benefits mentioned by the commenter, the data will be used to help design future GHG regulatory programs and to assess the effectiveness of those programs once they are implemented.

Commenter Name: Doug MacTaggart
Commenter Affiliation: C-Lock Technology, Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0502.1
Comment Excerpt Number: 12

Comment: Our utility partners have been cooperative in providing coal data (when available), heat rate data, net generation, and other very specific data to facilitate completion of our projects relative to emission reductions. C-Lock believes this is because utilities view providing the data as “low risk” because it is covered under a non-disclosure agreement and utilities generally

understand the benefits (quantification of reductions that will lead to reduced liability) that are likely to result from providing the data. A couple years ago, the US government allowed for an "efficiency tax credit related to hydropower" where, if utilities implemented increased power plant efficiencies, they were allowed a reduction in tax liability proportional to incremental amount of power produced as a result of the action. If utilities wanted to obtain the credit, utilities had to submit detailed efficiency and operational data. Because this was a "no risk" submittal by the utilities, many did submit the data and participate in the program. This example shows that, if CO_2 reporting regulations could be shaped to provide incentives to utilities whom provide additional data to support CO_2 emissions data and demonstrate emission reduction efforts, utilities are more likely to participate in the program.

Response: This rule was developed in response to FY2008 Consolidated Appropriations Act, which authorized funding for EPA to develop a rule to require "mandatory reporting of GHG emissions above appropriate thresholds in all sectors of the economy of the United States." (see Consolidated Appropriations Act, 2008, Pub. L. No.110-161, 121 Stat 1844, 2128 (2008)). Participation in the reporting program by affected facilities and suppliers is mandatory as specified in the Appropriations Act. Consistent reporting of GHG data by all facilities and suppliers above the thresholds is needed to develop a comprehensive dataset for use in analyzing national GHG policies and programs. A voluntary program would collect data from only those sources that choose to participate, and would not provide a complete and comprehensive data. EPA agrees with the commenter that voluntary programs and incentives have resulted in emissions reductions. We also recognize that regulatory programs that rely in part on market forces and economic incentives, such as the Acid Rain Program, have been effective regulatory programs. However, EPA is not able to provide more details on the structure of future GHG programs at this time since a number of possible policy options are currently being discussed and the programs that will ultimately be developed is not yet known.

Commenter Name: Meg Voorhes
Commenter Affiliation: Social Investment Forum
Document Control Number: EPA-HQ-OAR-2008-0508-0657.1
Comment Excerpt Number: 1

Comment: We recognize that EPA has not proposed to establish a regime that would result in a carbon price. However, the proposal for mandatory reporting establishes the crucial information infrastructure that an emissions-limitation regime would depend on, and that the finance and investment community will find invaluable in making distinctions between relative security valuations based on companies' liabilities and regulatory risks. Moreover, there is also ample evidence that disclosure alone can be an effective regulatory mechanism: The establishment of reporting, under the Emergency Planning and Community Right to Know Act, of substances covered by the Toxic Release Inventory was an important step, and many observers agree that reporting alone provides some incentive for emissions reduction. A 2005 academic study states, "Public release of [TRI data] and increased public scrutiny are believed to significantly contribute to the over 45% reduction in toxic chemical releases since inception of the program and to growing support for this type of informational regulation.." [Footnote: Dinah A. Koehler and John D. Spengler, "The Toxic Release Inventory: Fact or Fiction? A Case Study of the Primary Aluminum Industry," Journal of Environmental Management, Volume 85, Issue 2, October 2007, Pages 296-307.] Corporations are increasingly likely to recognize that reducing environmental impacts (and therefore liabilities) has financial value, and that silence on the subject will increasingly be seen as a liability. The foundation of efficient financial markets is

information, and as the world grows more aware of the implications of climate change, this information will be increasingly valuable. Moreover, for financial markets, improved reporting is crucial. [Footnote:Roberta Salomone and Giulia Galluccio, "Environmental Issues and Financial Reporting Trends: A Survey in the Chemical and Oil & Gas Industries," Fondazione Eni Enrico Mattei, June 2001.] Disclosure is the first step in creating a regime in which there are appropriate incentives for companies to reduce emissions and make their use of energy cleaner and more efficient. While full disclosure of emissions will mean that some firms—especially those not measuring or aware of emissions now—will need to invest in tracking and reporting systems, that investment is quite likely to pay off as more and more nations establish regimes regulating greenhouse gas emissions. A recent Economist survey showed that "a majority of companies favor more environmental regulations—provided there is a level playing field."[Footnote:Economist Intelligence Unit, "Countdown to Copenhagen: Government, business and the battle against climate change," 2009.] Moreover, access to robust data on greenhouse gas emissions enhances the ability of SIF members and other investors to apply their own analyses and models to the risks associated with individual company operations.

Response: The goal of the reporting program is to provide accurate, economy-wide data on GHG emissions to inform policy decisions and development of future regulatory programs. EPA is committed to making the data available to the public in a timely manner after reporting deadline. EPA agrees with the commenter that making GHG emissions data available to the public can result in industries making voluntary changes to reduce their emissions and EPA has supported voluntary GHG emission reductions through our work on several voluntary programs. Public access to the data is also important for promoting better understanding and allowing public participation in future policy decisions.

Commenter Name: J. L. Dougherty
Commenter Affiliation: Drexel University Earle Mack College of Law
Document Control Number: EPA-HQ-OAR-2008-0508-0235.1
Comment Excerpt Number: 2

Comment: Another use for this data would be in the development of technologies to reduce GHG emissions. By publicizing which industries are releasing which GHGs into the atmosphere it will provide a nudge to innovators to develop more efficient and cleaner technologies to assist those industries in lowering emissions. Identifying which gases and how much are being released would be a significant step to pushing new technology. Not to mention the added negative public relations that could come to industries that are excessive in their releasing of GHGs - which may have the side benefit of encouraging them to seek these new technologies to clean up their acts.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0657.1, excerpt 1 above.

Commenter Name: J. L. Dougherty
Commenter Affiliation: Drexel University Earle Mack College of Law
Document Control Number: EPA-HQ-OAR-2008-0508-0235.1
Comment Excerpt Number: 1

Comment: The need to collect data regarding the quantities of GHG emitted by certain entities is one that is necessary to address. Americans are becoming more aware of their impact on the environment, the collection and reporting of this data would provide our citizens with more

information to decide which products and services they utilize in their everyday lives impact the health of the Earth in which ways and most importantly how much. The data that would be collected subsequent to the passage of the rule proposed in EPA-HQ-OAR-2008-0508 would be useful to be able to access to inform not only regulators but also consumers of the impact certain companies have on the environment while also providing concrete evidence that companies who say they are 'reducing GHG' really are making a difference. Wastewater treatment facilities, electronics manufacturing and even food production companies are pumping tons of CO_2, CH_4, and N_2O into the atmosphere. The average American consumer does not even realize how much the manufacturing of a bag of frozen green beans has had an impact on the environment. Nor does the consumer know that if the electronics manufacturer that touts their product as being "greener" to use is really being an environmentally conscious company in its manufacturing processes. The American consumer would benefit from the passage of the proposal.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0657.1, excerpt 1 above.

Commenter Name: Kathleen M. Sgamma
Commenter Affiliation: Independent Petroleum Association of Mountain States (IPAMS)
Document Control Number: EPA-HQ-OAR-2008-0508-0521.1
Comment Excerpt Number: 1

Comment: The rule should be designed to inform national greenhouse gas policy decisions without predetermining the eventual regulatory framework. The rule should aim to address preliminary matters, including the gathering of information necessary to formulating the actual regulatory framework by which greenhouse gases will eventually be curtailed.

Response: See the response to comment EPA-HQ-OAR-2008-0509.1, excerpt 1 regarding the goal of the program, and the importance of collecting data to inform future climate policies

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Commenter Name: See Table 5
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0433.2
Comment Excerpt Number: 49

Comment: NPRA recommends against EPA attempting to use the reporting rule as a way to anticipate future climate change legislation. EPA states that the "mandatory reporting program would provide comprehensive and accurate data which would inform future climate change policies" (74 Fed. Reg. at 16456) and that it "do[es] not yet know which specific policy options the data may ultimately be used to support." (ibid at 16475) Until such time as EPA identifies the policy option(s) it will pursue with respect to GHG emissions, the proposed rule should be limited to require the collection of reasonably accurate and complete emissions data using readily available sources or estimation methods. Lacking a fully vetted policy directive, it is inappropriate at this time for EPA to require not only feedstock and process data but also an inventory dominated by emissions from other sources and industries. EPA's reporting efforts would be more productively targeted if EPA were to identify with greater specificity the policies or programs that it intends to develop using the data gathered under the Proposed Rule and limit reporting requirements to support those policies or programs.

Response: See the response to comment EPA-HQ-OAR-2008-0509.1, excerpt 1 regarding the importance of collecting data to inform future climate policies. The goal of the reporting program is to provide accurate, economy-wide data on GHG emissions to inform policy decisions and to aid in the development of future regulatory programs. The data collected under this rule will help EPA determine the relative emissions of specific industries, the variability in emissions across each source category, and the factors that influence GHG emission rates. To meet this goal, EPA determined that data collected using a consistent protocol would provide reliable data of known quality for each source category. The final rule retains the general monitoring approach that incorporates a combination of direct emissions measurement and facility-specific calculation methods.

Commenter Name: See Table 7
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-1021.1
Comment Excerpt Number: 3

Comment: Given the comprehensiveness of the data already reported by the electric utility industry, we are concerned by language in the Federal Register notice indicating that "there may be a need to collect additional data from sources subject to this rule..." EPA must justify any future data reporting requirements as necessary for some regulatory or policy purpose.

Response: EPA does not have any plans at this time to require reporting of additional information from sources subject to this rule beyond that already required. We do not know what, if any, additional data will be required to implement future legislation. However, as new legislation is enacted or new programs are developed, we will determine whether reporting of any additional data (e.g. data on indirect emissions or offsets) is necessary for the purpose of developing or implementing new regulations.

Commenter Name: Wayne Pacelle
Commenter Affiliation: The Humane Society of the United States
Document Control Number: EPA-HQ-OAR-2008-0508-0322.1
Comment Excerpt Number: 2

Comment: Monitoring and reporting GHG emissions from animal agriculture are particularly important to achieve needed, measurable reductions. The GHG emissions from this industry can be relatively easily reduced. By promulgating stringent monitoring and reporting before and during reduction efforts, the EPA as well as the public will be able to use that data to create standards and apply effective emissions control methods. Many simple work practice changes, such as reducing the time between surface application of manure and incorporation into soil, ensuring proper soil drainage, ensuring adequate oxygen exposure to stockpiles, ensuring proper nutrition for animals, and irrigating directly after application, for example, can significantly reduce emissions and are important starting points from which broader, more fundamental changes within the animal agriculture sector can be developed.

Response: The final rule includes reporting requirements for manure management operations that are above the threshold. For responses to comments on manure management, see the preamble section and comment response document volume on manure management.

Commenter Name: Noor Osman
Commenter Affiliation: National Petrochemical & Refiners Association
Document Control Number: EPA-HQ-OAR-2008-0508-0220.1
Comment Excerpt Number: 5

Comment: In order to implement emission reduction policies, attaining emissions data that are of high quality, accurate, and reliable is necessary. Prior to this regulation, however, the EPA had not passed an all-inclusive regulation that tracked emissions data on the facility or corporate level. The development of this national registry will provide clear, easily accessible data and will allow businesses to evaluate and develop cost effective strategies for reducing carbon emissions before any policy is put into place. As indicated by the text of this proposal, these data will be used to inform a range of possible policies and regulations, including research and development initiatives, as well as cap and trade programs. As is evident from models implemented by members of the Kyoto Protocol, including Canada and the EU, mandatory emissions reporting are the cornerstone of any cap-and-trade emissions program. According to the environmental commissioner of the EU in 2003 (referring to emissions trading in the EU) The proposal on emissions trading represents a major innovation for environmental policy in Europe. We are de facto creating a big new market, and we are determined to use market forces to achieve our climate objectives in the most cost-conscious way…The emissions trading system will be an important cornerstone in our strategy to reduce emissions in the most cost-effective way. Despite several relevant criticisms, emissions trading systems have been proven effective globally, and also through the United States EPA SO_2 emissions program, which has "demonstrated decisively that a tight binding cap will reduce relevant emissions."

Response: EPA thanks the commenter for their input. EPA agrees the acid rain cap and trade program has been successful in reducing SO_2 emissions. EPA designed the GHG reporting rule to collect data that could be used for analysis and development of a range of possible GHG policy options and regulatory programs. However the reporting rule does not in any way pre-determine any specific GHG regulatory program. EPA does not currently know what legislation will be enacted and what policies and programs will be developed in the future. The development of any future regulatory programs would be undertaken under a separate rulemaking following the notice and comment process.

Commenter Name: J. Southerland
Commenter Affiliation: None
Document Control Number: EPA-HQ-OAR-2008-0508-0165
Comment Excerpt Number: 3

Comment: The purpose(s) to be satisfied by this effort should be clearly spelled out and a running commentary on how each requirement in the proposal assists and satisfying the identified objectives should be provided, especially since the burden of reporting and the acceptance of the data are costly and complicated and in some cases, may run counter to some rules and interpretation for handling confidential business information.

Response: See the response to comment EPA-HQ-OAR-2008-0509.1, excerpt 1 regarding the goal of the program, and the importance of collecting data to inform future climate policies For additional information and responses to comments on why specific data elements are reported, see the preamble sections and comment response document volumes for Subpart A:

Content of Annual Reports and the individual source category subparts. EPA conducted an analysis of the economic impact of this rule and determined that the costs for each affected entity are low. EPA estimates the average cost-to-sales ratios for industries affected by the rule are less than 1 percent. These low average cost-to-sales ratios indicate that the rule is unlikely to significantly impact industry. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts." See the preamble for the response on confidential business information (CBI).

Commenter Name: Helen A. Howes
Commenter Affiliation: Exelon Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0373.1
Comment Excerpt Number: 1

Comment: Exelon supports EPA's desire to collect high quality, consistent data regarding greenhouse gas emissions in the United States to inform future regulatory decision-making. Exelon recognizes the importance of moving quickly to address climate change across the entire economy, and the need for good data to support the process. We do not feel that there is an existing voluntary greenhouse gas reporting registry or program that encompasses the specific reporting levels and methodologies EPA sets forth in its proposed rule, although it may be possible to adapt EPA's Climate Leaders or the DOE's 1605(b) program to meet the requirements.

Response: EPA thanks the commenter for their input. During the development of the rule, EPA reviewed existing state, regional and federal reporting programs, including the Climate Leaders program. We determined that none of them met the objectives of this rule, which are to collect accurate, economy-wide data from facilities and suppliers above thresholds using methods that were consistent for each source category. However, in selecting the GHG monitoring and calculation methodologies in the rule, we have been consistent with existing programs, as appropriate and feasible. In addition, we are coordinating with other Federal and State programs to facilitate data sharing among programs and reduce the burden on reporters to the extend feasible. We also recognize that many voluntary and state programs focus on energy efficiency, emissions reductions, or other aspects of climate change beyond the scope of this reporting rule. Such programs are successful in achieving GHG emissions reductions, and we encourage participation in voluntary programs. For more information on our review of existing reporting programs, see Section II of the preamble for the proposed rule (74 FR 16488, April 10, 2009). For additional information on the relationship of this reporting rule to other Federal and State programs, see the preamble to the final rule.

Commenter Name: Kate M. Bailey
Commenter Affiliation: Eco-Cycle International
Document Control Number: EPA-HQ-OAR-2008-0508-0340
Comment Excerpt Number: 2

Comment: I implore the EPA to publish the greenhouse gas reporting results based on two global warming potential values—100 years and 20 years. While the 100-year global warming potential is currently the standard, our understanding of potentially abrupt climate change is rapidly evolving. We are becoming more aware of the need for urgent and immediate actions to

reduce potent, short-term greenhouse gas emissions in order to avoid climate tipping points, such as the melting of the Arctic or the Greenland ice sheet that could lead to runaway warming and catastrophic human and planetary consequences. In order to make educated decisions that prioritize short-term climate benefits, we need data that reflect the near term. The IPCC regularly publishes and maintains the 20-year global warming potential values and including both the 100-year and 20-year data will be much easier to enact when the program begins rather than after the program is established. Because CO_2 is measured at a value of 1 across all time frames, the change will only affect non-CO_2 gases. Publishing national data based on the 20-year global warming potential can have a tremendous impact upon our climate mitigation strategy as it takes the emphasis off carbon dioxide and prioritizes the reductions in non-CO_2 gases that will have the largest influence over the next two decades. The choice to evaluate greenhouse gas emissions using the 100-year or 20-year global warming potential values is strictly a policy decision, not a scientific one. The EPA is not adopting a policy position by reporting the 20-year data but, rather, presenting the best available science and data. I urge you to adopt this approach today for the reporting rule so we can move forward quickly in protecting our climate, ourselves and our planet before the opportunity for meaningful action has passed.

Response: In the rule, facilities and suppliers are required to calculate and report CO_2e emissions using the 100-year Global Warming Potential (GWP) values, as well as the quantity of each GHG emitted. By collecting emission data for each individual GHG, EPA will have the important underlying data necessary for making policy decisions and developing new regulations. EPA or other interested parties will be able to use this data in a variety of ways, including calculating values for CO_2e using GWPs for different time periods or for comparisons using other alternative metrics (e.g., global temperature change potentials). EPA selected the 100-year GWPs published in the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (SAR) because this approach is an internationally accepted method for comparing the overall GHG emissions from facilities. Use of the IPCC SAR GWPs will also allow EPA to compare the data collected by this rule with the national GHG inventory prepared for the annual report to the United Nations Framework Convention on Climate Change (UNFCCC). The parties to the UNFCCC agreed to use GWPs that are based on a 100-year time period for preparing national inventories. However, alternative metrics for comparing the potential climate impacts of different GHGs are currently being considered by IPCC (see IPCC, 2009: Meeting Report of the Expert Meeting on the Science of Alternative Metrics, IPCC Working Group I Technical Support Unit, University of Bern, Bern, Switzerland). By collecting the emissions data for each GHG separately, we will have the data needed for applying any alternative metrics appropriate for our future analysis of the data.

Commenter Name: Stanley P. Rhodes
Commenter Affiliation: Science Certification Systems (SCS)
Document Control Number: EPA-HQ-OAR-2008-0508-1019.1
Comment Excerpt Number: 3

Comment: In order to determine whether reporting thresholds have been reached, the proposed rule calls upon reporting entities to calculate the aggregate carbon dioxide equivalent (CO_2e) from all emission sources. However, although CO_2e serves as a useful common unit of measure, the assumption of a 100- year time horizon (which underlies the GWP and the resulting calculation of the CO_2e under the proposed rule) results in a significant understatement of near-term impact from higher potency GHGs. In addition, such aggregation masks the degree to which different GHGs, with atmospheric lifetimes ranging from just a few weeks (rather than “a

decade") to thousands of years, are disproportionately affecting different regions of the earth. In addition, it is important to consider not only the annual emission levels and the cumulative emissions (summing up the annual loadings over a period years) but also the "accumulated GHG loading" (A-GHG) to obtain a full appreciation of the climate change implications of different GHGs. The A-GHG loading is calculated for each GHG by summing together the annual GHG loadings of that pollutant for a specified time period up to the 20-year time horizon limit, then subtracting the fraction that is either destroyed or sequestered over the same time period. Calculation of A-GHG loadings is important because they support a much more in-depth evaluation of climate effects and provide the opportunity for more precise development of abatement and mitigation strategies. In the case of CO_2, the annual GHG loadings over the 20-year time horizon, minus the sequestered fraction, are added to the preexisting loading —i.e., the current intensification anomaly (1400 billion tons, based on a 1,000-year historic baseline). By calculating and reporting the accumulated loading, current and near-term, as well as the annual emission rate, policymakers would obtain a clearer picture of the relative contribution of GHGs. This information would foster improved strategic planning and decision-making, that is essential for identifying strategies to maximize effectiveness and containing costs. SCS recommends that EPA utilize information collected from reporting entities to calculate the accumulated loadings. Finally, to complete the picture, the EPA will need to separately compile and integrate comprehensive data on natural, non-anthropogenic sources of GHGs and GHG precursors.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0340, excerpt 2 above. Non-anthropogenic sources, carbon sinks, and sequestration are not covered by this rule. The focus of the reporting rule is on anthropogenic emissions from facilities above certain thresholds and upstream suppliers, consistent with the Appropriations Act. For the response on why carbon sinks and sequestration (e.g., from land use changes) are not included in the reporting rule, see the preamble section on source categories to report.

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3. OTHER GENERAL RATIONALE COMMENTS

Commenter Name: Steven J. Rowlan
Commenter Affiliation: Nucor Corporation (Nucor)
Document Control Number: EPA-HQ-OAR-2008-0508-0605.1
Comment Excerpt Number: 1

Comment: Though the proposed rule itself does not mandate a particular approach to control of Greenhouse Gas emissions, it will establish the core principles of the future federal program with respect to the baseline information and will provide the structure for assessing impacts and likely regulatory effectiveness and for monitoring and tracking emissions and progress. Therefore, it is absolutely critical that the rule be predicated on an adequate evaluation of the problem to be addressed and all of the potential effects of regulatory initiatives. It must be recognized that, unlike most of EPA's Clean Air Act considerations, we are dealing here with global issues and must develop the information required to assess worldwide effects as well as those which occur within the U.S. In short, it is essential that the proposed rule be developed in a way that assures that it provides the full suite of information and metrics required to effectively address issues of climate control without inadvertently causing net increases in global GHG emissions or unnecessarily damaging key U.S. industries. We believe that the Proposed Rule is critically deficient in its failure to require submission of the information necessary to assess the questions of (1) whether and to what extent will intensive U.S. based regulation of GHG emissions result

in “leakage” or migration of energy intensive manufacturing operations to countries with less stringent regulatory regimes and (2) whether, and to what extent that shift will result in a net increase in worldwide GHG emissions. The need for this kind of information is well illustrated by the House Energy and Commerce Committee’s March 18, 2009 Hearings on Competitiveness and Climate Change. At those hearings, there was broad agreement on the likelihood that leakage or migration would occur and that provisions to mitigate that problem are needed. There was not consensus, however, on the magnitude of the problem or the most appropriate long term response to it. The need for better metrics and more complete information was acknowledged. EPA, in making regulatory decisions under either the Clean Air Act or some new legislation will face similar questions, both in phasing and in assessing environmental effects and regulatory impacts. It will not be able to make decisions which will survive judicial review unless it has scientific evidence to support its decisions. We are deeply concerned that the Proposed Rule, as currently drafted, will not obtain this information or assure appropriate consideration of it. We believe that EPA should evaluate the proposed rule in light of the aforementioned facts and greatly increase the scope of the information proposed for collection.

Response: This rule was developed in response to FY2008 Consolidated Appropriations Act, which authorized funding for EPA to develop a rule to require "mandatory reporting of GHG emissions above appropriate thresholds in all sectors of the economy of the United States" (see Consolidated Appropriations Act, 2008, Pub. L. No.110-161, 121 Stat 1844, 2128 (2008)). The focus of this rule is to collect accurate data on U.S. GHG emissions from facilities and suppliers above the thresholds for use in analyzing and developing potential GHG policies and programs. Collecting economic data and data on the regulatory frameworks of other countries, performing economic impact analyses of potential future regulatory programs, and determining global GHG impacts if companies were to move production overseas due to a future program is beyond the scope of this reporting rule. However, EPA will evaluate the economic impacts of any future regulatory program at the time any new regulatory programs are developed.
Please see the response to comment EPA-HQ-OAR-2008-0508-0712.1, excerpt 35 regarding EPA’s analysis of the economic impacts for this rule. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled “Cost and Economic Impacts.”

Commenter Name: J. G. Arbuckle
Commenter Affiliation: Patton Boggs LLP
Document Control Number: EPA-HQ-OAR-2008-0508-0535.1
Comment Excerpt Number: 1

Comment: As currently drafted, the regulations will not develop the information required to properly devise a regulatory scheme under either the Clean Air Act or any of the legislation pending in the Congress. They will not provide the information required to assess the regulatory and environmental effects of any such regulations or to measure the regulations’ effectiveness in achieving the objective of reducing worldwide greenhouse gas (GHG) Emissions. In the absence of a viable information base, regulatory decisions respecting GHG will be necessarily arbitrary and unsupported by scientific evidence. These deficiencies must be corrected now if we are to avoid delays, failures and unnecessary contention in the effort to develop laws and regulations address this subject. The clear purpose of this Proposed Rule is to obtain the information required in order to effectively regulate GHG emissions. The information obtained pursuant to final regulations will establish the informational foundation for climate change decisions throughout the foreseeable future and, particularly as time passes and more and more information

is provided, the database developed pursuant to the final regulations will have increasing effects on regulatory decisions in that regulatory approaches may be increasingly dictated by the availability or absence of supporting information in the database. Thus, though the proposed rule itself does not mandate a particular approach to control of greenhouse gas emissions, it will establish the core principles of the future federal program with respect to the baseline information and will provide the structure for assessing impacts and regulatory effectiveness and for monitoring and tracking emissions and progress. Therefore, it is absolutely critical that the rule be predicated on an adequate evaluation of the problems to be addressed and all of the potential effects of foreseeable regulatory initiatives. It must be recognized that, unlike most of EPA's Clean Air Act considerations, we are dealing here with global issues and must develop the information required to assess worldwide effects as well as those which occur within the U.S. It is essential that the proposed rule be developed in a way that assures that it provides the basis for the full suite of information and metrics required to effectively address issues of climate control without inadvertently causing net increase in global GHG emissions or unnecessarily damaging key U.S. industries. We believe that the Proposed Rule is critically deficient in its failure to require submission of the information necessary to assess the questions of (1) whether, and to what extent, will intensive U.S. based regulation of GHG emissions result in "leakage" or migration of energy intensive manufacturing operations to countries with less stringent regulatory regimes and (2) whether, and to what extent, that shift will result in a net increase in worldwide GHG emissions. The need for this kind of information is well illustrated by the House Energy and Commerce Committee's March 18, 2009 Hearings on Competitiveness and Climate Change. At those hearings, there was broad agreement on the likelihood that leakage or migration would occur and that provisions to mitigate that problem are needed. There was not consensus, however, on the magnitude of the problem or the most appropriate long term response to it. The need for better metrics and more complete information was acknowledged. EPA, in making regulatory decisions under either the Clean Air Act or some new legislation will face similar questions, both in phasing and in assessing environmental effects and regulatory impacts. It will not be able to make decisions which will survive judicial review unless it has scientific evidence to support its decisions. We are deeply concerned that the Proposed Rule, as currently drafted, will not obtain this information or assure appropriate consideration of it.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0605.1, excerpt 1 above.

Commenter Name: J. G. Arbuckle
Commenter Affiliation: Patton Boggs LLP
Document Control Number: EPA-HQ-OAR-2008-0508-0535.1
Comment Excerpt Number: 3

Comment: Establishment of this proposed rule without providing for the development of metrics and data to support assessment of leakage or migration and its consequent GHG emissions will substantially impede achievement of the primary objective: reducing worldwide GHG emissions. The proposal must be revised to require information addressing at least the following questions: (1)What are the energy intensive U.S. industries subject to intense foreign competition? (2) What is the likelihood and magnitude of anticipated production shifts in each such industry category? (3) What are the relative life-cycle carbon emissions from U.S. products as opposed to those from likely exporters? What metrics should be used to measure? (4) What is the likely net effect on worldwide GHG emissions of any regulatory approach under consideration. An effective climate change program must encourage innovation and investment, while discouraging emissions migration and, with it, the loss of U.S. jobs. If manufacturing activities move from

inside the U.S. to countries with much weaker regulation and enforcement mechanisms in place, U.S. employment opportunities will decrease , while, at the same time, global greenhouse gas emissions will increase. Failure to obtain the information required to address this issue would be a fatal flaw in any final regulation.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0605.1, excerpt 1 above.

Commenter Name: David Rich
Commenter Affiliation: World Resources Institute (WRI)
Document Control Number: EPA-HQ-OAR-2008-0508-0642.1
Comment Excerpt Number: 16

Comment: The emissions data collected under the mandatory reporting rule is likely to be used to implement a cap-and-trade program, in addition to serving other policy objectives. A cap-and-trade registry must track offsets and emissions allowances in addition to emissions data from covered sources. WRI recommends that in designing an emissions reporting system, EPA include the ability to track offset credits, from both domestic and international sources, as well as emissions allowances, and enable such features as banking and borrowing of allowances. A comprehensive emissions, offsets, and allowance tracking system that serves the needs of a future cap-and-trade program will ensure an effective and integrated future program.

Response: Because Congress is currently discussing possible policy options, we do not know what types of regulatory programs will be required by future legislation or developed under the Clean Air Act. The primary purpose of this rule is to provide policy makers and regulators with accurate economy-wide data on GHG emissions. Although the reporting rule has been carefully designed to provide data that is needed to analyze and design a variety of programs, the focus is on current emissions rather than emissions reductions or offsets. For the response on why reporting of offsets and sequestration in not required, see the preamble section on source categories to report. Once climate policy decisions have been made, EPA will develop new regulatory programs to implement the policies and we can assess the need for changes to the mandatory reporting rule at that time.

Commenter Name: Michael Bradley
Commenter Affiliation: The Clean Energy Group (CEG)
Document Control Number: EPA-HQ-OAR-2008-0508-0479.1
Comment Excerpt Number: 3

Comment: The Clean Energy Group anticipates eventual Congressional legislation addressing greenhouse gas emissions reductions. Such legislation and implementing regulations would necessarily have a monitoring and reporting program, and the Clean Energy Group strongly encourages EPA to consider whether the proposed rule would likely serve as an adequate framework for the legislative proposals to date. This would ensure that the efforts thus far to craft a workable rule, as well as the upcoming compliance effort, are not wasted or repeated. Similarly, the Clean Energy Group has and will continue to encourage Congress to ensure that any future legislation requires minimal amendments to the framework of EPA's greenhouse gas reporting program.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0642.1, excerpt 16 above.

Commenter Name: Henry Derwent
Commenter Affiliation: International Emissions Trading Association (IETA)
Document Control Number: EPA-HQ-OAR-2008-0508-0512.1
Comment Excerpt Number: 10

Comment: As EPA works to finalize the reporting rule, IETA encourages EPA to take into consideration both the potential that the rule may be used as an essential part of any future US cap and trade program and the cost of implementing the rule. Data derived from data collected under the EPA reporting rule could be used in the baseline setting, and the reporting requirements could form the formal framework for monitoring and reporting requirements within a cap and trade scheme. Since it is likely the reporting rule would need to be revised when the Congress enacts cap and trade legislation, IETA encourages the EPA to avoid costly provisions that may not be necessary or are likely to change in the near future should Congress enact cap-and-trade legislation. IETA notes that a global carbon market will require international consistency and transparency to provide comparable degrees of confidence in the reliability and quality of reported data under different regulated systems. IETA recommends the EPA work with counterparts in other emissions trading systems to ensure mutual recognition and consistency of data quality and information disclosure.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0642.1, excerpt 16 above. In developing the reporting rule, EPA reviewed the EU Emissions Trading System and other international programs. Where appropriate, we have used consistent GHG monitoring and calculation methods. We carefully designed the general monitoring approach, source category-specific monitoring and QA/QC requirements, missing data procedures, the data elements to be reported, the data collection approach, the emissions verification approach, and compliance and enforcement to ensure that the data collected will be consistent, complete, accurate, and transparent. See the preamble for discussion of the general approach and responses to comments on all of these aspects of the reporting rule. Please see the response to comment EPA-HQ-OAR-2008-0508-0712.1, excerpt 35 regarding EPA's analysis of the economic impacts for this rule. More information on the economic impacts of the rule can be found in the regulatory impact analysis (RIA), Section VII of the preamble, and the volume of this comment response document titled "Cost and Economic Impacts."

Commenter Name: Claire Olson
Commenter Affiliation: Basin Electric Power Cooperative
Document Control Number: EPA-HQ-OAR-2008-0508-0637.1
Comment Excerpt Number: 16

Comment: Basin Electric recognizes the possibility of certain industry sectors or processes being excluded from future GHG regulatory or control programs. Basin Electric requests that the EPA reporting rule recognize any future exclusions and that the reporting systems to be flexible with the ability to adjust to future exclusions and have the reporting rule support any future policy implications. This type of flexibility could mean backing out partial emissions from specific industries. For the GPSP, a fertilizer exclusion could mean backing out the GHG emissions associated with the ammonia facility, the phosam system, and the ammonium sulfate system. In addition, Basin Electric requests that EPA acknowledge that some facilities may have

processes that fall under a plant-wide NAICS code as opposed to other facilities with the normal NAICS code. For example, GPSP has multiple production processes including fertilizer manufacturing under one plant-wide NAICS code such as 22121. This is different from the normal fertilizer manufacturing of 325311. These fertilizer production systems need to be recognized and qualify for any future exclusions that may be considered for the fertilizer industry on any GHG regulation or control program.

Response: At this time, we do not know what types of regulatory programs will be required by future legislation or developed under the Clean Air Act. Once climate policy decisions have been made, EPA will develop new regulatory programs to implement the policies and we can assess the need for changes to the mandatory reporting rule at that time. The North American Industry Classification System (NAICS) codes provided in Table 1 of the preamble are provided as a guide to the types of sources that are potentially subject to this rule. Table 1 and the NAICS codes should not be used to determine applicability of this rule to a particular process or facility. The applicability provisions in 40 CFR 98.2 and the source category definitions in the rule should be used to determine whether a facility is subject to this rule.

Commenter Name: See Table 9
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0635
Comment Excerpt Number: 24

Comment: Initially, EPA should consider providing for a full-rule review within two years of the rule's effective date. Actually putting the rule into practice will doubtless point to opportunities for improvement, which should not be allowed to pass without action. If the rule itself mandates a review, EPA will be ready to collect and organize suggestions with an eye towards improvements. We suggest, therefore, mandating such a review to take place within two years of the rule's effective date. The EU system took this course, with success. [footnote: The American Clean Energy and Security Act of 2009, presently before Congress, favors such reviews as well. The Act requires quadrennial reviews of "the capabilities of the monitoring, reporting, and verification systems used to quantify progress in achieving reductions in greenhouse gas emissions both globally and in the United States." See H.R. 2454, Sec. 311, adding Clean Air Act Sec.705(d).] The first version of its reporting rule provided for review a few years after implementation, and the review was fruitful.[footnote: 157 See EU Commission Decision 2004/1 56/EC, Annex I, § 1, providing that: The Commission will review this Annex and Annexes II-XI by 31 December 2006, taking into account experiences with the application of these Annexes . . . ., with a view to any revised Annexes taking effect from 1 January 2008.] After reviewing the "first experience of monitoring, verifying and reporting" from "operators, verifiers, and competent authorities," it was "apparent that the guidelines laid down in [the initial rules] required several changes in order to render them more clear and cost-efficient." The overhaul included cost-saving measures, improved verification steps, improvements in specific protocols covering industries from gas terminals to cement kilns, and major clarifications on data quality and management. And the EU has no intention of resting on its laurels. In light of the benefits the first review generated, the EU immediately committed to a further review two years after the revised rules went into force. 158 EU Commission Decision 2007/589/EC, Clauses (2)-(3). 159 See id. at Clauses (6)-(24) 160 See id. at Clause (27)] EPA should adopt the successful approach by committing to perform regular rule-wide reviews and should allow regulated reporters and the public to participate in such reviews.

Response: Several commenters suggested EPA should commit to reevaluate the provisions of the rule after two or more years. EPA agrees with these commenters that revisions to the rule may be necessary in the future to make improvements (e.g., based on experience with the program or due to scientific advances) or to adapt the rule to meet the requirements of new legislation or new regulatory programs. However, due to the uncertainty over when new legislation will be enacted and what regulatory approaches will be adopted, EPA has not included a specific deadline for EPA review at this time. By not including a specific deadline for review, EPA maintains the flexibility to amend the rule when new legislation is enacted, new programs are developed, or when changes become necessary for other reasons, rather than revising the rule at some pre-determined time. Note that when the rule is revised, regulatory procedures will be followed including public notice and comment.

Commenter Name: James B. Martin
Commenter Affiliation: Colorado Department of Public Health and Environment
Document Control Number: EPA-HQ-OAR-2008-0508-0554.1
Comment Excerpt Number: 3

Comment: There will invariably be lessons learned from the implementation of the new reporting program. Accordingly, EPA should commit to review the program a few years after its initial implementation and then recalibrate as necessary.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 24 above.

Commenter Name: Stephen E. Woock
Commenter Affiliation: Weyerhaeuser Company
Document Control Number: EPA-HQ-OAR-2008-0508-0451.1
Comment Excerpt Number: 6

Comment: We direct EPA's attention to the need for a "good science" provision and protocols to implement the results of evolving improvements in GHG emissions measurement and estimation science, so that the reporting rules can incorporate, for example, additional categories and measurement methods, and that any resulting reporting adjustments take into account changes in baseline levels and potential impacts on future compliance obligations under a GHG cap or other GHG reduction regulation.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 24 above.

Commenter Name: Marcelle Shoop
Commenter Affiliation: Rio Tinto Services, Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0636.1
Comment Excerpt Number: 6

Comment: We suggest that EPA reevaluate the reporting rules on a periodic basis (potentially every three years), as necessary to refine and refocus the program. If and when Congress enacts a GHG Control program, reporting requirements should be aligned with overall policy approaches.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 24 above.

Commenter Name: Joseph J. Croce
Commenter Affiliation: Virginia Manufacturers Association (VMA)
Document Control Number: EPA-HQ-OAR-2008-0508-0526.1
Comment Excerpt Number: 3

Comment: The creation of a federal GHG registry and parameters for reporting emissions should be based on good science. A federal GHG registry will provide policy-makers with information that will shape the nation's climate policy. Given the paramount importance of climate change as a national and international issue, it is essential that policy be set using unbiased scientific information. For example, the EPA should re-evaluate emissions factors and include in the creation of a new registry the capacity to adjust those emissions factors as the science deems necessary. The potential costs of future climate policy demand that careful attention be paid to good science to ensure that a particular policy option will deliver real results. Virginia manufacturers currently pay between $605 million and $1.72 billion to comply with non-climate related environmental regulation. Therefore, knowing that future policy will be based on the emissions reporting included in the registry there should be ongoing scientific investigation as to the impacts of GI-IGs in order to inform reporting requirements.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 24 above.

Commenter Name: Rhea Hale
Commenter Affiliation: American Forest & Paper Association (AF&PA)
Document Control Number: EPA-HQ-OAR-2008-0508-0909.1
Comment Excerpt Number: 2

Comment: AF&PA believes the reporting rule and future emission reduction rules should be based on good science. Since understanding of the science behind this data is continually evolving, EPA should develop provisions and protocols in this rule for adding additional source categories, updating factors and constants, and refining measurement methods based on improvements in the science.[Footnote: Scientific improvements should also be reasonable, practical and utilize adequate levels of accuracy.] In doing so, it is important to take into account potential changes in baseline emissions levels and their impact on future compliance obligations.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 24 above.

Commenter Name: See Table 1
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0358
Comment Excerpt Number: 8

Comment: Once the system is up and running, the EPA should take every opportunity to learn from its experience, and that of reporting facilities. I encourage the EPA to undertake regular reviews to identify avenues to make the rule even more effective. Thank you for ensuring that we will have the rigorous information we need to turn the tide on global warming.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 24 above.

Commenter Name: Leah Donahey
Commenter Affiliation: none
Document Control Number: EPA-HQ-OAR-2008-0508-0620.1
Comment Excerpt Number: 6

Comment: Once the system is up and running, EPA should take every opportunity to learn from its experience, and that of reporting facilities. I encourage EPA to undertake regular reviews to identify avenues to make the rule even more effective.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 24 above.

Commenter Name: D. Lawrence Zink
Commenter Affiliation: Montana Sulphur & Chemical Company Inc. (MSCC)
Document Control Number: EPA-HQ-OAR-2008-0508-0505.1
Comment Excerpt Number: 12

Comment: EPA should commit to revisit the continued necessity of the reporting program at a future date. Perhaps the review should be conducted each five years. EPA should also consider requesting that each submitter provide an estimate of the resources expended in compliance: e.g. in gathering the data for consideration and reporting and provide this effort data to the public so that the societal cost of the program may be fully understood.

Response: Regarding periodic review of the rule, see the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 24 above. As discussed in the preamble section on economic impacts of the rule, EPA conducted an analysis of the compliance costs of reporting rule and its economic impact. This analysis indicates that this rule does not have a significant economic impact on any sectors of the economy. However, EPA will reevaluate the costs and economic impacts of the rule as appropriate if significant changes to the rule are proposed.

Commenter Name: See Table 9
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0635
Comment Excerpt Number: 14

Comment: EPA proposes to “require the reporting of GHG emissions data on an ongoing, annual basis,” developing a long-term data set that can be used for emissions reduction programs.51 Because the rule will be in force indefinitely, and will be central to those efforts, it is critical that it be designed to last. The tiers of monitoring methods that EPA sets out, and the facilities in each tier, will change over time. Ensuring that the rule can respond to these changes by smoothly incorporating new science and steadily improving data quality will allow the reporting system – and, in time, the larger GHG regulatory structure – to remain strong and credible. We therefore urge EPA to build mechanisms for steady improvement into the rule. EPA necessarily had to design this proposed rule without the data that will ultimately be collected under it, and without the context of a larger emissions reduction program. As data begins to flow, and as Congress and EPA move forward to limit GHG emissions, EPA will benefit from being

able to update the reporting program rapidly, ideally by relying on provisions in the rule itself rather than conducting many new rulemakings or costly source-specific enforcement actions. There are many steps EPA should take now to make adjustments go as smoothly as possible.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0635, excerpt 24 above. One example of an action EPA has taken to allow future adjustment is to require reporting in an electronic format to be prescribed by the Administrator, rather than including the details of the electronic reporting system in the rule. This will allow EPA to take advantage of advances in information technology, as we have done on other programs such as TRI, without new rulemakings. However, if in the future EPA decides to change the data elements that must be reported or the GHG calculation methodologies, EPA will undertake a rule revision, subject to public notice and comment. It is necessary and appropriate that changes to the rule undergo public comment.

Commenter Name: Susan J. Miller
Commenter Affiliation: The Brick Industry Association
Document Control Number: EPA-HQ-OAR-2008-0508-0478.1
Comment Excerpt Number: 2

Comment: Allow facilities not subject to the reporting threshold to voluntarily report their emissions, thereby opting into the program.

Response: At this time, EPA does not plan to collect voluntary submittals of GHG emissions from facilities that are not subject to the rule. As described in section IV.C of the proposal preamble (74 FR 16467 – 16470, April 10, 2009) and comment responses in the section of the promulgation preamble containing responses on thresholds, EPA selected emission thresholds, above which facilities and suppliers would be required to report. The selected thresholds result in coverage of the majority of U.S. GHG emissions but exclude smaller facilities from the burden of reporting. EPA estimates that the final rule will cover approximately 85 percent of U.S. GHG emissions. The objective of this program is to obtain a comprehensive and consistent national dataset of emissions from the reporters that meet the thresholds to help inform future climate policy development. Given that the rule covers 85% of U.S. GHG emissions, the collection of additional voluntary data beyond what is required in the rule is not necessary to further the objectives of the program. In addition, data reported voluntarily would not be as useful for national program development, because it would be submitted by only those facilities/companies that elect to submit it, and would therefore not provide comprehensive national information. Different reporters would also likely calculate voluntary GHG emissions data using different methods so the accuracy and comparability of data from different sources would be lower than the mandatory reports. We recognize however, that there are many useful reasons for voluntary reporting of emissions and emissions reductions. There are many other federal and state programs that allow voluntary reporting of emissions and emissions reductions, as described in section II of the proposal preamble, and we encourage companies to join such programs.

Commenter Name: Joseph J. Croce
Commenter Affiliation: Virginia Manufacturers Association (VMA)
Document Control Number: EPA-HQ-OAR-2008-0508-0526.1
Comment Excerpt Number: 7

Comment: EPA's Climate Partners program, among others, demonstrates the manufacturing sector's willingness to enter voluntarily into programs that will lead to a reduction of the carbon intensity of their operations. In the event EPA allows entities emitting less than the threshold to voluntarily report their emissions, the EPA can gather additional data that could inform the future implementation of the registry, guaranteeing maximum flexibility for industry to meet policy-makers' objectives. Also, the EPA should proactively encourage voluntary participation in an effort to create a complete GHG registry. One way to make it easier for volunteers to participate is to allow companies to self-certify their reports.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0478.1, excerpt 2 above.

Commenter Name: Filipa Rio
Commenter Affiliation: Alliance of Automobile Manufacturers (Alliance)
Document Control Number: EPA-HQ-OAR-2008-0508-0630.1
Comment Excerpt Number: 16

Comment: EPA should establish a means for companies that are not automatically covered by the reporting rule to "opt in" and report at their own option. Such a provision could provide a mechanism for non-reporting entities to measure and document their emissions in an effort to achieve future emission reduction credits.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0478.1, excerpt 2 above.

Commenter Name: Michael Walsh and Paula DiPerna
Commenter Affiliation: Chicago Climate Exchange (CCX)
Document Control Number: EPA-HQ-OAR-2008-0508-0401.1
Comment Excerpt Number: 3

Comment: A voluntary reporting system should be established for entities that are not required to report. A full and robust response to reducing greenhouse gas emissions would benefit greatly from the maximum possible opportunity to participate across our economy. We believe many entities with modest emission levels will want to contribute to the national reporting system that EPA adopts.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0478.1, excerpt 2 above.

Commenter Name: Bryan L. Brendle
Commenter Affiliation: National Association of Manufacturers
Document Control Number: EPA-HQ-OAR-2008-0508-0572.1
Comment Excerpt Number: 5

Comment: EPA's Climate Partners program, among others, demonstrates the manufacturing sector's willingness to enter voluntarily into programs that will lead to a reduction of the carbon intensity of their operations. In the event EPA allows entities emitting less than 100,000 t CO_2e assuming 100,000 t CO_2e is the threshold to voluntarily report their emissions, the EPA can gather additional data that could inform the future implementation of the registry, guaranteeing maximum flexibility for industry to meet policymakers' objectives. Also, the EPA's proposal

reveals a lack of information from emitters between the 25,000 and 100,000 t CO_2e thresholds. Allowing entities under the 100,000 tCO2 threshold will provide much needed data that federal regulators currently lack. This in itself raises Data Quality issues related to the EPA's current proposal.

Response: The rule requires mandatory reporting for facilities above the threshold. For additional information on the selection of the reporting threshold, including why EPA did not raise the threshold to 100,000 metric tons CO_2e per year, see the preamble for the response on selection of the threshold. For the response to the comment on allowing voluntary reporting of emissions, see the response to comment EPA-HQ-OAR-2008-0508-0478.1, excerpt 2 above.

Commenter Name: Susan J. Miller
Commenter Affiliation: The Brick Industry Association
Document Control Number: EPA-HQ-OAR-2008-0508-0478.1
Comment Excerpt Number: 5

Comment: The BIA requests that EPA: Develop a protocol for industries not specifically listed in the rule to develop a recognized and approved approach to developing verified emission levels that could be used in emissions trading/cap and trade programs. This would relate specifically to non-fuel based emissions of GHG and would relate to the NAM suggestion that facilities be allowed to "opt into" the program.

Response: Regarding the suggestion to allow facilities to opt in to the program and report voluntarily, see the response to comment EPA-HQ-OAR-2008-0508-0478.1, excerpt 2, above. The reporting rule will cover approximately 85% of U.S. GHG emissions by requiring reporting for facilities and suppliers in selected source categories. See the preamble section and comment response document volume on source categories to report for responses to comments on selection of source categories. It is beyond the scope of this reporting rule to develop methods for source categories not covered by the rule.

Commenter Name: Shannon Lucas
Commenter Affiliation: Texas Mining and Reclamation Association (TMRA)
Document Control Number: EPA-HQ-OAR-2008-0508-1028.1
Comment Excerpt Number: 8

Comment: EPA should develop a protocol for industries not specifically included in the rule to verify their emissions levels In anticipation of any future GHG regulatory regime. Some small but energy-intensive businesses would welcome the opportunity to verify and certify their emissions levels before any regulation of GHG emissions is enacted.

Response: See the response to comments EPA-HQ-OAR-2008-0508-0478.1, excerpt 2, regarding voluntary reporting of emissions and EPA-HQ-OAR-2008-0508-0478.1, excerpt 5 above regarding development of protocols for industries not specifically included in the rule.

Commenter Name: D. Lawrence Zink
Commenter Affiliation: Montana Sulphur & Chemical Company Inc. (MSCC)
Document Control Number: EPA-HQ-OAR-2008-0508-0505.1
Comment Excerpt Number: 16

Comment: It appears that voluntary self-reporting may not be allowed or considered under this proposed rule. Why not take advantage of all data that is voluntarily provided? We suggest to EPA that thousands of sources will have to go through an annual and significant effort to determine if they approach or meet the tonnage thresholds for required reporting, and that that effort should be honored by allowing facilities to elect to self-report, even where the values are found to be less that the thresholds. Sources which self-report in good faith should be deemed in compliance with all portions of the rule including any duty to determine whether recordkeeping or reporting is mandatory.

Response: For the response on voluntary reporting, see the response to comment EPA-HQ-OAR-2008-0508-0478.1, excerpt 2 above.

In most cases, facilities will not need to estimate emissions using the full monitoring methods in the rule to determine applicability, so most facilities will not have detailed data available for voluntary reporting that is comparable to the mandatory data collected by the rule. EPA simplified the applicability criteria to make it easier for many facilities to determine whether they are subject to the rule. For several source categories, all of the facilities that have that particular source category within their boundaries are subject to the rule. EPA also simplified the applicability for facilities that consist only of stationary combustion sources, such that those facilities with an aggregate maximum rated heat input capacity of all their stationary fuel combustion units is less than 30 mmBtu/hr are not covered by the rule and do not have to estimate emissions. The General Provisions (40 CFR 98.2) allow other combustion facilities to use any of the four methods in subpart C to determine applicability. The simplest of the four methods requires determination of only one parameter -- annual fuel use -- which most companies already have. In addition, as explained in the preamble response on determining applicability (in section II under comments and responses on other general rule requirements), the rule does not contain any requirements for facilities that are not subject to the rule, and does not necessarily require monitoring in 2010 to determine applicability. Anyone with a facility subject to an emissions threshold could begin by determining emissions using the relevant equations in each subpart along with available data from company records and the likely operating scenario for the reporting year that would lead to worst case emissions. EPA expects that for most facilities, emissions calculated in this manner will fall well below or well above the 25,000 metric ton CO_2e per year threshold, such that most reporters can determine applicability using only available data. Only those who are close to the threshold would face the decision on whether to install full monitoring equipment required by the rule to collect data for applicability determination and/or reporting. See the preamble and the comment response document on Subpart A: Applicability for additional information on applicability determination.

EPA also notes that there are several voluntary GHG emissions reporting and reduction programs, and encourages companies who wish to submit emissions information for facilities not covered by the rule to join one of those programs.

Commenter Name: See Table 9
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0635
Comment Excerpt Number: 11

Comment: Some substantial facilities may believe that they fall below the reporting threshold when they, in fact, exceed it. EPA should carefully assess large facilities which it believes may exceed the reporting threshold. We also recommend that EPA allow these facilities to opt-in to the reporting system. EPA is already making efforts to ensure that all covered sources fulfill their reporting duties. For instance, EPA proposes to require reporting for a catch-all category of facilities with an stationary fuel combustion units with an aggregate maximum heat input capacity of 30 mmBtu/hr or greater, which do not contain other source categories listed under this rule, and whose emissions fall above the threshold. It estimates that there are roughly 30,000 such facilities, and that approximately 13,000 of them will meet or exceed the threshold. Nonetheless, EPA expects all 30,000 facilities to assess their emissions to determine whether they are covered by the reporting system. We agree with EPA that carefully evaluating this class of facilities is important "to ensure all large emitters in the U.S. are included in this reporting program." We note, however, that members of this class, as well as of other facility categories, that are initially exempt from reporting may see their emissions rise over time. To ensure that facility operators do not fail to report when they reach the threshold, EPA should, at a minimum, conduct periodic emissions audits of facilities which it believes to fall at or near the threshold. The program should test a representative sample of this class annually. These audits, could be done with simplified techniques, allowing for broader audit coverage and a smaller burden to facilities which may be beneath the threshold. Such a program would help minimize under-reporting. It would also provide information on whether the thresholds should be lowered. EPA should also allow facilities to opt-in to the reporting system. As GHG emissions reduction programs go forward, many facilities may view inclusion in an accurate national emissions database as a profitable business opportunity, which could, for instance, allow them better access to a national carbon trading system. Should a given facility wish to enter the reporting system, EPA should allow it to do so.

Response: EPA is conducting an active outreach and technical assistance program. This program includes outreach materials, tools, and training designed to help facilities determine whether they are subject to the rule and understand their reporting requirements. If a facility subject to the rule fails to report, that is a violation of the rule. The rule, preamble, and outreach materials clearly state that if a facility not subject to the rule in 2010 increases emissions such that it meets the threshold in a future year (or adds an all-in source category) it must begin reporting that year. EPA will enforce the rule, and expects to audit both facilities covered by the rule and facilities that are likely to be subject to the rule but are not reporting. For additional discussion of the compliance and enforcement provisions, see the preamble and separate comment response document volume for the response on compliance and enforcement. For the response to the comment on voluntary reporting and applicability determination, see the response to comments EPA-HQ-OAR-2008-0508-0478.1, excerpt 2 and EPA-HQ-OAR-2008-0508-0505.1, excerpt 16 above.

Commenter Name: Michael Walsh and Paula DiPerna
Commenter Affiliation: Chicago Climate Exchange (CCX)
Document Control Number: EPA-HQ-OAR-2008-0508-0401.1
Comment Excerpt Number: 2

Comment: Reporting should be permitted as far back in time as entities wish, in accordance with EPA Rule requirements. CCX Members are required provide the emissions data described above for the years 1998 – 2001 for purposes of establishing the baseline from which their annual emissions reduction requirements are measured. Members have the option of using a baseline that is the average emissions for the years 1998 to 2001 or for the single year 2000. Baseline data are verified by FINRA. We urge EPA to allow entities the option to report historical emissions data that has been subject to such rigorous standards as those employed by CCX. Such historical data will help EPA and the public observe trends and patterns and inform the debate as carbon limitation legislation is considered and implemented.

Response: EPA has decided not to collect historical data on GHG emissions before 2010. Many facilities do not currently calculate GHG emissions and may not have the historical records necessary to calculate the GHG emissions using the rigorous methods included in this rule. Although some facilities already calculate emissions, either as part of a voluntary reporting program or a mandatory state or regional program, these programs may have different calculation methods, different monitoring and QA/QC requirements, and different missing data provisions, which would make the historical data for different facilities difficult to compare and not comparable with data collected after January 1, 2010. EPA's goal in developing this rule was to collect data of known quality that is generated using a consistent protocol. Historic emissions data would be of unknown quality. Voluntary reporting of historical data would not provide sufficient industry coverage, while mandatory reporting of historical data according to the methodologies specified in this rule would create additional burdens on both the affected facilities and the Agency, and many facilities likely would not have the needed data available. Since Federal policy is still being developed, EPA does not believe the additional burden to facilities of reporting historical emissions is justified at this time. If, in the future, Federal programs are developed for which specific historical data are needed, EPA can reevaluate this rule or another data collection method at that time when it can be tailored to the specific data needs of the program.

Commenter Name: Carol E. Whitman
Commenter Affiliation: National Rural Electric Cooperative Association (NRECA)
Document Control Number: EPA-HQ-OAR-2008-0508-0483.1
Comment Excerpt Number: 15

Comment: Allow Reporting of Historical Data. The system set up by EPA in this draft rule comprehensively covers major GHGs across the U.S. economy for the time period starting in 2010. However, the policy that EPA may be analyzing may require data for years prior to 2010. Many proposals use multi-period historical emissions data for allocating allowances and for quantifying any "early action" that may be eligible for credit. We suggest that EPA develop provisions that allow reporting facilities to submit historical data under this reporting program. Any historical data submitted under such provisions should be required to meet the same data collection, monitoring, and quality assurance protocols established in the rule for reporting current data. Limits could be placed on the length of the historical period eligible for reporting to keep the administrative burden manageable.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: Steven M. Maruszewski
Commenter Affiliation: Pennsylvania State University (Penn State)
Document Control Number: EPA-HQ-OAR-2008-0508-0409.1
Comment Excerpt Number: 9

Comment: Reporting is proposed to begin in 2011 for calendar 2010 data. With the understanding that this data is being collected to inform future climate policy development and support a range of possible policies and regulations, Penn State recommends EPA request voluntary submittal of historical data. This data from reporting entities could be for as far back as the entity can provide the data in EPA format using consistent methodologies. Some of the recent climate policy (cap & trade) bills that have been introduced have set a baseline year of 2005. This avoids punishing early action in GHG reduction. This data could prove valuable in analyzing GHG emissions trends and in developing policy.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: Helen A. Howes
Commenter Affiliation: Exelon Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0373.1
Comment Excerpt Number: 7

Comment: Exelon recommends EPA allow voluntary reporting of historical greenhouse gas emissions data for facilities affected by this rule, provided the data are of similar quality to that outlined in the rule and have been third party verified. EPA has identified that data covering longer periods of time are key to its analysis. Allowing high quality historical data to be entered will provide EPA with important information and the ability to trend data for some sectors sooner than would otherwise be possible. This should not result in significant additional administrative work for EPA, as the third party verification will provide EPA with assurance that the data are reliable. Historical data will also provide EPA with a solid baseline quantification of greenhouse gas emissions reductions that have occurred under voluntary programs, such as EPA Climate Leaders.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: William Ferretti
Commenter Affiliation: Chicago Climate Exchange
Document Control Number: EPA-HQ-OAR-2008-0508-0212m
Comment Excerpt Number: 3

Comment: Second, we believe entities should have the option of reporting emissions in accordance with EPA requirements as far back in time as they wish. We think this will help EPA and the public observe trends and patterns and inform the debate as carbon limitation legislation is considered and implemented.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: Thomas M. Ward
Commenter Affiliation: Novelis Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0561.1
Comment Excerpt Number: 10

Comment: Novelis also recommends that the rule be revised to allow for facilities to have the option to report earlier emissions data where such data was already reported under a state reporting law. This would provide a means to incorporate relevant data on emissions that may be credited for facilities such as under the "The American Clean Energy and Security Act of 2009" Bill in the House of Representatives where under Section 740 early emission credits for state and other mandated GHG reduction programs may receive offsets.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: Filipa Rio
Commenter Affiliation: Alliance of Automobile Manufacturers (Alliance)
Document Control Number: EPA-HQ-OAR-2008-0508-0630.1
Comment Excerpt Number: 17

Comment: Our members have spent considerable time, money, and resources to implement energy efficiency projects and other actions at our facilities to reduce GHG emissions for many years. Recognition of these efforts and the impacts on emissions will be an important facet of any future policy development. The Alliance proposes that EPA consider the collection of historical emissions data. The primary goal of the proposed mandatory reporting program is to provide comprehensive and accurate data which will support future climate change policies. Comprehensive data could very well include emissions data for years prior to the proposed start year of Calendar Year ("CY") 2010. Pre-CY 2010 data may be necessary to inform various future policy decisions as identified in a number of recent climate change and energy bill proposals. This is clearly recognized in the recently unveiled draft climate and energy bill, the American Clean Energy and Security Act of 2009, which calls for emission reductions based upon 2005 levels. EPA's reporting program should not steer or direct future policy away from the ability to receive Early Action Credits or other recognition for historical GHG emission reductions. EPA has clearly recognized that many of the facilities which will be required to report under this program have been reporting verifiable emissions data under other existing voluntary or mandatory registries for many years. Additional facilities and companies have also been internally collecting data to produce reliable, accurate, historical emissions for many purposes, one of which may have been in anticipation of recognition for Early Action Credits in future legislation and policy-making. The Alliance recommends that EPA allow reporters the option to voluntarily submit historical emissions data. Many of EPA's concerns with reporting historical data suggest this data would be of an unknown quality that could not be compared to post-2010 data. We would suggest that historical data which does not satisfy EPA's calculation methodologies or monitoring requirements be based upon best available data, a concept commonly applied in other EPA programs (e.g., TRI reporting). This particular data could be lagged" accordingly. However, we believe many reporters will be capable of producing historical emissions data which comply with the proposed reporting requirements. The Alliance suggests that EPA allow the submittal or resubmittal of data historically reported to the DOE Section 1605(b) Voluntary Reporting Program. The information reported under the 1605(b) Program is certified to be accurate. Therefore, acceptance of 1605(b) information would assure EPA the data is accurate and consistent with existing policies at the federal level.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: Fiji George
Commenter Affiliation: El Paso Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0398.1
Comment Excerpt Number: 11

Comment: El Paso supports EPA's decision against requiring the submittal of historical emissions and inclusion of indirect emissions into this reporting rule. Both historical and indirect emissions are required in voluntary programs such as DoE 1605(b), CCAR, and TCR in order to assess the range of an entity's GHG impacts from both direct and indirect GHG emissions, develop emissions baseline for each company and steps to be undertaken on a company basis related to voluntary reductions. In a mandatory economy-wide reporting rule as proposed by the EPA or a mandatory greenhouse gas bill (e.g. "American Clean Energy and Security Act of 2009"), the rationale behind historical and indirect reporting on a company basis is obviated by updated reporting and economy-wide coverage, and the burdens of historical and indirect reporting outweigh any benefits. As EPA points out on page 16471 of the proposed rule, the submittal of historical emissions inventories according to the prescribed methodologies "would create additional burdens on both the affected facilities and the Agency, and much of the needed data might not be available." Also, as EPA acknowledges, such submittals will introduce a data quality concern which would make comparison with reporting submitted for years 2011 and beyond irrelevant. Further, any future reduction programs will likely be based on a nationwide baseline data that already exists, as opposed to demonstration of a company by company reduction goal from a baseline year. This renders the benefit of compilation and submittal of any historical emissions irrelevant.

Response: EPA thanks the commenter for their input. See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: Ram K. Singhal
Commenter Affiliation: Rubber Manufacturers Association (RMA)
Document Control Number: EPA-HQ-OAR-2008-0508-0600
Comment Excerpt Number: 5

Comment: EPA also solicits comment on whether sources should report historical GHG emissions. EPA's members do not believe that that would be a beneficial exercise and that this program should be based on moving forward, not backwards. If companies have verified GHG emission reductions under other programs or can provide a basis for claiming GHG credits under a future national accounting system, that purpose is not the same as the purpose of this proposed rulemaking.

Response: EPA thanks the commenter for their input. See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: David Stirpe
Commenter Affiliation: Alliance for Responsible Atmospheric Policy (ARAP)
Document Control Number: EPA-HQ-OAR-2008-0508-0527.1
Comment Excerpt Number: 7

Comment: EPA notes that historical emissions data prior to 2010 is not required. We agree with this decision.

Response: EPA thanks the commenter for their input. See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: Leslie Sue Ritts
Commenter Affiliation: National Environmental Development Association
Document Control Number: EPA-HQ-OAR-2008-0508-0504.1
Comment Excerpt Number: 15

Comment: Mention is made in the NPRM on page 16471 about requiring reporting of historical emissions. NEDA/CAP supports EPA's decision to require monitoring and reporting of future emissions because it would be difficult and not particular productive to gather historical information about past GHG emissions. While many of our members may have this information, others might have difficulty in gathering the information for certain types of sources. As a country, we have to look forward, and it would seem that spending limited resources to document and certify historical emissions does not appear practical or productive. On the other hand, if companies have "banked" or certified historical emissions for other purposes, they ought to be able to utilize those emission reductions for other programs apart from the reporting program, and EPA therefore should allow for recognition of historical reports voluntarily submitted by these entities if that information is so desired.

Response: EPA thanks the commenter for their input. See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: Gregory A. Wilkins
Commenter Affiliation: Marathon Oil Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0712.1
Comment Excerpt Number: 44

Comment: Marathon supports not requiring historical emissions data for years before the year of the first data collection under this reporting rule. Compiling any historical data would place a large burden on industry, and the data that would be derived would be incomplete and not allow for accurate trending to be developed from year to year or between sectors.

Response: EPA thanks the commenter for their input. See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: Dan Elwell
Commenter Affiliation: Aerospace Industries Association (AIA)
Document Control Number: EPA-HQ-OAR-2008-0508-1140.1
Comment Excerpt Number: 10

Comment: Reporting of future emissions is of admitted value. However, AIA members argue against reporting of historical emissions because of the excessive resource expenditure relative to the minimal value offered.

Response: EPA thanks the commenter for their input. See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: See Table 7
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-1021.1
Comment Excerpt Number: 10

Comment: Because of the potential costs and lack of identified purpose associated with historical reporting, EEI supports EPA's conclusion that the proposed reporting system only would require data collection and reporting on a prospective basis. Historical data collection is not warranted or justified in this instance.

Response: EPA thanks the commenter for their input. See the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above.

Commenter Name: Claire Olson
Commenter Affiliation: Basin Electric Power Cooperative
Document Control Number: EPA-HQ-OAR-2008-0508-0637.1
Comment Excerpt Number: 2

Comment: If the data collected by EPA is to be used for policy development, it is crucial that the GHG emission data provide an accurate picture. This includes not only of the GHG emissions today, but also the steps already taken to reduce those emissions. GPSP, for example, should not be penalized for having taken early action. Any EPA rule regarding GHG should recognize such early reductions, actions, and first movers. New EPA reporting rules should not penalize these or similar early reductions of GHG emissions. Regardless of what year future programs use as a baseline, EPA should allow adjustments in the baseline that do not penalize those who have taken early action to reduce GHG emissions such as reductions documented and reported in the 1605b Department of Energy (DOE) program. Basin Electric suggests that EPA allow early action facilities such as GPSP to report both gross and net emissions with and without the early action reductions of GHG emissions based on the total feedstock, fuel, or coal consumed for the facility process that year or an earlier year, or some similar method that accurately delineates gross and net GHG emissions with and without the early action reductions in the baseline and reporting years. Comparing GHG potential emissions with actual emissions after taking the early action reductions into account would provide credit for energy efficiency initiatives, early action, and emissions reductions such as those occurring at GPSP. This concept could also be applied to facilities that are currently operating at reduced loads due to economic or other restrictive conditions that aren't representative of normal source operations, or currently

are not operating for other reasons (e.g., an unusually long outage for maintenance or repair, or for construction for a major modification that includes installation of new pollution control equipment). For example, when the prevention of significant deterioration (PSD) was enacted, the baseline emissions inventory included all projected emissions from sources for which construction had commenced prior to the date the law became effective (42 U.S.C. 7479(4)), and allowed the baseline emissions inventory of a facility to be adjusted to reflect "normal source operation" if emissions of the source or facility during the baseline period did not accurately reflect the normal operating conditions and emissions. 45 Fed. Reg. 52675, 52714 (August 7, 1980) (original implementing rules and regulations for the 1977 Amendments to the Clean Air Act). A similar implementing regulation should be adopted for determining baseline GHG emissions. Finally, there is a large potential for information collected under this rule to be used in future GHG regulation and/or cap and trade legislation. It is therefore important that the data collected accurately depict the GHG emissions.

Response: Regarding reporting of historic data, see the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above. Regarding early actions, at this time we do not know if future regulatory programs will include credits for past emission reductions and if so, what types of actions would be eligible and what specific data will be required. Given the burden and uncertainty of reporting historic data (as described in the response to comment EPA-HQ-OAR-2008-0508-0401.1, excerpt 2 above) we consider it premature to have facilities report historic data and early actions under this rule.

Commenter Name: See Table 9
Commenter Affiliation:
Document Control Number: EPA-HQ-OAR-2008-0508-0635
Comment Excerpt Number: 56

Comment: Agricultural Offsets [footnote: Sierra Club and the Center for Biological Diversity do not join this section of the comments.] The agricultural sector is well positioned to make a significant contribution to greenhouse gas emissions mitigation through high quality, voluntary offsets. A well-designed offsets program will reduce greenhouse gases, cut compliance costs for directly regulated sectors, and spur a steady flow of capital to agriculture to support voluntary mitigation opportunities. We therefore ask EPA to also clarify the opportunities and methodologies for voluntary reporting in the agricultural sector that are inextricably connected to supporting offsets. EPA should also consider issues associated with a well-designed offsets program in determining the merits of reporting on the basis of generation versus emissions. For example, a generation reporting methodology may facilitate the development of voluntary GHG offsets in the livestock sector by providing an appropriate framework for reporting the greenhouse gas mitigation from anaerobic digesters used in manure management.

Response: For the response to the comment on the reporting of emissions, offsets, and sequestration from agricultural and other land uses, see the preamble section on source categories to report. For responses to comments on reporting by manure management facilities, see the preamble section and comment response document on manure management. At this time, we do not know what types of facilities will be covered by future GHG regulatory programs or whether future regulatory programs will include a voluntary offset program. Therefore, we consider it premature to require reporting of additional data by the agriculture sector when the future direction of GHG regulation is not yet known.

Commenter Name: Douglas P. Scott
Commenter Affiliation: Illinois Environmental Protection Agency (Illinois EPA)
Document Control Number: EPA-HQ-OAR-2008-0508-0387.1
Comment Excerpt Number: 9

Comment: The rule should be flexible enough to expand and adopt, as needed, for other uses in the future, such as specific regulatory standards and a federal cap and trade program.

Response: The primary purpose of this rule is to provide policy makers and regulators with accurate economy-wide data on GHG emissions from suppliers and facilities above the thresholds. The data collected under this rule will provide a better understanding of GHG emissions from different industries and from individual facilities within those industries, allowing us to analyze impacts of potential policies and develop programs. The data can be used to help identify the factors that influence the GHG emission rates, determine baseline emissions, track trends in GHG emissions, and determine the effectiveness of any new regulatory programs. The data collection has been designed to collect accurate data that would be useful for analyzing and developing a range of potential polices and regulatory programs source category regulatory standards. However EPA cannot anticipate and design a single reporting rule to cover the needs of all possible future GHG programs. EPA intends to review the rule as new legislation is enacted and new regulatory programs are developed to determine if any changes are needed. For example, under some potential future programs, it might be necessary to collect additional data for determining offsets or indirect emissions reductions, or to add new reporting requirements for source categories not included in this rule.

Commenter Name: Brian Jones
Commenter Affiliation: Clean Energy Group (CEG), M.J. Bradley & Associates, LLC
Document Control Number: EPA-HQ-OAR-2008-0508-0212e
Comment Excerpt Number: 7

Comment: Then finally, given the evolving nature of climate change legislation, does EPA feel the current proposal is likely to meet possible future legislative requirements with minimal amendments?

Response: See the response to comment EPA-HQ-OAR-2008-0508-0387.1, excerpt 9 above.

Commenter Name: Randall R. LaBauve
Commenter Affiliation: Florida Power & Light (FPL) Group
Document Control Number: EPA-HQ-OAR-2008-0508-0624.1
Comment Excerpt Number: 2

Comment: FPL Group anticipates eventual Congressional legislation addressing GHG emissions reductions. Such legislation and implementing regulations would necessarily have a monitoring and reporting program, and FPL Group strongly encourages EPA to consider whether the proposed rule would likely serve as an adequate framework for the legislative proposals to date. This would ensure that the effort thus far to craft a workable rule, as well as the upcoming compliance effort, is not wasted or repeated.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0387.1, excerpt 9 above.

Commenter Name: Laurie A. Lehmberg
Commenter Affiliation: Texas Instruments Incorporated (TI)
Document Control Number: EPA-HQ-OAR-2008-0508-0682.1
Comment Excerpt Number: 4

Comment: One of EPA's objectives for the proposed rule is to ensure that national GHG policy decisions are based on accurate and timely information. The proposed rule should not predetermine the structure of any future climate change policy or regulation. The proposed rule that is ultimately implemented should he revised to be consistent with any Federal legislation that might be passed imposing emissions limitations.

Response: The primary purpose of this rule is to provide policy makers and regulators with accurate economy-wide data on GHG emissions from suppliers and facilities above the thresholds. The data collection has been designed to support analysis of a range of potential polices and regulatory programs, and does not predetermine which policies and programs will be developed. EPA agrees that changes to the reporting rule may be necessary in the future as new legislation is enacted and new regulations developed and implemented.

Commenter Name: Karen St. John
Commenter Affiliation: BP America Inc. (BP)
Document Control Number: EPA-HQ-OAR-2008-0508-0631.1
Comment Excerpt Number: 5

Comment: Because the purpose of the GHG reporting rule is to inform climate policy, once climate policy and regulatory direction has been set by the U.S. Congress and the Administration, the need for this particular reporting rule should be re-examined, and any further reporting requirements aligned with the needs of a new climate/GHG regulatory program.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0682.1, excerpt 4 above.

Commenter Name: Matthew G. Paulson
Commenter Affiliation: LLP on behalf of BCCA Appeal Group
Document Control Number: EPA-HQ-OAR-2008-0508-0649.1
Comment Excerpt Number: 1

Comment: The greenhouse gas ("GHG") reporting rule should ensure that EPA's goal of informing national GHG policy decisions is met, without predetermining the structure of any reporting program under national legislation. EPA should also be ready to revise the rule to be consistent with any final national legislation and with any rules imposing GHG emissions limits on mobile sources.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0682.1, excerpt 4 above.

Commenter Name: Kathy G. Beckett
Commenter Affiliation: West Virginia Chamber of Commerce
Document Control Number: EPA-HQ-OAR-2008-0508-0956.1
Comment Excerpt Number: 9

Comment: It is suggested that if Congress passes legislation that requires reporting that is not satisfied by this rule, EPA should move quickly to withdraw or stay this rule. It is recommended that a statement that the rule will be withdrawn upon congressional action on greenhouse gas reporting should be included in this promulgation.

Response: The primary purpose of this rule is to provide policy makers and regulators with accurate economy-wide data on GHG emissions from suppliers and facilities above the thresholds. The data collection has been designed to support analysis of a range of potential polices and regulatory programs, and does not predetermine which policies and programs will be developed. EPA agrees that changes to the reporting rule may be necessary in the future as new legislation is enacted and new regulations developed and implemented. However, the rule will not be automatically withdrawn upon Congressional action, because many of the reporting requirements in the rule will likely be needed to develop regulatory programs to implement the new legislation, and future regulations might require facilities to report some of the same data. Rather than automatic withdrawal, EPA will reexamine the rule in light of new legislation or new regulatory programs, and determine what changes are needed.

Commenter Name: Maureen Beatty
Commenter Affiliation: National Refrigerants, Inc. (NRI)
Document Control Number: EPA-HQ-OAR-2008-0508-0434.1
Comment Excerpt Number: 2

Comment: Assuming that EPA moves ahead with a final rule, notwithstanding the issues of regulatory authority identified above, EPA should ensure that the final Reporting Rule is consistent and coordinated with any reporting program likely to be established by comprehensive climate change legislation, e.g. the American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009). H.R. 2454 contains both a generalized GHG reporting obligation (section 713) and one specifically established for HFCs under section 332 (which establishes a new section 619 of Title VI of the CAA.) To the maximum extent possible, any reporting of HFC production and importation (as well as destruction) under the Reporting Rule should be consistent with the applicable federal legislation or else potentially overlapping or conflicting requirements may be imposed that would result in unnecessary costs to regulated entities, confusion, and potential delays to the programs.[Footnote: NRI notes that the preamble to the Reporting Rule states that the "data collected by this rulemaking is intended to support analyses of future policy options." 74 Fed. Reg. at 16,468. NRI cannot comment meaningfully on this intent without knowing what policy options are to be considered; however, given the likelihood of federal climate legislation, NRI is basing its comments on this possibility. NRI takes no position at this time on whether EPA can or should promulgate regulations for monitoring or reporting of HFCs and other fluorinated GHGs under the existing CAA.] While NRI recognizes that EPA cannot control the pace of legislation or the provisions ultimately enacted by Congress, the Agency can and should work closely with Congress to ensure the maximum consistency with respect to monitoring and reporting requirements and should strongly consider language in the Reporting Rule that stays or withdraws the rule if and when EPA promulgates any reporting rule(s) pursuant to comprehensive climate legislation that may differ substantively from the

Reporting Rule or require additional procedures. Ultimately, producers and importers of HFCs and other fluorinated GHGs should have only one set of national monitoring and reporting obligations, and NRI notes that the current draft of H.R. 2454 includes provisions regarding reporting and monitoring that vary significantly from the language in the proposed rule.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0956.1, excerpt 9 above. For information on the method selected for a specific source category and changes made since proposal, see the technical support documents and comment response volumes for the source category.

Commenter Name: Kathy G. Beckett
Commenter Affiliation: West Virginia Chamber of Commerce
Document Control Number: EPA-HQ-OAR-2008-0508-0956.1
Comment Excerpt Number: 2

Comment: The Chamber shares with other commenters that this proposal necessarily does not allow for comment upon the relationship between the requirements of this proposal and potential future GHG regulatory programs. If EPA is to move beyond a registry to a regulatory program for GHG, an entirely new and thorough proposal will need to be presented for full comment.

Response: At this time, EPA is not able to provide more details on the types and specific requirements of any potential GHG regulatory programs that may be developed. Because Congress is currently discussing possible policy options and legislation, EPA does not know what specific regulatory programs will be needed to implement Congressional legislation. The data collected under this rule will provide policy makers and regulators with accurate and timely economy-wide data on GHG emissions that will help inform future policy decisions and regulatory development. Any future GHG regulations developed by EPA will be subject to the same public review and comment process as for this rule, with a public comment period on the proposal and documents related to rule development made available through a public docket.

Commenter Name: Paul R. Pike
Commenter Affiliation: Ameren Corporation
Document Control Number: EPA-HQ-OAR-2008-0508-0487.1
Comment Excerpt Number: 2

Comment: An important issue that we are unable to comment on is the relationship between the requirements of this proposal and potential future GHG regulatory programs. EPA's stated goal in designing the proposed mandatory reporting program is support for future climate change policies and regulations and we cannot comment on the adequacy of this proposal without specific information on what those policies or regulations might themselves require. We believe that EPA will need to solicit comments on most of the issues addressed in this proposal as they apply to the new proposal.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0956.1, excerpt 2 above.

Commenter Name: William Ferretti
Commenter Affiliation: Chicago Climate Exchange
Document Control Number: EPA-HQ-OAR-2008-0508-0212m
Comment Excerpt Number: 6

Comment: Finally, as the world leading environment agency that is now tackling a global problem, we think there are tremendous advantages to building pathways that would allow for reporting under a rigorous EPA system on a global basis. We appreciate the legal and conceptual complexities of such a step, but we see on a daily basis, entities from around the world that wish to be at the cutting edge of quantifying and managing greenhouse gases. We believe that U.S. diplomatic, commercial, and cultural linkages can be significantly enhanced by opening the reporting system to any and all who are prepared to play by the demanding rules that EPA will be establishing.

Response: EPA thanks the commenter for their input. This rule was developed in response to FY2008 Consolidated Appropriations Act, which authorized funding for EPA to develop a rule to require "mandatory reporting of GHG emissions above appropriate thresholds in all sectors of the economy of the United States" (see Consolidated Appropriations Act, 2008, Pub. L. No.110-161, 121 Stat 1844, 2128 (2008)). The focus of this rule is to collect accurate data on U.S. GHG emissions from suppliers and facilities above the thresholds for use in analyzing and developing potential GHG policies and programs. Collecting voluntary data for entities located in other countries is outside the scope of this rulemaking.

Commenter Name: Sonal Mahida
Commenter Affiliation: Carbon Disclosure Project
Document Control Number: EPA-HQ-OAR-2008-0508-0306.1
Comment Excerpt Number: 2

Comment: The CDP Information Request asks companies not only for emissions and energy data, but also for qualitative information about risks, corporate strategies, performance against climate change targets, etc. This information is valuable to investors and purchasers as it helps them to understand the future path of companies as well as their past and present impacts. CDP recommends that EPA consider whether it may be appropriate to seek qualitative information under the new rule. Qualitative information is seen as valuable by investors and other stakeholders. Examples of such information being valued include not only the CDP itself but also the recent disclosure requirements placed upon high-emitting companies by the Attorney-General of New York4, and the recently announced decision by the National Association of Insurance Commissioners to require disclosure of climate change risk by US insurance companies5. We recommend that EPA liaises with the SEC on whether and to what extent such disclosures overlap with requirements under existing S-K Regulations given the content of the investor petition requesting interpretive guidance on climate change disclosure issued to the SEC in September 2007, and the additional letter sent in June 20086.

Response: This rule was developed in response to FY2008 Consolidated Appropriations Act, which authorized funding for EPA to develop a rule to require "mandatory reporting of GHG emissions above appropriate thresholds in all sectors of the economy of the United States" (see Consolidated Appropriations Act, 2008, Pub. L. No.110-161, 121 Stat 1844, 2128 (2008)). The focus of this rule is to collect accurate data on U.S. GHG emissions from suppliers and facilities above the thresholds for use in analyzing and developing potential GHG policies and programs.

EPA will share the collected data with other agencies and the public. However, collecting data on corporate GHG strategies, climate change targets, or other qualitative data is outside the scope of this rulemaking.

Commenter Name: P. Hill
Commenter Affiliation: Drexel University
Document Control Number: EPA-HQ-OAR-2008-0508-0232.1
Comment Excerpt Number: 3

Comment: The most predictable complaint I can see against the proposed rule is that it is mandatory, and in so far as the information collected is made accessible to the public could certainly have an impact on businesses. Although there are many industries that emit GHGs that provide product classes that consumers will be reluctant to give up, it is foreseeable that at least some consumers will make purchasing decisions based partially on the comparative damage caused by companies that manufacture similar products. But that's not a reason to continue with existing voluntary reporting programs or to keep the information from the public. Solid economic growth, let alone ecological health, requires that those who cause the most damage are weeded out. And the upside is one of positive reinforcement, for lack of a better term- those companies who are able to manage their GHG emissions while still managing cost and quality will experience growth, and as the President has clearly observed, developing lower-emitting production methods and products will require research and development that in itself can provide economic benefit.

Response: The primary purpose of this rule is to provide policy makers, regulators, and the public with accurate data on GHG emissions to inform future climate change policy. The data collected under this rule will provide a better understanding of GHG emissions from different industries and facilities within those industries and will help identify the factors that influence the GHG emission rates. With the exception of confidential business information, EPA intends to make data collected available to the public in a timely manner. This level of transparency is important to public participation in future policy development and for building public confidence in the quality of the data collected. Although our intended purpose in developing this mandatory reporting rule was to inform future policy decisions, EPA concedes that individuals may wish to use the data for a variety of unintended purposes such as purchasing decisions. However, the data collection was not designed to include all the information that would be needed to determine a corporate footprint (e.g., corporate GHG policies, indirect emissions, offsets, emissions from facilities below thresholds).

Commenter Name: Ushma N. Domadia
Commenter Affiliation: Drexel University Earle Mack College of Law
Document Control Number: EPA-HQ-OAR-2008-0508-0234
Comment Excerpt Number: 1

Comment: Compiling a comprehensive greenhouse gas (GHG) inventory improves a company's understanding of its emissions profile and any potential GHG liability or "exposure". A company's GHG exposure is increasingly becoming a management issue in light of heightened scrutiny by the insurance industry, shareholders, and the emergence of environmental regulations/policies designed to reduce GHG emissions.

Response: See the response to comment EPA-HQ-OAR-2008-0508-0232.1, excerpt 3 above.

Commenter Name: Diane Wittenberg
Commenter Affiliation: The Climate Registry
Document Control Number: EPA-HQ-OAR-2008-0508-0228s
Comment Excerpt Number: 3

Comment: We ask that EPA encourage companies, cities, agencies and other organizations to go beyond federal mandatory reporting requirements and voluntarily inventory, verify and report their total corporate footprints.

Response: For the response on why the mandatory reporting rule does not require reporting of corporate carbon footprints, see the preamble response on the level of reporting. EPA recognizes that various other Federal and State programs are collecting and will continue to collect voluntary data on direct and indirect emissions, energy efficiency, and other data beyond the scope of this rule as part of a broader array of climate change initiatives. We encourage companies to participate in voluntary reporting and reduction programs.

Commenter Name: Mindy S. Lubber
Commenter Affiliation: Ceres, Center for Energy and Environmental Security (CEES), and Environmental Defense Fund (EDF)
Document Control Number: EPA-HQ-OAR-2008-0508-0534.1
Comment Excerpt Number: 1

Comment: Providing the public with accurate information about the volume of greenhouse gases a business emits is an essential part of the United States Environmental Protection Agency's responsibilities in carrying out national climate policies. This same information also serves a critical role in evaluating how publicly traded companies are carrying out their disclosure responsibilities for investors under federal securities law administered by the United States Securities and Exchange Commission. The EPA's rulemaking governing the national reporting of greenhouse gases provides a valuable opportunity for the Agency and the Commission to coordinate their respective responsibilities for providing the public and investors with this important information. See 74 Fed. Reg. 16,448 (April 10, 2009) ("Mandatory Reporting of Greenhouse Gases"). This type of collaboration is smart government and would help protect the investing public. For example, the United States Government Accountability Office has previously called for the Agency and the Commission to coordinate their efforts regarding the tracking and transparency of corporate environmental disclosure: "We recommend that the Chairman [of the] SEC . . . explore opportunities to take better advantage of EPA data that may be relevant to environmental disclosure and examine ways to improve its usefulness." See U.S. Government Accountability Office, Environmental Disclosure: SEC Should Explore Ways to Improve Tracking and Transparency, GAO 04-0808, at 37 available at http://www.gao.gov/new.items/ d04808.pdf (July 14, 2004). Additionally, a coalition of the nation's largest institutional investors has requested Commission guidance clarifying that public companies must disclose the material financial impacts they face as a result of their own greenhouse gas emissions, including their current and projected volumes of greenhouse gases. See, e.g., Petition for Interpretive Guidance on Climate Risk Disclosure, Sept. 18, 2007 available at http://sec.gov/rules/petitions/2007/petn4-547.pdf. Across the nation smart solutions are being forged to reduce global warming pollution and expand investments in America's clean energy

economy. As public and private institutions alike respond to these challenges, investors have a right to know which businesses are forging innovative solutions and which are lagging behind. Two new studies – an in-depth look at SEC filings in 2008 as well as a multi-year longitudinal study – show companies are seriously deficient in meeting the needs of investors (attached and available at www.ceres.org): [DCN:EPA-HQ-OAR-2008-0508-534.2 and DCN:EPA-HQ-OAR-2008-0508-534.3 available only from EPA docket center (copyrighted)]. * Climate Risk Disclosure in SEC Filings, prepared by The Corporate Library for Ceres and EDF, assesses climate risk disclosure in the 10-K and 20-F reports filed in 2008 by 100 global companies in five sectors: electric utilities, coal, oil & gas, transportation and insurance. The study found limited disclosure: 59 of the 100 companies made no mention of their greenhouse gas emissions or public position on climate change; 28 had no discussion of climate-related risks they face; and 52 failed to disclose actions and strategies for addressing climate-related business challenges. Even more telling, the very best disclosure for any of the 100 companies could only be described as "fair," and only a handful of companies achieved this ranking. * Reclaiming Transparency in a Changing Climate by CEES, Ceres and EDF reviews over 6,000 SEC filings by S&P 500 companies from 1995 to 2008. While the study finds some modest improvement in climate risk disclosure since 1995, in 2008 75% of annual reports filed by S&P 500 corporations failed to even mention climate change, and only 5% articulated a strategy for managing climate-related risks. Transparency and accountability are the hallmarks of a fair marketplace. We reiterate our call for the Securities and Exchange Commission to shed sunlight on the marketplace as the nation confronts the climate crisis. And we respectfully ask the Agency and the Commission to collaborate to ensure EPA's mandatory greenhouse reporting requirements will help the SEC efficiently provide investors with information on corporate climate risks and opportunities.

Response: EPA thanks the commenter for their input. EPA will provide public access to the data collected under this rule by posting it on a Web site in a timely manner. This level of transparency is important to public participation in future policy development and for building public confidence in the quality of the data collected. Requiring the disclosure of climate-related business risks by publicly traded entities is beyond the scope of this rulemaking. This rule was developed in response to FY2008 Consolidated Appropriations Act, which authorized funding for EPA to develop a rule to require "mandatory reporting of GHG emissions above appropriate thresholds in all sectors of the economy of the United States" (see Consolidated Appropriations Act, 2008, Pub. L. No.110-161, 121 Stat 1844, 2128 (2008)). The focus of this rule is to collect accurate data on U.S. GHG emissions from suppliers and facilities above the thresholds for use in analyzing and developing potential GHG policies and environmental programs.

Commenter Name: Diane Wittenberg
Commenter Affiliation: The Climate Registry
Document Control Number: EPA-HQ-OAR-2008-0508-0228s
Comment Excerpt Number: 4

Comment: We ask that EPA support states' initiatives to adopt GHG reporting programs that exceed federal requirements and provide states with information to craft innovative programs to address greenhouse gas emissions.

Response: See the preamble for the response on the role of States and the relationship of this rule to other GHG reporting programs.

Commenter Name: Rich Raiders
Commenter Affiliation: Arkema Inc.
Document Control Number: EPA-HQ-OAR-2008-0508-0511.1
Comment Excerpt Number: 74

Comment: EPA adopted the rule numbering system common to Clean Air Act regulations published before 1990, where all subparts and rules are numbered consecutively, and no rule numbers are reserved for further amendment flexibility. EPA should recognize that Congress is actively reviewing climate change statutory options, and the final statute enacted by Congress and signed by the President will likely reshape Part 98. EPA should use their MACT model to structure the regulation, where rule numbers are incremented in groups (See, 40 CFR 63 Subpart NNNNN, the Hydrochloric Acid Production MACT standard, where the rules are incremented by five for each substantive requirement to allow the agency to insert rules while maintaining consistent rule numbering). EPA adopted this system as part of the 1993 Reinventing Government Initiative because of the rule numbering confusion inherent in the NSPS system, where the subpart and rule numbering nomenclature has become confusing (See, 40 CFR 63 Subparts C, Ca, Cb; Subparts D, Da, Db, and Dc; Subparts K, Ka, Kb; and Subparts VV and VVa, where citations such as 60.1 10b(b) are common). EPA should use the evolved rule nomenclature system to adjust the rules while making the citations more clear for the public, especially a public for whom, due to the intense public interest in the evolving climate change area, this Part 98 may be their first exposure to EPA regulations.

Response: EPA thanks the commenter for their suggestions on changes to the rule numbering. As mentioned by the commenter, EPA has in the past used an incremental numbering system to facilitate amendments that incorporate new provisions. However, the scope of this rule is limited to the monitoring and reporting of GHG emissions. EPA has reserved the numbers for those subparts for which EPA proposed requirements but decided based on public comments not to promulgate until further review has been completed. These subparts include subpart I (Electronics Manufacturing), subpart J (Ethanol Production), subpart L (Fluorinated Greenhouse Gas Production), subpart M (Food Processing), subpart T (Magnesium Production), subpart W (Oil and Natural Gas Systems), subpart DD (Sulfur Hexafluoridefluoride (SF_6) from Electrical Equipment), subpart FF (Underground Coal Mines), subpart II (Wastewater Treatment), and subpart KK (Suppliers of Coal). In the event any new source categories are required to report emissions, EPA can easily accommodate the new requirements by adding additional subparts to the end of Part 98.

Commenter Name: Benjamin Brandes
Commenter Affiliation: National Mining Association (NMA)
Document Control Number: EPA-HQ-OAR-2008-0508-0466.1
Comment Excerpt Number: 14

Comment: NMA believes that EPA's discussion on climate effects of anthropogenic GHG emissions in the preamble to the proposed reporting rule exceeds the purposes of the this rulemaking and inappropriately states EPA's position on climate change issues more appropriate to the Agency's proposed endangerment finding. NMA believes that this discussion should be removed from the preamble.

Response: In Section I of the preamble for the proposal (see 74 FR 16488, April 10, 2009), EPA provided some basic background information on greenhouse gases and climate change. EPA

included this discussion to provide readers not familiar with this subject the information necessary to understand the rule. In this section, we explained several key terms used in the proposal, including climate change, global warming, greenhouse gas, and global warming potentials. EPA did not state a position on global warming, but rather summarized the current understanding of global warming based on data from internationally recognized bodies, such as the Intergovernmental Panel on Climate Change (IPCC).

Commenter Name: Jessica S. Steinhilber
Commenter Affiliation: Airports Council International North America (ACI-NA)
Document Control Number: EPA-HQ-OAR-2008-0508-1063.1
Comment Excerpt Number: 3

Comment: As part of the industry's commitment to addressing GHG emissions, in February 2009, ACI-NA members committed to a slate of environmental goals aimed at furthering airports' already proactive record of reducing their environmental impacts. These goals include a commitment that half of ACI-NA member airports will strive to conduct GHG emissions inventories by 2015. ACI-NA recognizes that many airports have limited staff and resources with which to address a number of priorities, such as safety, security, and the environment. Rather than conducting inventories, many airports are choosing to dedicate resources directly to GHG emission reduction initiatives.

Response: EPA thanks the commenter for their input. EPA supports voluntary GHG reduction activities. However, the purpose of this rule is to provide policy makers and regulators with accurate economy-wide data on GHG emissions. The rule requires mandatory reporting by suppliers and facilities above thresholds, consistent with the FY2008 Appropriations Act. This rule requires reporting for specific source categories of stationary sources and for mobile sources as described in the preamble. Note that the mobile source requirements apply to vehicle and engine manufacturers, not to individual airports (see the preamble for discussion). Airports would not be required to report under this rule unless they contain a stationary combustion sources above the emission threshold or other source categories listed in the rule.

Commenter Name: Mark R. Vickery
Commenter Affiliation: Texas Commission on Environmental Quality (TCEQ)
Document Control Number: EPA-HQ-OAR-2008-0508-0666.2
Comment Excerpt Number: 9

Comment: The Executive Director of the TCEQ acknowledges that anthropogenic greenhouse gas emissions are driven by manufacturing and consuming raw products; and is concerned that an accurate portrayal of each state's emissions will not be obtained and that values may be skewed to suppliers of commodities consumed in other sectors or parts of the country. The Executive Director of the TCEQ also believes that consideration should be given for those states with large amounts of GHG emissions that provide the goods and commodities that feed our national economy. A stated goal of the inventory is to lay a foundation for future regulatory action. Collected data should allow the information to be evaluated in an appropriate context. The Executive Director of the TCEQ believes that in using any collected data to develop future regulatory requirements, states should not be disproportionately penalized for GHG emissions that are a direct result of producing goods and commodities necessary to sustain a thriving national economy; and that EPA should also take into consideration what environmental

performance measures would be used to demonstrate that the effects of GHG emissions are being mitigated as reductions occur.

Response: EPA agrees with the commenter that data reported by suppliers under subparts LL through PP should not be used for state-level evaluation of GHG emissions. EPA is aware that data reported by suppliers represents GHG emissions when the product they supply into the national economy is combusted or used, and does not represent direct GHG emissions from the state in which the supplier's corporate offices are located. EPA does not plan to use this data to evaluate state contributions to GHG emissions. The purpose of this rule is to provide policy makers and regulators with accurate economy-wide data on GHG emissions from suppliers and facilities above thresholds, consistent with the FY2008 Appropriations Act. Collection of accurate GHG data could be used to select a range of potential GHG policies an programs. Because EPA does not yet know what legislation will be enacted and what regulations will be developed in the future, it would be premature to develop performance criteria at this time.

Commenter Name: William C. Herz
Commenter Affiliation: The Fertilizer Institute (TFI)
Document Control Number: EPA-HQ-OAR-2008-0508-0952.1
Comment Excerpt Number: 63

Comment: Several of the conclusions regarding GHG emissions contained in source category TSDs (e.g., Technical Support Document for the Phosphoric Acid Production Sector) supporting the NPRM rely upon EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1999 – 2006. EPA just released its most recent inventory, entitled the Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1999 – 2007 (the "Inventory"), which will likely form the basis for the final rule. 74 Fed. Reg. 10,249 (March 10, 2009). This most recent Inventory fails to address any of the comments and concerns expressed by TFI. Thus, any attempt to use it to support the rulemaking is arbitrary. EPA should forego finalization of the NPRM until it has adequately responded to stakeholder comments on the Inventory and finalized that Inventory.

Response: As stated in the preamble of the proposed rule, EPA reviewed data in the 'Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1999-2006' while developing this rule, rather than the inventory published in April 2009. EPA prepares the inventory annually for submitted to the United Nations in accordance with the United Nations Framework Convention on Climate Change (UNFCCC). However, the requirements of this rule are not dependent on a particular edition of the inventory. In developing this rule, EPA reviewed a range of GHG monitoring and calculation methods (e.g., methods developed or used by IPCC, international programs, State and regional programs, Federal voluntary programs, GHG registries, NGOs, and industry associations). We selected methods that were most appropriate for calculating reasonably accurate, facility-specific emissions from each source category while also being mindful of the industry reporting burden. We have reviewed public comments on all aspects of the proposed rule, and made changes where appropriate. See the preamble for responses to comments on key aspects of the rule, such as the source categories selected, thresholds, general monitoring requirements, general content of the annual report, and verification approach. Also see the preamble sections and comment response documents on individual source categories for responses to specific comments on each source category.

Table 1

COMMENTER	AFFILIATE	DCN
C. Lish	Sierra Club	EPA-HQ-OAR-2008-0508-0358
See Docket EPA-HQ-OAR-2008-0508 for a memorandum listing all members of the Sierra Club who submitted comment letters identical to EPA-HQ-OAR-2008-0508-0358.		

Table 2

COMMENTER	AFFILIATE	DCN
Michel R. Benoit	Cement Kiln Recycling Coalition (CKRC)	EPA-HQ-OAR-2008-0508-0467
Andrew T. O'Hare	Portland Cement Association (PCA)	EPA-HQ-OAR-2008-0508-0509.1

Table 3

COMMENTER	AFFILIATE	DCN
Lorraine Krupa Gershman	American Chemistry Council, et al.	EPA-HQ-OAR-2008-0508-0477.1
Audrae Erickson	Corn Refiners Association	EPA-HQ-OAR-2008-0508-0519.1
Lawrence W. Kavanagh	American Iron and Steel Institute (AISI)	EPA-HQ-OAR-2008-0508-0695.1

Table 4

COMMENTER	AFFILIATE	DCN
Mark Dopp	American Meat Institute (AMI)	EPA-HQ-OAR-2008-0508-0440.1
Stewart T. Leeth	Smithfield Foods, Inc.	EPA-HQ-OAR-2008-0508-0553

Table 5

COMMENTER	AFFILIATE	DCN
James Greenwood	Valero Energy Corporation	EPA-HQ-OAR-2008-0508-0571.1
Charles T. Drevna	National Petrochemical and Refiners Association	EPA-HQ-OAR-2008-0508-0433.1 EPA-HQ-OAR-2008-0508-0433.2

Table 6

COMMENTER	AFFILIATE	DCN
Karin Ritter	American Petroleum Institute (API)	EPA-HQ-OAR-2008-0508-0679.1
James Greenwood	Valero Energy Corporation	EPA-HQ-OAR-2008-0508-0571.1
William W. Grygar II	Anadarko Petroleum Corporation	EPA-HQ-OAR-2008-0508-0459.1

Table 7

COMMENTER	AFFILIATE	DCN
Chris Hobson	The Southern Company	EPA-HQ-OAR-2008-0508-1645.1
Quinlan J. Shea, III	Edison Electric Institute (EEI)	EPA-HQ-OAR-2008-0508-1021.1

Table 8

COMMENTER	AFFILIATE	DCN
Burton Eller	National Cattleman's Beef Association (NCBA)	EPA-HQ-OAR-2008-0508-0418.1
Rick Stott	Agri Beef Co.	EPA-HQ-OAR-2008-0508-0371.1
Todd Schroeder	Nebraska Cattlemen, Inc. (NC)	EPA-HQ-OAR-2008-0508-0416.1
William Hammerich	Colorado Livestock Association	EPA-HQ-OAR-2008-0508-0393.1
Ross Wilson	Texas Cattle Feeders Association (TCFA)	EPA-HQ-OAR-2008-0508-0395.1
William Hammerich	Colorado Livestock Association (CLA)	EPA-HQ-OAR-2008-0508-0425.1

Table 9

COMMENTER	AFFILIATE	DCN
Craig Holt Segall	Sierra Club	EPA-HQ-OAR-2008-0508-0635.1
Melissa Thrailkill	Center for Biological Diversity	EPA-HQ-OAR-2008-0508-0430.1