June 8, 2009

United States Environmental Protection Agency
EPA Docket Center (EPA/DC), MC 6102T
Attn: Docket ID No. EPA-HQ-OAR-2008-0508
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Mandatory Reporting of Greenhouse Gases; 74 Federal Register 16447-16731 on April 10, 2009; EPA Docket ID No. EPA-HQ-OAR-2008-0508

Dear Sir or Madam:

The American Exploration and Production Council (AXPC) is pleased to offer comments on the Mandatory Reporting of Greenhouse Gases regulation proposed in the April 10, 2009, Federal Register 16447, as requested in the preamble. The AXPC also endorses the comments of the American Petroleum Institute (API), the Independent Petroleum Association of America (IPAA), the Gas Producers Association (GPA), and El Paso Corporation.

The AXPC is a national trade association representing 25 of the largest United States independent upstream natural gas and crude oil exploration and production (E&P) companies. Most AXPC members are publicly traded corporations, and many have international operations or interests. The AXPC members are leaders in developing and applying technology necessary to explore for and extract oil and gas onshore and offshore, including in deep water and from unconventional reservoirs. The large independent sector (meaning non-integrated companies without refining operations or retail service stations) has a history of *investing more than it earns*, and 100% of its cash flow, in exploration and production. The AXPC companies as a group are leaders in adding domestic energy reserves by being among the most active in drilling natural gas and oil exploration and development wells in the United States, accounting for nearly one quarter of all wells drilled.

We appreciate the opportunity to provide input into this rulemaking process, and we submit the following comments, questions, and recommendations for your consideration.

General Comment on Scope and Schedule: The proposed rule is massive in scope, and requires monitoring, recordkeeping, reporting and related data management to be implemented in a very short period of time, with potentially rigid and substantial penalties for failure to comply fully under the Clean Air Act (CAA). The proposed rule would impose these requirements if finalized on broad segments of our economy, some of which are much less familiar with and prepared to implement significant new requirements of the CAA. AXPC understands and appreciates the EPA's sense of urgency in getting the rule proposed and in not granting multiple industry requests for an extension of the comment period, but does believe that some acknowledgement in the final rule concerning the Agency's use of enforcement discretion with respect to alleged violations in the first annual reporting period is appropriate under these unusual, if not unprecedented, circumstances. We also endorse the use of a later effective date, as noted below, rather than requiring full compliance on the first of January 2010, just weeks following the likely issuance of a final rule by EPA. Alternatively, we would support the use of "best available data" in the first year of reporting by affected facilities, if the Agency chooses to keep a January 1, 2010, effective date.

Reasonable Reporting Threshold: AXPC supports EPA's proposal to set the reporting threshold for a facility at 25,000 metric tons CO_2e annually, and believes EPA set out a reasoned argument for making that choice; i.e., that using an annual 10,000 metric ton CO_2e threshold would double the number of facilities required to report while only adding 1% to the 85%-90% of greenhouse gas (GHG) emissions captured using the higher threshold.

Self Certification Rather than Third Party Verification: AXPC supports EPA's decision to allow operators to self certify their GHG emissions report rather than requiring third party verification. Self certified data is currently acceptable for Title V reporting, and is subject to enforcement provisions in the Clean Air Act, so there is no need to require third party verification for information that will be used to develop national climate change policy.

Effective Date and Reporting Schedule: The rule is expected to be finalized by late 2009, and to be effective by January 1, 2010. AXPC supports the second of EPA's proposed alternative options for an effective date: that operators report 2011 data in 2012. As we discuss later in these comments, the proposed rule requires a tremendous amount of direct measurement of oil and gas fugitives, including installing meters on flare stacks and tanks which are not currently in place, and would require some time to order and install if EPA is unresponsive to the industry's comments on using engineering estimates of GHG emissions from these sources. Moreover, it will take companies some time to develop the procedures for collecting the required information, communicate those procedures, and perform QA/QC on the data.

AXPC is also concerned that EPA's electronic reporting tool may appear at the last minute, not be robust enough for the amount of traffic it will receive, and may include requirements to report details that industry did not know to collect.

We also request that EPA change the reporting date to June 30 following the previous calendar year. Emissions calculations for many oil and gas facilities will require accurate throughput information which is often not available until three months later. Moreover, most other air program emissions inventories are also due on March 31 of each year, and it would overload the staff that will be responsible for preparing both sets of emission inventories.

Designated Representative for Certification: The proposed regulation currently says that "each owner or operator that is subject to this part shall have one and only one designated representative responsible for certifying and submitting GHG emissions reports…under this part". EPA should allow each owner or operator to have different designated representatives for different facilities. In most independent oil and gas production companies, there will be different operational management over different geographically located facilities, and over offshore platforms and midstream operations. Currently, some of our member companies will have between 30 and 140 facilities that will be required to report, such that the designated person could no longer be someone intimately acquainted with the facility, like the plant manager or superintendent suggested by the rule, but would have to be someone much higher in the organization with much less knowledge of operations at the facilities.

EPA should follow the same procedure and the same certification language for a designated representative as for a responsible official under 40 CFR Part 70. The proposed certification language says: "I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments." Persons who qualify for the position of designated representative, such as plant managers or superintendents, do not have time to review the myriad details required to support all the GHG calculations in the inventory report.

EPA should reduce the administrative burden associated with the designation. There is no reason to think that companies will treat a certified greenhouse gas emission inventory any less seriously than an emission inventory for other air pollutants, and yet there are extensive requirements to get non-operators to vote on a designated representative, maintain records of documents of agreement, and update those records within 30 days anytime a *single* owner, operator, lessor, designated representative or alternate designated representative changes. This requirement is impractical in the oil and gas business, particularly if EPA is seriously considering amending the regulation to include oil and natural gas production facilities on an area-wide basis. Each well in a field may have different ownership by different companies, and ownership interests change hands on a weekly basis. Even with compressor stations, gas plants, and offshore platforms, there are multiple owners and/or lessors (such as banks), and properties are sold or swapped frequently. If EPA does maintain the requirement for an update to the records, the 30 day period should be lengthened to 90 days since it often takes that long for news of an owner change to filter throughout an organization.

EPA should not penalize the owners and operators who sign a certificate of representation and put them at risk of enforcement by refusing to accept a GHG emission inventory if 100% of the ownership and operator interests are not represented by the certificate. It is often difficult to locate the heirs of a working interest, or to keep track of who is supposed to inherit when someone dies. It is also difficult to get people with small interests to read and sign agreements sent to them. Getting 100% sign-on by owners and operators sets an unreasonably high bar, and involves a paperwork exercise that does not improve the quality of the data being sought to help the government with policy decisions. In fact, if EPA refuses to accept numerous emission inventories due to the lack of 100% acquiescence by owners to the designated representative, the quality of data available to make policy decisions will be worse than if EPA accepted emission inventories certified by the operator.

Once In, Always In: AXPC does not support the EPA's proposal to make the GHG reporting requirement permanent for a facility that meets the threshold at one point in time, but falls below it in subsequent years. Oil and natural gas production declines naturally, and

GHG emissions from a facility are likely to drop once development in the area is completed. This provision also effectively removes an incentive to reduce GHG emissions.

Definition of "Natural Gas Processing Facilities": The definition of "natural gas processing facilities" in the rule is unclear and contradictory to the way the term is used in the oil and gas industry. As written, it could be read to require extraction of natural gas liquids (NGLs), fractionation of NGLs, *and* treatment of natural gas to remove contaminants ranging from CO_2 and sulfur (an acid gas removal unit) to water (a dehydrator), all at the same facility. In many cases, a facility will only perform one or two of those processes.

To further complicate matters, the definition goes on to say that natural gas processing facilities also "encompass gathering and boosting stations that include equipment to phase-separate natural gas liquids from natural gas, dehydrate the natural gas, and transport the natural gas to transmission pipelines or to a processing facility." It is unclear how far upstream EPA intended to reach with this sentence. EPA may have just intended to reach an inlet compressor station across the street from a gas plant, or it may have intended to reach compressor stations located miles upstream from the plant. If EPA's intent was to reach these upstream compressor stations that would not be subject to reporting based solely on their combustion GHG emissions, then EPA should allow the use of the API Compendium to estimate fugitive emissions associated with the facility for purposes of screening to determine whether or not emissions exceeded the 25,000 metric tons of CO_2e threshold.

AXPC recommends that EPA change the definition of natural gas processing facilities to include natural gas processing plants (as defined in 40 CFR §60.631, NSPS Subpart KKK) or acid gas removal units, or both. In §98.2(a)(2) of the proposed regulation, EPA already requires that a facility with combustion sources and other source categories, including electricity generation (Subpart D) and oil and natural gas systems (Subpart W), combine GHG emissions from all the sources to determine whether the 25,000 metric ton of CO_2e threshold has been met; therefore, inlet compressor stations at natural gas processing facilities would already be included.

Exclusion of Onshore Oil and Natural Gas Production Facilities: AXPC supports EPA's decision to exclude reporting of onshore oil and natural gas production facilities at this time. Reporting of emissions from numerous small facilities in a "basin" would impose a disproportionate burden on our industry by requiring GHG reporting from nearly every well and centralized facility that AXPC member companies operate. As it is, under the proposed 25,000 metric ton CO_2e threshold scenario and according to EPA's data, 19-21% of the first year capital cost to comply with the rule will be borne by the E&P industry to report an estimated 3% of the nation's GHG emissions. Additionally, our industry will be responsible for 21% of the total ongoing costs of this program. These costs will skyrocket if the number of facilities each company must report goes from the 10-100 range under the current proposal to several thousand per company under the basin-wide proposal.

If EPA decides to move ahead with an upstream production facility reporting requirement, AXPC urges EPA to consider the following recommendations:

- Onshore oil and natural gas production facilities should be addressed in a separate subpart of the rule.
- Operators should only be required to report GHG emissions from facilities under their direct operational control in order to balance thoroughness of reporting with burden. This position has been adopted by CCAR, TCR, and IPIECA.
- Rather than choose a "basin", EPA should require operators to report their GHG emissions on a field-wide basis. Fields are defined by the state oil and gas agencies and have clearer cut boundaries than basins. Moreover, some large producing areas are not located in geological "basins".
- EPA cannot require as much direct measurement of "fugitives," as defined in the proposed rule, if the rule is expanded to include thousands more onshore production facilities. The preamble suggests that EPA might limit reporting to just "major fugitive emissions sources; i.e., natural gas driven pneumatic valve and pump devices, well completion releases and flaring, well blowdowns, well workovers, crude oil and condensate storage tanks, dehydrator vent stacks, and reciprocating compressor rod packing"---but those categories almost all require direct measurement in the rule.
- For area-wide reporting that would end up involving many wells and their facilities, the most manageable way to calculate and report the data would be by combining emissions from the same source types (i.e., pneumatic pumps, pneumatic valves, tanks) and reporting those sources together.
- As a general rule, gas wells tend to have individual well facilities whereas oil wells tend to have centralized facilities. In determining the number of facilities that would be covered by this rule, a high percentage (70%-80%) of gas wells should be considered as separate facilities.

Proposed Definition of Fugitives: EPA requested comment on the definition of fugitive emissions used in Subpart W, and acknowledged that there are a variety of definitions for fugitives. AXPC does not support EPA's proposed definition, and recommends that the universe of fugitive emissions as defined in the proposal be subdivided into two categories: (1) traditional fugitive emissions, as described by the definition: "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening", and (2) emissions that pass through a vent or stack.

For example, leaks from natural gas driven pneumatic controllers and valves, compressor fugitives, pump seals and non-pneumatic pumps, and connectors would all be considered traditional fugitives. Pipeline or equipment blowdowns, completion or workover emissions, tank vents, glycol dehydrator vents, wet gas seals on centrifugal compressors, and flares would fall in the category of direct vented sources.

Fugitive Emission Reporting – Alternative to Direct Measurement: The vast majority of the exploration and production industry's cost to comply with this rule will come from the direct measurement of fugitive emissions, which make up a small portion of our total GHG emissions. AXPC proposes that the EPA remove the direct measurement requirements for oil and natural gas E&P fugitives and substitute the estimation techniques included in the soon-to-be-released 2009 API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Gas Industry. Parts of the 2004 Compendium that had been criticized are being amended to address those shortcomings in the new version.

Other issues that would be resolved by using the Compendium include:

- It would provide an operator with the ability to "screen" facilities for rule applicability, rather than having to measure emissions to see if a facility fell below the threshold.
- It would increase fugitive component reporting coverage because (1) components that are out of reach for direct measurement would still be included; and (2) it would address EPA's concern that operators will use 40 CFR Part 60, Subpart KKK methods to repair fugitives prior to conducting the annual GHG emission survey because a predictable percent of leakers is built into the Compendium.
- There is currently no protocol for using a high flow sampler, so there is no way to ensure that using "trained technicians" produce consistent results.
- There is currently no protocol for using a calibrated bag to directly measure emissions.
- AXPC supports using the engineering estimation or simulation software methods recommended by EPA in the rule for acid gas removal stacks, glycol dehydrator vents, and crude oil or condensate storage tanks.

AXPC notes that there is a discrepancy between the preamble and the proposed rule governing the determination of tank emissions. In Table W-3 of the preamble (pg. 446 of the pre-publication draft), storage tank emissions can be monitored by either engineering estimation or a combination of engineering estimation and direct measurement. However, §98.233(c)(2) of the proposed rule mandates that "a combination of engineering estimation described in this section and direct measurement described in §98.234 shall be used to calculate emissions from the following fugitive emissions sources: …Storage tanks."

AXPC is opposed to the requirement to directly measure emissions from storage tanks. In the Technical Support Document, EPA listed condensate and crude oil tanks as sources they believed presented large uncertainties in data quality using current estimation methods. AXPC believes the estimation of emissions from atmospheric storage tanks can be accurately performed using thermodynamic software packages such as E&P TANK, HYSYS, or PROMAX which use the Peng Robinson Equation of State (EOS). The Peng Robinson EOS is the most widely used and universally accepted EOS in the oil and gas industry due to its accuracy of estimating phase behavior of hydrocarbon mixtures over a wide range of temperatures and pressures. Specifically, the phase behavior of methane in a hydrocarbon mixture is most suitably estimated with this EOS.

The applicability and accuracy of Peng Robinson for modeling hydrocarbon systems using these software packages is well documented. The difficulty is that they can be used with high quality data or generic data, and the quality of the input data affects the quality of the results. Accurate tank methane emission estimates using the EOSs above are ensured when hydrocarbon compositional analyses from a sample collected under pressure and meteorological conditions representative of the tanks being modeled are used. In fact, models using the Peng Robinson EOS are widely accepted by state Air Quality regulators for estimates of tank emissions.

Further, metering tank emissions is not feasible because:

- Tank vents are normally 20 feet or more above ground level;
- Electricity to run the meter devices is often not available, and member experience with batteries equipped with solar panels for recharging is that they often do not maintain a charge for longer than 24 to 48 hours and are subject to theft.
- To ensure that all tank vapors pass through a meter, it is necessary to seal off the tank's pressure/vacuum safety devices, which introduces a safety hazard involving potential tank rupture or collapse.
- Direct measurement over a short period of time provides a "snapshot in time" emission estimate that is heavily influenced by the ambient conditions at the time of measurement.
- Direct measurement over the fill cycle of a tank, as proposed in the regulation, could involve weeks or months of metering since many facilities associated with gas production make small quantities of liquid hydrocarbon.

AXPC would support the development of a minimum hydrocarbon throughput that would trigger obtaining pressurized hydrocarbon samples for "flashing" and speciation in the lab.

Data Reporting and Recordkeeping: In general, the amount of information required to be obtained, recorded, and reported for fugitive emissions is staggering. Much of the data is unobtainable; i.e., how many times a gas driven pneumatic device at an unmanned facility operates. Keeping calibration records for high volume samplers, IR cameras, etc. for 5 years seems excessive for the benefit it provides.

In closing, the American Exploration and Production Council is pleased to offer these comments on the U.S. Environmental Protection Agency's (EPA) Proposed Mandatory GHG Rule published in the April 10, 2009 Federal Register and appreciates the opportunity to provide the above comments for the Agency's consideration. Should you have any questions, please call me at (703) 519-0019.

Sincerely,

Bruce Thompson
President

cc: Carole Cook
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