



March 26, 2015

Via www.regulations.gov and email

Mr. Leif Hockstad
Climate Change Division
Office of Atmospheric Programs (MC-6207S)
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Re: U. S. Environmental Protection Agency, Notice of Document Availability, “Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013,” (80 Federal Register 9718) (February 24, 2015).

Dear Mr. Hockstad:

The Interstate Natural Gas Association of America (INGAA), a trade association of the interstate natural gas pipeline industry, respectfully submits these comments in response to the Environmental Protection Agency’s (EPA) Notice of Document Availability for the annual “Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013,” (Draft GHG Report or National Inventory).

INGAA’s 24 members represent the vast majority of interstate natural gas transmission pipeline companies in the United States, operating approximately 200,000 miles of pipelines and serving as an indispensable link between natural gas producers and consumers. INGAA and its members have worked cooperatively with EPA in understanding greenhouse gas (GHG) emissions since the 1996 EPA – Gas Research Institute (1996 EPA – GRI Report) project¹ to characterize emissions from natural gas transmission and storage systems.

INGAA offers these comments in response to the Draft GHG Report. INGAA believes that the Draft GHG Report includes some estimation inaccuracies that do not accurately reflect 2013 GHG emissions from the U. S. transmission and storage (T&S) segments of the natural gas industry. INGAA appreciates the opportunity to provide comments directed towards improving the accuracy and clarity of EPA’s National Inventory.

¹ *Methane Emissions from the Natural Gas Industry*, EPA and GRI (1996). This 15-volume compendium of reports from an EPA/GRI study is available at EPA’s website at <http://www.epa.gov/gasstar/tools/related.html>. For example, the summary Technical Report (Volume 2) is available at: http://www.epa.gov/gasstar/documents/emissions_report/2_technicalreport.pdf

Comments

In January 2015, the Obama Administration (the Administration) announced its intent to regulate methane as a GHG. While the Administration has yet to provide specific details on how it intends to realize methane reductions, or the timeframe for those reductions, it is clear that an accurate inventory of current and estimated future methane emissions is essential to support future policy decisions.

Consistent with the desire to have a clear and accurate picture of current methane emissions, INGAA recommends the following changes to improve the accuracy of the Draft GHG Report.

1. EPA Should Clearly Explain the Reasons for All Annual Changes to the National Inventory.

The T&S methane emissions inventory in the Draft GHG Report “increases” from 51.8 million metric tons CO₂ equivalent (CO₂e) in 2012 to 54.4 million metric tons CO₂ equivalent (CO₂e) in 2013. Some portion of this increase can be attributed to the EPA’s decision to increase the global warming potential of methane from 21 to 25. EPA should clarify the extent and impact of the changes to the methane global warming potential on the National Inventory, including T&S methane emissions.

It also appears that the methodology used by EPA to calculate GHG emissions from the T&S sector is a significant contributor to the year-over-year increase in emissions attributed to this sector. EPA has not changed the emission factors (EFs) used for the T&S sector other than when EFs were updated to reflect centrifugal compressors with wet seals. Nearly all other EFs from T&S are from the 1996 EPA-GRI Report and have not changed since the National Inventory reporting started in the late 1990s.

Changes in Activity Data (e.g., compressor counts, facility counts) from year-to-year often are driven by *methodology* rather than real changes in physical assets. Thus, nominal year-to-year changes in “emissions” for T&S operations in the Draft GHG Report often are driven by *methodology* rather than actual emissions.

As a result of this and other marginal year-to-year changes for other natural gas sectors, some have reported that methane emissions from natural gas operations *increased* by 1.5 percent from 2012 to 2013. This increase is likely a calculation *methodology change* rather than an actual change in emissions.

The Draft Annex Report² indicates that the T&S methane emission increases from 2012 to 2013 are driven by changes to the estimated number of storage station facilities and the related change in compressor counts at storage facilities (i.e., compressor counts are based on the storage facility counts because an average number of compressors per facility is assumed). According to footnote 2 in Table A-137 of the Draft Annex Report, EPA adjusts the storage facility count from year-to-year based on “ratios for relating other factors for which activity data are available.” However, the related process or operational parameter used for this scaling is not

² “Annexes to the Inventory of U.S. GHG Emissions and Sinks,” Draft EPA Report (February 2015).

apparent. Therefore, INGAA recommends that EPA provide greater transparency to explain the methodologies and assumptions embedded into its National Inventory.

This methodology has resulted in the following changes in storage station facility counts for the 2011 report through the 2015 Draft GHG Report.

Table 1. Annual Variants of Storage Facility Data Based Upon Prior Inventories

2011	2012	2013	2014	2015
392	408	389	344	407

Similar relative year-to-year changes occur for reciprocating and centrifugal compressors at storage facilities. Clearly, this is not indicative of *actual* year-to-year changes in the number of facilities and compressors that are in operation. While there may be some year-to-year changes in the number of facilities in actual operation, the discrepancies appear to go far beyond this. It should be incumbent upon EPA to differentiate between changes in emissions attributable to actual changes in facilities versus changes attributable to the methodology.

Regardless of the basis of the scaling adjustment, it is not apparent that this scaling provides a comparable real-world change in methane emissions, especially since EFs are based on older studies and have not been updated to consider Subpart W data. There also are assumptions in the National Inventory about reductions in emissions based on Gas STAR Gold information that introduce some fluctuations (and uncertainty). INGAA urges EPA to highlight and explain how these factors affect calculation of the National Inventory each year.

The Draft GHG Report should be revised to describe clearly the calculation methodology and to clarify the uncertainty in estimates and limitations in the data reflecting a year-to-year increase (or decrease). Failure to clarify these calculation methodology changes can result in faulty and inaccurate conclusions regarding total national GHG emissions and emissions from industry sectors. An accurate National Inventory is essential for stakeholder understanding of emissions from the industrial sectors and for future policy decisions.

2. EPA Should Update the Methane Emission Factors Used for Transmission & Storage Based on the Available Greenhouse Gas Reporting Program Data.

U.S. domestic natural gas is a key component of the U.S. energy portfolio. Because of the fuel's importance and the sharp increase in domestic supply over the past decade, interest in GHG emissions—especially methane emissions from natural gas systems including T&S operations—is keen. For many natural gas system emissions sources, including most T&S sector sources, the national estimates are based on EFs from the EPA-GRI project that resulted in the 1996 EPA-GRI Report. Most of the EFs used for the T&S sector have not changed since the 1996 EPA-GRI report. Although EPA updated EFs associated with centrifugal compressors with wet seals,³ nearly all other EFs from the T&S sector are from the 1996 EPA-GRI Report and have not changed since National Inventory reporting started in the late 1990s. Further, the fact that EPA has not differentiated changes in components (such as through new technology or new measurements) may further compound the inaccuracies in the National Inventory calculations.

³ The emission factors for centrifugal compressors changed in the 2011 EPA report (2009 inventory year) based on the 2010 ICF report.

With significant new emissions data becoming available from the mandatory Greenhouse Gas Reporting Program (GHGRP)⁴ and other stakeholder projects, and new technological advances, it is imperative that EPA undertake efforts to analyze the new studies, reassess and update historical emissions data, and integrate improved emission estimates into the National Inventory.

INGAA recognizes that EPA has revised production-related methane emission estimates in recent annual reports. The agency has made an effort in the past three years to review, compare and incorporate GHGRP Subpart W data for the production sector. INGAA supports EPA initiating a similar process to review methane emission estimates in the T&S sector.

Significant differences between the GHGRP Subpart W estimate and Draft GHG Report estimate of methane emissions for the T&S sector suggest that the Draft GHG Report data may be overstated. The Subpart W methane emissions estimates are about an order of magnitude lower than the Draft GHG Report estimate. This is due in part to the GHGRP reporting threshold that results in less than a third of compressor stations reporting. However, if GHGRP Subpart W estimates are normalized and scaled using the activity data for T&S estimates in the Draft GHG Report (i.e., based on activity data of facility count and compressor count), estimates based on Subpart W data are still significantly *lower* than the estimate in the current Draft GHG Report.

As the EPA is aware, the T&S sector (along with the gas processing sector) are unique within the GHGRP, in that *direct measurement* is required for several key sources, such as emissions from reciprocating compressor rod packing and leakage associated with compressor unit isolation valves and compressor blowdown valves. Thus, *thousands* of measurements have been completed at T&S facilities since Subpart W reporting began in 2011. The GHGRP data is intended to be used as a basis for the National Inventory and related policy decisions regarding GHG and methane emissions, but the EPA's Subpart W data for T&S operations are currently not being used for that purpose. INGAA urges the EPA to integrate Subpart W data into the National Inventory.

The Draft GHG Report includes a "Planned Improvements" section that mentions the availability of additional data from the GHGRP and other sources. It is imperative that the EPA implement a plan to incorporate the GHGRP data for T&S sources into the existing 1990-2014 National Inventory estimate as well as future estimates. INGAA offers its support for an effort to compile and analyze this data to improve EFs from key sources such as compressors, and use updated EFs to improve the National Inventory.

T&S facilities are required to *measure* many sources (e.g., compressor related vent lines) and measurement data are available from GHGRP Subpart W reports submitted for the 2011-2013 annual reporting years. The measurements for 2014, along with additional data from 2011-2013 related to EPA's confidentiality determinations that must be reported this year, will be reported by March 31, 2015. This data also should be integrated into the National Inventory.

Moreover, as the EPA is aware, natural gas systems operators, including INGAA members, are also conducting a collaborative methane emissions project with the Environmental Defense

⁴ 40 C.F.R. Part 98, Subpart C (General Stationary Fuel Combustion Sources) and Subpart W (Petroleum and Natural Gas Systems) apply to T&S operations.

Fund. A Colorado State University paper on T&S measurements was recently published.⁵ In addition, a Pipeline Research Council International project is compiling and analyzing Subpart W measurement data for development of new emission factors for the T&S sector. It is imperative that this wealth of new information be incorporated into the EPA's annual National Inventory.

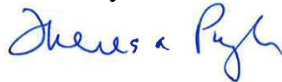
Conclusion

INGAA believes EPA clearly and transparently should explain all changes to the methodology it relies upon to arrive at its National Inventory. All stakeholders should have the ability to understand the reason for any increases or decreases to the level of the National Inventory and changes attributable to the various sectors. INGAA recommends that EPA revise the Planned Improvements section of the Draft GHG Report to define how EPA plans to integrate additional data, including Subpart W data, into its National Inventory, with a goal to use updated emission factors in the 2016 annual National Inventory report. EPA should work with all stakeholders, including INGAA, on this effort. A more accurate and timely National Inventory will help regulators, the industry and the public understand the GHG Inventory and sources of emissions.

INGAA appreciates your consideration of these comments. Please contact me at 202-216-5955 or tpugh@ingaa.org if you have any questions.

Thank you.

Sincerely,



Theresa Pugh
Vice President, Environment, Health and Construction

cc: Melissa Weitz, U.S. EPA (via email)
Paul Gunning, U.S. EPA (via email)
Anhar Karimjee, U.S. EPA (via email)
Mark DeFiguerido, U.S. EPA (via email)

⁵ Methane Emissions from the Natural Gas Transmission and Storage System in the United States, *Journal of Environmental Science and Technology*, February, 2015.