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January 10, 2023

Docket ID No. EPA-HQ-OAR-2022-0875

These comments are filed on behalf of the Independent Petroleum Association of America (IPAA). IPAA represents the thousands of independent oil and natural gas explorers and producers, as well as the service and supply industries that support their efforts, that will be the most significantly affected by the actions resulting from this regulatory proposal. Independent producers drill about 90 percent of American oil and gas wells, produce 54 percent of American oil, and produce 85 percent of American natural gas.

The Environmental Protection Agency (EPA) has opened this docket for the purpose of receiving comments on its legislatively imposed Methane Emissions Reduction Program (Methane Tax). EPA describes this program as follows:

*EPA received \$1.55 billion to reduce methane emissions from the oil and gas sector by providing financial assistance (grants, rebates, contracts, loans, and other activities) and technical assistance as well as implementing a statutorily required waste emissions charge. Eligible recipients for these funds include but are not limited to air pollution control agencies, other public or nonprofit private agencies, institutions, and organizations, and individuals. The program specifies that at least \$700 million must be used for activities at marginal conventional wells. Section 60113 also requires EPA to implement a waste emission charge on methane emitted from applicable oil and gas facilities that emit over 25,000 metric tons of CO<sub>2</sub>e and that exceed statutorily specified waste emissions thresholds beginning in 2024. The waste emissions charge will start at \$900 and increase to \$1,500 per metric ton.*

The format for these comments is laid out in a series of questions. IPAA is providing information on several of those questions.

However, before addressing individual issues, it is pertinent to address some overarching aspects of this program. While these questions largely address the distribution of various authorized funds for enumerated purposes, this program also authorizes EPA to use any authorized funds for the implementation of the program. The magnitude of these costs is currently unknown, but since it can include the development of emissions reporting tools, the auditing of all submissions of both emissions and taxes, the levying and collection of penalties and whatever else may fall under the scope of the program, these costs may be substantial.

Additionally, EPA is given the authority to “issue guidance or regulations as necessary to carry out this section.” This is an important and significant authority that EPA must use judiciously. This program presents the worst situation for regulatory development: legislative language with no legislative history. There are no committee reports, no conference report, not even floor statements during the debate on the legislation. Significant terms in the provisions are not

defined. Now, EPA must issue clear and comprehensive regulations to assure that the program is carried out effectively and fairly.

## **QUESTIONS:**

### ***Incentives Program***

- 1. The Methane Emissions and Waste Reduction Incentive Program provides up to \$1.55 billion to EPA to issue grants, rebates, contracts, loans, and other activities for a number of statutorily specified purposes. How can EPA structure the financial and technical assistance to ensure the greatest possible public health and environmental impact?*
- 2. How can EPA ensure that the financial and technical assistance provided under the Methane Emissions and Waste Reduction Incentive Program complements rather than duplicates other federal and state programs, including funding through other IRA programs?*
- 3. The Methane Emissions and Waste Reduction Incentive Program can provide technical assistance to owners and operators of facilities. What kinds of technical assistance would be most valuable? How might technical assistance evolve over time?*
- 4. The Methane Emissions and Waste Reduction Incentive Program has funding that is allocated for marginal conventional wells. For the purposes of financial and technical assistance specified in the IRA, are there unique considerations related to marginal conventional wells that EPA should consider? How can EPA ensure that relevant stakeholders are engaged, including owners and operators of marginal conventional wells and those affected by marginal wells and their emissions?*

This question needs some context before addressing its specific elements. Marginal wells are defined in the federal tax code. They are wells producing 15 barrels of oil equivalent per day or less. The gas equivalent of a barrel of oil is 6 mcf. Any combination of oil and gas (converted to oil equivalents) at or below 15 barrels/day constitutes a marginal well. However, the average marginal oil well produces about 2.5 barrels/day and the average natural gas well about 22 mcf. These wells are predominantly operated by small businesses.

These operators' relationship with EPA has been contentious at best. EPA, particularly the Office of Enforcement and Compliance Assurance (OECA), has a long history of targeting oil and natural gas production. OECA had created a specific compliance initiative, Ensuring Energy Extraction Activities Comply with Environmental Laws, that operated for several years. Following the promulgation of Subpart OOOO regulations that created requirements for managing oil and natural gas production storage tanks, OECA initiated an aggressive enforcement action in a state where it could directly act against individual producers. Using a strategy that interpreted the regulations differently than the EPA technical staff had described,

OECA targeted smaller private producers threatening them with fines that would exceed the value of the company.

With this history, small producers may view any “financial and technical assistance” through EPA from this program as a conduit to provide OECA with materials to use in enforcement actions.

If EPA seriously wants to provide support for marginal wells, it should consider developing a relationship with the Department of Energy (DOE) to utilize its positive relationships with the oil and natural gas industry. DOE has worked with the industry for many years on positive research to improve production and manage environmental risks. For example, it works with the Petroleum Technology Transfer Council (PTTC) that is primarily structured to provide technology resources to small producers. PTTC or other pathways through DOE could be beneficial approaches to achieve the objective of the law.

5. *What should EPA consider in the design of the program to encourage grantees to support high quality jobs and adhere to best practices for labor standards, consistent with guidance such as Executive Order 14063 on the Use of Project Labor Agreements and the Department of Labor's Good Jobs Principles?*
6. *What metrics should this program use for measuring success and ensuring accountability?*

### ***Waste Emissions Charge***

7. *The IRA establishes a waste emissions charge for methane from applicable facilities that report more than 25,000 metric tons of CO<sub>2</sub> equivalent per year to the Greenhouse Gas Reporting Program (GHGRP) petroleum and natural gas systems source category (GHGRP Subpart W) and that exceed statutorily specified waste emissions thresholds. The IRA specifies certain exemptions and flexibilities related to the charge. What issues should EPA consider related to waste emissions charge implementation?*

There are significant and substantial issues that must be addressed in implementing the methane tax. None of the tools that the law uses to generate the tax were ever designed to be used for this purpose. Moreover, this law creates a tax collection function within EPA that triggers complex audit challenges and the potential for abusive use of Clean Air Act (CAA) enforcement authorities by OECA.

Subpart W is an approximate emissions estimating tool. When the emissions factors (EF) in Subpart W were developed – mostly in the mid-1990s – there was no expectation that they would ever be used for the GHGRP much less as a taxing mechanism subject to audit. Most of them are derived from a limited number of sources over a limited amount of time. For example, the EF for intermittent pneumatic controllers – one of the larger emissions sources in the GHGRP – was based on 19 pneumatic controllers. And, even for those controllers, the analysis was not robust. Consequently, the accuracy of these EF have been challenged regularly since they were adapted for use in the GHGRP. This year, EPA has proposed revisions to Subpart W, but this

proposal is merely a recalculation of the EF using other flawed analyses. There are approximately 40 different Subpart W EF for oil and natural gas production applying to valves, flanges, pneumatic controllers, pumps and other equipment broken down by eastern and western facilities and various densities of oil and natural gas. All of them have a development history like intermittent pneumatic controllers.

A similar issue arises regarding the emissions threshold. For oil and natural gas production the threshold is: 0.20 percent of the natural gas sent to sale from such facility; or 10 metric tons of methane per million barrels of oil sent to sale from such facility, if such facility sent no natural gas to sale. The 0.20 percent threshold appears to come from the Oil and Gas Climate Initiative (OGCI). It is unclear what the source of the oil-based threshold is, but it produces a threshold of approximately 0.008 percent, a threshold that is 15 percent of the lowest other threshold in the law. The basis for these thresholds is significant because, like Subpart W, they were never created for the purpose that they will now have. The OCGI threshold was generated as an objective to be obtained through effective management – a theoretical target. It, too, is based on emissions estimates, not hard measurements.

Another aspect of the 0.20 percent threshold relates to its basis. It is unclear whether it is volume based or mass based. If it is volume based, there is an inherent inequity. The density of methane is less than the density of natural gas. Consequently, a given volume of methane will be a smaller percentage of the volume of natural gas; and therefore, the threshold would be lower than if it is based on mass. However, using a mass basis requires knowing the density of the produced natural gas. Natural gas is comprised of more than methane, but its composition differs by reservoir and is not constant. Natural gas is sold by volume. To calculate the mass requires a density value but it is not routinely determined. A similar issue arises regarding the oil calculation because methane is a gas and oil is a liquid. If the intent is to use a mass based assessment, oil barrels would have to be converted to mass (tons) requiring a density of the oil – a value that is not routinely determined.

Both the use of Subpart W and the emissions thresholds targets create significant and substantial problems in their use for the calculation of methane taxes. Both have inherent inaccuracies – error margins that go back to their original measurements. And, since both rely on Subpart W, they carry with them all the limitations of the development of the EF.

However, now these calculations will become a part of a “taxable event”. Those approximate estimates will be solidified into hard values for the purpose of collecting a tax. Each element of the calculations will be subject to audit and possible fines under the CAA. Every choice regarding the use of an EF under Subpart W or the calculation of sales from a facility can be challenged in audits conducted by EPA – likely by OECA.

Here, the history of OECA and oil and natural gas production becomes significant. This law essentially hands OECA unconstrained access to investigate and harass oil and natural gas producers. Since it is a federal law without any state role, OECA does not have to negotiate with states regarding its investigations; it has an open door to all facilities subject to the law, including challenging the initial Subpart W reporting regarding the 25,000 ton per basin threshold. It can assert its interpretation of how a value is determined and impose fines based on its analysis in a process where judgments have constantly been made in developing emissions reports.

The Exemption for Regulatory Compliance is currently a false promise. The timeline for implementing the Methane Tax is substantially inconsistent with any realistic timeline for

regulatory development, approval, and compliance. The process developing state regulations like the process for developing federal regulations must move through a series of steps. In the current EPA methane regulatory proposal to implement Subparts OOOOb and OOOOc includes 18 months for states to develop an implementation plan and up to 3 years for sources to comply. It says nothing about the time for EPA to approve the state plans. Regardless, this timeline is well beyond the schedule to begin collection of the Methane Tax.

All these issues need to be addressed by EPA in proposing implementing regulations for the methane tax. For example:

- EPA must significantly improve Subpart W. Substantial data needs to be taken and converted into EF that can be reliable, accurate and usable. Directions on the use of Subpart W must be clear. OECA must accept that the development of emissions using the revised Subpart W cannot be undermined.
- EPA must provide clarity regarding the calculation of the 25,000 tons/year threshold to assure that operators falling below threshold are not subject to harassment by OECA over their reporting actions.
- EPA must similarly define how to calculate and report the threshold numbers including the calculations of sales from a facility, particularly if density values become a part of the calculations. OECA must accept this calculation process.
- EPA must clearly describe how it will determine compliance with its regulations and state regulations regarding the Exemption for Regulatory Compliance and it should make the Exemption a reality.
- EPA must clearly describe the procedures to comply with the sections related to common ownership and control and the exemptions related to “...unreasonable delay...in environmental permitting of gathering or transmission infrastructure necessary for offtake of increased volume as a result of methane emissions mitigation implementation.”
- EPA must define the terms in these provisions; virtually none are currently defined.
- EPA must describe in clear, unambiguous terms the audit process it will use to evaluate submissions and tax calculations under this program. OECA must abide by this process.

*8. The IRA requires EPA to revise the requirements of GHGRP Subpart W to ensure that reporting is based on empirical data and accurately reflects total methane emissions. What revisions should EPA consider related to GHGRP Subpart W?*

Revising Subpart W is a substantial task that EPA should have begun already in order to meet the deadlines in this law. The challenge facing EPA is perhaps well shown by the pending EPA proposal to revise numerous GHGRP factors, including Subpart W. The intermittent pneumatic controller proposal demonstrates the need for EPA to develop a comprehensive program to revise Subpart W.

Each EF carries with it a history of its development and evolution. However, intermittent pneumatic controllers have been an example of the challenge of developing accurate information. Intermittent pneumatic controllers operate only when they need to activate. Correspondingly, they emit when they activate unless they are failing for some reason. Intermittent pneumatic controllers are one of the most pervasive pieces of equipment at oil and

natural gas production facilities. Consequently, they are one of the largest emissions sources for these operations. At issue is the validity of the EF for this equipment.

The current EF for intermittent pneumatic controllers is 13.5 scf/hour/component. This EF was developed in the mid-1990s based on data collected from 19 controllers. It is hardly an example of robust data acquisition. Since then, the validity of this EF has been consistently questioned. It has become a higher profile issue as various environmental lobbying groups have produced reports based on the Greenhouse Gas Inventory (GHGI) that is largely developed using the GHGRP. It will be an even more significant issue in the methane tax.

Over the years other studies have been done provide alternative calculations of the EF. EPA is now proposing some new options. However, the quality of its analysis of this EF that has been such a target is wanting. In general, EPA discusses six studies that have been done with information on intermittent pneumatic controllers for production operations (GRI/EPA 1996, Allen, Thoma, Prasino, OIPA and API 2019). Additionally, EPA assessed a Department of Energy study on gathering and boosting operations (DOE G&B). In each case EPA discusses the limitations of the studies – short sampling times with assumptions about the activation period for intermittent controllers, emissions that are calculated rather than measured, classification issues. Then, EPA eliminates two studies (Thoma, OIPA) apparently because of their use of calculated emissions (which were far lower than some of the other studies). Subsequently, it produces the following summary table:

**Table 2-9. Comparison of Population Emission Factors for Natural Gas Pneumatic Device Venting for Production and G&B Industry Segments**

Device Type	Whole Gas Emission Factor (scf/hr/device)					
	Subpart W <sup>a</sup>	GRI/EPA (1996e) <sup>b</sup>	Allen <i>et al.</i> (2015)	Prasino Group (2013a) <sup>c</sup>	DOE G&B Study (2019)	API Field Study (2019)
Low continuous bleed pneumatic devices	1.39	27.3 <sup>b</sup>	13.6 <sup>d</sup>	6.1	7.6	2.6
High continuous bleed pneumatic devices	37.3		22.8	10.4	19.3	16.4
Intermittent bleed pneumatic devices	13.5	13.5	6.0 <sup>d</sup>	4.2	11.1	9.2

Next, EPA averages the intermittent factors for these studies to produce a new EF of 8.8 scf/hr. However, this appears to include the EF from the DOE G&B study; if it had not, the EF would appear to be 8.2 scf/hr. If EPA had included the Thoma and OIPA studies instead of the DOE G&B study, the EF would be 6.8 scf/hr. None of these calculations appear to be weighted based on the number of controllers tested. Consequently, for example, the 19 controllers in the GRI/EPA 1996 study are treated equally with the 128 controllers in the Prasino report. If EPA had weighted the data and used the Thoma and the OIPA studies, the EF would be closer to 3.7 scf/hr.

In addition to proposing the new EF of 8.8 scf/hr for intermittent pneumatic controllers at production sites, EPA suggests the possibility of a bifurcated calculation breaking apart malfunctioning controllers (24.1 scf/hr) and properly functioning controllers (0.3 scf/hr).

The consequences of these revised EF can be seen in this table prepared by the Arkansas Independent Producers and Royalty Owners and included in its comments on the GHGRP regulatory proposal. As it shows, the current GHGRP EF (13.5 scf/hr) overstates intermittent pneumatic controller methane emission by approximately 35 percent compared to the EF in this proposal (8.8 scf/hr). The disparity is far larger using the bifurcated calculation where the difference would be about 80 percent.

Comparison of Methane Emissions Associated with Intermittent-Bleed Pneumatic Devices as Determined by Current GHGRP "Eq. W-1" v. Proposed GHGRP "Eq. W-1A" v. Proposed GHGRP "Eq. W-1B"	
Assumptions: - One Subpart W Reporter - 100 Intermittent-bleed Pneumatic Devices @ 20 Locations - Performs compliant OGI leak surveys at all 20 locations one-time per annum - Identifies 10 malfunctioning (i.e. leaking) Devices (10% leak rate) - Remaining 90 Devices, verified to be operating normally - Uses default of 8760 hours for device "operating" (current rule) and "In-service" (proposed rule) times - Produces dry gas with a 98% CH4 Fraction	
<b>Current – "Eq. W-1"</b>	$E_{i,j} = \sum_{i=1}^n Count_i * EF_i * GHG_i * T_i \quad (\text{Eq. W-1})$ <p>100 devices x 13.5 scf/hr/device x 0.98 CH4 % x 8760 hours = 11,589,480 scf CH4 emissions</p>
<b>Proposed – "Eq. W-1A"</b>	$E_{i,j} = \sum_{i=1}^n Count_i * EF_i * GHG_i * T_i \quad (\text{Eq. W-1A})$ <p>100 devices x 8.8 scf/hr/device x 0.98 CH4 % x 8760 hours = 7,554,624 scf CH4 emissions</p>
<b>Proposed – "Eq. W-1B"</b>	$E_i = GHG_i * \left[ \left( 24.1 * \sum_{i=1}^n T_z \right) + (0.3 * Count * T_{avg}) \right] \quad (\text{Eq. W-1B})$ <p>0.98 CH4 % x [(24.1 scf/hr/device x 10 leaking devices x 8760 hours) + (0.3 scf/hr/device x 90 non-leaking devices x 8760 hours)] = 2,300,726 scf CH4 emissions</p>
<p><b>Summary – In the scenario above, current GHGRP requirements ("Eq. W-1") overstate methane emissions associated with intermittent-bleed pneumatic devices by approx. 35% compared to proposed GHGRP alternative 1 ("Eq. W-1A") and by approx. 80% compared to proposed GHGRP alternative 2 ("Eq. W-1B"). This is based on an assumed leak rate of 10% of devices. The disparity would be approx. 96% if a 1% leak rate (1 leaking device out of 100 total devices) was assumed and "Eq. W-1B" was used.</b></p>	

In the context of the GHGI, these differences are a somewhat academic exercise. But, the IRA has changed the issue. While these various approaches try to address the uncertainties of the emissions estimating process, they fail to address the underlying reality that EPA must now address. EPA must conduct a robust and accurate analysis of intermittent pneumatic controllers. It must be a study that addresses all the shortcomings of the prior studies and produces results that can meet the demands of accuracy that will be necessary for the methane tax.

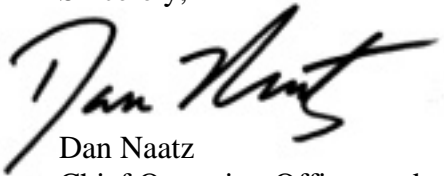
Moreover, intermittent pneumatic controllers are only one of the 40 EF that must be reconsidered and thoroughly researched. Since the current Subpart W was largely adapted from the 1996 GRI/EPA studies, the decisions regarding the number and types of components may or may not be appropriate. More or fewer categories may be needed. However, the much larger challenge is acquiring robust and accurate data. To use the intermittent pneumatic controller example, many studies presumed the controller would activate every fifteen minutes. If it did not, they just included an emission. EPA criticized this approach but never conducted its own analysis. Now, it must. Similarly, emissions may differ based on location, time of year, composition of the fluid in the operation, temperature, pressure, and other factors.

These realities compel EPA to design and conduct different and more comprehensive studies than past efforts. Collecting and quality assuring data, interpreting the results, developing emissions factors, peer reviewing the results, proposing the revisions, collecting and analyzing comments and completing the effort by the end of 2024 requires EPA to begin immediately. While these comments can inform EPA of challenges, it should be forming the study already.

### **Conclusion**

IPAA appreciates the opportunity to submit these materials and believes that input from the industry is essential to develop an accurate and fairly administered methane tax. If IPAA can provide further information, please contact Dan Naatz at [dnaatz@ipaa.org](mailto:dnaatz@ipaa.org).

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Naatz", written in a cursive style.

Dan Naatz  
Chief Operating Officer and  
Executive Vice President