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Re: Revisions and Confidentiality Determinations for Data Elements under the Greenhouse Gas Reporting Rule; Docket No. EPA-HQ-OAR-2019-0424

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 significantly affected by the actions resulting from this regulatory proposal. Independent producers drill about 90 percent of American oil and natural gas wells, produce 54 percent of American oil and produce 85 percent of American natural gas.

In addition to the specific comments made herein, we support those comments submitted separately by other organization, specifically the American Petroleum Institute (API), the Arkansas Independent Producers and Royalty Owners and The Petroleum Alliance of Oklahoma.

These IPAA comments will focus on Subpart W for two main reasons. First, it is the Subpart that has the greatest impact on oil and natural gas production. Second, the recently passed Inflation Reduction Act (IRA) fundamentally changed the role of Subpart W emissions factors (EF). Subpart W EF are no longer emissions estimates that can be debated regarding their accuracy; they will be “taxable events” subject to audits, enforcement actions and fines under the Clean Air Act (CAA). Given the history of issues over the accuracy of Subpart W EF, the IRA makes a profound change.

The Implications of the Inflation Reduction Act

Under the IRA, emissions reported under the Greenhouse Gas Reporting Program (GHGRP) shift from being estimates that are questionably accurate and for which there are legitimate differences over the details of the calculation. Instead, these reported amounts become “taxable events”. That is, each emission bears a specific cost for the operator. Those values then become subject to audit by EPA, and differences between EPA’s calculations and operators’ calculations become subject to enforcement action under the CAA by the Office of Enforcement and Compliance Assurance (OECA) and ultimately fines.

This change places a much larger burden on EPA to assure that the EF are accurate. No more should EPA be using 19 intermittent pneumatic controls in the mid-1990s as the basis of EF. Similarly, the process must be straightforward and clearly understood. Unfortunately, this change will also serve to suppress individual operators from developing new and better emissions estimating techniques. Why? If an operator uses a different approach – unless it is

given a specific sanction by EPA, including OECA – that choice becomes an obvious target for review by OECA. Past history with Subpart OOOO shows that OECA can develop its own approach to compliance even if the operator is using the recommendations of EPA’s technical staff. OECA then threatens or imposes massive fines until the operator adheres to the OECA approach. Given the magnitude of emissions calculations under Subpart W and the structure that it is solely a non-delegated federal requirement, OECA will have vast powers to challenge any reported emissions value, with the burden of validation falling on the operator.

Improving the Subpart W Emissions Factors

The IRA mandates that EPA revise the Subpart W EF to improve their accuracy by the time that the tax is imposed – 2024 emissions. It is now the end of 2022. This mandate under the IRA raises serious issues regarding the value of EPA continuing to pursue the essentially interpretive EF process in this proposal where EPA is relying on studies that EPA frequently criticizes as falling short of the quality of information that it wants for EF. EPA needs to develop and execute analyses of emissions that produce a robust data assessment and this action will need to begin immediately to meet the 2024 mandate in the IRA. Resources should not be diverted to revisions of the current Subpart W EF that are based on assessments of limited information with the 2024 deadline looming over the Agency.

Current Deadline Proposal

In the proposal, EPA indicates it wants to have its proposed revisions to Subpart W applicable by January 1, 2023 – less than 90 days from now. This is wholly unrealistic given the time necessary to assess the comments on the proposal. But, as described above, it is a misdirection of effort when EPA has to revisit Subpart W and revise it by the end of 2024. The concept of finishing this proposal also fails to reflect the interaction between Subpart W and the EPA New Source Performance Standards and Emissions Guidelines for oil and natural gas production operations that EPA plans to finalize in mid-2023.

Intermittent Pneumatic Controllers – Emblematic of the Problems with Emissions Factors

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 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.

Over the years other studies have been done to address the EF. EPA only now proposes 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 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 ^a	GRI/EPA (1996e) ^b	Allen <i>et al.</i> (2015)	Prasino Group (2013a) ^c	DOE G&B Study (2019)	API Field Study (2019)
Low continuous bleed pneumatic devices	1.39	27.3 ^b	13.6 ^d	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 ^d	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.

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. 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"	
<p>Assumptions:</p> <ul style="list-style-type: none"> - 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 	
Current – "Eq. W-1"	$E_{s,d} = \sum_{i=1}^3 Count_i * EF_i * GHG_i * T_i \quad (\text{Eq. W-1})$ <p>100 devices x 13.5 scf/hr/device x 0.98 CH4 % x 8760 hours = 11,589,480 scf CH4 emissions</p>
Proposed – "Eq. W-1A"	$E_{s,d} = \sum_{i=1}^3 Count_i * EF_i * GHG_i * T_i \quad (\text{Eq. W-1A})$ <p>100 devices x 8.8 scf/hr/device x 0.98 CH4 % x 8760 hours = 7,554,624 scf CH4 emissions</p>
Proposed – "Eq. W-1B"	$E_i = GHG_i * \left[\left(24.1 * \sum_{i=1}^x T_i \right) + (0.3 * Count * T_{avg}) \right] \quad (\text{Eq. W-1B})$ <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>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.</p>	

Alternative Calculations

EPA's Technical Support Document (TSD) fails to recognize that other quantification methods are potentially just as valid as measurements for purposes of EF development. Other methodologies with similar or better uncertainties when scaling a smaller sample up to a larger population are valid. Engineering calculations, based on volumetric measurements, pressure measurements, and measurements of actuation counts, are as good as or better than volumetric rates derived from devices that use mass flow meters and calibration curves. EPA's TSD discounts studies that did not use "measurements" by removing them from the basis for proposed EF. It needs to explain the technical basis for this position or correct its position. Similarly, EPA should allow for reporters to consider control devices when applied to pneumatic devices in the calculation methodology similar to other sources.

More importantly, as the EPA moves into developing the revisions to Subpart W and framing its methane tax regulations, it needs to assure that alternative emissions calculations are allowed under the methane tax. Moreover, there needs to be a process to sanction alternative calculation approaches such that the mere use of an alternative does not become the basis for an OECA audit.

In the context of the GHGI, these differences are a somewhat academic exercise. But, the IRA has changed the issue. When it becomes effective, these calculations will determine the amount of methane tax that must be paid. Equally, and perhaps more importantly, they will be subject to audit by EPA and potential enforcement actions with daily fines that far exceed the methane tax. For example, determining leaking and normal operating controllers will be a threshold issue. The use of alternative calculations would be another.

New Proposed Emissions Factors

The proposal contains EF for sources previously not included in the GHGRP. These pose opportunities for challenges regarding their accuracy that will have to be addressed over time. Given that these factors would be used briefly before Subpart W must be revised as required by the IRA, EPA should defer action on these new additions and address them thoroughly and accurately in its new analysis. Two of these are "methane slip" calculations for combustion engines and other large release events. Each of these also creates the potential for allegations of misreporting and, therefore, should be accurately developed.

Methane Slip: Based on the proposed method, methane slip will be one of the largest methane and CO₂e emissions sources in many annual Subpart W reports. The proposed methane slip methodology does not allow reporters to demonstrate GHG reductions because it requires a static emission factor. Reporters need a mechanism to demonstrate emissions reductions so that reported methane slip is representative of actual methane slip. Acceptable additions to the methodology include stack test results that can then be applied to similarly configured engines, potential new control technologies currently in development, and also certifications from engine manufacturers.

Large Release Events: The "other large release events" source cannot be successfully audited for the IRA and proposed SEC rule as-written. EPA needs to provide enough methodology guideposts to allow for third party assurance. For example, reporters following a specific set of steps should be deemed as complying with this part of Subpart W reporting. EPA should develop a more robust technical support document section explaining how these emissions are

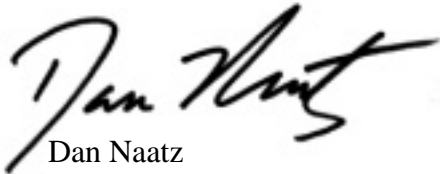
identified and quantified. EPA should provide more structure to the regulation to ensure emissions reported under this source are done so with consistency and reasonableness both across reporters and over time. For example, reporters should not be under any obligation to reconcile reported values against third party values because of the high uncertainties across different methodologies. EPA's decision to use a 250 metric tons threshold is also arbitrary, and EPA needs to support the threshold with a complete technical evaluation. These issues are fundamentally problematic in the context of the methane tax and possible audits.

Conclusion

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 the components of Subpart W, as the intermittent pneumatic controllers example so clearly demonstrates. 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. Rather than wasting time concluding these EF modifications, EPA should devote its efforts to a robust revision of all of the Subpart W EF – to develop the necessary studies and execute them. It must also include a structure to allow and sanction alternative calculations that can be used.

IPAA appreciates the opportunity to submit these comments. If there are questions, please contact Dan Naatz at dnaatz@ipaa.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Naatz". The signature is fluid and cursive, with the first name "Dan" being larger and more prominent than the last name "Naatz".

Dan Naatz
Chief Operating Officer and
Executive Vice President