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Chris Grundler
Director, Climate Change Division
Office of Atmospheric Programs (MC-6207A)
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460

Re: Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule EPA-HQ-OAR-2019-0424; FRL-7230-02- OAR

Dear Director Grundler:

While the proposed Greenhouse Gas Reporting Program (GHGRP) rule contains certain improvements in data accuracy, it also includes changes that will lead to significant overestimation of methane emissions from low bleed pneumatics, intermittent pneumatics, and combustion engines. Emissions data from the GHGRP is used as a consistent measure across the federal government to drive operational and policy changes at the state and federal levels and as the basis for greenhouse gas inventories, which are a key input into climate change policies. Ensuring the accuracy of the data is paramount to its effectiveness as a policy-driving tool. As the program carries additional weight now that it will be used to determine whether a company is subject to the Inflation Reduction Act's (IRA) methane emissions fee, it is even more imperative that the numbers reported accurately reflect what is happening in the field. Western Energy Alliance (Alliance) provides these comments in the interest of ensuring the emissions values our member companies report are as close as possible to the actual emissions within their operations.

Western Energy Alliance represents 200 companies engaged in all aspects of environmentally responsible exploration and production of oil and natural gas across the West. The Alliance represents independents, the majority of which are small businesses with an average of fourteen employees.

On June 21st of this year, EPA published in the federal register the proposed rule: Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule (proposed rule). The proposed rule includes revisions to certain elements within Subpart W including changes to pneumatic controller factors, compressor and engine factors, tanks, and large release events. While some of the proposed revisions will lead to an increase in emissions

reported, and others will lead to a decrease, the Alliance's member companies place accuracy as the highest priority for the changes that are adopted, especially given the speed at which technology and emission estimating methods for oil and natural gas operators are evolving. Accuracy is of paramount importance for three main reasons, namely, public trust and reliability, the data's importance for calculating methane emissions reduction fee information, and the data's value as a policy and operational driver for change.

EPA needs to take into account the potential consequences of the proposed rule as it interacts with other rulemaking efforts underway and consider delaying finalization of the proposed rule to allow for collaboration and coordination on these efforts

The importance of public trust and reliability is where the proposed rule intersects with the rulemaking for Environmental, Social and Governance (ESG) reporting at the Securities and Exchange Commission (SEC). While Alliance members already report emissions within the GHGRP, a significant portion of our membership also publicly discloses emissions data through sustainability reporting to inform the public and our shareholders. While the SEC is pursuing options to mandate this type of reporting through its ESG rulemaking, it is important that wherever possible the methodologies employed within the GHGRP are consistent with the requirements of the SEC's rules.

This not only highlights the need for EPA to collaborate with the SEC in developing their rules, but, more importantly, it also highlights the importance of avoiding large swings in emissions data that result from methodological changes. The SEC rulemaking is intended to provide the public and shareholders with information to allow them to make informed decisions about the environmental performance of their investments, but that information is only valuable when it is both accurate and consistent. Large changes from year to year, either in individual emission factors or overall emissions values provides the opposite for stakeholders, both putting at risk their trust in the system, and causing confusion over whether the values are useful in decision-making. EPA must carefully consider how the changes in values for emission factors, both positive and negative, create discrepancies between legacy values and current values. The Alliance urges EPA to update data with new values when there is sufficient evidence to do so and to communicate how these changes may adjust and compare to legacy reported data. EPA also needs to make clear that differences between what is reported in the GHGRP's Facility Level Information on Green House Gases Tool (FLIGHT) and company sustainability reports, especially those published in the past, does not represent an intentional misrepresentation of data.

In addition to the public's interest in consistency and accuracy in published data, increased importance has been placed on the need for accuracy as a result of events that have transpired since the proposal was published. On August 16th, 2022, President Biden signed the IRA. The Act itself contains a breadth of public policy changes that will not be discussed in these comments,

but of relevance to the proposed rule it includes the creation of a new methane emissions fee that is based on the methane intensity of the operator as calculated in the GHGRP. While this new fee may impact Alliance members in different ways, it is important to note that in using the GHGRP for an emissions tax or fee system requires additional flexibility within the rule for affected companies to augment their reporting based on the actual circumstances creating their emissions. For example, in field studies, it has been shown across basins that the same types of equipment, when subject to different facility design and maintenance programs, can lead to different emission levels, even with similar underlying production. Under the current GHGRP, there are several emission factors and data points that do not allow for flexibility that would accurately reflect those changes. EPA is headed in the right direction by offering an alternative to the use of engineered average-based emission factors when allowing for leak detection survey information to inform reported numbers for pneumatic controllers, however, there is still much room for improvement within this space.

For example, as methane detection technology has improved over the last decade, deployment of field-wide emissions detection has increased significantly. These aircraft flyovers, drone information, and potentially in the future satellite data, give operators a very useful snapshot into their current emissions information and can be used to adjust maintenance timelines for equipment, adjust facility designs overall, and most importantly can be used to identify otherwise unknown emissions sources. Within its proposal under the OOOO rulemaking suite, EPA appears to recognize the importance and value of these types of field-wide deployments, but this GHGRP rulemaking fails to drive policy in that direction. Additionally, EPA has been directed by the IRA to study and develop new emission factors and monitoring capability. By allowing for field-wide emissions detection and measurement to inform equipment-specific data for oil and gas facilities, or at the very least for large equipment like tanks, compressors, engines, and other in-field equipment, the GHGRP would not only help to drive the faster adoption and development of those technologies, but it would also bring in much more accurate data for use in making more informed policy decisions.

This is similar to the approach designed within the intermittent bleed pneumatics program. If a flyover of a sufficient detection threshold identifies that a facility is operating without detectable emissions at a semi-annual or greater frequency, the reporting company needs to be permitted to supplant that information for some of the emission factors currently in use. While this may not be appropriate for some smaller sources that are undetectable by flyover equipment, it provides both an incentive for companies to improve their detection and serves as a differentiator for those companies that have maintenance and detection programs that are functioning effectively.

Finally, EPA needs to consider the interaction that the GHGRP rulemaking has with the upcoming changes to the OOOO suite of rules. The proposed rule changes certain factors around pneumatic controllers, that will obviate some of the changes proposed in the OOOO

rulemaking. The OOOO publication from November 2021 envisions a potential rulemaking provision mandating the replacement of all gas-driven pneumatic controllers at certain facilities, but the GHGRP rulemaking significantly reduces the overall emissions from those controllers. As discussed later in these comments, the reduction in the factor for pneumatic controllers is an improvement, but EPA needs to coordinate internally to ensure that after these changes become effective, retrofits and replacements of gas driven pneumatics are still the most effective way to reduce emissions from those facilities.

EPA needs to collect data from the GHGRP around malfunction rates for intermittent bleed controllers in order to re-evaluate if replacement of those controllers is warranted. In many cases, the most effective way to replace those controllers is with instrument air compressors which have associated carbon dioxide emissions. If the factor is correct, and an operator's maintenance program proves that it can limit malfunction, it will be more responsible from an overall emissions standpoint to keep intermittent bleed devices over mandating their replacement.

Emissions data from the GHGRP may be used to inform the above-mentioned rulemaking actions currently underway, namely, ESG reporting at the SEC, the IRA's methane emissions fee, and EPA's suite of OOOO rules (OOOOa/b/c). In order to ensure consistency with these efforts, the Alliance recommends EPA delay finalization of the proposed rule to allow for collaboration and coordination, both internally and with other agencies. Delaying finalization of the proposed rule will also serve to avoid wasting the time and resources to make additional changes to the GHGRP at a later date to correct inconsistencies among these rules.

EPA's proposed changes to emission factors generally improve data accuracy, but there are important considerations and improvements that must be made

In addition to these general policy comments, the Alliance offers the following specific comments with respect to pneumatic controllers, combustion engines, pneumatic pumps, reciprocating compressors, tanks, large release events, and flowback.

Pneumatic Controllers

Western Energy Alliance supports the reduction of the intermittent bleed pneumatic device factor, as data provided in studies to EPA have consistently shown the previous GHGRP emission factor was far too high.^{1, 2} However, while the incremental reduction is welcome, the

¹ Methane Emissions from Process Equipment at Natural Gas Production Sites in the United States: Pneumatic Controllers, David T. Allen, Adam P. Pacsi, David W. Sullivan, Daniel Zavala-Araiza, Matthew Harrison, Kindal Keen, Matthew P. Fraser, A. Daniel Hill, Robert F. Sawyer, and John H. Seinfeld

Environmental Science & Technology 2015 49 (1), 633-640

² Oklahoma Independent Petroleum Association, Pneumatic Controller Emissions from a Sample of 172 Production Facilities, November 2014. Available online: <http://vibe.cira.colostate.edu/ogec/docs/Oklahoma/1418911081.pdf>

average value for intermittent bleed pneumatics is still much higher than studies indicate. EPA appears to recognize this in its alternative method for calculating emissions for pneumatic devices. In the alternative method, devices that are found to be operating properly will use an emission factor of 0.3 standard cubic feet per hour (scfh), and devices that are found to be malfunctioning will use an emission factor of 24.1 scfh for the period of their malfunction. These emission factors for both properly functioning and malfunctioning devices represent a more accurate estimate for those devices. However, assuming these factors are correct, the average factor for unmonitored devices is still inflated. If a population of intermittent bleed devices is assumed to have an average leak rate of 8.8 scfh, where some of those devices are malfunctioning (and emitting 24.1 scfh), and some of those devices are properly functioning (emitting 0.3 scfh), this assumes that for the period analyzed 35.8% of those devices are malfunctioning.³ This leak percentage does not match data identified either in studies referenced by EPA or in data reported to states.

For example, in the state of Colorado, there are approximately 120,000 gas-driven pneumatic controllers reported in the state's Emissions Intensity reporting program, (this data is matched well by EPA's data in the GHGRP); however, operators in Colorado report on pneumatic devices found to be malfunctioning. In the 2020 summary report for Colorado, which includes reporting from more than 135 reporting entities, only 3,198 of those devices were found to be malfunctioning. Given the state of Colorado's extensive leak detection requirements, and the fact that 2,129 of those controllers identified as malfunctioning were found during monthly inspections, and therefore were returned to proper service, the malfunction rate assumed from those values is closer to a 2-3%. Even with an overly conservative assumption for those controllers that are not measured, assuming a malfunction rate of 5% implies an overall average leak rate of 1.49 scfh.⁴

EPA needs to use an average factor of less than 2 scfh, or alternatively, provide data to support the implied malfunction rate of 35.8% that the current average leak rate estimate implies. Western Energy Alliance recommends EPA evaluate the broad data sets available within the GHGRP, OOOO, and state reporting mechanisms to calculate a reasonable malfunction rate and use that reasonable malfunction rate in combination with its currently developed factors for malfunctioning and properly functioning devices to devise an improved average factor.

Additionally, for the reasons mentioned above, the Alliance strongly prefers reporting of the most accurate data available. To that end, we commend EPA for developing this alternative calculation methodology for intermittent bleed pneumatics. Allowing for actual monitored, empirical data to supplant emission factor-based estimates encourages regulated entities to improve their maintenance and design programs and provides an incentive for additional

³ $35.8\% \times 24.1 + 64.2\% \times 0.3 = 8.8$

⁴ $5\% \times 24.1 + 95\% \times 0.3 = 1.49$

monitoring. For meeting EPA's goals of reducing methane, VOC, and other emissions, incentivizing additional monitoring is a strong policy choice.

Similarly, the Alliance recommends EPA expand the ability of monitored data to replace other elements within the reporting program. The next closest corollary is obviously low-bleed pneumatic devices, but this approach could also be applied to a variety of other sources. Additionally, in order to incentivize additional monitoring, EPA needs to expand the applicability of the monitoring-based emissions calculation methodology. Under the current proposal, to take credit for monitoring of pneumatic devices, those monitoring efforts must have been done under the direction of subpart OOOOb or an approved state or federal plan. Operators should be permitted to use other monitoring data when available to supplement the emissions factor identification, including but not limited to monitoring conducted in accordance with OOOOa.

For example, if drone-based or aircraft-based surveys have sufficient detection thresholds to identify leaks at the malfunction rate, operators need to be permitted to use that data to characterize pneumatic controllers as either malfunctioning or not, depending on the survey results. Within other provisions in the GHGRP, for example the leak count methodology for fugitive emissions, voluntary data can be used to identify leaks. In the same way, operators should be allowed to use voluntary and other monitoring data to identify equipment as functioning correctly. This will incentivize additional voluntary surveys at a frequency where they are not currently required.

In addition, the Alliance urges EPA to re-evaluate the emission factor identified for low-bleed pneumatics in the proposed rule or allow for a monitoring-based alternative for malfunctioning and properly functioning devices similar to what has been proposed for intermittent bleed devices. The current factor in the proposal, 6.8 scfh, is nearly 12% higher than the definitional maximum value for low-bleed pneumatics used by EPA of 6 scfh. Any device that emits more is classified as a high bleed pneumatic device. This means that the data EPA used to develop this factor either includes a significant number of malfunctioning devices or includes device information from high-bleed pneumatic devices. If the 6.8 scfh value proposed by EPA is based on an assumed population of malfunctioning devices, EPA must allow for a monitoring-based calculation similar to what has been proposed for intermittent devices. If the average value included data from high-bleed pneumatics, that data must be removed. The Alliance recommends EPA revert to the previous emission factor for low bleed devices of 1.39 scfh. This value more accurately represents the emissions data measured in field studies and, absent additional information or justification to set an emission factor higher than the definition for that equipment category, EPA should not make a change.

Finally, there are some developments of new control and emissions limiting devices that EPA's GHGRP does not currently allow for that would lead to more accurately reported data. For

example, the Norriseal Envirosave intermittent vent liquid level controller significantly reduces emissions from pneumatic devices. However, in the GHGRP, this equipment is classified the same as those without, disincentivizing the use, development, and research for new control and limiting devices. The Envirosave pilot was rated at zero leakage in USEPA's The Natural Gas STAR Program Report.⁵ As another example, existing pneumatic controllers have potential for their exhaust to be routed to another process such as a burner, flare, catalytic heater, or low-pressure header. The Alliance recommends EPA adjust the pneumatic device methodology to allow for these emissions reductions to be expressed by including a control percent factor similar to how EPA has incorporated control efficiencies into other Subpart W emissions methodologies, and as EPA is proposing for pneumatic pumps in which the emissions capture principle is almost identical. Excluding a control percent factor for pneumatic devices disincentivizes this type of emissions reduction since the reductions will be reported under Subpart W.

Combustion Engines

Western Energy Alliance recognizes some changes to the methane emission calculation for combustion engine slip are warranted, however, the Alliance is concerned by the significant increase the proposed revisions represent and the lack of methane estimating technique alternatives. Based on the proposed method, methane slip will be one of the largest methane and CO₂e emissions sources in many annual Subpart W reports. Reporters need a mechanism to demonstrate methane slip 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 engines where specific technologies are implanted, and certifications from engine manufacturers.

As stated above, there is a heightened focus on and need for accuracy in estimating methane emissions considering third-party certification programs, net zero initiatives, offset programs, the IRA methane emissions fee provisions, and the overall desire for monitored data to match EPA GHGRP inventories more closely. Like EPA's approach for intermittent bleed pneumatics, the Alliance supports the use of equipment specific information where possible for reporting of methane from combustion engines. The Alliance urges EPA to allow for the use of engine-specific data to derive combustion efficiency factors based on measurements, monitoring, manufacturer's specifications, and stack testing as an additional methodology to a single emissions factor approached as proposed. Specifically, EPA needs to allow the use of alternate combustion efficiencies that are based on those testing methodologies. EPA has been directed by the IRA to study and create technology that reduces internal combustion slip emissions.

⁵ Technical Support Documents; Options for Reducing Methane Emissions from Pneumatic Devices in the Natural Gas Industry; Appendix A: Gas Bleed Rate for Various Pneumatic Devices; August 18th, 2003. - Additional information can be found at Champion X's website: [Series EVS Pneumatic Liquid Level Controller | ChampionX](#).

Developing a mechanism to report emissions using combustion efficiencies will improve both the accuracy of the reported information and encourage the development and deployment of efficient settings and equipment for improved understanding and reduction of emissions from engines. Finally, it will incentivize additional monitoring and validation for combustion slip, so long as operators could use the data captured to adjust their GHGRP reporting.

Pneumatic Pumps

The proposal for pneumatic pumps artificially increases reported emissions. Under the proposal, pneumatic pumps are characterized as in service regardless of whether they are actuating, and that number can be reduced to at most once per day. Many pneumatic pumps are in service of applications that do not require activation every day, but only once every several days, based on the need. The best example of this is chemical injection pumps. The Alliance urges EPA to provide additional flexibility to reduce the in-service time of pneumatic pumps to a lower value or allow a refined calculation where possible based on emissions per pump cycle based on design pump rate and operational data for material pumped.

Reciprocating Compressors

Within the compressor section of the rule, the Alliance appreciates the flexibility in using alternative modes for reporting estimated emissions, however, it needs to include provisions to allow flexibility between modes, and not be a requirement that operators follow one or the other. To ensure accurate reporting and that operators can meet requirements, both options must be available.

Tanks

The Alliance supports the proposed adjustments to the reporting requirements for atmospheric storage tanks, and provisions for the use of control devices and site-specific flash gas calculations. However, the changes in the proposed rule specific to adjusting the default value for tanks based on thief hatch operation do not provide EPA with the most accurate data for tank emissions. Similar to the approach that EPA is proposing to be used in the pneumatic device program, EPA needs to instead incorporate methodology that allows operators to track and report thief hatch openings and malfunctions associated with closed-vent systems and vapor recovery units.

The current rule excludes these thief hatches from the definition of equipment leaks, but under EPA's OOOOa rules (and in subsequent upcoming OOOO series rule changes) the tank cover, closed vent system and thief hatches are required to be included in the LDAR program to exempt those tanks from OOOOa under a state permit program. Operators will therefore have the data to report thief hatches that are found to be open or malfunctioning during a survey.

However, to facilitate this, EPA needs to propose different scenarios by which a thief hatch could be found during an LDAR survey and differentiate factors for those scenarios. Specifically, in the storage tank section of the rule, specific emissions quantification calculations need to be developed for thief hatches that are found to be open or in an overpressure scenario of the closed-vent system, storage tanks that are routed to malfunctioning vapor recover units, and storage tanks that are routed to equipment that is functioning according to design. Then, in the fugitive emissions source section of the rule, a provision needs to be included for thief hatches that are leaking, outside of an overpressure or vapor recover unit malfunction scenario. This would provide for the most accurate data, and also incentivize robust design and maintenance programs by allowing operators to take advantage of reporting that accurately reflects the circumstances present in their deployed equipment.

Large Release Events

Under the large release event section of the proposed rule, the Alliance recognizes the additional accuracy and data specificity to be gained by including this potential event, however there are still some details in the application of the rule that require clarification to avoid duplication of reporting. First, the threshold that has been set within the proposal, 250 mt CO_{2e}, represents an average emissions level for some events that are otherwise captured in the rule. EPA needs to clarify those events that are already captured in other portions of the rule will not be also included as large release events, so long as their emissions are quantified and reported with specificity. Alternatively, the EPA could define large release events with a higher threshold such that only exceptional events would be captured within the category. In either case, more clarification is needed for how those events are to be identified and tracked.

Flowback

The flowback equations are unchanged by the proposed rule, but they include a known issue that misrepresents emissions during the initial flowback period. The initial period is flowing back water with insufficient pressure to operate a separator. The equation for flowback requires a linear interpolation of emissions over the entire duration, but this is not supported by field data or emissions studies around flowback. For example, LEL meters around flowback equipment do not show the presence of emissions during this initial period, and instead generally show emissions after a significant amount of time, if at all. For many companies complying with OOOO, the majority of reported flowback GHG emissions are from this initial term and are emissions on paper only, and therefore there is no possible solution to reduce emissions. The Subpart W equations also create an inconsistency between Subpart W and OOOOa annual reports, which a reporter cannot remedy while still being compliant with both regulations. A very straightforward solution is to remove this initial term which is also much more consistent with OOOOa reports.

EPA's proposed changes to applicability and definitions are an improvement over the current rule, but some changes are still needed to ensure clarity

In addition to the policy comments and equipment specific comments, the Alliance offers the following specific comments with respect to changes to applicability and definitions in Subpart A and concerning the new subpart VV.

Subpart A

In the current proposal, it is not clear that the certificate of representation in §98.4(n)(1) and (2) should be reported by the new owner or operator, as opposed to the previous owner. The Alliance recommends EPA specify that only the new operator will be responsible for this notification after transfer of ownership. This approach is further supported since EPA already has a record of the responsible official who submitted the report and their contact information. Difficulties are common when a new owner is contacted about or attempts to answer questions for data submitted by prior owners. The suggested approach streamlines communication and would make responsibilities clear and consistent. Essentially, in the interest of having the most accurate information possible, EPA needs to require that those in the position of having the most potentially accurate information will be responsible for submitting it. For that same reason, corrections of errors that were reported prior to the transfer of facilities under §98.4(n)(5) should be made by the selected representative, the alternate designated representative, or agent for the facility that submitted the data or report in question. The seller of the facility must bear the primary responsibility for reporting errors and corrections for the time period the facility was under that operator's control.

Additionally, under 40 CFR 98.4(n)(1-4), the Alliance recommends an allowance for an operator who acquires assets during a reporting period to utilize best available monitoring methods (BAMM) to submit emission estimates by the deadline of March 31, the following year. This approach will allow the operator to comply by providing additional time to capture data needed to comply with the regulation. Oftentimes, the seller may not have captured all data or there may not be enough time to transfer data and analyze it correctly by the new operator. The assets may have been below the reporting threshold under the previous operator's control, but when collectively assessed following the acquisition, are above the reporting threshold under the new owner's control due to combination of assets in a reporting basin.

Subpart VV

The Alliance supports the addition of subpart VV for accurately accounting for sequestration efforts in EOR operations. Ultimately, as more and more efforts are made to inject, store, and capture CO₂ permanently, it will be important for EPA to properly track that information. However, the proposed rule contains ambiguity between the preamble and the proposed rule

language as to whether operators choosing to demonstrate secure geologic storage via ISO 27916 can choose between reporting under RR, UU or VV. In either case, in order for EPA to maintain an accurate and complete measure of stored anthropogenic CO₂ in the Inventory of U.S. Greenhouse Gas Emissions and Sinks, CO₂-EOR operators choosing to demonstrate secure storage via ISO 27916 should report under RR or VV, as UU is the amount of CO₂ brought onsite - not the amount of anthropogenic CO₂ geologically stored in CO₂-EOR operations.

Conclusion

Western Energy Alliance commends EPA for the efforts made in this rulemaking to improve the accuracy of the GHGRP. That accuracy is rapidly increasing in importance in light of other efforts being made through legislation and rulemaking at the federal level. Further, the opportunity to include equipment and operator specific information is paramount to ensuring that the goals and original intention of the GHGRP are being met. The Alliance has provided within these comments opportunities to further increase that accuracy as well as necessary revisions to the proposed methodology to help EPA avoid inaccurate data. Ultimately, the Alliance urges EPA to focus on opportunities for operators to provide equipment-specific, data-driven, and customized reporting options, as that will ultimately encourage the adoption of emissions reducing techniques and technologies across the United States.

Sincerely,

A handwritten signature in blue ink, appearing to read 'K Sgamma', with a long horizontal flourish extending to the right.

Kathleen Sgamma, President
Western Energy Alliance