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U.S. Environmental Protection Agency
EPA Docket Center
Attention: Docket # EPA-HQ-OAR-2019-0424
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Re: Notice of Proposed Rulemaking "Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule," 87 Fed. Reg. 36,920 (June 21, 2022), Docket # EPA-HQ-OAR-2019-0424

Dear Docket Clerk,

Thank you for the opportunity for GPA Midstream to provide comments to the U.S. Environmental Protection Agency ("EPA" or the "Agency") on the Agency's proposed rule, titled "Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule," 87 Fed. Reg. 36,920 (June 21, 2022) ("Proposed Rule").

GPA Midstream has served the U.S. energy industry since 1921 and has over 60 corporate members that directly employ more than 60,000 employees that are engaged in a wide variety of services that move vital energy products such as natural gas, natural gas liquids ("NGLs"), refined products and crude oil from production areas to markets across the United States, commonly referred to as "midstream activities." The work of our members indirectly creates or impacts an additional 320,000 jobs across the U.S. economy. GPA Midstream members recover more than 80% of the NGLs such as ethane, propane, butane, and natural gasoline produced in the United States from more than 380 natural gas processing facilities. In the 2018-2020 period, GPA Midstream members spent over $90 billion in capital improvements to serve the country's needs for reliable and affordable energy.

GPA and its members have participated in each EPA rulemaking to address greenhouse gas ("GHG") emissions from the oil and natural gas midstream industry, including the initial development of the greenhouse gas reporting program ("GHGRP") in 2009. Since that time, GPA has continued to work with EPA to improve, streamline, and clarify the requirements of 40 C.F.R. Part 98. We appreciate that many of the proposed rule revisions respond to information GPA has previously submitted to EPA.

Other aspects of the proposed rule would benefit from further clarification or additional consideration. These comments provide GPA's views on these matters. We hope EPA finds the enclosed information useful. GPA welcomes the opportunity to continue discussions with the Agency as it develops its revisions to the GHGRP.

Sincerely,

Matthew Hite

Comments of GPA Midstream Association on The U.S. Environmental Protection Agency's Proposed Rule: "Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule"

87 Fed. Reg. 36,920 (June 21, 2022)

Docket ID No. EPA-HQ-OAR-2019-0424

October 6, 2022

Comments of GPA Midstream Association on

the U.S. Environmental Protection Agency's Proposed Rule: "Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule"

87 Fed. Reg. 36,920 (June 21, 2022)

Docket ID No. EPA-HQ-OAR-2019-0424

GPA Midstream Association (GPA) appreciates this opportunity to submit comments on the proposed rulemaking "Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule," 87 Fed. Reg. 36,920 (June 21, 2022). The proposed rule notice summary indicates that the proposed rule is intended "to improve the quality and consistency of the data collected under the rule, streamline and improve implementation, and clarify or propose minor updates to certain provisions that have been the subject of questions from reporting entities."

GPA Midstream has served the U.S. energy industry since 1921 and has over 60 corporate members that directly employ more than 60,000 employees that are engaged in a wide variety of services that move vital energy products such as natural gas, natural gas liquids ("NGLs"), refined products and crude oil from production areas to markets across the United States, commonly referred to as "midstream activities." The work of our members indirectly creates or impacts an additional 320,000 jobs across the U.S. economy. GPA Midstream members recover more than 80% of the NGLs such as ethane, propane, butane, and natural gasoline produced in the United States from more than 380 natural gas processing facilities. In the 2018-2020 period, GPA Midstream members spent over $90 billion in capital improvements to serve the country's needs for reliable and affordable energy.

GPA and its members have participated in each EPA rulemaking to address greenhouse gas ("GHG") emissions from the oil and natural gas midstream industry, including the initial development of the greenhouse gas reporting program ("GHGRP") in 2009. Since that time, GPA has continued to work with EPA to improve, streamline, and clarify the requirements of 40 C.F.R. Part 98. We appreciate that many of the proposed rule revisions respond to information GPA has previously submitted to EPA. We also appreciate EPA's efforts to find additional ways to reduce reporter burden beyond the specific requests that GPA has previously made. For these reasons, GPA supports many elements of EPA's proposed rule, as described in these comments, and encourages the Agency to include those provisions in its final rule.

Other aspects of the proposed rule would benefit from further clarification or additional consideration. GPA notes there are over 150 discrete changes that would impact natural gas gathering and boosting ("G&B") and natural gas processing reporters.[1]

[1]Citations provided in this comment letter refer to the proposed rule, unless indicated otherwise. The structure and order of our comments does not necessarily reflect the individual comments' importance to GPA and its members. GPA nevertheless believes all of its comments will help ensure the rule's integrity and deserve serious consideration.

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I. One Rulemaking for Subpart W Changes

The Inflation Reduction Act requires EPA to, within the next two years, revise subpart W to support methane fee implementation and allow reporters to submit empirical data**.**[2] That rulemaking is likely to involve substantial changes to the GHGRP and will need to be executed expeditiously to meet the legislative deadline. As such, GPA suggests that EPA not change subpart W at this time and instead issue one comprehensive subpart W rule package to accomplish the goals of this proposal along with methane fee implementation. This will reduce reporter burden by avoiding **the** "whiplash" of making changes for one expansive subpart W rulemaking only to make another set of changes in short order. Not only do we support this for resource efficiency, but GPA also supports the use of direct measurement and testing **as an option**, alongside the option to use emission factors derived from empirical data.

We would, however, encourage EPA to proceed with the revision to emission factors for natural gas fired compressor engines, with the request that these combustion sources remain in (or be moved to) subpart C in accordance with our more detailed comments (see section IV. L *Combustion Equipment***)**. As also explained in section IV. L below, when calculating combustion methane emissions, we strongly support the ability to use original equipment manufacturer specific factors, stack test data, a control percentage applied to the emissions, or other empirical data to allow reporters to accurately reflect combustion methane emissions and, importantly, emission reductions.

If EPA does not proceed with updating subpart W in the final version of this rulemaking, we ask EPA to consider this comment letter when crafting the next subpart W proposed rule.

II. GPA Supports Many of EPA's Proposed Changes to the GHGRP

As noted above, GPA has worked extensively with EPA over the years on potential revisions to the GHGRP, and a significant number of the provisions EPA has proposed reflect policies consistent with positions GPA has advocated and technical data and other information GPA has developed and supplied to EPA. GPA is pleased to have been a part of this productive process and encourages EPA to finalize provisions, consistent with these comments, that GPA believes will provide for a more effective and efficient GHGRP.

The following is a list of substantive proposed changes that GPA expressly supports. In the preamble to the proposed rule, EPA has thoroughly and thoughtfully explained the reasons for the following changes, which include explanations of the existing requirements, data previously reported, feedback from individual reporters, and feedback from GPA. In addition to the highlighted changes listed below, GPA also includes Appendix A to these comments, which is a table of other proposed changes that GPA supports.

[2] "Not later than 2 years after the date of enactment of this section, the Administrator shall revise the requirements of subpart W of part 98 of title 40, Code of Federal Regulations, to ensure the reporting under such subpart, and calculation of charges under subsections (e) and (f) of this section, are based on empirical data, including data collected pursuant to subsection (a)(4), accurately reflect the total methane emissions and waste emissions from the applicable facilities, and allow owners and operators of applicable facilities to submit empirical emissions data, in a manner to be prescribed by the Administrator, to demonstrate the extent to which a charge under subsection (c) is owed." Inflation Reduction Act § 60113 (2022).

- Removal of the requirement to measure each compressor in the not-operating-depressurized mode every three years [98.233(o)(1)(i)(C) and (p)(1)(i)(D)]
- Alignment of the onshore natural gas processing definition with NSPS OOOOa through targeted consistency changes [40 CFR 98.230(a)]
- Removal of the 25 million standard cubic feet ("MMscf") per day threshold in the definition of natural gas processing [40 CFR 98.230(a)]
- Streamlining reporting of hydrocarbon liquid throughputs under Subparts W and NN [98.236(aa)(3)]
- Addition of reporting element of the count of compressor stations within a basin to facilitate better understanding of G&B operations [98.236(aa)(10)(v)]
    - *Please see comment below with respect to making this count more representative of G&B facilities.*
- For G&B, allowing use of engineering estimates based on best available data to determine the concentration of gas hydrocarbon constituents in the flow of gas to the combustion unit [98.233(z)(3)(ii)(B)]
- Removal of desiccant dehydrators as a distinct emission source [98.233(e)(3)] and inclusion of desiccant dehydrator blowdowns under 98.233(i)
- Including a new option to survey natural gas intermittent bleed pneumatic devices and calculate emissions based on properly functioning devices and malfunctioning devices [98.233(a)(6)]
    - *Please see comment below with respect to "complete" surveys.*
- Allowing use of calibrated bags and high-volume samplers for centrifugal compressor wet seal oil degassing vent measurements [98.233(o)(2)(ii)]
- Removal of redundant reporting requirements of manifolding/controls at both the compressor and leak/vent level [98.236(o)(1)(vi) through (ix) and 98.236(p)(1)(vi) through (ix)]
- Adding total hydrocarbon leaker emission factors for onshore natural gas processing for Method 21 at 500 ppm [Table W-2A]

III. Effective Date of the Final Rule

The Spring 2022 Unified Agenda of Regularly and Deregulatory Actions lists November 2023 as the anticipated date of the final rule. The proposed rule, however, says that EPA "anticipates that the proposed changes may take effect on January 1, 2023, and would apply beginning with reports submitted for RY2023, which are required to be submitted to the EPA by April 1, 2024."[3]

If the final rule is indeed published in 2023, especially late 2023, the effective date should not be any earlier than January 1, 2024. The changes proposed are extensive and will require significant work to implement, work which cannot begin based on speculation while operators wait for the release of a final rule. Especially for midstream reporters, the GHGRP is an extremely complicated rule, and many midstream operators have had to build sophisticated data collection, calculation, and reporting systems to manage the huge workload this rule imposes and conduct thorough training in the field to ensure the data is properly collected. These data systems will have to be updated (and thoroughly tested) to accommodate the significant and substantial changes EPA has proposed for midstream operators. Further, due to the anticipated Securities and Exchange Commission ("SEC") rule relating to environmental, social and governance ("ESG") disclosures, changes to these systems will also require updates to provide stricter assurance and audit requirements. The SEC rule could have other

[3] 87 Fed. Reg. at 36,924.

implications when considering an appropriate effective date for this rule (for example, is BAMM allowable in the context of SEC disclosures?). In fact, even proposed changes intended to simplify or streamline requirements will require modifications to a reporter's GHGRP program and data systems. Many of the data system changes cannot be made until EPA releases final updated reporting forms and XML schema.

In addition, it is important to emphasize that even if a reporter may possess the raw data that will be required by a regulatory change, the necessary data collection, calculation, and reporting work will not be trivial. The opposite will in fact be true in many cases. Given these circumstances, EPA cannot reasonably expect companies to significantly change their GHG reporting programs based on speculation as to what may be included in a final rule, to change their systems retroactively, or to make rapid changes to complex reporting programs. This is unduly burdensome and costly. For these reasons, GPA requests that EPA apply a reasonable effective date and period for implementation of any final rule that will accommodate industry's needs to adapt to EPA's regulatory changes.

IV. GPA Requests Targeted Changes to the Rule and Supporting Material

A. Overarching Comments

Although GPA supports a number of the provisions EPA has proposed, GPA also believes that the proposed rule would benefit from reconsideration and further revision in several significant respects. GPA's recommendations apply to aspects of the proposed revisions to the GHGRP in general, to the general provisions that govern reporting under Subpart W, and to the requirements for individual pieces of equipment and similarly specific requirements of the GHGRP, as modified by the proposed rule.

Reliance on Proposed Standards under Section 111. As a general matter, the proposed rule's reliance on aspects of the proposed new source performance standards ("NSPS") and emissions guidelines for existing oil and natural gas sources under section 111(b) and 111(d), respectively referred to as proposed subpart OOOOb and proposed subpart OOOOc, create logistical and legal concerns for the proposed rule.[4] The proposed rule explains that EPA is "proposing revisions to certain requirements in subpart W relative to the requirements proposed for NSPS OOOOb and the presumptive standards proposed in the EG OOOOc (which would inform the standards to be developed and codified under 40 CFR part 62)."[5] Those revisions include the subpart W calculation methodologies for natural gas pneumatic devices and equipment leak surveys, as well as the reporting requirements for "other large release events."[6] EPA further explains that at least some of these proposed revisions "would not apply to individual reporters unless and until their emission sources are required to comply with either the final NSPS OOOOb or an approved state plan or applicable Federal plan in 40 CFR part 62 …. [and that] [i]n the meantime, reporters would comply with the applicable provisions of subpart W for sources not subject to NSPS OOOOb or 40 CFR part 62."[7]

The Clean Air Act ("CAA") and the most fundamental tenets of administrative law require EPA to propose revisions to the GHGRP that provide adequate notice to interested parties. The Administrative

[4] *See id*. at 36,962.
[5] *Id*.
[6] *Id*.
[7] *Id*.; *id*. at 36,977-79; 36,983-84.

Procedure Act ("APA"), for instance, requires that a notice of proposed rulemaking include "either the terms or substance of the proposed rule or a description of the subjects and issues involved."[8] Under this standard, an agency's proposal must fairly apprise interested persons of the subjects and issues of the rulemaking.[9]

Section 307(d)(3) of the CAA imposes even more stringent requirements than the APA. It requires a notice of proposed rulemaking to include "the factual data on which the proposed rule is based;" "the methodology used in obtaining the data and in analyzing the data;" and "the major legal interpretations and policy considerations underlying the proposed rule."[10] The D.C. Circuit has explained that the CAA thus requires EPA to issue a proposed rule and to provide a detailed explanation of its reasoning at the proposed rule stage.[11]

Until EPA's OOOOb and OOOOc requirements have been made final, any proposed rule that relies on their requirements cannot reasonably provide notice of "the terms or substance of the proposed rule" or "the major legal interpretations and policy considerations underlying the proposed rule." On the contrary, the references in the proposed revisions to the GHGRP are in effect mere placeholders for whatever law or policy is ultimately made in the related proposals for OOOOb and OOOOc.

Even as a practical matter, EPA should refrain from taking final action on its proposed revisions to subpart W until it has finalized OOOOb and OOOOc and allowed interested parties with an opportunity to fully comment on how those final rules requirements might be reflected in or impact implementation of the GHGRP. Acting to finalize the GHGRP revisions first risks predetermining (or giving the appearance of predetermining) the outcome of the methane and volatile organic compounds ("VOCs") rulemaking or premising the revisions at issue in this rulemaking on provisions that remain subject to change. Either alternative is problematic.

EPA can avoid these issues entirely by taking final action on OOOOb and OOOOc prior to finalizing this rulemaking. Should the OOOOb or OOOOc requirements change in any substantive respect relevant to the GHGRP, EPA should reopen these proceedings for additional public comment. Taking such an approach will ensure that EPA complies with the law and adopts sound public policy.

Use of Best Available Monitoring Methods ("BAMM"). To allow for a successful transition to the requirements of subpart W, as it would be revised under this proposed rule, EPA proposes to allow reporter to use BAMM "for the 2023 reporting year for only the specific industry segments and emission sources for which new monitoring or data collection requirements are being proposed."[12] The reason for allowing the use of BAMM in the manner EPA proposes is to "allow reporters to use best available methods to estimate inputs to emission equations for the newly proposed emission sources using their best engineering judgment for cases where the monitoring of these inputs would not be possible beginning on January 1, 2023."[13] EPA envisions facilities using the period during which the availability of BAMM is in effect (from January 1, 2023 to December 31, 2023, as proposed) "to install the necessary

[8] 5 U.S.C. § 553(b).
[9] *See, e.g.*, *Am. Iron & Steel Inst. v. EPA*, 568 F.2d 284, 293 (3d Cir. 1977).
[10] CAA § 307(d)(3), 42 U.S.C. § 7607(d)(3).
[11] *See, e.g., Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 519 (D.C. Cir. 1983).
[12] 87 Fed. Reg. at 36,995.
[13] *Id*. at 36,995.

monitoring equipment during other planned (or unplanned) process unit downtime, thus avoiding process interruptions."[14] EPA says that it is not proposing to allow the use of BAMM beyond RY2023.[15]

As stated above, GPA does not believe that an effective date of January 1, 2023, is realistic or workable. For that reason, GPA encourages EPA to adopt an effective date of January 1, 2024, and to provide for automatic availability of BAMM for RY2024. If EPA adheres to its plans for a January 1, 2023 effective date, GPA requests that EPA make BAMM automatically available for RY2023 and RY2024. As explained above, the changes to the GHGRP that EPA has proposed are extensive and will require substantial modifications to data collection and reporting systems. As described below, those changes cannot be made until EPA finalizes updated reporting forms and schema. Regardless of the effective date, GPA does not believe that its members will be able to complete the necessary changes to their systems prior to the end of 2024.

Further, completion of the necessary changes and ensuring that the systems are operating correctly may take longer than EPA has initially estimated. Accordingly, GPA requests that EPA provide for optional BAMM in 2025. EPA could require that reporters making a request for BAMM for RY2025 certify that additional time is needed to install necessary monitoring equipment or to otherwise upgrade systems to ensure accurate reporting. Such an approach would be consistent with EPA's goals for the GHGRP, the Agency's past and current policies regarding BAMM, and would allow the regulated community to work with EPA to provide the information the agency hopes to receive.

Schema and Reporting Forms. GPA strongly encourages EPA to provide the draft XML schema and draft revised reporting forms to reporters for review and testing. In the past, doing so has led to the identification of errors and resulted in significant improvements. Additionally, final forms and schema should be published at least 6 months prior to the due date of the first affected reports. Many midstream operators are reporting data for hundreds of assets and have thus developed automated processes for populating forms and/or schema, which will need to be updated to reflect the extensive changes EPA has proposed. In the past, EPA has often not released schema until late January[16] i.e., mere weeks before the reporting deadline, which has compounded challenges during the demanding annual reporting process.

Additional Reform. In the past, GPA has generally advocated for simple emission factors for calculating emissions under the GHGRP rather than reliance on direct measurements. However, as companies look for new ways to reduce greenhouse gas emissions, and as companies seek to finetune their reported emissions accordingly, EPA could best fulfill the purposes of the GHGRP by allowing more methods by which reporters can determine emissions. Most reporters have been submitting GHG reports to EPA for at least 6 years (G&B), if not 12 years (Plants), and GHG reporting programs have come a long way in their maturity. As such, EPA should consider ways to move away from a reporting regime focused on consistent calculation methods among reporters and move toward a reporting regime focused on improving the accuracy of reported emissions. EPA should consider moving toward a "hierarchy" of calculation methods, like how many states structure criteria pollutant emission inventory calculation requirements. This also aligns with the directive in the Inflation Reduction Act to ensure reported emissions are based on empirical data and accurately reflect total emissions. GPA welcomes the

[14] *Id*.
[15] *Id*.
[16] https://ccdsupport.com/confluence/display/help/Archived+XML+Reporting+Instructions

opportunity to continue discussions with EPA in this regard and encourages EPA to use this rulemaking as an opportunity to gather additional information that will make such a reporting program possible.

EPA's Legal Authority. EPA has consistently stated that the basis for its GHGRP is section 114 of the CAA.[17] In the proposed rule, EPA says that section 114(a)(1) "provides the EPA broad authority to require the information proposed to be gathered by this rule because such data would inform and are relevant to the EPA's carrying out of a wide variety of CAA provisions."[18] EPA also continues to point to a 2008 Consolidated Appropriations Act as part of the basis for the GHGRP.[19] That enactment required EPA to publish a proposed and final rule "to require mandatory reporting of greenhouse gas emissions above appropriate thresholds in all sectors of the economy of the United States."[20]

EPA's authority to collect information under section 114 is specifically circumscribed. The Administrator may require the submission of information "[f]or the purpose … of developing or assisting in the development of any implementation plan under" sections 110 or 111 of the CAA, any standard of performance under section 111, and emission standard under section 112, regulations related to solid waste, or for purposes "of determining whether any person is in violation of any such standard or any requirement of such a plan."[21] Section 114 further authorizes the collection of information for the purpose of carrying out any provision of chapter 85 of title 42.[22]

Prior to the promulgation of the GHGRP, EPA had never used section 114 to require the indefinite, if not permanent, gathering and reporting of data. After many years of collecting GHG data pursuant to subpart W, GPA appreciates EPA's efforts to streamline its regulatory requirements and ease reporting burdens. Nevertheless, GPA remains concerned that EPA has not explained, consistent with the limits on the agency's section 114 authority, the reasons for its continuation of the GHGRP, the agency's ultimate regulatory goals, and the information EPA needs to ensure compliance with the rules it has already promulgated. Indeed, for sources that are already subject to emission limits, tailoring reporting requirements to what is needed to determine whether any source is in violation of an applicable standard should be the primary focus of EPA's rulemaking. At the very least, EPA is obligated to fully explain how its proposed rule is consistent with its section 114 authority. GPA encourages EPA to engage this issue in a supplemental proposal or in its final rule.

B. General Comments Pertaining to Subpart W Requirements

The following sections of GPA's comments identify specific requests for information from EPA, proposed changes to regulatory text or other issues raised by EPA's proposed rule and further provides GPA's responses or other comments on the relevant issues. As with all issues addressed in these comments, GPA welcomes the opportunity to provide EPA with additional information or to otherwise respond to any questions that might arise as a result of these comments.

[17] *See, e.g.*, 87 Fed. Reg. at 36,925.
[18] *Id*. at 36,925-26.
[19] *See id*. at 36,924 n.1.
[20] Consolidated Appropriations Act, 2008, Public L. No. 110–161, 121 Stat. 1844, 2128.
[21] CAA § 114(a); 42 U.S.C. § 7414(a).
[22] *Id*.

Request For Comment ("RFC"): EPA proposes to revise the definition of the Onshore Natural Gas Processing segment to largely align with OOOOa and to remove the 25 MMscf per day threshold for facilities that do not fractionate NGLs. EPA requests comment on the impact the proposed definition and throughput threshold changes would have on the number of reporting facilities and emissions from both the Onshore Natural Gas Processing and Onshore Petroleum and Natural Gas Gathering and Boosting industry segments. EPA also requests comment on any other advantages or disadvantages to finalizing the proposed change.

> **Comment**: GPA does not anticipate the proposed changes will impact reported emissions significantly. The proposed changes better categorize facilities to align with industry terminology, which will also better align reported emissions with the appropriate industry segments. For the reasons EPA articulated in the preamble, these changes also add certainty for reporters and reduce burden.

RFC: EPA requests comment on whether to remove the existing requirement to include residue gas compression equipment owned or operated by the natural gas processing facility from 40 C.F.R. § 98.230(a)(3) and 40 C.F.R. § 98.231(b). If these changes were finalized, EPA anticipates that residue gas compression equipment would then be part of the Onshore Natural Gas Transmission Compression industry segment.

> **Comment**: EPA should absolutely retain the existing language in 40 CFR § 98.230(a)(3) and 40 CFR § 98.231(b). Residue gas compression equipment owned or operated by the natural gas processing facility is permitted under the natural gas processing facility in state and federal permits and is considered part of the natural gas processing facility under OOOOa (*see* TSD, Proposed 40 C.F.R. 60 subpart OOOOa, page 73, link), where EPA, when describing Natural Gas transmission and storage stations says, "Residue (sales) gas compression operated by natural gas processing facilities are included in the onshore natural gas processing segment and are excluded from this segment." *See also* 40 C.F.R. § 60.5365a which clarifies that OOOOa applies to an affected facility located with the Crude Oil and Natural Gas Production source category, as defined in 40 C.F.R. § 60.5430a, which defines the Crude Oil and Natural Gas Production source category to mean "Natural gas production and processing, which includes the well and *extends to*, but does not include, *the point of custody transfer to the natural gas transmission* and storage segment."[23] Residue compressors at a gas plant are clearly upstream of the point of custody transfer to the natural gas transmission and storage segment.
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> Further, there is no reason for EPA to create unnecessary confusion by redrawing the commonly understood boundaries of these industry segments. Doing so would be a mistake and could have considerable unforeseen consequences. Additionally, removing this language, as contemplated by EPA's proposal, would likely decrease reported emissions, as emissions reported at processing plants would decrease, and a handful of plant residue compressors which would be considered "transmission compression" may not trigger the 25,000 $mtCO_2e$ reporting threshold for Onshore Natural Gas Transmission Compression.

[23] 40 C.F.R. § 60.5430a (emphasis added).

C. Natural Gas Pneumatic Device Venting

Proposed Change: EPA is proposing an option to survey natural gas intermittent bleed pneumatic devices at an onshore petroleum and natural gas production facility or an onshore petroleum and natural gas gathering and boosting facility.

> **Comment**: The proposed requirements for natural gas intermittent bleed pneumatic devices are *per device* and not for *all* intermittent bleed pneumatic devices located at an onshore petroleum and natural gas gathering and boosting facility (i.e., an entire basin). This makes sense, because (as proposed by EPA) pneumatic devices would also be individually subject to OOOOb or an applicable approved state plan or applicable Federal plan contained in part 62, and it will be years before all intermittent bleed pneumatic devices in a G&B basin are subject to such requirements. EPA must therefore clarify that the survey requirement for intermittent bleed pneumatics using equation W-1B applies on a device-by-device basis. Alternatively, EPA could clarify that a "complete" survey refers only to a survey of all intermittent bleed pneumatic devices that are complying with the monitoring requirements of § 98.233(a)(6).
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> **Suggested text**: *98.233(a)(6)(ii) You must ~~conduct at least one complete~~ survey the pneumatic device ~~monitoring survey~~ at least once in a calendar year. If you ~~conduct multiple complete~~ survey the pneumatic device ~~monitoring surveys~~ multiple times in a calendar year, you must use the results from each ~~complete pneumatic device monitoring~~ survey when calculating emissions using Equation W-1B.*

Proposed Change: EPA is proposing revisions to emission factors for pneumatic devices in the G&B segment.

> Comment: GPA supports using recent studies to update these emission factors and believes an update is necessary to ensure emission estimates better align with actual emissions. In the Technical Support Document Table 2-11, EPA presents these proposed emission factors, along with alternative emission factors developed by excluding zero emissions measurements from the studies used to develop the factors. GPA supports using the data from the studies, inclusive of the zero emissions values, and therefore recommends that EPA adopt the emission factors presented in Table 2-11 and not adopt the alternative emission factors. It would not be appropriate to exclude valid data points simply because they indicated zero emissions.

D. Natural Gas Driven Pneumatic Pump Venting

Proposed Change: EPA is proposing that if a pump switches from uncontrolled to controlled during the year, reporters should calculate emissions using both uncontrolled and controlled calculation methods and adjust the time in equation W-2. EPA is also proposing to collect counts of the total number of pumps in addition to the number of controlled pumps and uncontrolled pumps since a pump can be both controlled and uncontrolled during the year.

> **Comment**: This requirement is unnecessarily precise and overly burdensome given the very limited number of sources this provision would apply to, even as operators eliminate or control natural gas driven pneumatic pumps. One of the goals of this rulemaking is to streamline implementation, and a requirement to develop and use a mix of partial-year calculation methods for a small number of sources would introduce unnecessary complexity contrary to

EPA's overarching goals for this rulemaking. This proposed change would also imply that emissions must be calculated *per pump* instead of *per collection of pumps* as equation W-2 otherwise allows. To address these issues in a reasonable and accurate manner, GPA proposes that sources apply the calculation method that represents operation during the majority of the year.

Similarly, collecting data on the total number of pumps in addition to the number of controlled pumps and uncontrolled pumps for the purposes understanding "how often pneumatic pumps are both controlled and vented directly to the atmosphere in the same year" is overly burdensome and unnecessary. Uncontrolled pumps that become controlled will generally switch mid-year (i.e., not on January 1), and will switch just once. Pumps will not move in and out of being controlled throughout the year. Simply collecting the number of controlled pumps and uncontrolled pumps and assessing changes over time should provide sufficient information for EPA to understand pump control changes.[24]

Suggested text:

98.233(c) Natural gas driven pneumatic pump venting. Calculate emissions from natural gas driven pneumatic pumps venting directly to the atmosphere as specified in paragraphs (c)(1) and (2) of this section. Calculate emissions from natural gas driven pneumatic pumps routed to flares, combustion, or vapor recovery systems as specified in paragraph (c)(3) of this section. If a pump was vented directly to the atmosphere for part of the year and routed to a flare, combustion, or vapor recovery system during another part of the year, calculate emissions based on how the pump operated most of the year. You do not have to calculate emissions from natural gas driven pneumatic pumps covered in paragraph (e) of this section under this paragraph (c).

98.233(c)(3) Calculate emissions from natural gas driven pneumatic pumps routed to flares, combustion, or vapor recovery systems as specified in paragraphs (c)(3)(i) or (ii) of this section, as applicable. ~~If a pump was vented directly to the atmosphere for part of the year and routed to a flare, combustion, or vapor recovery system during another part of the year, then calculate emissions from the time the pump vents directly to the atmosphere as specified in paragraphs (c)(1) and (2) of this section and calculate emissions from the time the pump was routed to a flare or combustion as specified in paragraphs (c)(3)(i) and (ii) of this section, as applicable~~. For emissions that are collected in a vapor recovery system that is not routed to combustion, paragraphs (c)(1), (2), (3)(i), and (3)(ii) do not apply and no emissions calculations are required.

RFC: EPA requests comment on whether pneumatic pumps are routed to vapor recovery systems and whether there are other controls that should be addressed with these new provisions.

Comment: GPA members were not aware of examples of pneumatic pumps being routed to vapor recovery systems; the emissions from pumps are typically too low to justify using a vapor recover unit for control. GPA members are not aware of other control methods for pneumatic pumps other than flares or combustion.

[24] Indeed, it is questionable whether this information is truly useful and otherwise consistent with the scope of the GHGRP generally, EPA's regulatory needs, or the authority granted under section 114.

RFC: EPA requests comment on whether flared emissions associated with natural gas driven pneumatic pumps should continue to be reported as flare stack emissions under 40 C.F.R. § 98.236(n) or should be reported in the natural gas driven pneumatic pumps emission source under 40 C.F.R. § 98.236(c).

> **Comment**: These emissions should continue to be reported under section 98.236(n). This source is too small to justify the work of parsing out its emissions from the total flare emissions.

E. Acid Gas Removal Units ("AGRUs")

Comment: For AGRUs, EPA is still requiring that, if present, acid gas vent meter data must be used [Calculation Method 2, 98.233(d)(2)]. EPA should make this method optional. The acid gas vent is a difficult stream to measure. Good measurement can be achieved on streams that have controlled flow rates with decent pressure and consistent composition. This is often not the case on acid gas vents (which tend to have varying flow rates, varying composition, and low pressure). Additionally, Calculation Method 2 requires quarterly sampling of sour gas. This is a difficult sample to take because of the inherent safety concerns (high H_2S), and therefore many facilities would only sample it quarterly to comply with this rule. In contrast, plant inlet and residue gas are generally sampled frequently, and as such, Calculation Methods 3 or 4 may yield more accurate emission estimates than Calculation Method 2.

> **Suggested text**: *98.233(d)(2) Calculation Method 2. If a CEMS is not available but a vent meter is installed, you may use the CO_2 composition and annual volume of vent gas to calculate emissions using Equation W-3 of this section.*

F. Dehydrators

Proposed Change: EPA is proposing to collect many new reporting elements for glycol dehydrators: flash tank control technique, regen still vent control technique, flash tank vent gas flow rate, regenerator still vent gas flow rate, concentrations of CH_4 and CO_2 in flash tank vent gas, concentrations of CH_4 and CO_2 in regenerator still vent gas, type of stripping gas used, and flow rate of stripping gas [98.236(e)].

> **Comment**: EPA should strike these new requirements. GPA originally asked EPA to develop an emission factor for dehydrators with throughputs greater than 0.4 MMscf per day but less than 3 MMscf per day. We requested an emission factor because this group of glycol dehydrators does not generally have an obligation to run an annual emission simulation other than for compliance with the GHGRP (dehydrators with throughput greater than 3 MMscf per day run an annual emission simulation to comply with NESHSAP HH), and running these additional simulations solely for GHGRP compliance was time consuming and burdensome. However, EPA recently approved use of BRE Promax simulations (which accommodates bulk runs and provides data exports in GHGRP "friendly" format) for NESHAP HH compliance. This change streamlines running dehydrator simulations for the GHGRP, and GPA members can more easily include these small dehydrators into annual process simulations. As such, GPA is no longer requesting an emission factor for these small dehydrators, and EPA's additional data requests are unnecessary. More importantly, all of these additional reporting requirements add burden and complexity, and EPA does not need to understand the precise details of dehydrators (an already well-regulated emission source) to collect and validate the reported greenhouse gas emissions.

RFC: EPA requests comment on advantages and disadvantages of an alternative to require reporting on devices with desiccant that absorb water under a desiccant dehydrator emission source.

> **Comment**: The distinction between these two equipment types ("devices with desiccant that absorb water" vs "devices containing materials that absorb water") is very subtle and not generally understood by reporters. A Google search will show that molecular sieve dehydrators are often called desiccant dehydrators. EPA should not retain a reporting source for "devices with desiccant that absorb water." As noted by EPA, this is a small emission source, and retaining this source will only result in continued confusion by reporters on which non-glycol dehydrators to report or not report.

G. Blowdown Vent Stacks

Proposed Change: EPA is revising the descriptions of "facility piping" and "pipeline venting" in attempt to reduce confusion about categorizing pipeline blowdowns.

> **Comment**: Removing the "distribution pipelines" terminology from the description of "pipeline venting" is an appropriate change. However, as EPA notes, because of the expansive definition of "facility" for G&B, most blowdowns associated with pipelines in that industry segment will be categorized as "facility piping" except for occasional blowdowns involving pipelines that span basins, which would be categorized as "pipeline venting." GPA requests that EPA consider whether having two separate definitions for pipeline blowdowns really serves its informational needs, especially since the two categories are rendered meaningless within G&B (and therefore, the two categories cannot be equated between processing and G&B). If EPA can obtain the information it requires with only one category for all pipeline blowdowns, then it should do so.

Proposed Change: EPA is proposing to allow and clarify use of engineering estimates based on best available information to determine the temperature and pressure of an emergency blowdown.

> **Comment**: GPA supports this change, but we also request that the language "best available information" be applied to all blowdowns. Operators do not always have a temperature or pressure gauge at the blowdown source, nor is it reasonable to expect operators to install such gauges upon a blowdown. It is also not appropriate to request an "engineering estimate" for a simple matter of determining a reasonable estimate of the gas temperature and pressure. "Best available information" is a broad term that requires operators to use their best data, which is an appropriate standard for this requirement.
>
> **Suggested text**:
>
> *98.233(i)(2)(i)*
> *Ta = Temperature at actual conditions in the unique physical volume (°F)~~. For emergency blowdowns at onshore petroleum and natural gas gathering and boosting facilities and onshore natural gas transmission pipeline facilities, engineering estimates~~ based on best available information ~~may be used to determine the temperature~~.*
>
> *Pa = Absolute pressure at actual conditions in the unique physical volume (psia)~~. For emergency blowdowns at onshore petroleum and natural gas gathering and boosting facilities and onshore natural gas transmission pipeline facilities, engineering estimates~~ based on best available information ~~may be used to determine the pressure~~.*

Ta,p = Temperature at actual conditions in the unique physical volume (°F) for each blowdown "p"~~. For emergency blowdowns at onshore petroleum and natural gas gathering and boosting facilities and onshore natural gas transmission pipeline facilities, engineering estimates~~ based on best available information ~~may be used to determine the temperature~~.

Pa,b,p = Absolute pressure at actual conditions in the unique physical volume (psia) at the beginning of the blowdown "p~~". For emergency blowdowns at onshore petroleum and natural gas gathering and boosting facilities and onshore natural gas transmission pipeline facilities, engineering estimates~~ based on best available information ~~may be used to determine the pressure at the beginning of the blowdown~~.

Pa,e,p = Absolute pressure at actual conditions in the unique physical volume (psia) at the end of the blowdown "p"; 0 if blowdown volume is purged using non-GHG gases~~. For emergency blowdowns at onshore petroleum and natural gas gathering and boosting facilities and onshore natural gas transmission pipeline facilities, engineering estimates~~ based on best available information ~~may be used to determine the pressure at the end of the blowdown~~.

H. Storage Tanks

Proposed Change: EPA is proposing to require reporting of the number of controlled tanks with open or unseated thief hatches within the reporting year.

Comment: This requirement should be removed. Tracking and reporting open/unseated thief hatches is not currently required for many older tanks that are not subject to NSPS OOOO/OOOOa. Adding this requirement would greatly expand the number of tanks and facilities that would, in effect, need to comply with the OOOO/OOOOa leak tracking provisions and would create a significant additional burden on reporters. Additionally, for tanks that are subject to OOOO/OOOOa, this data element would be duplicative of the requirements of that rule, and as such, this data element would unnecessarily increase the burden of reporting by requiring the same information in multiple federal reports.

Suggested text: ~~*98.236(j)(1)(x)(D) The number of atmospheric tanks in paragraph (j)(1)(x)(C) of this section that had an open or unseated thief hatch at some point during the year while the tank was also routing emissions to a vapor recovery system and/or a flare.*~~

Proposed Change: EPA is proposing several changes that are likely to result in the double-counting of emissions through open or unseated thief hatches. EPA is also proposing that tank thief hatch emissions be quantified and reported. EPA claims this adds no reporter burden.

Comment: EPA must revise its proposal to eliminate the potential for double counting of tank thief hatch emissions. As proposed, these emissions may be counted under tanks, equipment leak population counts, and equipment leak surveys. As explained below, tank thief hatch emissions should be accounted for under the equipment leak emission sources only. This aligns with EPA's definition of fugitive emissions in NSPS OOOOa.[25]

[25] 40 C.F.R. § 60.5430a ("Fugitive emissions component means any component that has the potential to emit fugitive emissions of VOC at a well site or compressor station, including valves, connectors, pressure relief devices, open-ended lines, flanges, covers and closed vent systems not subject to § 60.5411 or § 60.5411a, thief hatches or

To elaborate on the three areas the same emissions would be counted we have provided the following additional information:

> First, EPA states that if "a reporter sees emissions from a thief hatch or other opening on a controlled atmospheric storage tank during an equipment leak survey conducted using OGI, the reporter should consider that information as part of the 'best available data' used to calculate emissions from that storage tank."[26] EPA says the amount emitted must be quantified and reported and then used to adjust the reported emissions from the tank.
>
> Second, for leaks by population count, EPA is proposing a population emission factor in Table W-1A (Default Whole Gas Emission Factors for Onshore Petroleum and Natural Gas Production Facilities and Onshore Petroleum and Natural Gas Gathering and Boosting Facilities) of 0.85 scf/hour per storage vessel. The proposed emission factor of 0.85 scf/equipment was derived from data that included thief hatch emissions (as noted in S-5, of the Supplementary Information for Methane Emissions from Gathering Compressor Station in U.S., Zimmerle et al., upon which the proposed emission factors were based). If this factor is finalized, then thief hatch emissions will already be accounted for under equipment leaks by population count.
>
> Third, for equipment leak surveys, in Tables W-1E (Default Whole Gas Leaker Emission Factors for Onshore Petroleum and Natural Gas Production and Onshore Petroleum and Natural Gas Gathering and Boosting) and W-2A (Default Total Hydrocarbon Leaker Emission Factors for Onshore Natural Gas Processing), EPA includes a component type labeled "Other." A leak from a tank thief hatch is generally accounted for under this "Other" category.

Emissions from an open or unseated thief hatch are difficult to quantify. Additionally, collecting and rolling up this kind of "exception data" is very burdensome in a GHG reporting program. Reporters already spend a substantial amount of time collecting and verifying data on stuck dump valves. Because quantifying these emissions and collecting this data are not easy, EPA should continue to account for these emissions under the leak categories and remove requirements specifying that unseated or open thief hatches should result in an adjustment to tank emissions. EPA should also remove the requirement to report volume of gas vented through open or unseated thief hatches. Without an involved "research project" this number will likely be an approximation, and EPA will not get the quality of data it needs to "quantify the impact of open thief hatches." It would be appropriate for EPA to clarify that open or unseated thief hatches detected while conducting a leak survey should be categorized as "Other."

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other openings on a controlled storage vessel not subject to § 60.5395 or § 60.5395a, compressors, instruments, and meters. Devices that vent as part of normal operations, such as natural gas-driven pneumatic controllers or natural gas-driven pumps, are not fugitive emissions components, insofar as the natural gas discharged from the device's vent is not considered a fugitive emission. Emissions originating from other than the device's vent, such as the thief hatch on a controlled storage vessel, would be considered fugitive emissions.").

[26] 87 Fed. Reg. at 36,968.

We agree that it may not be appropriate to assume 100% recovery or control of emissions from tanks that have a vapor recovery unit ("VRU") or are routed to flare. Most permit applications will include a capture/control percentage for VRUs or flares, and we propose adding language to clarify that permitted capture/control percentages should be considered an "engineering estimate based on best available data."

Finally, in section 10.2 of the "Assessment of Burden" document, EPA claims that these "clarifying edits" to 98.233(j)(4) and (5) related to open thief hatches for atmospheric storage tanks impose no additional burden on reporters. As described above, this is an incorrect assumption.

Suggested text:

98.233(j)(4)(i) Using engineering estimates based on best available data, which includes permitted capture/control percentages, determine the portion of the total emissions estimated in paragraphs (j)(1) through (3) of this section that is recovered using a vapor recovery system. You must take into account periods with reduced capture efficiency of the vapor recovery system (e.g., when the vapor recovery system is not operating ~~a thief hatch is open or not properly seated)~~ when calculating emissions recovered.

98.233(j)(5)(i)(A) If unrecovered emissions from the storage tank are calculated in accordance with paragraph (j)(4) of this section, then determine the volume of the unrecovered emissions routed to flares based on best available data. If no emissions from the storage tank are routed to vapor recovery, then use the storage tank emissions volume as determined in paragraphs (j)(1) through (3) of this section, except that you must also adjust this total volume of emissions downward by the estimated portion of the total volume that is not routed to the flare (e.g., when the flare is bypassed ~~or when a thief hatch is open or not properly seated~~). Estimate the volume of the emissions not routed to flares based on best available data, which includes permitted capture/control percentages.

~~98.236(j)(1)(xiii) For the atmospheric tanks at your facility identified in paragraph (j)(1)(x)(D) of this section, the total volume of gas vented through open or unseated thief hatches, in scf, during periods while the tanks were also routing emissions to vapor recovery systems and/or flares.~~

Proposed Change: EPA is proposing to add the reporting element of flow-weighted average concentration (mole fraction) of CO_2 and CH_4 in flash gas from onshore production and onshore natural gas gathering and boosting storage tanks (calculated as the sum of all products of the concentration of CO_2/CH_4 in the flash gas for each storage tank times the throughput for that storage tank, divided by the sum of all throughputs from storage tanks).

Comment: As proposed, this addition would create a significant additional burden on reporters over the current requirement to report the minimum and maximum CO_2 and CH_4 without providing EPA useful additional information. Calculating flow-weighted averages is time consuming and can be difficult to implement accurately in database software systems that are utilized by many reporters due to the way that multiple tables and data types often need to be cross referenced and brought together to calculate a flow-weighted average. GPA proposes that EPA instead modify this requirement to report to a straight average, rather than a flow-

weighted average in order to reduce the complexity of complying with this requirement but still incorporates stream specific data.

Additionally, GPA notes that as currently written the text describing the calculation of the flow-weighted average could be interpreted to use the tank liquid throughputs in the calculation of that average, rather than the total flash gas volume. GPA therefore suggests the changes below to clarify that the average should be calculated based on the volume of flash gas produced rather than the liquid throughput of the tanks.

Suggested text:

98.236(j)(1)(vii) The ~~flow-weighted~~ average concentration (mole fraction) of CO_2 in flash gas from onshore production and onshore natural gas gathering and boosting storage tanks (calculated as the sum of all products of the concentration of CO_2 in the flash gas for each storage tank ~~times the throughput for that storage tank~~, divided by the sum of all flash gas emissions ~~throughputs~~ from storage tanks) (''X_{CO2}'' in Equation W–20 of this subpart if the flash gas is routed to a flare).

98.236(j)(1)(viii) The ~~flow-weighted~~ average concentration (mole fraction) of CH_4 in flash gas from onshore production and onshore natural gas gathering and boosting storage tanks (calculated as the sum of all products of the concentration of CH_4 in the flash gas for each storage tank ~~times the throughput for that storage tank~~, divided by the sum of all flash gas emissions ~~throughputs~~ from storage tanks) (''X_{CH4}'' in Equation W–20 of this subpart if the flash gas is routed to a flare).

I. Flare Stacks

Comment: As articulated further in the comments below, EPA should move away from dissecting flare emissions source-by-source and thereby introducing enormous complexity in data collection, calculation, reporting and the rule text itself. As a general matter, most facilities do not have meters on every individual source that can be routed to a flare and determining exact volumes or compositions for any individual source is often a rough estimate at best. EPA seems to be on an investigatory quest to understand the nature of flare emissions at a fine grain, and even if it was possible to do so with data routinely available at facilities (which we argue, it is not), imposing the detailed and prescriptive requirements to collect this information in an annual reporting program applicable to the vast majority of flares in oil and gas is beyond burdensome and is wholly unnecessary to determine greenhouse gas emissions from flares.

Proposed Change: EPA is proposing to require the flow-weighted annual average mole fraction of CH_4 over all streams from a particular emission source type that are used in equation W–19 to calculate the reported flared CH_4 emissions from that emission source type (and used in equation W–20 to calculate CO_2 emissions). [98.233(n)(5)]

Comment: The changes EPA is proposing are unnecessarily prescriptive and will not result in the most accurate emission calculations. Depending on how a site is configured, it can be very difficult, if not impossible, to determine specific flow volumes from each source being controlled by a flare, particularly for miscellaneous sources. Flow from individual sources to a flare is not usually metered, especially in cases where comingled flow is metered at the flare header.

Reporters should be allowed to report composition based on best available data, including but not limited to comingled waste gas stream samples, comingled waste gas stream continuous analyzers, engineering estimates, and flow-weighted annual average mole fractions. These methods would provide as valuable information for characterizing flare stack emissions as flow-weighted annual average mole fractions would and are much less burdensome for reporters. Other compliance programs involve periodic (e.g., monthly) sampling of the gas sent to flares, yet the proposed rule would not allow for the use of such data. The proposed rule should therefore be revised to align its requirements with other, similar programs.

Suggested text:

98.233(n)(2)(ii) For onshore natural gas processing, ~~when the stream going to flare is natural gas, use the GHG mole fraction in feed natural gas for all streams upstream of the de-methanizer or dew point control, and GHG mole fraction in facility specific residue gas to transmission pipeline systems for all emissions sources downstream of the de-methanizer overhead or dew point control for onshore natural gas processing facilities. For onshore natural gas processing plants that solely fractionate a liquid stream, use the GHG mole fraction in feed natural gas liquid for all streams.~~ use best available data.

98.233(n)(5) Calculate GHG volumetric emissions from flaring at standard conditions using Equations W-19 and W-20 of this section~~. Emissions may be calculated per stream routed to the flare and then summed over all streams per emissions source type. Alternatively, you may sum the total volume of all streams from a particular emission source type, determine the flow-weighted average CO_2 and hydrocarbon concentrations over all streams per source type, and then perform a single calculation using Equation W-19 and a single calculation using Equation W-20 to calculate the total CH_4 and CO_2 emissions per source type.~~

Eq. W-19, Eq. W-20 X_{CH4} = Mole fraction of CH_4 in the feed gas to the flare per emission source type as determined in paragraph (e)(5)(ii), (g)(4)(ii), (h)(2)(ii), (j)(5)(ii), (l)(6)(ii), (m)(5)(ii), or (n)(2) of this section. ~~Use a flow-weighted mole fraction if multiple streams from the same source type are combined for the emissions calculation.~~

Eq. W-19, Eq. W-20 X_{CO2} = Mole fraction of CO_2 in the feed gas to the flare per emission source type as determined in paragraph (e)(5)(ii), (g)(4)(ii), (h)(2)(ii), (j)(5)(ii), (l)(6)(ii), (m)(5)(ii), or (n)(2) of this section. ~~Use a flow- weighted mole fraction if multiple streams from the same source type are combined for the emissions calculation.~~

98.236(n)(1)(ix) ~~Flow-weighted average mole~~ Mole fraction of CH_4 in the feed gas from miscellaneous flared sources to the flare ("XCH_4" in Equation W-19 of this subpart).

98.236(n)(1)(x) ~~Flow-weighted average mole~~ Mole fraction of CO_2 in the feed gas from miscellaneous flared sources to the flare ("XCO_2" in Equation W-20 of this subpart).

Proposed Change: For G&B and Processing, EPA is proposing to require an estimate of the fraction of the gas burned in the flare that is obtained from other facilities specifically for flaring as opposed to being generated in on-site operations [98.236(n)(1)(v)].

Comment: This element of EPA's proposed rule would not be reasonable for reporters and would not have any impact on the amount of greenhouse gas emissions reported. Requiring reporters to estimate the volume of gas flared from each emission source type, or from each facility in the case of shared flares, may result in flare volumes being inaccurately attributed to

each emission source type or facility. Depending on how a site or gathering system is configured, it can be very difficult to determine specific flow volumes from each source being controlled by a flare, particularly for miscellaneous sources. Flow from all sources is not necessarily metered, especially in cases where comingled flow is metered at the flare header. This also applies in cases where a flare is shared by multiple facilities. Our operators note that it can take multiple months, multiple staff, and essentially a research project to understand certain flaring events. Without expending significant time and effort to research the root sources of all flaring activity, the data reported will be at best a rough estimate and would not necessarily provide EPA with relevant information on sources of flared emissions. Additionally, flaring is often due to a pressure imbalance along the value chain; where that pressure is relieved/flared may be determined by a variety of factors, but this flared gas isn't easily classified as "obtained from other facilities" or "generated on site." This can be something of a chicken-and-egg question. Finally, flared gas may not be Subpart W sources, such as pressure relief valves on pressurized vessels.

Suggested text: *98.236(n)(1)(v)* ~~*Estimated fraction of total volume flared that was received from another facility solely for flaring (e.g., gas separated from liquid at a production facility that is routed to a flare that is assigned to an onshore petroleum and natural gas gathering and boosting facility).*~~

Proposed Change: Annual reporting of information related to flare equipment.

Comment: EPA should not request data that does not directly relate to calculating and verifying GHG emissions. EPA needs to have clear purpose for how any collected data will be used to validate GHG emissions. Broad information requests are not appropriate for this annual reporting rule. These new requirements should therefore be eliminated. If EPA proceeds with this unnecessary data collection, then EPA must add an option of "Other."

Suggested text:

~~*98.236(n)(2)(ii) Indicate each emission source type that routed emissions to the flare stack during the reporting year (i.e., dehydrator vents, well venting during completions and workovers with hydraulic fracturing, gas well venting during completions and workovers without hydraulic fracturing, onshore production and onshore petroleum and natural gas gathering and boosting storage tanks, well testing venting and flaring, associated gas venting and flaring, miscellaneous flared sources).*~~

~~*98.236(n)(2)(iv) Indicate the type of flare (i.e., open ground-level flare, enclosed ground-level flare, open elevated flare, or enclosed elevated flare).*~~

~~*98.236(n)(2)(v) Indicate the type of flare assist (i.e., unassisted, air-assisted with single speed fan/blower, air-assisted with dual speed fan/blower, air-assisted with variable speed fan/blower, steam-assisted, or pressure-assisted).*~~

~~*98.236(n)(2)(vi) Indicate whether the flare has a continuous pilot or autoigniter.*~~

~~*98.236(n)(2)(vii) If the flare has a continuous pilot, indicate whether the presence of flame is continuously monitored.*~~

~~*98.236(n)(2)(viii) If the flare has a continuous pilot and the presence of a flame is not continuously monitored, indicate how periods when the pilot is not lit are identified (i.e., assumed pilot is always lit, assumed pilot was unlit for a fixed number of hours or fraction of operating hours, visual observations of flare flame, other (specify)).*~~

Proposed Change: EPA is requesting that the fraction of gas sent to an unlit flare be reported twice for each flare – once for the source-level reporting, and then again for the flare event reporting.

> **Comment**: EPA should eliminate duplicative reporting requirements. These numbers will almost certainly be the same, as it will be extremely difficult for reporters to calculate the exact proportion of gas that is flowing to a flare from each source in any period when a flare is unlit and arrive at unique fractions for the individual sources versus the overall volume.
>
> **Suggested text**:
>
> For each flare stack used to control miscellaneous flared sources:
> ~~*98.236(n)(1)(vii) Fraction of the feed gas sent to an un-lit flare ("Zu" in Equation W-19 of this subpart).*~~
>
> For all flare stacks:
> *98.236(n)(2)(ix)* ~~*Estimated fraction of the total volume routed to the flare when it was not lit.*~~

RFC: EPA requests comment on the types of sources that may be generating large emissions from flares and whether other reporting elements could be specified that would better achieve EPA's objective of clearly characterizing the sources of flared emissions from facilities involved in Production, G&B, and Processing. For example, one potential additional reporting element could be a requirement to describe the primary source of miscellaneous flared emissions for any flare that reports CO_2 emissions greater than an amount that would be determined if such a reporting requirement were finalized.

> **Comment**: As noted in our previous comment, EPA should not proceed down this path. Parsing all flare emissions into their root sources would be an enormous burden to reporters. Depending on how a site or gathering system is configured, it can be very difficult to determine specific flow volumes from each source being controlled by a flare, particularly for miscellaneous sources. Flow from independent sources is not necessarily metered, especially in cases where comingled flow is metered at the flare header. This also applies in cases where a flare is shared by multiple facilities. It can take multiple months, multiple staff, and essentially a research project to understand certain flaring events. Without expending significant time and effort to research the root sources of all flaring activity, the data reported will be a rough estimate at best and would not necessarily provide EPA with relevant information on sources of flared emissions. The intent of the GHGRP is to inform future rulemaking, and it is very unlikely that any trends to inform rulemaking could be derived from such reporting; even if there are common emission *sources*, the *causes* of such emissions are likely to be widely variable. If EPA has a desire to better understand flaring sources and root causes, then it should undertake appropriate research projects or data requests outside of this annual reporting program.

RFC: For flared sources, EPA requests comment on whether proposed changes to describe the applicable procedures for calculating flared emissions for each source type separately rather than trying to generally describe a single set of consolidated procedures makes the rule easier for reporters to understand.

> **Comment**: Per our previous comments, we do not support reporting requirements to parse out flare emission data, and the procedures for calculating flare emissions are overly prescriptive.

J. Compressors

Proposed Change: EPA is proposing to remove the requirement to measure in the not-operating-depressurized mode every three years, and EPA is proposing to add new mode-source combinations.

> **Comment**: It is possible that mode-source combination measurements may occasionally not exist, especially if a reporter calculates emission factors at the facility level. EPA should include a provision for using the last valid reporter emission factor in that circumstance.
>
> **Suggested text**:
>
> *98.233(o)(6)(iii)…*
> *Eq. W-23*
> *EFs,m = Reporter emission factor to be used in Equation W-22 of this section for compressor mode-source combination m, in standard cubic feet per hour. The reporter emission factor must be based on all compressors measured in compressor mode-source combination m in the current reporting year and the preceding two reporting years. If the mode-source combination was not measured in the current reporting year and the preceding two reporting years, use the last valid reporter emission factor at the facility, or use a company-wide factor.*
>
> *98.233(p)(6)(iii)…*
> *Eq. W-28*
> *EFs,m = Reporter emission factor to be used in Equation W-27 of this section for compressor mode-source combination m, in standard cubic feet per hour. The reporter emission factor must be based on all compressors measured in compressor mode-source combination m in the current reporting year and the preceding two reporting years. If the mode-source combination was not measured in the current reporting year and the preceding two reporting years, use the last valid reporter emission factor at the facility, or use a company-wide factor.*

K. Fugitive Leak Surveys and Equipment Leaks by Population Count

Comment: The required (and allowable) leak measurement methods are extremely difficult to discern in the rule text (98.233(j)(1) and all its cross-references). EPA should include a table in the rule to show which methods are required and/or allowable for each industry segment.

Proposed Change: EPA is proposing many emissions factor changes in the table to Subpart W with inconsistent levels of precision.

> **Comment**: Rounding has been applied inconsistently to the emission factors. For example, in Table W-1E, the leaker emission factor for valves (if surveyed using any of the methods in § 98.234(a)(1), (3), or (5)) is listed as 16 scf/hr/component. Based on the technical support document, this factor should be 15.6 scf/hr/device. There are emission factors at this level of

precision within the same table; for example, 7.9 scf/hour/component is used for connector (other). EPA should maintain consistency on decimal precision of emission factors, especially within the same table, unless the underlying data truly supports different levels of precision.

Proposed Change: EPA is proposing to separate leaker emission factors based on the survey technique: (1) Method 21 > 10,000 pm (2) Method 21 > 500 ppm and (3) OGI/IR/Acoustic.

Comment: GPA finds many of EPA's conclusions regarding the addition of leaker emission factors for survey methods other than Method 21 troubling. First, EPA chose to ignore results from two of the four recent studies for equipment leak emissions based on a weak rationale. EPA disregarded the 2011 Fort Worth Study primarily because it was geographically limited and utilized the Bacharach Hi-Flow Sampler. EPA also ignored the 2013 Allen Study because it utilized the Bacharach Hi-Flow Sampler. Geographic constraints should have no bearing on the validity of data, and the Bacharach Hi-Flow Sampler is widely used for measurement of methane emissions. There is no known rationale for assuming the Bacharach Hi-Flow Sampler results are invalid. The equipment was not discontinued by the manufacturer due to issues in its performance, but because it was no longer profitable for them to manufacturer. As EPA notes in the Technical Support Document, Bacharach is the sole manufacturer of a commercial high flow sampler. Furthermore, EPA was comfortable in using the 2020 Zimmerle Study results even though the study utilized a "redesigned" high-flow sampler fabricated with Bacharach parts by Colorado State University and SLR Consulting that has not undergone extensive testing to validate its accuracy. It makes no sense to disregard one study for use of a commercial high-flow sampler, but use a study based on a piece of equipment designed as part of collegiate research. In doing so, EPA appears to be cherry-picking scientific studies to justify revision of emission factors.

EPA also states that "these studies showed that OGI finds fewer yet larger leaks than EPA's Method 21. Therefore, the application of the same leaker emission factor to leaking components detected with OGI and Method 21 with a leak definition of 10,000 ppm, as is currently done in Subpart W, underestimates the emissions from leakers detected with OGI.[27]" GPA disagrees with this conclusion, as the only study to compare OGI with Method 21 was the 2011 Forth Worth Study, which has been disregarded. Furthermore, the 2020 Zimmerle study focused on OGI camera operator bias and not technological capabilities. EPA is also ignoring years of technical support justification for the use of OGI in lieu of Method 21 at 10,000 ppm that has been used in promulgating NSPS OOOOa and other Alternative Work Practices, including in the recently proposed OOOOb/c, where EPA states, "our analysis shows that the proposed standards, which use OGI, achieve equivalent reduction of VOC and methane emissions as the current standards, which are based on EPA Method 21, but at a lower cost."[28] Absent any new comprehensive studies comparing technological capabilities of OGI and Method 21 simultaneously at facilities, GPA believes that the justification of revised leaker emission factors is flawed. At minimum, based on previous technical support documentation, the leaker emission factors for OGI should be the same as Method 21 at 10,000 ppm.

EPA should also consider how to incorporate emerging technology that supports quantification of leaks detected by imaging.

[27] Technical Support Document at 35 ("TSD"); *see also* 87 Fed. Reg. at 36,976.
[28] 86 Fed. Reg. 63,110, 63,182 (Nov. 15, 2021).

Proposed Change: For Onshore Natural Gas Processing, Onshore Natural Gas Transmission Compression, and Underground Natural Gas Storage, EPA is proposing new leaker emission factors for OGI that are 4.1 times higher than the current emission factors (Tables W-2A, W-3A, W-4A).

> **Comment**: These new emission factors are not based on actual study data for processing, transmission, or underground storage. EPA calculated ratios between the current and proposed emission factors for Production and G&B (Table W-1E). The average of these ratios (4.1) was multiplied by the current processing/transmission/underground storage emission factors to arrive at the proposed emission factors. This is inappropriate. EPA did not present information to support changing the leaker emission factors for processing, transmission, or underground storage. EPA did not reference any information to indicate that the current processing, transmission, and underground storage emission factors are not representative of actual emissions. EPA did not reference any information to support that it is appropriate to apply the magnitude of change between the current versus proposed emission factors for production and G&B to the emission factors for processing, transmission, and underground storage. If EPA can justify applying production and G&B studies to processing, transmission, and underground storage, then EPA should instead update Tables W-2A, W-3A, and W-4A to have the *same* OGI leaker emission factors as Table W-1E.

Proposed Change: EPA is proposing to change emission factors for gathering pipelines in Table W-1A based on the Lamb *et al* (2015) study of distribution pipelines. In particular, the protected steel emission factor is proposed to nearly double from 0.47 to 0.91 scf/hr/mile.

> **Comment**: For gathering pipelines, proposed emission factors are based on using the "Average Methane Leak Rate" from the Lamb Study in place of the GRI/EPA Study. We think EPA made two incorrect judgements when assessing the data. First, there is a significant increase in the mean leak rate due to only a few measured leaks. The three largest leaks measured in the Lamb Study (unprotected steel main, protected steel main, and cast iron main leaks) accounted for 50% of the total leak rate, whereas 90% of the measured leaks were less than approximately 3 scf/hr. The three largest leaks are by far outliers, and significantly increase the average emission rates for the respective material. As an example, removal of the large protected steel leak reduces the average leak rate and emission factor by ~60%.
>
> Second, EPA only used leak data from distribution mains in the Lamb Study and excluded leak data from services, "[T]he emission factors for gathering pipelines by pipeline material are based on the leak rates for distribution mains by pipeline material."[29] GPA does not support separating mains and services when identifying emission factors based on pipeline material. Gathering pipelines are not segregated like distribution pipelines and do not carry main or service designations. As such, it's not appropriate to represent gathering pipelines with only a portion of data collected on distribution pipelines from the Lamb Study. All leak measurement data for each pipeline material should be considered given the pipeline material is the corresponding factor when applying the results of the study on distribution pipelines to develop emission factors for gathering pipelines. Additionally, the Lamb Study notes, "it was not always possible to clearly define a main versus a service leak when the leak occurred at the junction between main and service." The uncertainty distinguishing between pipeline mains and services provides more support to analyze the leak measurements from pipeline mains and services

[29] TSD at 61.

together. When data from mains and services are assessed together, the average leak rate for protected steel drops ~23%.

Further, EPA should consider the Pipeline and Hazardous Materials Safety Administration's ("PHMSA") leak detection and monitoring requirements for gathering and boosting. There should be an opportunity to align data on leaks as an alternative to using an emission factor. This would also align with the directive in the Inflation Reduction Act to report emissions based on empirical data, where available.

Proposed Change: Table W-1a is being revised to list equipment leak emission factors per major equipment type, rather than per component. This change impacts the Onshore Petroleum and Natural Gas Production and Onshore Petroleum and Natural Gas Gathering and Boosting segments. EPA is implementing this change to eliminate an unnecessary step where major equipment types are converted to component counts, which are in turn used with per component emission factors to calculate emissions. EPA seeks comment on the approach of providing population count emission factors by major equipment.

Comment: Although this revision will eliminate an unnecessary calculation step for many reporters, it also eliminates the option to use actual component counts per facility to calculate equipment leak emissions. 40 C.F.R. § 98.233(r)(2) currently allows both "Component Count Method 1" – counting major equipment; and "Component Count Method 2" – counting individual components. The option to use actual individual component counts to calculate emissions should be retained as it will provide more accurate emission estimates compared to using major equipment counts. Table W-1a should include both emission factors per major equipment type and per component count to allow for either option to continue to be used.

RFC: "Under this proposed amendment, reporters would still have to meet the subpart W requirement to conduct at least one complete survey of all applicable equipment at the facility per year, so if there were components listed in 40 CFR 98.232(d)(7) not included in any NSPS OOOOb or 40 CFR part 62-required surveys conducted during the year (e.g., connectors that are monitored only once every 4 years), reporters subject to NSPS OOOOb or 40 CFR part 62 would need to either add those components to one of their required surveys, making that a complete survey for purposes of subpart W, or conduct a separate complete survey for purposes of subpart W. We expect that reporters with onshore natural gas processing plants implementing traditional leak detection and repair programs are already making similar decisions regarding how to meet the requirement to conduct a complete survey for subpart W, and our intention with this proposed amendment is not to change those decisions. Rather, this amendment would specify that surveys conducted pursuant to NSPS OOOOb or 40 CFR part 62 that do not include all component types listed in 40 CFR 98.232(d)(7) would be used for calculating emissions along with each complete survey." "We request comment on the proposed amendments to subpart W for onshore natural gas processing facilities subject to the equipment leak provisions of NSPS OOOOb or 40 CFR part 62, as well as whether there are other provisions or reporting requirements for these facilities that we should consider."[30]

[30] 87 Fed. Reg. at 36,978-79.

Comment: EPA should not mandate that data from so-called "incomplete" surveys be incorporated into the calculations. Doing so increases the complexity of the leak calculations, since some components will have different leak times in equation W-30.

L. Combustion Equipment

Proposed Change: Some Petroleum and Natural Gas industry segments calculate and report fuel combustion emissions under Subpart C (which is proposed to reference Subpart W emission factors for certain sources). Other Petroleum and Natural Gas industry segments calculate and report emissions under Subpart W, except for some equipment for which emissions are calculated under Subpart C (which is proposed to reference Subpart W emission factors for certain sources) but are still reported under Subpart W.

Comment: The elaborate structure dividing reporting requirements for similar type sources and processes among Subparts C and W has long been a source of confusion, administrative difficulty, and cost for affected facilities. For reporting consistency and to improve transparency, GPA requests that EPA consolidate combustion source calculation and reporting (40 C.F.R. §§ 98.233(z) and 98.236(z)) for all Petroleum and Natural Gas Systems segments under Subpart C – General Stationary Fuel Combustion Sources.

As currently structured, Subpart W requires the Production segment, Gathering & Boosting segment, and the Distribution segment to calculate and report their combustion emissions under Subpart W. All other segments of the industry calculate and report combustion emissions under Subpart C (40 C.F.R. § 98.232(k)). This includes the majority of the segments in the industry: onshore natural gas processing, onshore natural gas transmission compression, underground natural gas storage, liquefied natural gas ("LNG") storage, LNG import and export equipment, onshore natural gas transmission pipelines.

It has never been clear why EPA would treat the Production, Gathering & Boosting, and Distribution segments differently than the other industry segments in this regard—the source of the emissions, combustion, is the same. GPA has commented to EPA in previous rulemaking proceedings addressing Subpart W that the Agency's unusual approach with respect to these facilities, inconsistently piecing together combustion-related emission reporting requirements across various subparts, lacks a clear rationale or precedent.[31] Indeed, because Subpart C is proposed to reference Subpart W emission factors for certain sources, and Subpart W will continue to reference Subpart C calculation methods for certain sources, the utility of housing combustion emission requirements under two different subparts will not only remain unclear and confusing but become more so.

Further this complex system with its many cross-references creates multiple and unnecessary opportunities for mistakes in the regulatory text itself, future agency guidance, and for companies attempting to implement the rule. As noted in the Federal Plain Language

[31] *See* Gas Processors Association, Comments on Greenhouse Gas Reporting Rule: 2015 Revisions and Confidentiality Determinations for Petroleum and Natural Gas Systems; Proposed Rule (Docket EPA-HQ-OAR-2014-0831) at 24-26, 34 (Feb. 24, 2015).

Guidelines, "There are several ways to deal with cross-references. The best is to organize your material so you can ***eliminate the need for cross-references*.**"[32]

These issues are especially complex for companies that must report under the conflicting reporting regimes for different facility types that are treated differently under Subpart C and Subpart W, and the costs of maintaining separate systems for such facilities are not insignificant.

As EPA has previously explained, the purpose of Subpart W was to require the calculation and reporting of vented, fugitive, and flare combustion emissions, while "stationary combustion emissions are included in Subpart C."[33] Without providing a straightforward rationale for failing to adhere to that basic practice by including some combustion emissions in Subpart W, EPA has acted arbitrarily. An agency's basic obligation under the law is to assess the relevant facts and provide a reasoned rationale for its choice of action. As the D.C. Circuit has explained, agencies must "consider[] the relevant factors and articulate[] a rational connection between the facts and its choices."[34] Although it is permissible for an agency to make a decision that contradicts an earlier approach to a similar situation, when so doing, it must "supply a reasoned analysis for the change."[35] On the other hand, when an agency treats similarly situated parties differently, taking conflicting approaches based on the same or similar data, "[s]uch inconsistent treatment is the hallmark of arbitrary agency action," and requires further explanation from EPA.[36]

Here, the approach EPA has taken with respect to Production, Gathering & Boosting, and Distribution differs from and conflicts with the approach taken for other segments in the natural gas industry. The unusual division of reporting for these segments also differs from EPA's approach under other subparts of the GHGRP. EPA has supplied no clear rationale, and none is obvious.

Under these circumstances, the appropriate course of action is for EPA to move all combustion reporting under Subpart C. That would also allow EPA to streamline data aggregation and reporting for the annual Inventory of US GHG Emissions and Sinks and for other consumers of the reported data. Moving all combustion requirements to Subpart C could be accomplished by "lifting and shifting" regulatory text related to calculations, monitoring, and reporting from Subpart W to Subpart C. GPA is not proposing any changes to existing requirements related to combustion or sector threshold determinations.

Proposed Change: EPA is proposing three methane emission factors in Table W-9 (or three combustion efficiencies in Equation W-29) from reciprocating engines that drive compressors: two-stroke lean-burn, four-stroke lean-burn, and four-stroke rich-burn.

Comment: GPA does not oppose the proposed emission factors/combustion efficiencies. However, the proposal does not provide an opportunity for reporters to reduce emissions from this source and account for those reductions in their reports. The combustion calculations should allow reporters to use the emission factors in Table W-9 *or* use OEM (original equipment

[32] Federal Plain Language Guidelines at 83 (emphasis in original) (May 2011)
[33] 69 Fed. Reg. 18,576, 18,611, 18,614 (Apr. 12, 2010).
[34] *Nat. Res. Def. Council, Inc. v. EPA*, 194 F.3d 130, 136 (D.C. Cir. 1999).
[35] *Jicarilla Apache Nation v. DOI*, 613 F.3d 1112, 1119 (D.C. Cir. 2010).
[36] *Catawba Cnty., NC v. EPA*, 571 F.3d 20, 51 (D.C. Cir. 2009).

manufacturer) specific emission factors *or* use stack test data *or* apply a percent reduction to the Table W-9emission factors based on other data. Operators, engine manufacturers, and engine catalyst manufacturers are rapidly working to develop technologies to minimize methane slip. Allowing use of OEM specific factors, or stack test data, or a control percentage applied to the emissions incentivizes reporters to reduce methane slip, and by extension incentivizes engine and catalyst manufacturers to develop low methane emissions technology for both new and existing engines (with, for example, upgrade kits). EPA must not stifle innovations that are currently under development to reduce methane emitted to the atmosphere. If reporters cannot account for improvements in engine methane emissions, then improvements are much, much less likely to happen. Because this is an area of developing innovation, EPA should allow reporters to use the calculation method that is most representative of emissions, whether that be Table W-9 factors, OEM factors, stack test data, or control percentages applied to Table W-9 factors. With the confluence of possible SEC reporting, methane fees, ESG reporting, responsibly sourced gas certifications, and other driving forces for methane emission reductions, EPA must allow reporters to accurately reflect their emissions using a variety of means to calculate emissions. Especially for significant sources of methane emissions, like engine slip, the time for allowing flexibility in calculations is now, not a future rulemaking. The request also aligns with the directives in the Inflation Reduction Act to pursue reported emissions based on empirical data.

Proposed Change: EPA is clarifying that emissions may be calculated in 40 C.F.R. § 98.233(z)(3)(ii) for groups of combustion units. However, if any of the combustion units downstream of this shared measurement point are natural gas-driven compressor drivers, the volumes of fuel for those units would have to be separated from the total before emissions are calculated to account for the differences in combustion efficiency.

Comment: EPA should allow grouping of natural gas-driven compressor driver engines if they are of the same class. First, at a G&B station, most fuel combustion equipment are compressor drivers, with possibly one or two small heaters. Second, it takes considerable work to apportion fuel use to each piece of equipment. One must use actual station fuel use, individual equipment heat rate, and individual equipment actual run hours to properly apportion fuel use, and the calculations accordingly must be performed using a mix of station-wide operating data (fuel use), equipment properties (heat rate), and equipment operating data (run hours). This is difficult to automate. However, if a station consists of, for example, three 4 stroke-rich burn engines, and a heater less than 5 MMbtu/hr, the reporter should be able to simply use the station fuel use and the 4-stroke rich-burn methane emission factor and combustion efficiency. This would dramatically reduce burden and provide the same emissions data.

Proposed Change: EPA is proposing new methane emission factors for two-stroke lean-burn, four-stroke lean-burn, and four-stroke rich-burn reciprocating engines. However, throughout the preamble and proposed rule text, EPA uses the inaccurate and broad terminology of "compressor drivers" to refer to these engines.

Comment: In addition to engines, midstream operators commonly use <u>turbines</u> as compressor drivers. EPA is not proposing new methane emission factors for turbines. Therefore, EPA must replace the term "compressor drivers" with "compressor driver-engines" (or something similar) throughout the preamble and rule text, including in both Subparts C and W, to clarify that turbines are not included.

Proposed Change: In Subpart C, for reporters aggregating units, EPA is proposing that for *each* unit in the group, an estimate of the total annual heat input (expressed as a decimal fraction) must be reported, and this estimate should be based on the *actual* heat input of the unit compared to the *actual* heat input of all units in the group.

> **Comment**: EPA claims this is "not expected to significantly increase burden for reporters" but if the fraction must be based on **actual** heat inputs, then this requirement significantly increases burden and essentially negates the time efficiencies gained by reporting the aggregated group, especially for reporters who use the common pipe method of aggregation. By proposing that actual heat inputs must be used, EPA would essentially require that heat inputs be calculated for each piece of equipment each year, which would eliminate the benefits of reporting an aggregate group where heat input is calculated only once for whole group of equipment. This data element should be eliminated, since the maximum rated heat input capacity of each unit in the aggregated group should provide enough information for EPA to reasonably approximate emissions per individual pieces of equipment for bulk analysis purposes. At the very least, EPA should not mandate that this be based on *actual* heat input per equipment. If EPA does not make either change, then EPA must reflect the significant increase in burden in the *Assessment of Burden Impact for Proposed Revisions for the Greenhouse Gas Reporting Rule*. This would be approximated by multiplying the effort expended by reporters using an aggregation method by the number of pieces of equipment in the aggregated group. For GPA members using the common pipe method, for example, a ten-fold increase in burden (or more) would be a reasonable assumption of burden increase, especially since EPA further specifies that, "Estimates of the actual heat inputs may be based on company records."[37] This could be interpreted to mean that all available data must be used to develop the actual heat inputs, which further emphasizes the burden of this new requirement.

> **Suggested text**: [preferred] 98.36(c)(1)(ii) *For each unit in the group greater than or equal to 10 mmBtu/hr, the unit type, and maximum rated heat input capacity~~, and an estimate of the total annual heat input (expressed as a decimal fraction). To determine the total annual heat input decimal fraction for a unit, divide the actual heat input for that unit (all fuels) by the sum of the actual heat input for all units (all fuels), including units less than 10 mmBtu/hr. Estimates of the actual heat inputs may be based on company records~~. If all units in this configuration are less than 10 (mmBtu/hr), this requirement does not apply.*

> **Suggested text** [alternative] 98.36(c)(1)(ii) *For each unit in the group greater than or equal to 10 mmBtu/hr, the unit type, maximum rated heat input capacity, and an estimate of the total annual heat input (expressed as a decimal fraction). To determine the total annual heat input decimal fraction for a unit, divide the ~~actual~~ heat input for that unit (all fuels) by the sum of the ~~actual~~ heat input for all units (all fuels), including units less than 10 mmBtu/hr. ~~Estimates of the actual heat inputs may be based on company records.~~ If all units in this configuration are less than 10 (mmBtu/hr), this requirement does not apply.*

[37] 87 Fed. Reg. at 37,042.

M. Other Large Releases

Proposed Change: Calculate and report GHG emissions from other large release events that release at least 250 mtCO_2e per event.

> **Comment**: A quantifiable time element must be added to the emissions threshold of "other large release events." We propose that 250 mt of CO_2e released in any 24-hour period be used as the threshold for the definition of "other large release events." This will align with other common state and federal reporting thresholds, which include quantification of emissions over a 24-hour period. This will reduce burden by allowing reporters to align GHG emissions quantifications with other requirements when determining whether release event thresholds are met. A 24-hour quantifiable time element will also ensure that events that are quantified and reported are truly "large" release events, rather than low-level leaks over longer periods of time that would be addressed via the fugitive leak quantification requirements of Subpart W.
>
> **Suggested text**: *98.233(y) Other large release events. Calculate CO_2 and CH_4 emissions from other release events for each release that emits GHG in excess of 250 metric tons of CO_2e in a 24-hour period as specified in paragraphs (y)(1) through (4) of this section.*

Proposed Change: Calculate and report GHG emissions from other large release events that release at least 250 mtCO_2e per event.

> **Comment**: To reduce reporter burden, EPA should strive to align this requirement with other federal reporting thresholds. We suggest the large release event threshold should be 3 MMscf to align with Pipeline and Hazardous Materials Safety Administration reporting requirements. Doing so would help reporters align within their company on reporting and data collection procedures.

Proposed Change: If a single leak or event has emissions that exceed the emissions estimated by an applicable methodology included in Subpart W by 250 mtCO_2e or more, EPA is proposing that such releases would be included in the definition of "other large release events" and that reporters would be required to calculate and report the GHG emissions from these events using the proposed requirements for other large release events.

> **Comment**: EPA must clearly define the emission sources to be reported as (or excluded from) the "other large release events" emission source category. It would be unworkable and confusing for reporters if EPA were to "mix" reporting requirements for certain sources where sometimes emissions are characterized as "other large release events" and sometimes not. The articulated categories suggested below should capture the majority of large release events in a manner that would accurately reflect such emissions.
>
> *98.238 Definitions. Other large release event means an unplanned, unexpected, and uncontrolled release to the atmosphere of gas, liquids, or mixture thereof~~,~~ from ~~wells and/or other equipment that result in emissions for which there are no methodologies in § 98.233 to appropriately estimate these emissions. Other large release events include, but are not limited to,~~ well blowouts, well releases, pressure relief valve releases from process equipment other than onshore production and onshore petroleum and natural gas gathering and boosting storage tanks, and releases that occur as a result of an accident, equipment rupture, fire, or explosion. ~~Other large release events also include failure of equipment or equipment components such that~~

~~*a single equipment leak or release has emissions that exceed the emissions calculated for that source using applicable methods in § 98.233 by the threshold in § 98.233(y).*~~

Proposed Change: For "other large release events," EPA proposes to collect data elements that are extraneous to the information EPA needs to assess and compile GHG emissions. This information includes proposed reporting of the start and duration of an event, a description of the event, and volume fractions of emissions, among other things.

Comment: Such reporting is not likely to provide information of regulatory value or to inform the development or implementation of any EPA regulatory program. The significant additional burden that these requirements will impose are, therefore, not justified, and they should be removed from the rule.

Additionally, it is important to emphasize that these types of emissions are likely complicated to assess, and providing EPA with additional "raw" data is unlikely to allow the Agency to effectively validate reporting of emissions from these sorts of abnormal emission events. Regarding EPA's proposal to request reporting on "whether the release was identified under the provisions of part 60, subpart OOOOb of this chapter or an applicable approved state plan or applicable Federal plan in part 62 of this chapter," the rule should expressly recognize that "NA" must be an option because some events will be caused by sources not subject to those rules.

Suggested Text:

98.236(y) Other large release events. You must indicate whether there were any other large release events from your facility during the reporting year. If there were any other large release events, you must report the total number of other large release events from your facility that occurred during the reporting year and, for each other large release event, report the information specified in paragraphs (y)(1) through ~~(8)~~(4) of this section.

(1) Unique release event identification number (e.g., Event 1, Event 2).

~~*(2) The approximate start date, start time, and duration (in hours) of the release event.*~~

~~*(3) A general description of the event. Include:*~~

~~*(A) Identification of the equipment involved in the release.*~~

~~*(B)*~~(2) ~~*A description of how the release occurred, from one of the following categories*~~ *The category: fire/explosion, gas well blowout, oil well blowout, gas well release, oil well release, pressure relief, large leak, and other (specify).*

~~*(C) A description of the technology or method used to identify the release.*~~

(D) An indication of whether the release was identified under the provisions of part 60, subpart OOOOb of this chapter or an applicable approved state plan or applicable Federal plan in part 62 of this chapter.

~~*(E) An indication of whether a portion of the natural gas released was combusted during the release, and if so, the fraction of the natural gas released that was estimated to be combusted.*~~

~~*(4) The total volume of gas released during the event in standard cubic feet.*~~

~~*(5) The volume fraction of CO_2 in the gas released during the event.*~~

~~*(6) The volume fraction of CH_4 in the gas released during the event.*~~

~~*(7)*~~*(3) Annual CO_2 emissions, in metric tons CO_2, from the release event.*

~~*(8)*~~*(4) Annual CH_4 emissions, in metric tons CH_4, from the release event.*

N. Other Reporting Elements

Proposed Change: EPA is proposing to add, as reporting element, the count of compressor stations within a basin to facilitate better understanding of G&B operations [98.236(aa)(10)(v)], at the request of GPA Midstream.

Comment: GPA thanks EPA for making this kind of change, as we think a change of this nature will add value when analyzing data from a G&B basin. However, recently GPA has found that limiting this count to compressor stations only does not adequately meet the intent of collecting this particular data element, which is to provide a way to "spread" the data reported across the number of facilities in the basin, so that it can be viewed and interpreted in light of a more traditional definition of "facilities." GPA therefore suggests revising the rule to require additional information, which will provide a more complete understanding of typical equipment counts at gathering and boosting assets. Please also see the next comment where this change provides additional value.

Suggested text: new definition in 98.238 Gathering and Boosting Station *means a booster compressor station, treating facility, centralized gathering facility, metering station, or dehydration facility.*

98.236(aa) (10)(v) The number of ~~compressor stations~~ gathering and booster stations in the facility.

Comment: In addition to collecting information on the number of gathering and boosting stations in a basin, GPA also encourages EPA to acquire additional information related to other key differences in the basins. For example, gathering systems that operate with low suction pressure will require more compression to move gas (sometimes twice as much compression), and this type of information may provide insight into differences in emissions between operators and/or basins.

Suggested text: *98.236(aa) (10)(vi) Average gathering and booster station inlet pressure.*

Comment: Reporting element 98.236(aa)(10)(ii)—"The quantity of gas transported to a natural gas processing facility, a natural gas transmission pipeline, a natural gas distribution pipeline, or another gathering and boosting facility in the calendar year, in thousand standard cubic feet"—is collected to assess basin throughput. However, this throughput metric only captures gas at the boundaries of a G&B basin and does not adequately capture gas movement within a basin. For example, it is not uncommon for gas to travel through multiple compressor stations in series on its way to a gas plant. However, with the current throughput definition, this gas movement is only captured once – at the gas plant. Just as understanding the number of gathering and booster stations in a basin is critical for data analysis, understanding gas flow through gathering

and boosting stations as it truly moves within a basin is critical. We suggest that EPA include in this data element any gas volume that moves through a gathering and boosting station that is not otherwise captured by the existing definition.

Suggested text: *98.236 (aa)(10)(ii) The quantity of gas transported to a natural gas processing facility, a natural gas transmission pipeline, a natural gas distribution pipeline, or another gathering and boosting facility in the calendar year, in thousand standard cubic feet. This quantity should also include volume transported from one gathering and boosting station to another gathering and boosting station within the basin that is not otherwise accounted for.*

O. Purchased Energy Products

RFC: EPA is seeking comment on requiring GHGRP reporting facilities to submit summary data elements quantifying their consumption of purchased energy products and characterizing associated markets and products (e.g., regulated, or de-regulated electricity markets and renewable attributes of purchased products). Under this approach, facilities would not be required to quantify indirect emissions, and indirect emissions would not count towards GHGRP applicability.

Comment: The primary purposes of this proposed rule are to streamline implementation, make minor changes, clarify confusing provisions, and to improve the overall quality and consistency of the data reported under the GHGRP. This aspect of the proposed rule would not achieve any of those goals. It would represent an extraordinary broadening of the GHGRP. It could also result in significant double-counting of emissions. Undoubtedly, the vast majority of GHG emissions associated with power generation are already accounted for under EPA rules. That information is supplied directly by power producer, who have access to the best information available to characterize GHG emissions associated with such power. Asking power consumers to report that same information will result in unnecessary duplication of efforts and poorer quality information overall.

Further, the purpose of any information collection under section 114 of the CAA is for the development or implementation of regulatory requirements. EPA does not have authority to regulate energy consumption, so there is no appropriate purpose for collecting the information addressed in this element of the proposed rule.

This information is also very hard to track down. In most cases, facilities receive an electricity bill, similar to what you receive for your home. It does not include information on regulated or de-regulated electricity markets and renewable attributes of purchased products. For this request to work, electricity suppliers would need to provide this information in a clear manner to their customers. Right now, that is not the case, and there is presently no obligation upon those providers to do so. Operators simply do not have access to this information. EPA suggests that this information could be used to support the development of voluntary programs. Under those circumstances, EPA could consider providing for a voluntary purchased power reporting program. Such a program would require significant additional consideration and would not appropriately be included in the GHGRP

P. Burden Impacts

Comment: The overall burden of $842/year per Subpart W reporter to comply with the proposed rule changes is grossly underestimated. Per Table 3-2 of the Assessment of Burden document, EPA estimates an annual average cost per reporter for reporting and recordkeeping requirements of $412 for Subpart W. EPA estimates an annual average cost per reporter for monitoring and calculation methodology of $430 for Subpart W. At a cost $91/technical labor for Subpart W, simply reading the rule once would cost $228, which is 27% of EPA's average annual cost. The rule itself contains 101 new G&B data elements. Responding to the proposed changes will require many hours of additional work for which EPA has not appropriately accounted. GPA welcomes the opportunity to further discuss development of more realistic burden estimates with the Agency.

Comment: The method of determining respondent hours is inappropriate for G&B. For G&B, EPA attests there are 101 new data elements. The calculations multiply the respondent hours by the number of reporters, but this grossly underestimates the true level of effort because there is not one data element per reporter; the data element is repeated by the number of applicable pieces of equipment within the basin, which could be hundreds. For any new data element that is reported per equipment (i.e., more than once per report), EPA must assess how many affected pieces of equipment would have a new data element and use that number as the multiplier (not simply the number of reporters). EPA has all the data necessary to perform these calculations. If EPA assumes that a data element which may need to be reported for hundreds of pieces of equipment within a basin takes a grand total of 3 minutes per year per reporter to gather, QA/QC, and report, then EPA is completely detached from the reality of reporting under this rule.

Comment: In the Cost Spreadsheet, EPA nets out removed data elements from the cost estimate. This is inappropriate. For the initial year of reporting, any change results in work, even the exclusion of data elements. This is because reporters need to update their documentation, procedures, databases, and report mapping to remove these elements. Removed elements result in work. As such, the removal of a data element doesn't somehow negate the burden of an additional data element, especially in the first year of reporting when reporters must update procedures, documentation, calculations, databases, reporting mapping, etc.

Comment: EPA is proposing revisions to 40 C.F.R. § 98.36(c)(1) and (c)(3) to clarify that reporters may not report a combination of one design class of compressor driver engines (using one Table W-9 CH_4 emission factor) and other combustion units (e.g., using a Table C-2 CH_4 emission factor or another Table W-9 CH_4 emission factor) in the same aggregation of units or common pipe configuration. EPA claims the proposed change does not impose any new monitoring or reporting requirements and therefore has no impact on burden. This is false. At gas plants, it is not common (and is possibly never the case) to have an individual fuel meter on each piece of fuel combustion equipment. Reporters use the Subpart C aggregation/common pipe methods because that aligns with how fuel meters are set up – one meter for multiple pieces of equipment. Disallowing aggregation/common pipe between compressor driver engines and other combustion units will result in much more work, since instead of simply collecting volume and composition for a meter, reporters will have to apportion fuel use for all equipment on the meter. Reporters will have to collect fuel volume, fuel composition, heat rate for each equipment, run hours for each equipment (which is often not automated), and calculate the portion of fuel use per equipment using heat rate and run hours, and multiply that portion by the total fuel volume. While we

understand that methane emission factors can't be mixed between design classes of compressor driver engines and other combustion units, EPA must at the very least properly account for the increase in burden. We estimate at least 2 hours per year per each aggregation of units/common pipe reported under Subpart C.

Comment: The time estimated per data element is too low, especially for calculated data elements. Per the Cost Spreadsheet tab "W (Data Elements)", EPA estimates 0.05 hours per data element, or 3 minutes per data element. EPA claims in the Assessment of Burden document that "There are no capital or operation and maintenance costs associated with the proposed revisions to add, revise, or remove data elements, because the proposed data elements may generally be obtained from existing company records or are readily available from existing information gathered under part 98, therefore, no additional monitoring or sampling is required" and "With the exception of new data elements required of reporters using the aggregation of units or common pipe configuration under subpart C, EPA assumed 3 minutes of technical labor to calculate each data element using readily available data and to submit the value via e-GGRT or enter the value into IVT." We do not understand how EPA can, with a straight face, assume such a tiny amount of time to gather the necessary data, calculate, QA/QC and report. GPA members anticipate spending a significant amount of time (e.g., months) gathering information, updating database calculations, updating reporting mapping, and updating QA/QC procedures just to initially set up the structure required to comply with these rules. This is far cry from EPA's estimate of a grand total of 6.84 hours of additional effort per year per G&B reporter and 3.68 hours per year per Processing reporter. At the very least, EPA needs to differentiate between data elements that are simple reporting elements (like count of pumps) versus data elements that have calculations behind them (like parsing out flare volumes and emissions data between different flared sources or calculating a flow-weighted basin average tank flash gas composition). While it *might* be appropriate to estimate *some* of the simple reporting elements at 3 minutes annually, any element involving a volume, emission, or composition calculation should be estimated at no less than 15 minutes.

Comment: EPA assumes the following changes have no significant impact on burden. These changes include new emission source measurements, calculations, and reporting requirements that must be incorporated into a reporting program. This reporting rule is prescriptive, complex, and expansive; most midstream reporters have implemented one or multiple databases to make the workload manageable. Operators also have documentation, QA/QC procedures, and other tools to ensure the data is complete and potentially auditable by a third party. As such, *any* change in measurements, calculations or how information is to be reported (even changes that are meant to simplify or clarify) will likely result in work. Operators must update documentation, redo training, change QA/QC procedures, update data collection systems, update database calculations, and update report mapping. It is incorrect to assume changes to measurements, calculations, or reporting have no significant impact on burden.

- Adding add standby-pressurized-mode to the defined modes for centrifugal compressors.
- Measurement of rod packing leaks from reciprocating compressors when found in standby-pressurized mode.
- Revise § 98.233(r)(2) to state that the gas service emission factors and default component counts in Table W-1A and Table W-1B should be used for all subject components at Onshore Petroleum and Natural Gas Gathering and Boosting facilities.

- Revise reporting elements related to flare stacks in § 98.236(e), (g), (h), (j), (k), (l), and (m) to include the data elements formerly reported in § 98.236(n).
- Clarifying edits to § 98.236(j) related to open thief hatches for atmospheric storage tanks.
- Revise the reporting elements for atmospheric tanks from "the minimum and maximum concentrations (mole fractions) of CO_2 and CH_4 in the tank flash gas" to "the flow-weighted average concentration (mole fraction) of CO_2 and CH_4 in the flash gas" in § 98.236(j).
- Modify reporting requirements in § 98.236(n) to capture information only from "miscellaneous flared sources" (i.e., emission sources which are not listed separately in the reporting form or in the XML schema).

Appendix A

Table of changes GPA supports as proposed.

Sub part	Citation	Change
A	98.2(i)(1) and (2)	Clarify cessation of reporting (based on emissions calculated by GHGRP methods, and reassess of applicability uses calc methods simpler than reporting calc methods)
A	98.4(n)(1)-(4)	Clarify reporter for acquisitions/divestitures in oil and gas during the year of sale and onward
A	98.3(h)(4)	Maximum of 180 days to correct substantive errors
A	98.1(c)	Clarify definitions of owner and operator for G&B
A	98.6	Clarify dehydrator vents include still and flash
A	98.6	Clarify dehydrator vapor recovery does not include fire-box/fire tubes
A	98.6	Update dehydrator definition to remove desiccant; remove definition of “desiccant”
C	98.36(c)(1)(vi), 98.36(c)(3)(vi)	Remove the language requiring reporting of the total annual CO2 mass emissions from all fossil fuels combined if the unit also burns biomass.
W	98.238	Definition of “Routed to combustion”
W	98.238	Flare Stacks: Revising definition of *Flare Stack Emissions*
W	98.233(a)(1), 98.233(a)(6), 98.236(b)(2)	Natural gas pneumatic device venting: Clarify hours of operation means hours in service
W	98.233(c)(1), 98.236(c)(4)	Natural gas pneumatic pump venting: Clarify hours of operation means hours in service
W	98.233(c), 98.233(c)(3)	Natural gas pneumatic pump venting: Clarify emissions from pumps routed to flares, combustion, or vapor recovery systems are not reported under 98.233(c)
W	98.233(c)	Natural gas pneumatic pump venting: Natural gas driven pumps reported under 98.233(e) *Dehydrator vents* do not need to be reported under 98.233(c) *Natural gas driven pneumatic pump venting*
W	98.236(n)(1)(xi)	Flare Stacks: Clarification that flare stack CO2 emissions should exclude CO2 emissions reported under Acid Gas Removal Units.
W	98.233(i)	Blowdowns: Remove exclusion of desiccant dehydrator blowdown venting before reloading.
W	98.233(i)(2)(i) Equation W-14A Equation W-14B	Blowdowns: Allow engineering estimates based on best available data to determine temperature and pressure of emergency blowdowns for Onshore Natural Gas Transmission Pipeline and Onshore Petroleum and Natural Gas Gathering and Boosting
W	98.233(j)(1)(x)(A) 98.233(j)(1)(x)(B) 98.233(j)(1)(x)(C)	Tanks: Clarify/simplify reporting of the count of tanks
W	98.233(o)(1)(i)(A) 98.233(o)(1)(i)(B)	Centrifugal Compressors: Revising 98.233(o)(1)(i)(A) and (B) to reference 40 CFR 98.233(o)(2)(i) instead of specific subparagraphs of that paragraph that may be construed to limit the methods allowed for blowdown or isolation valve leakage measurements.

W	98.233(o)(10) 98.236(o)(5)	Centrifugal Compressors: Clarify that the compressor count used in Equation W-25 should be the number of centrifugal compressors with atmospheric (i.e., uncontrolled) wet seal oil degassing vents.
W	98.233(p)(1)(i)(A) 98.233(p)(1)(i)(B) 98.233(p)(1)(i)(C)	Reciprocating Compressors: Revising 98.233(p)(1)(i)(A), (B) and (C) to reference 40 CFR 98.233(p)(2)(i) instead of specific subparagraphs of that paragraph that may be construed to limit the methods allowed for blowdown or isolation valve leakage measurements.
W	98.233(p)(10) 98.236(p)(5)(B)	Reciprocating Compressors: Clarify that the compressor count used in Equation W-29D should be the number of reciprocating compressors with atmospheric (i.e., uncontrolled) rod packing emissions.
W	98.236(o)(1)(xiv) 98.236(p)(1)(xiv)	Compressors: Remove reporting requirement of whether compressor had scheduled shutdown.