Enclosure

The EPA's Basis for Partially Denying Administrative Petitions of Specific Provisions of the Subpart W 2024 Final Rule

The Environmental Protection Agency (EPA) is partially denying three petitions to reconsider or revise amendments to 40 CFR part 98, subpart W ("subpart W") published in the *Federal Register* on May 14, 2024 (89 FR 42062) ("final rule"). These petitions objected to numerous aspects of the final amendments, including the four objections discussed in this document regarding two specific provisions related to the addition of the other large release events source type, the undetected leak factor for equipment leaks provision, and the reporting of combustion emissions under subpart W for certain industry segments. Under the Clean Air Act (CAA or the "Act"), the EPA must convene a proceeding for reconsideration where (1) it was impracticable to raise the objection during the comment period or the grounds for the objection arose after the comment period but during the period for judicial review of the rule; and (2) the objection is of central relevance to the outcome of the rule. CAA section 307(d)(7)(B). The Agency concludes that, with respect to the four issues discussed herein, the petitions do not satisfy the criteria for mandatory reconsideration. The detailed rationale for the EPA's partial denial of the petitions (i.e., denial on these four issues) is provided later in this document. Accordingly, the EPA is partially denying the three administrative petitions. To the extent the Petitioners seek discretionary reconsideration or rule revision under the Clean Air Act or the Administrative Procedure Act, the EPA denies those requests for the same reasons.[1]

I. Background

On August 1, 2023, the EPA proposed revisions to subpart W consistent with the authority and directives set forth in CAA section 136(h) as well as the EPA's authority under CAA section 114 (88 FR 50282). On May 14, 2024, the EPA amended requirements in the rulemaking entitled *Greenhouse Gas Reporting Rule: Revisions and Confidentiality Determinations for Petroleum and Natural Gas Systems*, 89 FR 42062 (May 14, 2024) that apply to subpart W consistent with CAA section 136(h), as well as to improve calculation, monitoring, and reporting of greenhouse gas data for petroleum and natural gas systems facilities. These amendments were based upon the August 1, 2023, proposal after review of comments received in response to the proposed requirements. Most of the amendments have an effective date of January 1, 2025.

In July 2024, several parties filed petitions for review of the subpart W final rule in the U.S. Court of Appeals for the D.C. Circuit. Petitioners are the GPA Midstream Association ("GPA"), American Petroleum Institute ("API"), American Exploration & Production Council ("AXPC"), and

[1] While the EPA has undertaken an initial review of the administrative petitions and decided to act on these four issues and intends to consolidate any resulting petitions for judicial review of this action with the litigation on the subpart W final rule (IPAA v. EPA, No. 24-1242 (D.C. Circuit)), the EPA is not acting on the remainder of these administrative petitions of the subpart W final rule at this time.

a group of Producer Associations.[2] The D.C. Circuit has consolidated these petitions. See IPAA v. EPA, No. 24-1242 (D.C. Circuit).

All of these petitioners also filed administrative petitions with respect to specific issues. GPA's petition included objections to the undetected leak factor for equipment leaks and the provision indicating that EPA will determine whether any super-emitter notification submitted under 40 CFR part 60, subparts OOOO, OOOOa, or OOOOb ("NSPS OOOO," "NSPS OOOOa," and "NSPS OOOOb," respectively) contains demonstrable errors. API and AXPC filed a joint petition that included objections to the provisions defining the threshold for an other large release event from specific emission sources in Subpart W, the undetected leak factor for equipment leaks, and the reporting of some combustion emissions under subpart W instead of under 40 CFR part 98, subpart C. The Producer Associations' petition included an objection to the provisions for other large release events describing how reporters determine whether the 100 kg/hr threshold was exceeded during an emission event using continuous monitoring technologies.

II. Summary of Petitions for Reconsideration

Following the finalization and publication of the amendments to Subpart W, several parties filed petitions with the EPA seeking revision or reconsideration of the amendments, pursuant to either the Administrative Procedure Act (APA), 5 U.S.C. § 705, or CAA section 307. Under the APA, any party may petition the EPA to issue, amend, or repeal a rule. 5 U.S.C. § 553(e). In addition, the CAA contains a specific provision requiring the EPA to commence a reconsideration proceeding where the EPA has issued a rulemaking under that provision and certain statutory criteria are met. CAA section 307(d)(7)(B).[3]

A. GPA Midstream Association

On July 12, 2024, GPA Midstream Association (GPA) submitted a "Petition for Reconsideration and Request for Partial Administrative Stay" of the subpart W final rule ("GPA Pet."). Pursuant to CAA section 307, GPA's petition claims that "several provisions of the Final Rule are unworkable and must be further revised or eliminated. These provisions are either newly presented in the Final Rule and were not subject to public comment or appear to result from

[2] The group of producer associations is comprised of Independent Petroleum Association of America, Arkansas Independent Producers and Royalty Owners, Domestic Energy Producers Alliance, Eastern Kansas Oil & Gas Association, Gas and Oil Association of West Virginia, Illinois Oil & Gas Association, Independent Petroleum Association of New Mexico, Indiana Oil and Gas Association, International Association of Drilling Contractors, Kansas Independent Oil & Gas Association, Kentucky Oil & Gas Association, Michigan Oil and Natural Gas Association, National Stripper Well Association, North Dakota Petroleum Council, Ohio Oil and Gas Association, Panhandle Producers & Royalty Owners Association, Pennsylvania Independent Oil & Gas Association, Permian Basin Petroleum Association, Petroleum Alliance of Oklahoma, Petroleum Association of Wyoming, Texas Alliance of Energy Producers, Texas Independent Producers & Royalty Owners Association, and Western Energy Alliance. Referred to herein as "The Producer Associations."

[3] GPA also filed a petition with the EPA for an administrative stay of one particular amendment to Subpart W, but the amendment for which they sought a stay is not related to any of the four issues discussed herein for which the EPA is denying reconsideration. Therefore, the request for a stay is not discussed in this document.

EPA's misunderstanding of information submitted during the public comment period." GPA Pet. at 1. Two of these provisions are addressed further in this document. First, GPA asserts that the "Final Rule's inclusion of an undetected leak factor despite" compliance with the requirements for leak detection and repair for equipment leaks under NSPS OOOOb and 40 CFR part 60, and subpart OOOOc ("EG OOOOc") "is unreasonable." *Id*. at 3. GPA argues that the EPA should assume that the leak detection and repair provisions of NSPS OOOOb and OOOOc are "accurately capturing the scope and extent of leaks" and that "the undetected leak factor [is] a blunt tool . . . based on only a single study." *Id*. Therefore, GPA "requests that EPA remove [the undetected leak factor] provision from the Final Rule." *Id*.

Second, GPA states that emission reports submitted under the final rule "must not include emissions from Super-Emitter Program notifications that contain demonstrable errors." *Id*. at 5. GPA notes that EPA finalized a requirement that owners and operators report emissions associated with super-emitter notifications received under the Super-Emitter Program in NSPS OOOO, NSPS OOOOa, or NSPS OOOOb. However, GPA asserts that "[n]one of those rules contain provisions addressing how, and pursuant to what standards, EPA will make a determination as to whether any super-emitter notification contains demonstrable errors and should thus be disqualified." *Id.* Further, GPA claims that under subpart W, "the lack of clarity as to EPA determinations regarding demonstrable errors (for instance, how to petition for such a determination, how long EPA has to act on such a petition, etc.) leaves reporters in an untenable position." Therefore, GPA requests that "EPA remove the "determination" provision from the Final Rule and instead adopt a presumption that SEP notifications that have demonstrable errors as indicated by the reporter under the SEP are not reportable" as an other large release event. *Id*.

B. Industry Trades (American Petroleum Institute and the American Exploration & Production Council)

On July 15, 2024, the American Petroleum Institute (API) and the American Exploration & Production Council (AXPC) (collectively "Industry Trades") jointly submitted a "petition for changes" to the subpart W final rule ("Industry Pet."). Three of the provisions that the petition claims will create implementation issues are addressed further in this document. First, the Industry Trades argued that emission sources for which subpart W already includes calculation methods and reporting requirements already captured elsewhere in 40 CFR 98.233 should not be considered other large release events "as it could lead to an increase in administrative burden." *Id*. at 14. The Industry Trades argued that if EPA retains consideration of those emission sources in the provisions for other large release events, EPA should revise 40 CFR 98.233(y)(1)(ii) to "alleviate the number of times this assessment could result in clerical errors of allocating where emissions should be reported." *Id*. Specifically, the Industry Trades requested that EPA specify that when determining whether a release emits methane at any point in time at a rate of 100 kg/hr or greater in excess of the emissions calculated from the source using the applicable methods under paragraphs (a) through (h), (j) through (s), (w), (x), (dd), or (ee) of this section, reporters should only have to consider releases in excess of 100 kg/hr "for at least 1 hour (e.g. continuous 60 minutes)." *Id*. at 15.

Second, the Industry Trades argued that "[e]missions from stationary combustion should be reported under Subpart C, consistent with how all other industries report emissions from Stationary Fuel Combustion Sources under Part 98." *Id.* at 17. The Industry Trades asserted that while combustion emissions for three of the 10 industry segments have historically been reported under subpart W rather than 40 CFR part 98, subpart C, "the implication of this historical, arbitrary allocation has important new consequences today when reviewing the bigger picture of the methane regulatory framework that has been implemented in the last two years with respect to oil and gas operations." *Id.* Further, the Industry Trades argued that it is important that combustion related emissions not be treated as "waste" since in their view this would potentially penalize operators for using the fuel they produce. *Id*. at 18.

Third, the Industry Trades argue that EPA should not implement an adjustment factor for undetected leaks, or a "k" factor, without more recent study data. *Id*. at 30-31. The Industry Trades assert that the study data "do not include the experience from thousands of NSPS OOOOa surveys" and claim that "EPA did not fully justify why such dated information reflects the current comparative performance of various leak detection methods nationwide." *Id*. at 31. The Industry Trades request that EPA consider more recent study data in developing a "k" factor or allow operators to derive facility-specific "k" factors based on representative data." *Id*.

C. The Producer Associations

A group of national, regional, and state associations representing American independent oil and natural gas producers ("The Producer Associations") submitted a "petition for changes" on October 25, 2024 ("Producer Pet."). Among other issues, the Producer Associations assert that the requirement to report instantaneous emission events of 100 kg/hr or greater of methane is a "one size fits all" approach and it "is not appropriate for determining an emissions rate from the various types of monitoring technologies being utilized by oil and natural gas operators today." Producer Pet. at 6. Specifically, the Producer Associations claim that an instantaneous threshold "is well-suited for technologies that capture emissions using snapshot measurements" but "there are important considerations for continuous emissions monitoring technologies that EPA should take into account." *Id*. The Producer Associations requested that EPA either (1) remove the requirement to consider releases of 100 kg/hr of methane as other large release events if they are detected through alternative technologies that are not otherwise allowed to be used for emissions quantification under subpart W or (2) establish a suitable timeframe for continuous monitoring systems to ensure confidence in reporting emissions exceeding 100 kg/hr. *Id.* at 8. The Producer Associations claimed that to quantify at 100 kg/hr rate with confidence, the continuous monitoring system would require a rolling average site rate for 24 hours. *Id*.

III. Criteria for Granting a Mandatory Petition for Reconsideration

Because CAA section 307(d) applies to the subpart W final rule and at least some Petitioners styled their petitions as requests for reconsideration pursuant to the requirements of CAA section 307(d)(7)(B), the EPA has analyzed each of these petitions under those criteria. The EPA would also deny these petitions even if it considered them to be more general petitions for

reconsideration, revision, or new rulemaking under the APA, for the same reasons explained in this action.

Under section 307(d)(7)(B) of the Act, "[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment . . . may be raised during judicial review." However, "[i]f a person raising an objection can demonstrate . . . that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) *and* if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule." *Id* (emphasis added). Thus, the EPA is required to convene a reconsideration proceeding only if the petitioner demonstrates to the EPA both: (1) that it was impracticable to raise the objection during the comment period, or that the grounds for such objection arose after the comment period but within the time specified for judicial review (*i.e.*, within 60 days after publication of the final rulemaking notice in the *Federal Register*, see CAA section 307(b)(1)); and (2) that the objection is of central relevance to the outcome of the rule. CAA section 307(d)(7)(B).[4]

An objection is of "central relevance" to the outcome of a rule "if it provides substantial support for the argument that the regulation should be revised." *See Coal. for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102, 125 (D.C. Cir. 2012) (internal citation and quotation omitted). The EPA "may deny petitions for reconsideration of a rule and provide an explanation for that denial, including by providing support for that decision, without triggering a new round of notice and comment for the rule." *Id*. at 126.

As explained in this final action, the EPA is partially denying these three petitions for reconsideration (collectively, "the Petitions") because the four objections that the EPA is denying fail to meet the statutory criteria for mandatory reconsideration under CAA section 307(d)(7)(B). This document considers the issues raised by Petitioners for the four specific objections discussed in section IV of this document. Accordingly, the EPA finds that these petitions provide no basis for mandatory or discretionary reconsideration of these four issues in the subpart W final rule and is taking action to partially deny the administrative petitions.

IV. Evaluation of the Administrative Petitions

A. Other Large Release Events Instantaneous Threshold of 100 kg/hr of Methane

The subpart W final rule includes requirements to report emissions from other large release events (OLRE) that either (1) have methane emissions of 100 kg/hr or greater for sources that do not have calculation provisions under specifically listed paragraphs of subpart W [40 CFR 98.233(y)(1)(i)] or (2) have methane emissions of 100 kg/hr or greater in excess of the

[4] When the EPA grants a petition for mandatory reconsideration under section 307(d)(7)(B), typically the Agency would publish a proposed rule for public comment and then take final action on that proposal after considering public comment. Granting reconsideration does not automatically stay the underlying rule, and under CAA section 307(d) the EPA may stay the effectiveness of a rule for no longer than 3 months pending reconsideration. CAA section 307(d)(7)(B).

emissions calculated under the specifically listed paragraphs of subpart W [40 CFR 98.233(y)(1)(ii)]. We refer to these thresholds in this document as the "direct threshold" and the "incremental threshold."

There are two petition issues in this document related to the 100 kg/hr threshold for reporting emissions under the other large release event (OLRE) provisions. First, the Industry Trades stated that "[i]f EPA retains named source categories under OLRE, the criteria specified in § 98.233(y)(1)(ii) must be amended to more appropriately limit when an operator must make these additional assessments for emission allocations" (Industry Pet. at 14; Issue No. 10). Specifically, the petitioners recommended that, for sources subject to the incremental threshold, an appropriate method of limiting "the number of times this assessment could result in clerical errors of allocating where emissions should be reported" would be for reporters to only be required to consider releases in excess of 100 kg/hr "for at least 1 hour (e.g. continuous 60 minutes)." The second issue, submitted by the Producers Association, is similar, but it focuses on the application of the "instantaneous" threshold when using a continuous monitoring system and it does not make a distinction between the direct and incremental application of the thresholds.

1. Record Basis in the Subpart W Final Rule Establishing the EPA's Rationale

In the August 2023 proposal, the EPA proposed two separate thresholds: a 250 mt CO2e per event threshold and an instantaneous 100 kg/hr methane (CH_4) emission rate threshold. As proposed, if reporters exceeded either one of these thresholds either as a direct threshold (for sources not specifically listed) or as an incremental threshold (for sources covered under specifically listed subpart W paragraphs), as applicable, the event must be reported as an OLRE. As noted in the August 2023 proposal,

> [w]e are also proposing a 100 kg/hr CH_4 emission threshold to align with the super-emitter response program proposed in the NSPS OOOOb. These emissions are generally intermittent, with widely varying durations. Releases from maintenance activities, for example, may occur for only a few hours, but these large, short events can significantly contribute to a facility's emissions. The proposed emission rate threshold for a super-emitter emissions event under NSPS OOOOb provides a means to get information for these large, shorter duration releases. Therefore, we are proposing that the 100 kg/hr CH_4 emission threshold be applied as an instantaneous emissions rate threshold, such that any emissions from any other large release event that emits CH_4 at a rate of 100 kg/hr or more at any point in time must be reported.

88 FR at 50298-50299.

The EPA received numerous comments on the proposed thresholds. Several commenters requested that the proposed thresholds be implemented on a both/and basis rather than an either/or basis. Some commenters asserted that very short duration releases exceeding the 100 kg/hr threshold could have small emissions and recommended that EPA include either a

minimum duration or combine the proposed thresholds. As explained in the preamble to the final rule:

> After considering comments received, we are finalizing the 100 kg/hr threshold as proposed, but we are not finalizing the proposed 250 mtCO2e threshold. We determined that the single threshold will be more straightforward for operators to implement, aligns more directly with the EPA's Super-Emitter Program, and is more consistent with the emission events we sought to include in the other large release events source than the 250 mtCO2e limit… Regarding commenters suggesting that the 100 kg/hr threshold alone is not appropriate because high rate, short events may have low cumulative emissions and commenters suggestion that the EPA implement one combined threshold exceeding both the 100 kg/hr and the 250 mtCO2e limit, we disagree that these high emission rate events should not be reported when they are from sources not otherwise subject to reporting under subpart W or from sources for which the source-specific method significantly understates the emissions. We also disagree that the 250 mtCO2e threshold should be applied to limit the number of releases exceeding 100 kg/hr that should be accounted for within the subpart W other large release event reporting requirements. CAA section 136(h) directed the EPA to revise subpart W to accurately reflect total methane (and waste emissions). Combining the thresholds would cause a disconnect between the Super-Emitter Program and the GHGRP reporting requirements where some NSPS OOOOb or EG OOOOc super-emitter events would not be reported under the subpart W and result in the underreporting of methane emissions to subpart W. Several of the commenters provided hypothetical calculations of mass emissions that would occur for events right at the 100 kg/hr rate for 1 to 5 minutes but offer no data to support that such events are prevalent. We also note that remote detection of high release events relies on an adequate pathlength concentration being present, which would not be the case for these hypothetical short duration events. These methods generally make flux calculations using wind speeds and/or dispersion models that typically assume a developed plume, but the plume would not be fully developed for these hypothetical short events. Even if the emission event can be detected and quantified by the monitoring technique used, it is highly unlikely that the remote monitoring measurement would occur precisely at the time of the 1- to 5-minute release. As such, we find the commenter's concern regarding the need to evaluate numerous very short events is largely unfounded.

89 FR at 42082-42083.

Regarding the last point, the EPA then evaluated potential release events that may be of short duration and subsequently exempted blowdown events from the definition of OLRE in the subpart W final rule.

The EPA received numerous comments on the proposed requirements to report OLRE emissions from sources for which emission calculation procedures are included under subpart W and that exceed the incremental threshold. Commenters recommended that these sources

be excluded from the OLRE provisions or that EPA clarify how to report these emissions without double counting emissions. The final rule clarified at 40 CFR 98.233(y) that "… You are not required to measure every release from your facility, but if you have EPA-provided notification(s) under the super emitter program in § 60.5371, 60.5371a, or 60.5371b of this chapter or an applicable approved state plan or applicable Federal plan in part 62 of this chapter or if EPA- or facility-funded monitoring or measurement data that demonstrate the release meets or exceeds one of the thresholds or may reasonably be anticipated to meet or exceed (or to have met or exceeded) one of the thresholds in paragraph (y)(1) of this section, then you must calculate the event emissions and, if the thresholds are confirmed to be exceeded, report the emissions as an other large release event." The final rule also clarified in 40 CFR 98.233(y)(1)(ii) that: "For a release meeting the criteria in this paragraph (y)(1)(ii), you must report the emissions as an other large release event and exclude the emissions that would have been calculated for that source during the timespan of the event in the source-specific emissions calculated under paragraphs (a) through (h), (j) through (s), (w), (x), (dd), or (ee) of this section, as applicable."

Additionally, the EPA response, as provided in the preamble to the Response to Comment document,[5] follows:

> The proposed rule was clear that, for sources that have source-specific emission calculations, the emission would be reported according to the provisions for that source, unless the source-specific method understates emissions by more than the threshold defining an other large release event. In that exception, the proposed rule stated that the emissions would be reported on a per event basis as an other large release event and that the emissions from that event would be excluded from the source-specific calculations and this has been further clarified in the final rule. We agree that double counting those emissions should be avoided and the proposed language achieved that end. The other alternative, as suggested by some commenters, is that part of that release would be reported under the source-specific reporting requirements and the remainder of the release reported under other large release events. However, we do not see that this approach would reduce the burden of the reporting requirement. Also, facilities are required to report the equipment from which the other large release event occurred, so the other large release event can still provide source-specific information. Since some of the other methodologies are not event-specific reporting requirements, we find it more straight-forward to report the full event emissions as an other large release event. For further clarity as discussed in Section III.B.1 of the preamble to the final rule, we are finalizing the reporting requirements at 40 CFR 98.233(y)(1)(ii) with clarifications regarding excluding

[5] U.S, EPA, "Summary of Public Comments and Responses for 2024 Final Revisions and Confidentiality Determinations for Petroleum and Natural Gas Systems under the Greenhouse Gas Reporting Rule", April 2024. Docket Item No. EPA-HQ-OAR-2023-0234-0456.

> reporting of emissions associated with the timespan of an other large release event from source specific reporting to avoid double counting.

The EPA's discussion in Section III.B.1 includes:

> We proposed to include calculation and reporting requirements for other large release events in the 2022 Proposed Rule and in the 2023 Subpart W Proposal. We are finalizing the definition of other large release event to include planned releases, such as those associated with maintenance activities, for which there are not emission calculation procedures in subpart W as proposed in the 2023 Subpart W Proposal, except that we are specifically excluding blowdowns for which emissions are calculated according to the provisions in 40 CFR 98.233(i) from the definition of other large release events, for reasons described later in this section. We are also finalizing the language in 40 CFR 98.233(y)(1)(ii), with modifications from proposal for clarity, that instructs the reporter to exclude emissions that would have been calculated for the source(s) of the other large release event during the timespan of the other large release event from source-specific emissions calculated under paragraphs 40 CFR 98.233(a) through (h), (j) through (s), (w), (x), (dd), or (ee), as applicable, to avoid double counting.

89 FR at 42078.

2. Additional Information that Supports the EPA's Rationale for the Final Subpart W Provisions

Based on Carbon Mapper data, over the past 8 years across the contiguous 48 states, there have been approximately 5,000 plumes associated with oil and gas facilities that have had emissions in excess of 100 kg/hr. Of these occurrences, more than 400 plumes have had emissions in excess of 1,000 kg/hr, and several events exceeded 15,000 kg/hr[6]. This information suggests that many events expected to be reported under the other large release events source category will be significantly larger than the threshold for the category. This data further supports that events of this magnitude should be reported under subpart W even if they may last for only 15 or 30 minutes.

3. Evaluation of CAA section 307(d) Criteria for Reconsideration

The EPA considers each of the CAA section 307(d) criteria for reconsideration in turn. We conclude that Petitioners do not satisfy the first criterion or the second criterion.

The first criterion is met if either Petitioners demonstrate that it was impracticable to raise such objection during the comment period *or* if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review). However, as noted earlier in this section, the EPA proposed the 100 kg/hr of methane threshold as an instantaneous threshold and received numerous comments recommending that EPA add a time component to

[6] Data retrieved in April 2024 from CarbonMapper's Data Portal available at: https://data.carbonmapper.org/

that threshold. See 89 FR at 42082-3. The EPA provided a response to these comments in the preamble to the final rule. *Id*. The petitioner did not identify any additional grounds for their objection that "arose after the period for public comment (but within the time specified for judicial review)" under CAA section 307(d)(7)(B). Therefore, the petition does not meet the first criterion for this objection.

Although the petition does not meet the first criterion, the EPA also assessed the second criterion, which is whether the "objection is of central relevance to the outcome of the rule." CAA section 307(d)(7)(B). The EPA concludes that it is not of central relevance to the outcome of the rule—*i.e.*, that the objection does not provide substantial support for the argument that the regulation should be revised. The EPA fully considered this objection during the rulemaking, the EPA's response to the objection raised in the petitions is already documented in the record for the subpart W final rule (as noted earlier in this section), and the Petitioners did not raise additional information in their objection.

Therefore, the EPA is denying the administrative petitions' objection regarding the instantaneous threshold of 100 kg/hr of methane for other large release events under CAA section 307(d). To the extent Petitioners intended the petitions to be under the APA, the EPA denies the petitions for these same reasons.

The EPA also notes that the EPA is providing guidance to assist reporters in implementation through new FAQs. The EPA believes that the Petitioners' objection may at least in part be based on a misunderstanding of how reporters comply with the subpart W final rule requirement to evaluate facility data (e.g., regarding burden) for the purposes of identifying other large release events and refers the Petitioners to the EPA's Greenhouse Gas Reporting Program FAQ on that issue: Q861.[7]

B. Equipment Leaks Undetected Leak Factor

The subpart W final rule requires the application of an undetected leak factor, "k," to the quantity of emissions calculated for equipment leaks using equipment leak survey results. The undetected leak factor is specific to the survey method utilized and accounts for the quantity of emissions that remain undetected during the survey.

As noted in section II of this document, the Industry Trades and GPA object to the inclusion of an undetected leak factor, "k," in the calculation of emissions from equipment leaks. In their administrative petitions, Petitioners reiterated some of the comments submitted during the public comment period for the subpart W proposed rule, including that the Agency should rely on the accuracy of its existing leak detection and repair programs to identify leaks instead of requiring the application of an undetected leak factor based on data from a study which was not expressly designed to identify the fraction of leaks that remain unidentified during an equipment leak survey. Petitioners also commented that the Agency should not keep the undetected leak factor, asserting that it is based on outdated study information which may not

[7] Located at https://ccdsupport.com/confluence/pages/viewpage.action?pageId=1055752419

fully reflect the performance of leak detection methods nationwide. Finally, Industry Trades reiterated that they believe an undetected leak factor is only appropriate to apply to national emission estimates and not for "grossing up individual estimates."

1. Record Basis in the Subpart W Final Rule Establishing the EPA's Rationale

The EPA proposed the addition of the undetected leak factor in the *Federal Register* on August 1, 2023 (88 FR 50282). After the conclusion of the 60-day comment period for the proposed rule, the EPA considered comments on its proposal to add the undetected leak factor, including comments from the petitioners. The EPA responded to the public comments received in the *Summary of Public Comments and Responses for 2024 Final Revisions and Confidentiality Determinations for Petroleum and Natural Gas Systems under the Greenhouse Gas Reporting Rule* (Docket Item No. EPA-HQ-OAR-2023-0234-0456) ("Subpart W RTC"), including conducting additional analyses to evaluate comments received.

As described in the technical supporting documents for the subpart W final rule, each leak survey method includes a unique instrument and associated procedure by which leaks are detected. Variability inherently exists in each method's ability to detect leaks and can be attributed to reasons associated with the instrument, leak detection procedures, the operator or site conditions. For example, some components may be difficult to monitor with handheld devices that require close proximity to the leak to detect it (*e.g.*, Method 21 Flame Ionization Device), while the same leak could be visualized using an Optical Gas Imaging (OGI) camera that is less dependent on proximity to the leak. Operators with varying levels of training or expertise deploy the screening devices, resulting in operator variability. Site-level conditions such as wind speed can also impact the detection of leaks. As discussed in the subpart W proposed and final rule, peer reviewed study data published by Pacsi *et al.* (2019)[8] has demonstrated the presence of undetected emissions and provided the necessary data to quantify the fraction of undetected leaks by survey method. The application of an undetected leak factor to the estimated emissions quantity is expected to increase the accuracy of the emissions estimate and thus, be consistent with the authority and directives set forth in CAA section 136(h).

In comments on the proposed rule requirements, commenters stated that including the undetected leak factor implies that operators are not making efforts to comply with leak detection and repair (LDAR) federal and state regulatory programs. Petitioner's comments also stated that instead of imposing an undetected leak factor, the EPA should emphasize proper training relative to the survey methods to ensure the accuracy of the survey results. Petitioners also commented that leaks were detected at only five "boosting and gathering" sites included in the Pacsi *et al*. (2019) study results that are the basis for the undetected leak factor value and thus, development of an undetected leak factor does not accurately represent the entirety of the sector and does not qualify as a statistically significant dataset of empirical data to apply to reporting facilities in the Onshore Petroleum and Natural Gas Gathering and Boosting

[8] Pacsi, A. P., Ferrara, T., Schwan, K., Tupper, P., Lev-On, M., Smith, R., & Ritter, K. 2019. Equipment leak detection and quantification at 67 oil and gas sites in the Western United States. *Elementa: Science of the Anthropocene*, *7*(29). https://doi.org/10.1525/elementa.368.

industry segment. Finally, in their comments submitted on the proposed rule, the petitioners stated that they could not replicate the calculations the EPA used to estimate the undetected leak factor and requested that the EPA provide additional information on the derivation. Petitioners also requested that the EPA test their "k" factor by applying it to Method 21 data in order to recalculate the emissions at the site level using study data and confirm if it matches with the measured emissions. Petitioners argued that while an undetected leak factor may be appropriate for estimating national emissions, "grossing up individual component emission factors is not a logical approach to account for leaks not directly identified."

In the subpart W final rule, the EPA provided a response to the Petitioner's comments on the proposed rule to include an undetected leak factor (see 89 FR 42164). The response to these comments explained that the undetected leak factor is based off the best available data where both OGI and Method 21 detection methods were used and the emissions directly quantified (*i.e.*, the Pacsi *et al*. (2019) study). The EPA explained that in its review of OGI and Method 21 equipment leak studies, the performance of the survey method is more aligned with technological and methodological differences rather than the location of the equipment or components.

In response to Petitioners' comments on the proposed rule's undetected leak factor, as described in the preamble to the subpart W final rule, the EPA undertook additional analysis and included further information regarding the derivation of the undetected leak factor value. The details and results of the additional analyses specific to the undetected leak factor are available in the *Greenhouse Gas Reporting Rule: Technical Support for Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule; Final Rule – Petroleum and Natural Gas Systems* document (Docket Item No. EPA-HQ-OAR-2023-0234-0453). The analysis demonstrates that applying the undetected leak factor yields emissions that are within 10 percent of the study total emissions as opposed to being within 37 percent of the total study emissions in the absence of the factor when considering leaks identified across all leak survey methods. This analysis demonstrates that the use of the undetected leak factor is necessary to scale surveyed emissions to accurately estimate the actual quantity of emissions at the facility. The EPA maintained that the use of the undetected leak factor enhances the accuracy of the emissions calculation such that they more accurately represent the total emissions quantity of equipment leaks.

We note that in their public comments, Petitioners requested that the EPA compare the emissions that would be estimated using the final default leaker emission factors and the undetected leak factor at the site level to the measured value from the Pacsi *et al*. (2019) study. Concerning this request, we explained in the preamble of the subpart W final rule that the default leaker factors are average study-derived emission factors. Because the factors are averages, some individual instances will be higher and some lower, so we would not expect that the average default leaker emission factor will exactly match with measured emissions in every case. Equipment leak emissions are highly variable and exhibit lognormal distribution such that the emissions for a single component leak can be greater than or less than the average across a large number of components by an order of magnitude or more. The inherent variability in the

measurements means there is more uncertainty when applying an emission factor, which can be minimized by increasing sample size in the underlying dataset. Under subpart W, surveys must be conducted and reported at the well site or gathering site level, and also aggregated at the facility level. The EPA explained that, based on our analysis using the study-level data from Pacsi *et al*. (2019), we expect the facility-level aggregation of site level emission estimates to have less uncertainty than the site-level and to reflect the actual emissions.

2. Additional Information that Supports the EPA's Rationale for the Final Subpart W Provisions

The EPA continually evaluates study data as it becomes available to ensure the accuracy of its subpart W requirements and resulting emissions estimates as well as identify new study data which could inform future rulemakings. The EPA notes that we have reviewed an additional study titled, "Detection Limits of Optical Gas Imaging for Natural Gas Leak Detection in Realistic Controlled Conditions" by Zimmerle *et al.* (2020)[9] with the concept of undetected leaks in mind. The Zimmerle *et al.* (2020) study characterized the ability of OGI surveyors to find controlled releases at a simulated upstream natural gas field operation. The study concluded that experience factored into the accurate detection of leaks with more experienced surveyors (*i.e.*, those completing more than 551 site surveys), finding nearly 2 times more leaks than less experienced surveyors. When examining the underlying study data for continuous leaks (*i.e.*, leaks that are not intermittent which could result in a false positive undetected leak), the overall detection was 67 percent on a standard cubic feet per hour (scf/hr) methane emission rate basis. For highly experienced surveyors (*i.e.*, those who self-reported conducting 700 or more surveys), the overall detected leaks rise to 85.5 percent on a scf/hr methane emission rate basis. It is important to note that this study focuses primarily on surveyor experience and its impact on detection. However, as discussed in the previous section and in the record for the subpart W final rule, surveyor experience is only one factor which can impact the accurate detection of leaks. The EPA's assessment after review of the Zimmerle *et al.* (2020) study, which contains more recent measurements than the Pacsi *et al.* study yet arrives at similar conclusions regarding the presence of undetected leaks, is that the study further supports the appropriateness of applying an undetected leak factor to equipment leak emissions estimated using the results of leak surveys.

3. Evaluation of CAA section 307(d) Criteria for Reconsideration

The EPA considers each of the CAA section 307(d) criteria for reconsideration in turn. We conclude that Petitioners do not satisfy either the first criterion or the second criterion. The issues raised by Petitioners concerning the undetected leak factor were raised and addressed by the EPA in the subpart W final rule, as reflected in the subpart W final rule record and discussed herein. The Petitioners did not provide new data that the EPA should consider in response to the administrative petitions. As discussed throughout this section, the record for

[9] Zimmerle, D., T. Vaughn, C. Bell, K. Bennett, P. Deshmukh, and E. Thoma. Detection Limits of Optical Gas Imaging for Natural Gas Leak Detection in Realistic Controlled Conditions. *Environmental Science & Technology* 2020 *54* (18), 11506-11514 DOI: 10.1021/acs.est.0c01285.

the undetected leak factor demonstrates the appropriateness of applying this factor to emissions for the purposes of increasing accuracy. The record is supported by our evaluation of the Zimmerle *et al.* (2020) study.

The first criterion is met if either Petitioners demonstrate that it was impracticable to raise such objection during the comment period *or* if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review). However, as noted earlier in this section, the EPA proposed the undetected leak factor as part of the calculation methodology for equipment leak emissions and received numerous comments objecting to its inclusion. See 89 FR at 42163. The EPA provided a response to these comments in the preamble to the final rule. *Id*. at 42164. The petitioner did not identify any additional grounds for their objection that "arose after the period for public comment (but within the time specified for judicial review)" under CAA section 307(d)(7)(B). Therefore, the petitions do not meet the first criterion for this objection.

Although the petitions do not meet the first criterion, the EPA also assessed the second criterion under CAA section 307(d)(7)(B), which is a finding that the "objection is of central relevance to the outcome of the rule." CAA section 307(d)(7)(B). The EPA considered the objection and concludes that it is not of central relevance to the outcome of the rule—*i.e.*, that the objection does not provide substantial support for the argument that the regulation should be revised. The EPA's general response to the objections raised in the petitions is already documented, as noted earlier in this section, and the Petitioners did not raise additional objections. In addition, the EPA has reviewed additional data and finds that the more recent data support the EPA's original position. As such, the EPA finds that the Petitioners' objection is not of central relevance to the outcome of the rule.

Therefore, the EPA is denying the administrative petitions' objection regarding the requirement to apply an undetected leak factor to emissions quantities estimated with leak survey results under CAA section 307(d). To the extent Petitioners intended the petitions to be under the APA, the EPA denies the petitions for these same reasons.

C. Reporting of Combustion Emissions Under Subpart W

The subpart W final rule maintains the previously existing requirement that facilities in the onshore petroleum and natural gas production, onshore natural gas gathering and boosting, and natural gas distribution industry segments report combustion emissions under subpart W. In their petition, Industry Trades object to the continued allocation of reporting combustion emissions under subpart W as opposed to modifying the rule to report them under subpart C.

1. Record Basis in the Subpart W Final Rule Establishing the EPA's Rationale

The EPA proposed amendments to subpart W in the *Federal Register* on August 1, 2023 (88 FR 50282). After the conclusion of the 60-day comment period for the proposed rule, the Agency considered comments on its proposal, including comments from the petitioners. The EPA

responded to the public comments received in the preamble to the final rule and in the Subpart W RTC.

In the preamble to the proposed rule, EPA requested comment on whether combustion emissions for petroleum and natural gas systems should be moved exclusively to subpart W, but the EPA did not propose to change the subpart under which combustion emissions are reported. At the time of proposal, the EPA stated that based on data reported for combustion sources for reporting year 2021, requiring combustion emissions from all oil and gas operations to be reported to subpart W rather than subpart C would increase total subpart W CH_4 emissions by less than 1 percent, and if the amendments to combustion slip were finalized, the increase in total CH_4 emissions from combustion devices at facilities subject to subpart W would be less than 5 percent (88 FR 50358). The EPA received some comments stating that the reporting of combustion emissions for petroleum and natural gas systems should all be reported under subpart W and other comments stating that the reporting of combustion emissions should be under subpart C of the GHGRP. The commenters supporting the reporting of combustion emissions under subpart C stated that every other industry reports its combustion emissions under subpart C while the petroleum and natural gas industry has historically been split. These commenters requested that in the case that EPA continued to require the reporting of combustion emissions under subpart W, then combustion emissions should not be considered "waste" emissions subject to the waste emissions charge. Commenters also stated that the definition of "waste emissions" in the proposed rule was inconsistent with the general definition of "waste gas" in subpart C of 40 CFR part 98, which includes any gas that is combusted or oxidized without thermal recovery. Commenters suggested that the rule should clarify whether emissions from combustion or oxidation of waste gases are considered waste emissions and how they should be reported. The commenters also stated that in the preamble to the proposed rule, EPA distinguished between "total [methane] emissions" and "waste emissions," creating the argument that emissions resulting from the operation of equipment intended to perform a beneficial function should not be included in the definition of methane emissions for purposes of the waste emissions charge.

In the final rule, the EPA decided not to take final action on any of the requested changes to 40 CFR 98.232 regarding which industry segments must report combustion emissions under subpart W. In the preamble to the final rule, the EPA addressed the comments on the proposed rule as follows:

> Section 136(h) of the CAA specifies that the EPA shall "revise the requirements of subpart W . . . to ensure the reporting under such subpart . . . accurately reflect[s] the total methane emissions and waste emissions from the applicable facilities." Sections 136(c) and (e) of the CAA specify that the waste emissions charge provisions apply to emissions reported pursuant to subpart W, and CAA section 136(d) indicates that the term "applicable facility" means a facility within an affected industry segment, as defined in subpart W. At the time that Congress drafted CAA section 136, the existing reporting structure in which combustion emissions are reported under subpart C for some industry segments and subpart

> W for other industry segments was already established. Under CAA section 136(d), the nine affected industry segments are categorized into four groups, and a waste emissions threshold is applied to each of the four. Congress was aware of this reporting structure when it enacted CAA section 136 and established the industry segment-specific thresholds. The EPA finds no indication in the text of CAA section 136 suggesting that the thresholds should be applied to an alternative to the existing reporting structure regarding combustion emissions under subpart W.

89 FR at 42181.

In the Subpart W RTC, the EPA provided further information regarding "waste emissions":

> We note that "waste emissions" are the amount of "total methane emissions" from the facility that exceed the waste emission threshold for a WEC applicable facility, while "waste gas" is gas that is combusted or oxidized without thermal recovery. In subpart W, a flare is defined as "a combustion device, whether at ground level or elevated, that uses an open or closed flame to combust waste gases without energy recovery." Therefore, any waste gas that is combusted or oxidized would be reported with subpart W flare emissions for that facility and would be considered part of the total facility emissions. The corresponding emissions from that facility that exceed the WEC threshold after any applicable exceptions, or "waste emissions," would be subject to the WEC charges.

Subpart W RTC at 896.

The EPA also notes that, in addition, the Industry Trades petition refers to an analysis of natural gas compositions and calculation of combustion emissions using methods in subpart W versus subpart C in the document *Greenhouse Gas Reporting Rule: Technical Support for Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule; Final Rule – Petroleum and Natural Gas Systems* ("Subpart W TSD"). The Petitioner claims that the EPA used the analysis as a justification for retaining reporting of certain combustion emissions under subpart W and that the calculation methodologies could be moved to subpart C rather than remaining in subpart W. However, the Petitioner is mistaken in assuming that the analysis in the Subpart W TSD is related to the issue of determining the subpart under which combustion emissions are reported. 40 CFR 98.233(z) of subpart W references the calculation methodologies in subpart C for fuels that meet specific criteria, and additional calculation methodologies are provided for gaseous fuels that do not meet the specified criteria. As explained in section 13.0 of the Subpart W TSD, the EPA conducted an analysis of the criteria used to determine the appropriate set of calculation methodologies due to stakeholder concerns that the criteria were not well-defined and were overly stringent. In particular, stakeholders noted that the term "pipeline quality" was not defined and that field gas could be of pipeline quality. The EPA's analysis determined that it was appropriate to define another category of "natural gas" for which it would be appropriate for subpart W to reference the calculation methodologies and emission factors in subpart C. See Subpart W TSD at 129-135; see also 89 FR at 42178-9. The EPA did not refer to this analysis in any discussion of whether

combustion emissions for certain industry segments should be reported under subpart W or subpart C.

2. Additional Information that Supports the EPA's Rationale for the Final Subpart W Provisions

On March 8, 2024, following the publication of the subpart W proposed rule but prior to promulgation of the final rule, the final provisions of the NSPS OOOOb and EG OOOOc were published in the *Federal Register*, in a rulemaking entitled *Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review* (89 FR 16820) (("2024 final methane rule"). The Industry Trades petition states that compliance with certain provisions of NSPS OOOOb and EG OOOOc could increase emissions from combustion:

> Specifically, EPA is phasing out the use of natural gas driven pneumatic controllers to a zero-bleed standard which could necessitate conversion to instrument air driven systems that could be run by a natural gas generator in locations where electricity is unavailable. In the preamble to the Final Rule, EPA asserts that the use of generators to power process controllers creates a net benefit from secondary impacts (89 FR 16926). Another example is the requirements to manage associated gas from oil wells, which includes two compliance options; 1) to recover the gas for use as an onsite fuel source, and 2) to use recovered gas for another useful purpose that a purchased fuel or raw material would serve. Both options may generate some methane emissions from combustion; however, EPA made the BSER determination that these options are equivalent to capturing the gas and routing it to a sales line.

Industry Pet. at 18.

The EPA disagrees that complying with NSPS OOOOb and EG OOOOc standards through combustion has the potential to increase the overall WEC obligation. In the Petitioner's referenced examples, there are scenarios where methane that could otherwise be released to the atmosphere is reduced through combustion. The resulting methane emissions from combustion are significantly lower than the alternative scenario of natural gas being vented or leaked, as combustion converts the majority of the vented or leaked methane to CO_2. Ultimately, this would result in a lower amount of total facility methane emissions, which CAA section 136(h) directs EPA to ensure are reported accurately.

In addition, on January 26, 2024, the EPA proposed a rule to "impose and collect an annual charge on methane emissions that exceed specified waste emissions thresholds from an owner or operator of an applicable facility that reports more than 25,000 metric tons of carbon dioxide equivalent of greenhouse gases emitted per year pursuant to the petroleum and natural gas systems source category requirements of the Greenhouse Gas Reporting Rule" (89 FR 5318) ("proposed WEC rule"), as required by CAA section 136. On November 18, 2024, the final provisions to facilitate compliance with the requirements of the Waste Emissions Charge in

the CAA Methane Emissions Reduction Program (MERP) that require EPA to impose and collect an annual charge on methane emissions that exceed waste emissions thresholds specified by Congress were published in the *Federal Register* (89 FR 91094) ("final WEC rule").

The EPA received comments on the proposed WEC rule that addressed the same concerns about the subpart under which combustion emissions should be reported for the onshore petroleum and natural gas production and onshore petroleum and natural gas gathering and boosting industry segments.[10] In response to those comments, the EPA provided the following additional information in the document *Summary of Public Comments and Responses for Waste Emissions Charge for Petroleum and Natural Gas Systems: Procedures for Facilitating Compliance, Including Netting and Exemptions* ("WEC RTC")[11]:

> Section 136(c) of the CAA establishes the applicability of the waste emissions charge as applying to "methane emissions that exceed an applicable waste emissions threshold under subsection (f) from an owner or operator of an applicable facility that reports more than 25,000 mt CO_2e of GHGs emitted per year pursuant to subpart W of part 98 of title 40, Code of Federal Regulations." Further, CAA section 136(e)(1) specifies the determination of charge and includes as a term "the number of metric tons of methane emissions reported pursuant to subpart W of part 98 of title 40, Code of Federal Regulations, for the applicable facility that exceed the applicable annual waste emissions threshold listed in subsection (f) during the previous reporting period..." In both cases, Congress made clear reference to methane emissions in stating the emissions subject to charge and did not include an exclusion or provide direction to exclude some portion of methane emissions that are reported to subpart W. When reviewed in the full context of CAA section 136 provisions related to the Waste Emissions Charge, the term "waste emissions" are the amount of "total methane emissions" from the facility that exceed the thresholds specified at CAA section 136(f) from a facility meeting the applicability criteria of CAA section 136(c) and (d).
>
> Although stationary combustion of natural gas may be a beneficial use of natural gas (as opposed to venting or flaring), the methane emissions that result from stationary combustion are due to inefficiencies such as methane slip, which occurs when methane in fuel gas is not combusted and converted to carbon dioxide and is therefore not generating useful mechanical energy. Therefore, those methane emissions that would be reported under subpart W of the GHGRP for stationary combustion were not beneficially used.

WEC RTC at 23-4.

[10] Combustion emissions from the natural gas distribution industry segment are also reported under subpart W but that industry segment is not included in CAA section 136(d).

[11] U.S. Environmental Protection Agency. *Summary of Public Comments and Responses for Waste Emissions Charge for Petroleum and Natural Gas Systems: Procedures for Facilitating Compliance, Including Netting and Exemptions*. November 2024. Available at https://www.epa.gov/inflation-reduction-act/waste-emissions-charge.

Congress did not include language in CAA section 136 directing the EPA to exclude combustion emissions that were reported under then-existing subpart W. . . . [W]e also note, without reopening the part 98 subpart W provisions, combustion emissions are a substantial portion of emissions reported for these segments (in 2022, combustion emissions were 79 percent of total emissions reported by facilities in the gathering and boosting segment under subpart W and 47 percent of total emissions reported by facilities in the onshore production segment[12]).

In response to this comment, we also note some historical background of the GHGRP, without reopening the part 98 subpart W or subpart C provisions. In the GHGRP rulemakings establishing those subparts and the reporting of industry segments within subpart W, there are some distinct differences to reporting under subpart W and subpart C that were developed in consideration of the contribution of emissions relative to the reporting burden from combustion units at oil and gas facilities, and which have remained unaltered since those initial rulemakings. Subpart W requires reporting of portable combustion emissions, which are not reported under subpart C as subpart C only requires reporting of stationary combustion equipment. At the time of the 2010 Final Rule that added subpart W (75 FR 74458, November 30, 2010), combustion emissions from portable equipment were estimated to be ~45 percent of total emissions for the onshore petroleum and natural gas production segment (75 FR 74469) and determined to be an important source of emissions. We received comment on the proposal to the 2010 Final Rule that the subpart C requirements (for stationary combustion) were too burdensome for onshore production and that having different facility definitions for subpart C and subpart W for this industry segment and reporting under both subparts would make reporting unwieldy. Commenters also suggested that reporting of emissions from small external combustion units would be too burdensome. In response to comments on that 2010 rule, combustion emissions for that industry segment were all included under subpart W (rather than being split between subpart C and subpart W) and the requirements for reporting under subpart W in that 2010 Final Rule included an exemption from calculating and reporting emissions from small external combustion units (an exemption that does not exist in subpart C). In section 136(h) of the CAA, the EPA was directed to revise subpart W to "accurately reflect the total methane emissions and waste emission from applicable facilities". The EPA also notes that in response to this direction, the 2024 Final Subpart W Rule revised subpart W to more accurately reflect methane emissions from combustion sources by more accurately accounting for methane slip. During the development of the 2024 Final Subpart W Rule, the EPA sought comment on moving all combustion emissions associated with oil and natural gas systems to subpart W (88 FR 50358, August 1, 2023). In the 2024 Final Rule, the EPA decided to not take final action on these revisions. In

[12] EPA Greenhouse Gas Reporting Program (GHGRP) Envirofacts. Subpart W: Petroleum and Natural Gas Systems. Available online at: https://enviro.epa.gov/facts/ghg/search.html.

> response to this comment, without reopening the subpart W final rule, we note that combustion emissions are also a substantial portion of reported emissions for all petroleum and natural gas segments that report combustion emissions under subpart C (ranging from 66 percent to 96 percent of total emissions reported by facilities in each segment in 2022[13]).
>
> In sum, removing these emissions from subpart W and the WEC is outside the scope of this rulemaking and removing these emissions from the WEC would be contrary to the clear intent of the statutory language in CAA section 136.

WEC RTC at 227-8.

In addition to the history presented in the WEC RTC, the EPA provides the following historical information in this document. The Agency proposed the inaugural subpart W rule on April 10, 2009 (74 FR 16448), which was limited to the following industry segments: Offshore petroleum and natural gas production; Onshore natural gas processing, Onshore natural gas transmission compression; Underground natural gas storage; Liquefied natural gas storage; and Liquefied natural gas import and export. Combustion emissions were proposed to be reported from subject facilities under subpart C. After receiving a significant number of comments on the April 2009 proposed rule for subpart W, the EPA published a supplemental proposal on April 12, 2010 (75 FR 18608) to address these comments, and this subsequently led to the establishment of the onshore petroleum and natural gas production (onshore production) and natural gas distribution as industry segments. For onshore production, the EPA proposed reporting at the basin level and considered field level reporting. In the proposed rule, the onshore production source category included emissions from stationary and portable combustion equipment in their threshold determination and reporting requirements. The Agency sought comment on the threshold of 25,000 mt CO_2e as it pertained to basin-level reporting and inclusion of both stationary and portable combustion emissions. The Agency also considered a 10,000 mt CO_2e threshold based on field level reporting and the inclusion of only stationary combustion equipment (*i.e.*, excluding portable combustion equipment) but noted that there was insufficient data available to evaluate the lower threshold considering just stationary emissions.

In the final rule established on November 30, 2010 (75 FR 74458), the EPA retained the proposed reporting requirements for portable equipment for the onshore production industry segment based on its analysis of the contribution to GHG emissions, both combustion and process, from portable equipment in onshore production. Multiple commenters requested that the EPA eliminate the requirement of reporting emissions from portable non-self-propelled equipment at onshore petroleum and natural gas production facilities. In response to this, and as noted in the WEC RTC, EPA estimated that portable non-self-propelled equipment was responsible for over 45 percent of total emissions from onshore petroleum and natural gas production, and concluded it was inconsistent with the broader objectives of the rule to drop portable equipment as a source of emissions from reporting.[14] Also, as noted in the WEC RTC,

[13] ibid.

[14] "Portable Combustion Emissions" Docket ID No. EPA-HQ-OAR-2009-0923.

the combustion emissions for that industry segment were all included under subpart W due to the EPA's evaluation of public comments.

EPA conducted an extensive review of the emissions contribution relative to the reporting burden and modified the final rule to simplify the requirements which include only the number of equipment by type for external combustion equipment that fall below a maximum rated heat input capacity of 5 mmBtu/hr for the onshore petroleum and natural gas industry segment and the natural gas distribution industry segment[15]. In this final rule, the EPA revised the term facility in 40 CFR 98.238 for the purposes of subpart W and separated it from the subpart A requirements with respect to natural gas distribution and onshore petroleum and natural gas production for clarity. These changes resolved the facility definition differences between subparts W and C and also clarified conflicts for combustion emissions between these subparts.

The December 2014 Proposed Rule (79 FR 73148) and October 2015 Final Rule (80 FR 64262) added the onshore petroleum and natural gas gathering and boosting industry segment. The preambles to those rules explain the ways in which the onshore petroleum and natural gas gathering and boosting industry segment is similar to the onshore petroleum and natural gas production industry segment. As such, certain regulatory requirements for the onshore petroleum and natural gas gathering and boosting industry segment, including the calculation and reporting of combustion emissions, were made consistent with the onshore petroleum and natural gas production industry segment.

3. Evaluation of CAA section 307(d) Criteria for Reconsideration

The EPA considers each of the CAA section 307(d) statutory criteria for reconsideration in turn. We conclude that the Petitioners do not satisfy either the first criterion or the second criterion. Collectively, the issues raised by the Petitioners concerning the reporting of combustion emissions and "waste" emissions were addressed by the EPA in the subpart W final rule, and as also reflected in the record for the WEC rulemaking and as discussed herein. The Petitioners did not provide new data in support of their petitions.

The first criterion is met if either Petitioners demonstrate that it was impracticable to raise such objection during the comment period *or* if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review). However, as noted earlier in this section, the EPA requested comment in the preamble to the proposed rule on "amending subpart W to specify that all industry segments would be required to report their combustion emissions, including CH_4, under subpart W to more accurately reflect the total CH_4 emissions from such facilities within the emissions reported under subpart W. See 88 FR at 50358. The EPA provided a response to these comments in the preamble to the final rule. The EPA also provided response to the same or similar comments on the final WEC rule, in the WEC RTC. The petitioner did not identify any additional grounds for their objection that "arose after

[15] "Equipment Threshold for Small Combustion Units" Docket ID No. EPA-HQ-OAR-2009-0923.

the period for public comment (but within the time specified for judicial review)" under CAA section 307(d)(7)(B). Therefore, the petition does not meet the first criterion for this objection.

Although the petition does not meet the first criterion, the EPA also assessed the second criterion under CAA section 307(d)(7)(B), which is a finding that the "objection is of central relevance to the outcome of the rule." CAA section 307(d)(7)(B). The EPA considered the objection and has concluded that it is not of central relevance to the outcome of the rule—*i.e.*, that the objection does not provide substantial support for the argument that the regulation should be revised. The EPA's response to the objections raised in the petition is already documented, as noted earlier in this section, and the Petitioner did not raise additional objections provide substantial support for the argument that the regulation should be revised. As such, the EPA finds that the Petitioners' objection is not of central relevance to the outcome of the rule.

Therefore, the EPA is denying the administrative petition's objection regarding the subpart under which combustion emissions are reported for the onshore petroleum and natural gas production, onshore petroleum and natural gas gathering and boosting, and natural gas distribution industry segments under CAA section 307(d). To the extent Petitioners intended the petitions to be under the APA, the EPA denies the petitions for these same reasons.

D. Subpart W Provisions Requiring EPA Determination of Demonstrable Error for Super Emitter Notifications in Order to Not Report Associated Emissions under Subpart W

As explained in more detail herein, in the August 2023 proposal, the EPA proposed to add "other large release events" as a new emission source type under subpart W. *The final rule likewise included* "other large release events" as a new emission source type under subpart W, and clarified when an owner or operator must evaluate information from EPA or other parties to determine if an other large release event has occurred. The final rule states that owners and operators must report emissions associated with a super-emitter program notification unless (a) the EPA has determined that the notification contained a demonstrable error or (b) owners and/or operators certify that they do not own or operate any petroleum and natural gas system equipment within 50 meters of the location identified in the notification, pursuant to 98.233(y)(6)(i), or (c) If they do own or operate petroleum and natural gas system equipment within 50 meters of the location identified in the notification, but there are also other petroleum and natural gas system equipment within 50 meters of the location identified in the notification owned and operated by a different facility, they may certify that investigations and surveys conducted according to 98.233(y)(6)(ii) verify that none of the petroleum or natural gas equipment that they own or operate at the location identified in the notification were responsible for the high emissions event. The final rule further states that for consideration of demonstrable error, owners and/or operators must submit a statement of demonstrable error as specified in 40 CFR 60.5371, 60.5371a, or 60.5371b or an applicable approved state plan or applicable Federal plan in part 62.

GPA objects to this provision in subpart W requiring the reporting of emissions associated with a super emitter program notification unless EPA has determined that a notification contains a

demonstrable error. GPA asserts that this provision does not enhance the accuracy of the data EPA collects, and that there is no process for an EPA determination that a demonstrable error has occurred. Because EPA does have a process for decisions on demonstrable error, and the data does enhance the accuracy of the data EPA collects, GPA's petition does not establish a basis for reconsideration with respect to this issue and is denied, as is explained below.

1. Record Basis in the Subpart W Final Rule Establishing the EPA's Rationale

As previously noted in this document, in the August 2023 proposal, the EPA proposed to add "other large release events" as a new emission source type under subpart W. The EPA proposed that owners and operators would not be required to directly measure every release to determine if it meets the criteria of an other large release event, but if an owner or operator has credible information that an other large release event may have occurred, the owner or operator would be required to determine if the release meets the criteria to be an other large release event, and, if so, to calculate and report emissions for that other large release event. The preamble to the proposed rule noted that "credible information" would include notifications of potential super-emitter emissions events under what would become the super-emitter provisions of the 2024 final methane rule. Specifically, the EPA stated:

> We consider credible information would include, but is not limited to, data from monitoring or measurement data completed by the facility, information from notifications as a potential super-emitter emissions event under the super-emitter provisions of NSPS OOOOb at proposed 40 CFR 60.5371b or data of similar quality as that provided through the provisions of NSPS OOOOb at proposed 40 CFR 60.5371b that is received by the facility. We anticipate that we would take into consideration what is included in the final NSPS OOOOb regarding such notifications in the types of information that would be considered credible for these provisions in subpart W, if finalized. The owner or operator would be required to consider all credible information they have regarding the release in complying with this requirement.

88 FR at 50300.

The EPA received numerous comments on the use of the term "credible information" in the provisions for other large release events. In particular, commenters objected to the fact that the term "credible information" was not defined in the proposed rule and suggested that the EPA should define the term. Commenters also objected to the requirement to consider information from third-party notifications that may be of varying quality when determining if there was a release that may meet the criteria to be an other large release event. Commenters stated that instead, reporters should only be required to use information that has been vetted by the EPA. The EPA agreed in part with these commenters, and in response to these comments, the final rule did not include the term "credible information." Instead, the final rule defined the information that owners and operators must consider regarding a release that could meet the criteria to be defined as an other large release event. Specifically, an owner or operator must evaluate releases when there is monitoring or measurement data completed by

the EPA or the facility, or when there is a notification from the EPA Super-Emitter Program at 40 CFR 60.5371, 60.5371a, 60.5371b or an applicable approved state plan or applicable Federal plan in 40 CFR part 62.

One commenter supported having provisions ensuring that reporters can only exclude from reported emissions those coming from third-party notifiers when the reporter provides valid, well-documented reasons for doing so. To do this, according to the commenter, the reporter should be required to submit evidence of a site survey occurring shortly after the notification proving that the event did not occur or come from their site, including time-stamped parametric data from the site showing that normal operating conditions existed. The final rule does provide an exception if the EPA has determined that the notification contains a demonstrable error. For consideration of demonstrable error, the facility must submit a statement of demonstrable error as specified by 40 CFR 60.5371, 60.5371a, or 60.5371b or an applicable approved state plan or applicable Federal plan in 40 CFR part 62. The facility owner or operator may provide a statement of demonstrable error when filing their super-emitter event report, and may attach supporting evidence to the report. The EPA explained that the final 2024 subpart W rule limited the third-party information that must be considered to notifications of large potential super-emitter events under the Super-Emitter Program because the final provisions of that program "have robust assurances of credibility, reliability and transparency" and that "the EPA has concluded that it is not appropriate to place a potentially large burden on subpart W reporters to respond to" other third-party information. 89 FR at 42080.

As indicated in the preamble to the subpart W proposed rule, the EPA considered the provisions of the 2024 final methane rule when developing the final provisions of subpart W. Under the Super-Emitter Program, upon receipt of a super-emitter notification from EPA, the owner or operator must initiate an investigation within 5 calendar days and must complete the investigation and report their findings to EPA with 15 days. If the owner or operator identifies a demonstrable error in the notification, the report submitted to the EPA under the Super Emitter Program could include a statement of demonstrable error. The requirement to submit a written report to EPA for each super-emitter notification was also included in the December 6, 2022 supplemental notice of proposed rulemaking for *Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review* (87 FR 74702) (herein referred to as the "2022 supplemental proposed methane rule"), though the proposed written report would have required owners and operators to include the results of a root cause analysis and corrective action plan, which was not finalized.

2. Additional Information that Supports the EPA's Rationale for the Final Subpart W Provisions

Emissions associated with large release events are essential to the accuracy of the data EPA collects about methane emissions from oil and gas production under subpart W. These large

release events, sometimes referred to as super-emitters, are responsible for as much as 50% of the total methane emissions from oil and gas production. 89 FR at 16820 and 16877 (Mar. 8, 2024). Prior to the subpart W final rule, these emissions have been almost entirely absent from subpart W reporting, contributing to the well documented gap between methane emissions observed in monitoring and the emissions reported to the EPA.[16] The inclusion of a Super Emitter Program in the EPA's methane rule under section 111 of the Clean Air Act, and the obligation to account for super-emitter events in subpart W reporting, is central to the improved accuracy of that reporting.

The EPA's 2024 final methane rule also provides a robust process for ensuring the accuracy, transparency and integrity of super-emitter events reported through the Super Emitter Program, including several important design elements that were introduced in response to comments. These features support the EPA's decision in the final subpart W rule to require reporters to quantify and report emissions from events reported through the Super Emitter Program, absent an EPA determination of demonstrable error in the Super Emitter Program notification or a certification by the reporter that its facility does not own or operate the equipment at the location identified in the notification.

Specifically, in response to comments on the 2022 supplemental proposed methane rule, the EPA revised the Super Emitter Program in the 2024 final methane rule to add a central oversight role for EPA, including detailed procedures for EPA certification of third-party notifiers and remote sensing technologies, EPA review of third-party data submitted to the Super Emitter Program, and a process for decertifying third party notifiers where appropriate. These provisions include:

- Third parties may only use remote sensing technologies that are approved by the EPA under the EPA's advanced methane detection technology program, which includes rigorous accuracy checks, including, where appropriate, the EPA's determination that the technology is adequate for identifying super-emitter events.

- Third parties themselves must be certified by the EPA, which involves consideration of information related to whether the third party has the training and expertise needed to interpret the data and identify a super-emitter event and has appropriate and reliable methods for identifying the owner or operator of the sites where the super-emitter event occurred.

- Third parties meeting these requirements can submit notifications of super-emitter events to the EPA, provided the submission meets certain criteria, including being submitted within 15 days of detection and with attestation as to its accuracy. The EPA reviews the notifications before providing them to owners and operators of oil and natural gas facilities; if the EPA determines the notification is complete and does

[16] Lavoie, T.N., P. B. Shepson, M. O. L. Cambaliza, B. H. Stirm, A. Karion, C. Sweeney, T. I. Yacovitch, S. C. Herndon, X. Lan, and D. Lyon. Aircraft-Based Measurements of Point Source Methane Emissions in the Barnett Shale Basin. *Environmental Science & Technology* 2015 *49* (13), 7904-7913 DOI: 10.1021/acs.est.5b00410.

not contain information that the EPA finds to be erroneous or inaccurate to a reasonable degree of certainty, it will provide the notification to the owner or operator of the facility and make it publicly available.

Only after all of these provisions are met will the EPA send a notice of a super-emitter event to the owner or operator.

Because of the layers of certification, verification and review that occur before the EPA sends super-emitter notifications, the final subpart W rule requires reporters to include these high emission events in their subpart W reporting, unless (a) the owner or operator certifies that they do not own or operate the equipment at the location of the super-emitter event, or (b) If they do own or operate petroleum and natural gas system equipment within 50 meters of the location identified in the notification, but there are also other petroleum and natural gas system equipment within 50 meters of the location identified in the notification owned and operated by a different facility and certify that investigations and surveys conducted verify that none of the petroleum or natural gas equipment that they own or operate at the location were responsible for the high emission event, or (c) EPA determines that the notice contains a demonstrable error.

GPA objects to the final rule's requirement that super-emitter events must be reported under subpart W unless the EPA has determined that the notice is the result of demonstrable error. GPA prefers that subpart W reporters be allowed to unilaterally determine if they report such emissions. Given the credibility that underlies the EPA's notice of a super-emitter event – including certification of the technology that identifies the release, certification of the expertise of the third party relying on that technology, and the EPA's review of the data for accuracy and completeness before providing the notification to owners or operators – the final rule appropriately requires that emissions associated with super-emitter events on which EPA has sent notices be reported unless the EPA determines that there has been a demonstrable error. Super-emitter events are a very large element of total methane emissions, and there is no basis for GPA's unsupported assertion that this provision of subpart W does not enhance the accuracy of the data the EPA collects.

GPA's assertion that there is no process for obtaining a determination from EPA on demonstrable error is similarly unfounded. As noted in the preamble to the final subpart W revisions, EPA adopted provisions in its section 111 methane rules that allow owners and operators to submit a statement that individual notifications received under the Super Emitter Program were affected by "demonstrable error." 40 CFR 60.5371, 60.5371a, 60.5371b. The 2024 final methane rule allows owners and operators to submit a petition to decertify a third-party notifier that has submitted more than three notices with meaningful and/or demonstrable error with respect to the same oil and gas facility by providing evidence that the super-emitter events did not occur. 40 CFR 60.5371b(b)(5)(iii). The 2024 final methane rule further provides that if, "in the Administrator's discretion the Administrator determines that the three notifications contain meaningful and/or demonstrable errors, including that the third party did not use the methane detection technology identified in their submittal, the emissions

event did not exceed the threshold of 100 kg/hr of methane, the third-party knowingly misidentified the date of a super-emitter event, the third-party may be removed by the Administrator from the list of approved notifiers." *Id.* Recipients of EPA super-emitter notices may assert that there is a demonstrable error in their response to the notification and provide evidence in support of that claim, as described in EPA's FAQ on this topic[17]. In that case the EPA will indicate on the public website where the super-emitter data is posted that a demonstrable error claim is pending. After EPA reviews the claim, the event will either be archived and removed from the website or the website will indicate that the demonstrable error claim was not accepted.

If the owner/operator believes that EPA's determination is not correct, they may utilize the "report error" button on the Data Explorer website. The error-reporting function is one that exists for EPA data system pages (referred to as the Integrated Error Correction Process - IECP) which allows users to provide additional narrative to support the claim that EPA's web databases have incorrect information. If EPA receives an error report related to a demonstrable error claim, EPA will initiate an additional review, which may include asking the facility for additional information, or conducting on-site investigations to help determine the veracity of the error reporting claims. EPA will decide based on this investigation whether to accept the requested data change, in which case, the original demonstrable error claim will be noted as accepted. This process and regulatory references are set out at in EPA's FAQ on this issue18. In exercising its discretion about whether there has been a demonstrable error, the factors that EPA may consider include evidence that the claimed super-emitter event did not occur, the emissions did not exceed the threshold of 100 kg/hr of methane, the third party did not use the methane detection technology identified in their submittal, or the third party knowingly misidentified the date of the super-emitter event. EPA notes that as stated in the 2024 final methane rule, the failure of the owner or operator to find the source of the super-emitter event upon subsequent inspection shall not be proof, by itself, of demonstrable error.

Including emissions from super-emitter events is important for ensuring accurate emissions reporting under subpart W. There are multiple layers of review and certification that assure the accuracy and reliability of super-emitter notifications from the EPA. In addition, there are opportunities for owners and operators to claim demonstrable error and submit evidence in support of such claims. All of these provisions support the requirement that owners and operators report emissions from super-emitter events unless they obtain a determination from the EPA that the notice contained demonstrable error or have demonstrated that the emissions in the notification did not result from their facilities.

[17] Located at https://www.epa.gov/compliance/how-can-owneroperators-submit-demonstrable-error-claims-how-will-epa-reflect

[18] Located at https://www.epa.gov/compliance/how-can-owneroperators-submit-demonstrable-error-claims-how-will-epa-reflect

3. Evaluation of CAA section 307(d) Criteria for Reconsideration

The EPA considers each of the CAA section 307(d) criteria for reconsideration in turn. We conclude that the Petitioner does not satisfy the first criterion or the second criterion.

The first criterion is met if the Petitioner demonstrates that it was impracticable to raise such objection during the comment period *or* if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review). However, in their letter, the petitioners did not provide sufficient detail to demonstrate that it was impracticable to comment on these issues during the public comment period or that the grounds for their objection arose after. Nor does the petitioner make any statements about not having notice on this issue. Instead, in its petition, GPA pointed to comments that they made in response to the 2022 supplemental proposed methane rule that encouraged the EPA to remove restrictions on the ability of reporters to petition the EPA to disqualify a third-party notifier under the Agency's Super Emitter Program. This supplemental notice of proposed rulemaking (SNPRM) was published on November 8, 2022, prior to the publication of the subpart W proposed rule. Further, at the time of proposal, the EPA stated its intention to align the identification and reporting of other large release events under subpart W with the Super Emitter Program in the final methane rule. We further noted that we expected that the final amendments to subpart W would reference the final version of the method(s) in the NSPS OOOOb and EG OOOOc and that the proposed new reporting requirements for ''other large release events'' as defined in subpart W would reference the NSPS OOOOb and approved state plans or applicable Federal plan in 40 CFR part 62.

In the 2023 proposed subpart W rule, we also proposed that all Super Emitter Program notifications would be reported under subpart W and that facilities would report where under subpart W the emissions associated with the notification were reported; if those emissions were not reported under subpart W, then the reporter would have to explain why the information was not credible and would be required to provide supporting information for purposes of EPA verification and to ensure accuracy of the reports. We also note that GPA's comments on the supplemental notice of proposed rulemaking regarding methane emission standards and guidelines were resubmitted as part of GPA's comments on the proposed subpart W rule. In GPA's comments on the proposed rule, they recommended that "if EPA maintains a need to tie subpart W to the SERP, reporting under Subpart W should be limited to verified super-emitter events under the SERP." Thus, the commenter contemplated a role for verified Super Emitter Program notifications and the linkages between the two rulemakings. Also, as noted earlier in this section, another commenter supported having provisions ensuring that reporters can only exclude from reported emissions those coming from third-party notifiers when the reporter provides valid, well-documented reasons for doing so. Thus, the requirements in the final rule are a logical outgrowth of the comments on the proposed rule. The 2024 Final methane rule provides a role for EPA to review super-emitter notifications for accuracy and completeness, and the final subpart W rule limits emissions reporting to verified super-emitter notifications. The petitioner did not identify any additional grounds for their objection that "arose after the period for public comment (but within the time specified for

judicial review)" under CAA section 307(d)(7)(B). Therefore, the petition does not meet the first criterion for this objection.

Although the petition does not meet the first criterion, the EPA also assessed the second criterion, which is whether the "objection is of central relevance to the outcome of the rule." CAA section 307(d)(7)(B). The EPA concludes that it is not of central relevance to the outcome of the rule—*i.e.*, that the objection does not provide substantial support for the argument that the regulation should be revised. GPA's petition does not claim that super-emitter emissions should not be reported under subpart W. Nor does it dispute that the EPA has built in multiple safeguards to assure the accuracy of super-emitter notifications the EPA sends. Its petition is instead based on a preference that reporters unilaterally determine when there are demonstrable errors and omit them from emissions reporting, rather than have the EPA make such determinations. This assertion is made without providing additional reasoning or support. The petitioners also do not provide reasoning for why it would be inconsistent with CAA section 136(h) for EPA to have a process to make a determination on demonstrable error where a claim is made. GPA is also incorrect that there is no process for obtaining a determination from the EPA on demonstrable error. GPA's narrow point, that reporters rather than the EPA should determine when there is demonstrable error, is not centrally relevant to the rule.

Therefore, the EPA is denying the administrative petition's objection regarding the EPA's determination of whether a super-emitter notification contains a demonstrable error under CAA section 307(d). To the extent the Petitioner intended the petition to be under the APA, the EPA denies the petition for these same reasons.

The EPA also notes that the EPA is providing guidance to assist reporters in implementation through new FAQs. The EPA refers the Petitioner to the FAQ[19] describing the process the EPA will take to determine whether a super-emitter notification contains a demonstrable error.

V. Judicial Review

Pursuant to CAA section 307(b)(1), petitions for judicial review of this partial denial of the administrative petitions action must be filed in the United States Court of Appeals for the District of Columbia Circuit within 60 days after the date notice of this final action is published in the *Federal Register*.

[19] Located at https://www.epa.gov/compliance/how-can-owneroperators-submit-demonstrable-error-claims-how-will-epa-reflect