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February 13, 2023

The Honorable Michael S. Regan
Administrator
US Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Re: Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review

Docket ID No. EPA-HQ-OAR-2021-0317

Dear Administrator Regan,

The following Comments are submitted on the above-referenced supplemental notice of proposed rulemaking ("Supplemental Proposal") on behalf of the following national and state trade associations: the Independent Petroleum Association of America ("IPAA"), Arkansas Independent Producers and Royalty Owners ("AIPRO"), Domestic Energy Producers Alliance ("DEPA"), Eastern Kansas Oil & Gas Association ("EKOGA"), Illinois Oil & Gas Association ("IOGA"), Gas & Oil Association of West Virginia ("GO-WV"), Independent Petroleum Association of New Mexico ("IPANM"), Indiana Oil and Gas Association ("INOGA"), International Association of Drilling Contractors ("IADC"), Kansas Independent Oil & Gas Association ("KIOGA"), Kentucky Oil & Gas Association ("KOGA"), Michigan Oil and Gas Association ("MOGA"), National Stripper Well Association ("NSWA"), North Dakota Petroleum Council ("NDPC"), Ohio Oil and Gas Association ("OOGA"), The Petroleum Alliance of Oklahoma ("The Alliance"), Petroleum Association of Wyoming ("PAW"), Pennsylvania Independent Oil & Gas Association ("PIOGA"), Texas Alliance of Energy Producers ("Texas Alliance"), Texas Independent Producers & Royalty Owners Association ("TIPRO"), and Western Energy Alliance (collectively, "Producer Associations").

Various members of the Producer Associations have been actively working with the Environmental Protection Agency ("EPA") since the New Source Performance Standards ("NSPS"), 40 CFR Part 60, Subpart OOOO regulations were proposed in 2011.[1] The Producer Associations appreciate the time and effort of EPA staff that have tried to understand the unique aspects of the oil and natural gas industry ("Oil and Gas Industry"). The reality is that the unique aspects of the Oil and Gas Industry, in terms of its production and related emissions, render EPA's traditional justifications/rationalizations proffered in the proposals on November 15, 2021 and December 6, 2022 arbitrary and capricious for certain subcategories (whether defined

[1] The Producer Associations incorporated by reference all of the comments submitted by the Producer Associations (or some subset of associations) in previous rulemakings and incorporate them as comments on the current Supplemental Proposal - see footnote 1 to the Producer Associations on the November 15, 2021 "proposed rule."

according to EPA or otherwise). The message the Producer Associations have consistently conveyed since 2011 is "one size does not fit all." Generally speaking, EPA's response has been to regulate exploration and production ("E&P") emission sources to the extent that EPA believes it can "survive"/continue to exist[2] – that is not the "best system of emission reduction" ("BSER") as required by Section 111 of the Clean Air Act ("CAA"). The following comments are intended to identify the most detrimental and unsupported proposals by EPA and provide alternatives that provide the equivalent or nearly the equivalent environmental benefits as substantially less cost and confusion to the Oil and Gas Industry, in particular the small business that are disproportionally impacted by these proposed regulations.

In addition to the comments filed here, the Producer Associations support those comments filed separately by individual members of the Producer Associations and those comments filed by the American Petroleum Institute.

[2] 87 FR 74818 (Dec. 6, 2022). Regulating industry to the brink of extinction is not EPA's charge nor is it how EPA should approach its "best system of emission reduction" ("BSER") analysis.

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I. EXECUTIVE SUMMARY

The Producer Associations are committed to working with EPA to craft legally justified regulations that protect the environment and do not place unnecessary burdens on the Oil and Gas Industry. The Producer Associations provide the following summary:

- **Fugitive Emissions Monitoring of "Low Production Wells" Misses the Mark.**

  EPA's continued focus on "component" counts creates a number of problems for regulators and the regulated. State regulators and owners/operators do not make decisions based on component counts. Nonetheless, EPA relies on component counts to determine the type and frequency of fugitive emissions monitoring. EPA defines four categories of sources/sites: a fifth category is needed - an Intermediate Well Site. As proposed below, an Intermediate Well Site would allow certain wells sites, historically considered to be a "low production well", to utilize industry practices to identify leaks at substantially less cost than EPA's proposed framework. EPA's proposal places an economic burden on owners/operators of low production wells that is not justified or supported.

- **EPA Utilizes Inaccurate Data to Justify "Zero-Emitting" BSER for Pneumatic Controllers and Pumps.**

  Concurrent with this supplemental proposal, EPA has proposed revisions to its GHRP rules and acknowledges that current GHGRP rules yield inaccurate and poor-quality emissions data. Further, EPA acknowledges that this inaccurate data from historic GHGRP inventories was used to justify its cost-effectiveness evaluation for the “zero-emitting” proposed BSER for pneumatic controllers and pumps. EPA knowingly utilizes historical GHGRP Inventories that overstate methane emissions by as much as 96 percent for intermittent-bleed pneumatic devices to make the reasonableness determination work. Pneumatic controllers and pumps are not the problem EPA portrays them to be. EPA needs to withdraw the current “zero-emitting” BSER for pneumatic devices and consider the BSER alternatives proposed below.

- **The Super-Emitter Response Program Should be Revised to Address Unexpected Significant Releases, Without Subjecting Owners/Operators to Significant Expense.**

  Malfunctions happen and equipment breaks such that greater than anticipated emissions to the atmosphere occur. The owner/operator of such equipment should not be characterized as a "super-emitter" and the negative connotations associated with such a label. EPA should clarify that any information submitted by a "third-party notifier" cannot be used as the basis for enforcement. Additionally, third-party notifiers should be required to post a bond or other financial assurances that would compensate owners/operators for the cost associated with responding to an alleged unexpected significant release that is ultimately determined to not be an unexpected significant release.

II. FRAMING THE ISSUES

America's oil and natural gas producers recognize their responsibility to effectively manage the environmental impact of their operations. Clearly among these is the control of methane emissions from their operations. The goal here should be to develop and implement cost-effective regulations and voluntary programs to assure that methane emissions are controlled.

A. EPA's Effort to Regulate Existing Sources Failed to Differentiate Between Existing Sources and New Sources.

Since the initial development of 40 C.F.R. Part 60, Subpart OOOO ("Subpart OOOO") and through the creation of 40 C.F.R. Part 60, Subpart OOOOa ("Subpart OOOOa") in 2016 and its revisions in 2020, EPA proposed its regulations in the context of the NSPS for new and modified affected facilities. In 2016, EPA began to address the existing source issues with the promulgation of Control Technique Guidelines ("CTG") for volatile organic compounds ("VOC") creating reasonably available control measures ("RACM") for these guidelines to states. With the decision to regulate methane as the emission from these operations, existing source guidelines changed from RACM to a version of the NSPS Best System of Emissions Reductions ("BSER"). The current proposal for new Subparts OOOOb and OOOOc is the first federal effort to bring the full scope of regulation on new and existing sources of methane from oil and natural gas production operations. The consequences of this proposal on America's roughly one million existing oil and natural wells will be enormous, putting approximately 10 percent of American oil and natural gas production at risk at a time when the world faces significant pressures to provide adequate supplies of both commodities. The impacted 10% is predominately "small businesses" as defined by the Regulatory Flexibility Act and Small Business Regulatory Enforcement Fairness Act ("SBREFA"). Despite efforts by some to characterize low production wells and existing wells as owned and/or operated by non-small businesses, the companies owning primarily, if not exclusively, low production wells/existing wells are family owned/run organizations that are defined as "small entities" under SBREFA. The onus is on EPA to demonstrate compliance with SBREFA, not for small business to demonstrate disproportionate impact.

The Producer Associations have addressed this issue in past comments. However, the current proposal brings the issues to a much higher level of concern. Fundamentally, the challenge reflects multiple realities. First, while EPA has devoted most of its attention to developing requirements for new or modified sources, its data comes from measurements at existing sources that EPA extrapolates to assessments for new ones. Second, EPA has never found a way to develop an evergreen regulatory framework that reflects the nature of oil and natural gas production as each well declines over time. Historically, no matter how large initial production at a well may be, production will deplete as the well ages and the well will eventually become a low production well. Regulatory systems that appear cost effective during the early years of operation will cease being effective as the production, emissions, and economics of the well change. Consequently, the nature of the requirements needs to change as well. Third, while the development of unconventional oil and natural gas on current multiple well sites above multiple

layers of shale formations may alter the timing of these events, the vast majority of existing well sites are conventional wells. Fourth, the emissions studies typically used by EPA to assess the framework for its regulatory actions only incidentally collect data on low production wells with the Department of Energy Quantification of Methane Emissions from Marginal (Small Producing) Oil and Gas Wells ("DOE Study") being the notable exception.

These factors have influenced the past deliberations on NSPS proposals because of the CAA mandate to use the "best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated" has been hotly debated, particularly regarding the demonstrated adequacy of the technology. Since the initial Subpart OOOO regulations in 2012, innovative efforts have developed new, emerging technologies. The challenge for EPA has been to judge whether these technologies are truly available and durable in the operating environment of oil and natural gas production. Conversely, EPA also faces the challenge of not prohibiting more cost-effective technologies from being available as they emerge. There are two notable examples in the current proposals demonstrate the challenges. In one, EPA wants to move away from the use of natural gas activated pneumatic controllers but the options it has proposed do not have a history of use in the context of oil and natural gas production operations, which differ from other industrial operations. In another, EPA is trying to accommodate the fast-changing development of methane monitoring options. Here, however, it continues to tie its base to technologies that are costly, burdensome, and stagnant. EPA needs to create options that allow for the further development of the accuracy of emerging technologies without requiring another NSPS revision to permit new options. EPA also needs to take care that the methods used to establish compliance with standards are the same as the methods used to establish the standards, which won't be possible without substantially more field experience (i.e., with establishing workable programs for using OGI in lieu of Method 21-based LDAR programs).

B. EPA's Emission Guidelines Unnecessarily Subject Small Sources of Methane to Excessive Regulation.

While EPA continues to grapple with the proper framework for its NSPS requirements, its proposal of Emissions Guidelines ("EG") for existing sources produces challenges in addressing both the specific technology decisions and the interaction of the EG with state regulatory programs. This is the second time that EPA has addressed the application of emissions controls to existing oil and natural gas facilities. Its first effort was the creation of CTG in 2016 for VOC emissions in ozone nonattainment areas. These CTG were largely the application of Subparts OOOO and OOOOa requirements with the notable exception of fugitive emissions requirements for low production wells (15 barrels of oil equivalent ("boe") per day or less). The pending proposal is nationwide and applies for all requirements to all existing wells and well sites.

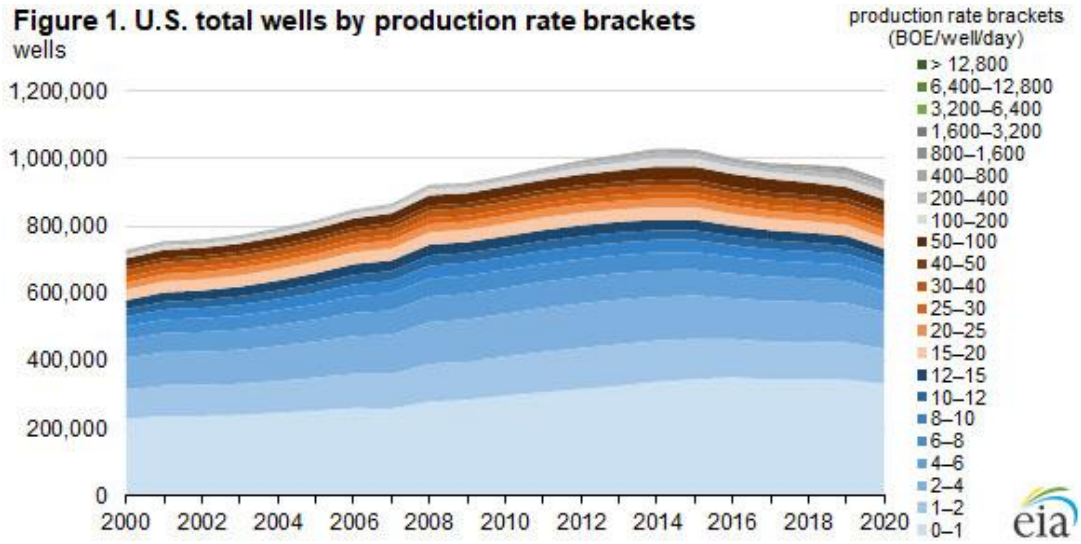
The magnitude of coverage of these requirements can be assessed in the following table from the Energy Information Administration ("EIA") summary statistics for 2020. There are over 937,000 existing oil and natural gas wells in the United States. Of these, about 733,000 meet the 15 boe/day threshold. However, the distribution below that threshold is important in understanding the potential burden on oil and natural gas producers. Of the low production wells:

- 45 percent in the 0-1 boe/day,
- 14 percent in 1-2 boe/day,
- 15 percent in 2-4 boe/day,
- 9 percent in 4-6 boe/day,
- 6 percent in 6-8 boe/day,
- 4 percent in 8-10 boe/day,
- 3 percent in 10-12 boe/day, and
- 4 percent in 12-15 boe/day.

These numbers tell key stories. For example, 83 percent of the burden of complying with the EG will fall on wells in the 0-6 boe/day range. Wells decline quickly from 15 boe/day to 10 boe/day but can remain in the 0-2 boe/day range for an extended period of time. Figure 1 below from the EIA Report, U.S. Oil and Natural Gas Wells by Production Rate, January 13, 2022, shows the historical pattern of U.S. production over the past 20 years.

EIA -- United States Oil and Natural Gas Well Summary Statistics, 2020			
Total wells			
Production Rate Bracket (boe/day)	Number of Total Wells	Annual Oil Production (MMbbl)	Annual Natural Gas Production (Bcf)
0–1	332453	16.9	129.6
1–2	103692	21.3	176.7
2–4	107861	42.9	374.1
4–6	63211	40.2	389.8
6–8	42814	37.1	380.6
8–10	31309	35.3	357.5
Subtotal <=10	681340	193.6	1808.3
10–12	24048	32.8	338
12–15	27688	46.6	476.5
Subtotal <=15	733076	272.9	2622.9

15–20	32528	72.3	712.8
20–25	22253	64.5	628.6
25–30	16902	60.3	579.5
30–40	23427	105.5	1023.3
40–50	15563	90.2	880.5
Subtotal ≤50	843749	665.7	6447.6
50–100	35583	336.8	3085.2
Subtotal <=100	879332	1002.6	9532.9
100–200	22903	455.9	3977.6
200–400	16698	701.4	5544
400–800	10716	839.1	6454.8
800–1,600	4753	477.2	5733
1,600–3,200	1820	157.7	5131.9
3,200–6,400	585	176.1	2900.1
6,400–12,800	147	239.5	1153.1
> 12,800	30	88.9	170.9
Total	936984	4138.5	40598.3



The pool of existing sources is changing while much of the data that EPA uses to assess emissions has not and the existing regulations fail to recognize this dynamic. Despite repeated comments by the Producer Associations, EPA's current proposals fail to recognize this dynamic as well. Most of the studies used by EPA in the past and to support these proposals are based on data predominantly taken prior to 2015 which means that it predates the Subpart OOOOa regulations and was at the beginning of the implementation of the Subpart OOOO regulations. The Producers Associations have submitted information on this issue in prior comments demonstrating that the turnover in wells means that most of the existing source pool that exceeds 15 boe/day will be from Subpart OOOO/OOOOa well sites. While the brunt of the impact of the EG will fall on low production wells as a result, this proposal by using the November 2021 effective date also creates the anomalous issue of requiring sources complying with prior NSPS requirements to replace equipment and processes at considerable expense to owners/operators under the EG. EPA has not evaluated the impact on the original BSER/cost-effectiveness evaluation and justification for various requirements under previously enacted NSPS for the Oil and Gas Industry.

Returning to the implications of the EG on low production wells, EPA's recurring conclusion that designated facilities under the EG should be the same as affected facilities under the NSPS fails to understand the implications of inherent production depletion on the economics and emissions from smaller wells. There are fundamental factors that are not adequately considered in the EPA assessments. As oil and natural gas wells undergo their inherent depletion, the reduced volumes of production limit the amount of emissions that can be generated. Within the well itself, one key factor is the reduction of the internal pressure of the well. Lower well pressure may compel actions like the addition of pumps to pull the liquids out of the well bore, as well as the addition of compressors to pull gas from the well bore. Even natural gas-powered pneumatic controllers and pumps may not be able to function if the well pressure drops below the level needed to run the controller or pump, and consequently the well does not produce as a function of negative pressure. As a result, well sites must be reconfigured to reflect their aging operations. All these factors also influence the magnitude – even the possibility – of emissions. A natural gas well with a booster compressor is typically operating under negative pressure - trying to pull gas from the well. As opposed to "leaking" the system would be pulling ambient air into the gas product

stream, not having it leak from flanges and valves. As wells diminish, they do not necessarily operate – or emit – daily. Small wells may only operate a few days a week when the pumper comes to the site to operate the equipment to produce oil from a well bore that has slowly filled over the previous days. These factors affect the realistic design of regulations – including the potential definitions of designated facilities – that EPA has not addressed in the EG.

The additional regulations that EPA is proposing on existing oil and natural gas production can negatively impact low production wells. Most of the wells are operated by small businesses that are not able to distribute the additional compliance cost across a large number of wells or high volume of production. These regulations can disproportionately impact small businesses in every oil producing state, and the service companies that support the operators. Most of the small operators do not have the technical resources to be able understand EPA's requirements and implement the required programs. EPA will need to provide resources to assist the small businesses with compliance.

Supply disruptions occur around the world at a regular frequency. The disruptions may last for a few months (i.e., a terrorist bombs a transportation pipeline and the pipeline needs to be repaired) to several years (i.e., economic penalties enacted to encourage Iran to abandon their nuclear program). In some cases, the supply disruption only serves to redirect where oil is processed (the United States cannot purchase Venezuelan crude oil, but other countries such as China may process the crude oil). Unlike a supply disruption, when low production wells are plugged, the production will never be recovered.

If low production wells are shut down, this will take approximately ten percent of the American oil production and natural gas production offline, and approximately one percent of world oil production offline. This change in production will have long term, negative consequences for the American economy from higher energy prices and from the loss of jobs. When low production wells are plugged, this production is lost forever.

EPA needs to consider these negative consequences in the economic analysis of the proposed regulation. For example, the direct lost revenue to oil and natural gas companies and royalty owners if American oil production is diminished will be almost $30 billion per year (1,000,000 barrels of oil x $80/barrel x 365 days per year). This does not include the secondary financial loss to service companies or other businesses that derive revenue from oil and gas production (such as restaurants, automotive companies, accounting companies, office supply stores, and legal firms). Forcing the shutdown of one million barrels of oil production and hundreds of thousands of cubic feet of natural gas (and all the lost jobs) needs to be considered also. In addition to the lost revenue, lost jobs, and impact on secondary businesses, EPA also needs to consider the negative impact that the loss this production will have on the American economy.

Historically, when the crude oil supply and demand balance has been disrupted by two to three percent, there have been large changes in the price of crude oil. While the United States does not have specific controls in place to manage the balance of supply and demand (it permits market forces to drive the supply and demand balance), the Organization of the Petroleum Exporting Countries ("OPEC") actively controls production to balance supply and demand. OPEC only has 3 million to 5 million barrels/day of spare capacity to manage the supply and demand changes. The supply and demand balance is typically controlled within one to three percent of worldwide

crude oil production. Permanently removing a million barrels of production will have a measurably negative impact on the long-term supply of crude oil. The negative impact will be measured by higher crude oil prices. EPA needs to consider the worldwide impact that may occur if a million barrels per day of oil are removed from the world market because of this proposed regulation.

Similarly, as natural gas has become more of an internationally traded commodity – one that has critical implications today in Europe due to the Russian invasion of the Ukraine – loss of American natural gas in the world market can disrupt its stability both nationally and internationally.

EPA's proposed approach to regulating existing sources under Section 111(d) subordinates these critical questions in its assessment of technology. Moreover, it constrains states from appropriately taking these issues into account.

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Supply disruptions occur around the world at a regular frequency. The disruptions may last for a few months (i.e., a terrorist bombs a transportation pipeline, and the pipeline needs to be repaired) to several years (i.e., economic penalties enacted to encourage Iran to abandon their nuclear program). In some cases, the supply disruption only serves to redirect where oil is processed (the United States cannot purchase Venezuelan crude oil, but other countries such as China may process the crude oil). Unlike a supply disruption, when low production wells are plugged, the production will never be recovered.

If low production wells are shut down, this will take approximately ten percent of the American oil production and natural gas production offline, and approximately one percent of world oil production offline. This change in production will have long term, negative consequences for the American economy from higher energy prices and from the loss of jobs. When low production wells are plugged, this production is lost forever.

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Many of these issues are better understood by state regulators that have experience with the well operations and reservoirs in their state. If the proposed regulations were in the form of CTG where the flexibility to design RACM allows the state to readily address its distinctions, as contemplated by Section 111(d) such issues could be addressed more effectively. Ascribing to the Section 111(d) obligation to be prescriptive in regulation would be at odds with the intention that it would be applied to a small number of facilities that resulted from the regulation of emissions that were neither criteria pollutants nor hazardous air pollutants. Greenhouse gases ("GHG") were never envisioned at the time of the development of the CAA. Now, these EG involve almost one million sources – more when the multiple designated facilities definitions are considered. At the same time, EPA is proposing interpretations of the language of Section 111(d) – particularly the interpretation of remaining useful life and other factors ("RUELOF") – that handcuff the states flexibility to alter the EPA model regulations in the EG.

III. FUGITIVE EMISSIONS MONITORING

A. EPA's BSER Analysis Fails to Account for Declining Production/Emissions.

EPA revises the Subparts OOOOb and OOOOc proposals for fugitive emissions in several key areas in the Supplemental Proposal. Before addressing specific issues and recommendations related to the revised proposal, it is pertinent to provide a perspective on EPA's development of its fugitive emissions concepts.

A critical challenge in developing fugitive emissions regulatory programs for oil and natural gas production facilities relates to establishing a cost-effective structure. Except for its CTG model

regulations in 2016, EPA has presented its fugitive emissions regulations in the context of NSPS requirements. This context has distorted the deliberations on fugitive emissions policy since it surfaced in the Subpart OOOOa regulations. One the one hand, whatever has been done to develop NSPS fugitive emissions regulations has always been a precursor to its impact on existing source facilities that were never directly addressed in the NSPS regulations. Even the CTG only adopted the basic fugitive emissions regulatory framework for its model regulation. On the other hand, all of the information that EPA has used in its regulatory development – both emissions estimates and technology evaluations – comes from existing sources.

As a result, it is more appropriate to discuss the fugitive emissions proposal in the context of its role as an EG than as an NSPS proposal. These comments will therefore be dominated by an existing source assessment.

One of the primary cost-effectiveness issues with the fugitive emissions proposals arises from the failure of EPA's analysis to account for the impact of declining production reducing the potential magnitude of emissions from production facilities. The Producer Associations have addressed this dynamic in past comments with regard to both the EPA analyses and the distorted studies by environmental lobbying organizations presenting dubious emissions analyses.

There are many approaches to developing matrices to frame a series of fugitive emissions requirements that reflect the emissions profiles of oil and natural gas production facilities. The Producer Associations believe that the most straightforward approach would be to use production rates with some adjustments for specific onsite equipment. This approach would utilize information from DOE Study. However, EPA has an inordinately intense fascination with the use of component counts at facilities. This reliance on a system that uses component counts portends a potential complicated conflict implementing the EG because states have not used component counts in their current regulatory programs and could resist EPA's actions to force the approach on them. Nevertheless, these comments will address the issues in EPA's development of its fugitive emissions program proposal.

B. EPA Ignores Relevant Information From the DOE Study.

EPA creates four matrices of facilities for its different requirements. Details are shown below:

The affected facility is the collection of fugitive emissions components located at a well site or centralized production facility with no exemptions. Fugitive emissions component means any component that has the potential to emit fugitive emissions of methane or VOC at a well site, centralized production facility, or compressor station, including valves, connectors, pressure relief devices, open-ended lines, flanges, covers and closed vent systems not subject to §60.5411b (closed vent systems), thief hatches or other openings on a storage vessel not subject to §60.5395b (storage vessels), compressors, instruments, meters, and in yard piping. EPA is not maintaining the inclusion of natural gas-driven pneumatic controllers or natural gas-driven pneumatic pumps as fugitive emissions components. These devices are both separate affected facilities with separate standards identified as BSER. EPA is not defining control devices as fugitive emissions components.	
Fugitive Emissions Facilities	Monitoring Requirements

Single wellhead only well sites. a wellhead only well site is a well site that contains one or more wellheads and no major production and processing equipment	Quarterly AVO inspections
Wellhead only well sites with two or more wellheads	Semiannual Optical Gas Imaging ("OGI") (or EPA Method 21) monitoring and quarterly AVO inspections at wellhead only well sites with two or more wellheads.
Well sites and centralized production facilities with major production and processing equipment. Centralized production facilities include one or more storage vessels and all equipment at a single surface site used to gather, for the purpose of sale or processing to sell, crude oil, condensate, produced water, or intermediate hydrocarbon liquid from one or more offsite natural gas or oil production wells. This equipment includes, but is not limited to, equipment used for storage, separation, treating, dehydration, artificial lift, combustion, compression, pumping, metering, monitoring, and flowline. Process vessels and process tanks are not considered storage vessels or storage tanks. A centralized production facility is located upstream of the natural gas processing plant or the crude oil pipeline breakout station and is a part of producing operations.	Quarterly OGI (or EPA Method 21) monitoring and bimonthly AVO inspections at well sites and centralized production facilities with: (1) One or more controlled storage vessels or tank batteries; (2) one or more control devices; (3) one or more natural gas-driven pneumatic controllers; or (4) two or more pieces of major production or processing equipment not listed in items (1) through (3).
Small well sites are single wellhead well sites that do not contain any controlled storage vessels, control devices, pneumatic controller affected facilities, or pneumatic pump affected facilities, and include only one other piece of major production and processing equipment. Major production and processing equipment that would be allowed at a small well site would include a single separator, glycol dehydrator, centrifugal and reciprocating compressor, heater/treater, and storage vessel that is not controlled. By this definition, a small well site could only potentially contain a well affected facility (for well completion operations or gas well liquids unloading operations that do not utilize a closed vent system ("CVS") to route emissions to a control	Quarterly AVO inspections

device) and a fugitive emissions components affected facility. No other affected facilities, including those utilizing CVS (such as pneumatic pumps routing to control) can be present for a well site to meet the definition of a small well site.	

EPA creates three model facilities with detailed component count elements to define these matrix categories, but it uses emissions assumptions and emissions simulations using the Fugitive Emissions Abatement Simulation Tool ("FEAST") to create various control technology options. Essentially, EPA produces FEAST based on emissions levels related to throughput – one percent or 0.5 percent of throughput. For its single well only well site (single well site), its multiple well only well site (multiple well site), and its small well site (small well site) facilities, the production level would be below the threshold of EPA's earlier definition of a low production well – 15 barrels/day or 90 mcfd. For its large facility (large well site), the production level would be three times the level of a low production well. It is because of these assumptions that the model is really more pertinent to the EG since no producer would be planning to drill new wells with these levels of production.

A key question then is the validity of the assumptions that EPA has used for its inputs. EPA relies on two primary resources – the DOE Study and a Rutherford Study[3] – to test the validity of its FEAST results.

Taking the Rutherford Study first, there is no reason why EPA should use this data source. The genesis of the Rutherford Study relates to the ongoing disputes of differences in studies and inventories, such as the Inventory of U.S. Greenhouse Gas Emissions and Sinks ("GHGI"), which is bottom-up calculations and atmospheric studies. The Rutherford Study seeks to close the gaps by addressing the emissions factors used in the GHGI. It turns to the array of other studies and effectively cherry picks emissions factors from those studies to replace ones in the GHGI. Inherent in this effort is reliance on the same studies that have been used for prior analyses. The Producers Associations have addressed the shortcomings of these studies in past comments – limited sampling times, little or no information on the facility operation, and no certainty on quality control of the data. And, as in past situations, these reports only incidentally take data on the low production wells that are the focus of EPA's analysis. Finally, the Rutherford Study brings no new data to the analysis; it merely regurgitates old, inadequate material.

The DOE Study is a different story. It does provide new information with emissions data taken and with facility information at the time of the sampling. The issues with the DOE Study relate to EPA's interpretation. The DOE Study provides substantial new information on the emissions profile of low production wells, but EPA has chosen to limit the use of this material.

[3] *Closing the methane gap in US oil and natural gas production emissions inventories*, Nature Communications (Aug. 5, 2021).

For example, with its inordinate focus on component counts as the sole basis to regulate fugitive emissions, EPA immediately discounts how the DOE Study can be used to create a much simpler regulatory path. At this point, it is pertinent to bring into the discussion the use of Audio-Visual-Olfactory ("AVO") monitoring for fugitive emissions at oil and natural gas production sites. The Producers Associations have supported the use of AVO monitoring as an alternative to the costly Optical Gas Imaging ("OGI") and Method 21 LDAR that have been the primary basis for previous fugitive emissions programs. The Producers Associations support EPA's decision to embrace AVO in its regulatory framework. It is particularly significant for low production wells. Consequently, in assessing the material in the DOE Study, evaluating the emissions information in a post-AVO application context is imperative. That is, while there may be higher emitting components at a facility, in looking at how to assess regulatory options, those that would be eliminated by an AVO program should be excluded. (Similarly, if the higher emitting component is regulated under a part of Subpart OOOOc that is separate from the fugitive emissions program, it should be excluded.) The DOE Study demonstrated that low production well sites significant emissions resulted from predictable sources – tank vents or thief hatches, pneumatic controllers at separator vessels, open valves, or damaged piping. All of these can be identified with AVO. This reality is particularly clear for well sites producing 6 barrels/day of oil equivalent or less. Compared to the complicated matrix of well site options in the EPA proposal, this approach would be easily identifiable. Moreover, it would mean that 83 percent of the regulatory burden on low production wells would be managed in a straightforward program.

However, while EPA continues to believe that component count approaches should define its various regulatory matrices, its regulatory analysis is based on use of FEAST. The Producers Associations lack the resources to duplicate the EPA FEAST analyses or conduct an independent analysis of the model, but at this point the Producers Associations support the use of the model encourage EPA to utilize other models and accept additional modeling results produced after the close of the comment period. The Producers Associations, however, can address the FEAST results and the implications of EPA's assessment of those results.

As described above, EPA used two resources to justify the validity of its FEAST results – the DOE Study and the Rutherford Study. If EPA had relied on the DOE Study's actual data for low production wells for the single well site, multiple well site, and small well site analyses, it would need to shift its FEAST inputs. As EPA describes in its materials, the DOE study would have produced the following differences:

	EPA FEAST Emissions – 0.5% Leak Generation	**DOE Study – As Reported by EPA**
Single Well Site	1.27 tpy	0.26-0.56 tpy
Multiple Well Site	2.66 tpy	0.52-1.12 tpy
Small Well Site	1.27 tpy	0.20 tpy

Since the output from the FEAST analyses become the baseline for EPA's assessment of emissions reductions from various control strategies and the basis for the calculations of cost effectiveness, these differences that are two to six times the DOE Study values can produce significant changes in some of the determinations.

Because the EPA proposed control structures for both single wells sites and small well sites are quarterly AVO programs, the more clear-cut impact is on the multiple well site. This will be addressed first. Before going into the specifics of the application of the emissions baseline, the Producers Associations have concerns regarding the approach that EPA appears to have taken in developing its multiple well site regulatory strategy.

As EPA details in its preamble and support documents, it recognizes that the use of AVO can identify and correct the primary fugitive emissions sources, particularly for low production wells. The multiple well site model is a low production well, producing approximately 90 mcfd in its analysis and between 19 and 38 mcfd using the DOE Study values. Consequently, this category of wells would be well managed using AVO. For this reason, the Producers Associations believe that EPA should have developed its regulatory strategy by first applying an AVO control approach and determining its cost effectiveness. Next, EPA should assess the impact of adding an OGI component, like the semiannual proposal or perhaps an annual proposal. EPA should then evaluate the incremental costs per ton of these additions to determine whether such requirements were cost effective. In other words, the baseline for control would be a periodic AVO requirement and any OGI would be judged on its incremental costs and benefits.

This does not appear to be the approach EPA used. EPA appears to have used an OGI baseline and then substituted AVO for quarterly OGI to generate its OGI-AVO combination of requirements.

Next, EPA should have developed its analysis around the DOE Study. Examining the multiple well site calculations and using an average DOE Study methane emissions value of 0.82 tons/year and assuming a VOC emissions value of 0.23 tons/year, very different conclusions are evident.

OGI & AVO Combined Program				
Survey Frequency	**Baseline Methane Emissions (tpy)**	**Methane Emissions Reductions (%)**	**Methane Emissions Reductions (tpy)**	**VOC Emissions Reductions (tpy)**
AVO; 0.5%;				
No monitoring baseline	0.82			
Quarterly AVO baseline	0.48	42%	0.34	0.10
Semiannual OGI	0.27	67%	0.55	0.15
Quarterly AVO + Semiannual OGI	0.10	88%	0.72	0.20

Monitoring Frequency	Annual Cost ($/yr/site)	Methane Emission Reduction (tpy/site)	VOC Emission Reduction (tpy/site)	Cost-Effectiveness		Incremental Cost-Effectiveness*	
				Methane ($/ton)	VOC ($/ton)	Methane ($/ton)	VOC ($/ton)
Multi-Wellhead Well Sites: Includes additional travel costs Single Pollutant Approach							
Quarterly AVO	$830	0.34	0.10	$2,441	$8,300		
Semiannual OGI	$2,327	0.55	0.15	$4,231	$15,513	$6,805	$29,940
Semiannual OGI + Quarterly AVO	$2,651	0.72	0.20	$3,681	$13,255	$4,792	$18,210
Multi-Wellhead Well Sites: Includes additional travel costs Multipollutant Approach							
Quarterly AVO	$830	0.34	0.10	$1,220	$4,150		
Semiannual OGI	$2,327	0.55	0.15	$2,115	$7,757	$3,403	$19,970
Semiannual OGI + Quarterly AVO	$2,651	0.72	0.20	$1,841	$13,255	$2,396	$9,105
*The incremental cost effectiveness is calculated against the baseline of quarterly AVO.							

Based on using more accurate assessments of the emissions from multiple well sites, EPA's proposed approach fails to pass the cost-effectiveness threshold test of $2,165/ton of methane and the $5,540/ton of VOC. Consequently, the Producers Associations recommend that EPA use a quarterly AVO program only for its multi-wellhead well sites category like it proposes for the single well sites.

EPA has demonstrated through its FEAST analysis that emissions from low production oil and natural gas facilities are small. These comments that have relied on the DOE Study further demonstrate that low production well sites can be well managed through AVO programs targeting key emissions sources. Moreover, EPA has limited the scope of equipment that falls under the definition of its fugitive emissions program – separating controlled storage tanks and pneumatic controllers from the fugitive emissions facility. While EPA proposes to require all facilities to undergo some type of fugitive emissions detection, clearly, the vast majority of low production operations are below the 3 tons/year threshold that EPA proposed in 2021 as a threshold of concern and will be far smaller after the application of an AVO fugitive emissions program. At issue is whether EPA's matrix definitions for small well sites and large well sites provide the correct framework for low production wells.

C. EPA Should Create an Intermediate Well Site Category.

EPA is correct to separate requirements on small well sites from those at large well sites. However, the definition of a small well site appears to overly constrain the scope of sites that

should fall into it. For example, EPA estimates that 95,000 sites will fall within its small well site definition. As described previously, 83 percent of low production wells produce 6 boe/day or less. In total, there are over 600,000 wells in this category (over 330,000 are less than one boe/day and 200,000 are between 1 and 4 boe/day). While many will be single well or multiple well sites, it is highly likely that a sizable number of these wells will fall into EPA's large well definition. Because the large well matrix category captures everything above a threshold of not being a single well site, a multiple well site and a small well site, EPA needs to ensure that its threshold is appropriate. EPA notes in the preamble that the larger end of the DOE Study found wells that were emitting three to four tons per year. In its FEAST model analysis EPA uses an emissions threshold of 8.51 tons per year. This emissions rate translates into a well producing about 290 mcfd and is within EPA's concept of a large facility. However, a facility emitting three to four tons/year will essentially be at the top end of the low production well definition and its emissions will likely be consistent with EPA's small well site matrix category.

When EPA undertakes its cost-effectiveness analysis for its OGI based proposal, it again assesses the use of AVO as an addition to an OGI program. While this may be appropriate for truly large well sites, a more appropriate analysis for those sites on the borderline between small well sites and large wells would be the initial application of the small well site AVO program followed by the addition of an OGI requirement. This is particularly important because the shift between the requirements is from an all AVO quarterly program to a bimonthly AVO and quarterly OGI program – a fourfold cost increase. A more logical approach would be to move from an AVO small well program to an AVO/OGI mixed program for an intermediate well site to its AVO/OGI program for large sites.

Regardless of whether there is a gradual shift in requirements or a step change, it is imperative that EPA provide a reasonable definition of the facilities in the matrix components. Based on EPA's assessment of 95,000 facilities falling into the small well site category when hundreds of thousands are truly small well sites, EPA needs to establish better definitions to match a small site AVO fugitive emissions program with small well sites.

The Producer Associations recommend that EPA use a well site definition approach that combines production throughput and components to create simplicity and avoid inappropriate results. As much as EPA is attracted to component counts, it has no greater certainty to define well site cutoffs than production throughput and can lead to results that make no sense. For example, a well site producing 6 boe/day with two small uncontrolled tanks would be clearly a low producing well under the DOE Study and easily managed with an AVO program. However, under EPA's component only well site definitions, it would be a large well site subject to quarterly OGI. Consequently, the Producer Associations recommend the approach outlined in the following table.

Type of Well Site	**Criteria**	**Leak Detection Requirement**
Small Well Site/Booster Compressor	A booster compressor or a well site with production of 6 boe/day based on definition at 26 USC 613A(c)(2)(A) and no more than 220	Quarterly AVO

	components with no more than 2 uncontrolled tanks, no other component limitations.	
Intermediate Well Site	Production from 6 to 15 boe/day based on definition at 26 USC 613A(c)(2)(A) and more than 220, but not more than 612 components, and small well sites with more than 220 components or more than 2 uncontrolled tanks.	Quarterly AVO and initially semiannual OGI. If OGI showed no fugitive emissions that could not have been found through AVO, OGI would become annual. If annual OGI showed no fugitive emissions that could not have been found through AVO, future OGI would be at the discretion of the state
Large Well Site	Production greater than 15 boe/day based on definition at 26 USC 613A(c)(2)(A).	Bimonthly AVO and initially quarterly OGI. If quarterly OGI shows no emissions that could not have been found through AVO, OGI would become semiannual.
Site categorization would change based on well site production/component count. Alternative technologies would be available for OGI based on the alternative technology section.		

D. EPA Should Integrate "Evergreen" Elements to the Monitoring Requirements.

EPA also needs to provide "evergreen" elements to its fugitive emissions requirements for all matrix elements. First, EPA needs to provide that the appropriate matrix is used as wells decline. As a well site moves from the large facility category, its requirements need to change to the appropriate status – single well site, multiple well site, small well site, or intermediate well site. Second, when EPA requires OGI as part of the fugitive emissions program, there needs to be a mechanism to alleviate this requirement if it is adding little or no benefit. That is, if quarterly OGI is not identifying emissions issues that are not being found and addressed by the AVO component of the program, it needs to be revised to a semiannual requirement; if it adds no benefits as a semi-annual program, it needs to be revised to an annual program or eliminated. Third, EPA is making efforts to allow emerging technologies to be used in fugitive emissions programs. These new technologies are evolving constantly and whether they currently compare to EPA's assessment of its OGI program, the potential for future technologies cost effectively improving upon the current OGI technology capabilities is high. As a result, EPA's current mix of technologies and frequencies should change to reflect better methodologies. Producers should not be constrained to the use of outdated methods when better ones arise.

EPA's perspective on the life of a producing well seems to be that it operates daily and then it stops. In reality, it changes over time. As production declines, the nature of its operations changes as well as the equipment at the site. Instead of daily production, it may function several

days a week and then lessen. This changes the emissions profile. At some point the well may become inactive but not permanently shut down. States have programs that allow producers to stop operation for some period of time while deciding whether to return it to operation or plug it or sell it. During this time its emissions will be nonexistent or minimal. Eventually, the well will be plugged and permanently shut down. While EPA creates regulatory requirements for operating wells and for plugged wells, inactive wells are not addressed. They should be addressed through an AVO only program, perhaps semi-annually.

While comments related to the Section 111(d) state implementation process are included later in this document, there is a specific issue that is appropriate to address here regarding the structure of fugitive emissions program categories. While EPA is fixated on using component counts and model well sites to define its EG, states have not shown a similar mindset. Some states have used production rates or emissions estimates based on production rates to define their programs, but the use of elaborate component counts is absent in state regulatory programs. This is a major reason why the Producer Associations have repeatedly recommended using production rates – with the framework of the federal tax code as the calculation method – to define regulatory requirements. EPA's own efforts to try to develop a component count regulatory basis shows that the calculation process is imprecise. Moreover, despite EPA's dismissal of production rates as not being a precise link to emissions, no other approach has shown itself to be appreciably better. In reality, when dealing with a million existing sources that span a wide range of emissions profiles and where the emissions data on those operations are based on a small fraction of the operations, there will never be a structure that provide certainty. In the next phase of this regulatory process – the development of state plans – EPA is setting the stage for unnecessary confrontations with states over the drafting of regulations and the determinations of equivalency. EPA tries to minimize state flexibility by announcing that its analysis is so persistent that states will not be able to demonstrate alternative choices. But, each state has its own regulatory framework and EPA's threatening approach will not easily bend their will. The end result could be regulatory chaos; EPA could end up generating federal plans that it has neither the staff nor the skills to implement. Producers will be faced with two simultaneous regulatory programs which is a patently unfair situation and for small businesses likely crippling. EPA needs to address these predictable consequences now.

E. EPA's Proposed Well Closure Requirements are Unnecessary and on Questionable Legal Footing.

EPA is unnecessarily wading into a regulatory arena already occupied by the states with questionable legal authority and teeing up state/federal primacy issues. Ostensibly, since idle and/or abandoned wells may have emissions, some monitoring might be authorized under the CAA, but EPA has provided no BSER analysis to justify OGI when a well has been idled or plugged/abandoned. EPA provided no explanation of why AVO would not suffice. The economics dictate that a well that is being plugged/abandoned is more likely than not to be a low production well and that low production well is operated by a small business. Requiring OGI when a well is plugged would place a disproportionate cost on small businesses that is not justified.

The notice, recordkeeping, bonding, and closure plans are excessive and not sufficiently linked to reducing emissions to be warranted. Additionally, in most instances, they are duplicative

and/or potentially inconsistent with what states already require. States and the Bureau of Land Management currently occupy this regulatory space and EPA's proposal is unnecessary. More specifically the Producer Associations provide the following comments on short comings of EPA's proposal:

- EPA's requirement of submitting a well closure plan within 30 days of "cessation" of production. At a minimum, the term "cessation" is ambiguous and perhaps denotes a lack of understanding of the industry. The fact an owner/operate idles a well for 30 or more days does not mean it intends to plug/abandon the well. Wells are often temporarily shut in for mechanical considerations, wellbore issues, reworking or repair of surface facilities or government orders/enforcement.

- Many/most states require a final report of some sort related to plugging in order for their bond to be released. EPA's proposals are duplicative and likely inconsistent. EPA lacks authority to require financial assurances when the states have already established bonding requirements associated with plugging wells.

- EPA provides no justification or rationalization for requiring a description of the steps to close all wells at the well site when it is not uncommon for simply one well to be identified as uneconomical and thus slated for plugging while remaining wells remain in service.

IV. PNEUMATIC CONTROLLERS/PUMPS

EPA's analysis of BSER for pneumatic controllers and pneumatic pumps relies on information that overstates the emissions from these sources. It is particularly an issue for intermittent pneumatic controllers that are widely used at existing oil and natural gas production operations and therefore badly skews the cost-effectiveness analysis. There are several types of pneumatic controllers, each with varying amounts of emissions. Some of these controllers serve as a safety backup and are used very irregularly, sometimes only a few times per year. Other devices, on older facilities may only actuate a few times/day or even per week. Yet, the default 8760 hours are used when calculating their emissions. This leads to an inexplicable over-estimation of emissions. However, due to the alternative method of calculating emissions and lack of penalties for over reporting, operators have chosen to simplify calculations for GHG reporting

A. EPA's Supplemental Proposal's Reliance on GHGRP Undermines EPA's BSER Analysis for Pneumatics.

EPA bases much of its analysis on emissions factors from the Greenhouse Gases Reporting Program ("GHGRP"). However, these emissions factors are flawed and being reviewed by EPA for revision; even the revisions are at issue. Their use produces a faulty analysis.

In proposed revisions to the GHGRP rules found at Docket ID – EPA-HQ-OAR-2019-0424, EPA indicates on multiple occasions that existing GHGRP data and inventories have been used to inform other agency regulations and policy making decisions. At the same time and in the same comments, the agency acknowledges that historical GHGRP data is of poor quality and inaccurate. See excerpts below:

Further, the data collected under the GHGRP has also been used to inform other regulations, for example, proposed New Source Performance Standards (NSPS) and Emission Guidelines for the oil and gas industry and for municipal solid waste (MSW) landfills under 40 CFR part 60.[4]

A. Revisions To Improve the Quality of Data Collected Under 40 CFR Part 98 and Other Minor Revisions or Clarifications: The data collected under part 98 are used to inform the EPA's understanding of the relative emissions and distribution of emissions from specific industries, the factors that influence GHG emission rates, **and to inform policy options and potential regulations.** Following several years of implementation and outreach, the EPA has identified certain areas of the rule where updates to emissions factors or other default factors; improvements to calculation methodologies; collection of additional data on GHG emissions, emissions sources, or end uses; additions or revisions to data elements or other reporting requirements; and other technical amendments, clarifications, and corrections **would enhance the quality and accuracy of the data collected under the GHGRP**. These proposed changes include consideration of comments raised by stakeholders in prior rulemakings that would more closely align rule requirements with the processes conducted at specific facilities, consideration of data gaps identified in collected data where additional data would improve verification of data reported to the GHGRP, and consideration of additional data needed to help better understand changing industry emission trends. Overall, these proposed changes would provide a more comprehensive, nationwide GHG emissions profile reflective of the origin and distribution of GHG emissions in the United States and **would more accurately inform EPA policy options for potential regulatory or non-regulatory CAA programs.** The EPA additionally uses the data from the GHGRP, which would include data from these proposed changes, to improve estimates used in the U.S. GHG Inventory.[5]

Following several years of implementation and outreach, the EPA has identified certain areas of the rule where updates to emissions factors or other default factors; improvements to calculation methodologies; collection of additional data on GHG emissions, emissions sources, or end uses; additions or revisions to data elements or other reporting requirements; and other technical amendments, clarifications, and corrections **would enhance the quality and accuracy of the data collected under the GHGRP**.[6]

The Producer Associations agree with EPA in its conclusion that historical GHGRP data, in many cases, is of poor quality and inaccurate, which supports the position stated above. To see an illustration of the absurdity, EPA need look no further than its own proposed requirements for pneumatic controllers and pumps, including intermittent-bleed pneumatic devices, which proposes a BSER of zero-emissions.

[4] 87 FR 36925 (emphasis added).

[5] 87 FR 36926 (emphasis added).

[6] *Id.*

The proposed policy provisions and cost-effectiveness determination for this BSER largely hinge upon historical GHGRP inventories made up of data that is inaccurate and of poor quality. Beyond the agency excerpts above, EPA further acknowledges this through its proposed GHGRP revisions for calculating emissions associated with intermittent-bleed pneumatic devices, summarized below. Current GHGRP – Subpart W rules require reporters to calculate emissions from intermittent-bleed pneumatic devices by:

- Utilizing Equation "W-1", where:
- EF_t = 13.5 scf/hr/component for intermittent-bleed pneumatic device vents (from Table W-1A), and
- T_t = Average estimated number of hours in the operating year the devices, of each type "t", were operational using engineering estimates based on best available data. Default is 8,760 hours.

Proposed GHGRP – Subpart W revisions for calculating emissions from intermittent-bleed pneumatic devices allows one of two options:

- Utilize Equation "W-1A", where:
- EFt = 8.8 scf/hr/component for intermittent-bleed pneumatic device vents (from Table W-1A), **which represents a nearly 35% reduction compared to the current emissions factor**, and
- Tt = Average estimated number of hours in the operating year the devices, of each type "t", were in service (i.e., supplied with natural gas) using engineering estimates based on best available data. Default is 8,760 hours.

OR

- Utilize Equation "W-1B", which contemplates an entirely new proposed alternative calculation methodology allowing reporters that perform approved leak surveys (i.e., Leak Detection and Repair ("LDAR") surveys with OGI cameras) to identify properly operating versus malfunctioning intermittent-bleed pneumatic devices, and
- Proposes an EF of 24.1 scf/hr/component for malfunctioning/leaking devices and specifies the method for determining the amount of time a device was assumed to be leaking, and
- Proposes an EF of 0.30 scf/hr/component for properly operating devices and specifies the method for determining the amount of time a device was assumed to be operating. **This represents a nearly 98% reduction from the current required EF for intermittent-bleed pneumatic devices.**

Although many Subpart W reporters, including multiple Producer Associations' members, currently perform voluntary (and mandated) Subpart OOOOa compliant LDAR surveys utilizing OGI cameras, in-line with the proposed GHGRP revisions, and are able to identify properly operating devices versus malfunctioning devices, the current rules do not allow the data to be used. As such, it significantly overstates GHG emissions from intermittent-bleed pneumatic devices. These overstated emissions are included in historical GHGRP inventories.

B. EPA's Inaccurate Data Skew the BSER Analysis for Certain Pneumatics.

To demonstrate how GHG emissions from intermittent-bleed pneumatic devices are significantly overstated by the current GHGRP Subpart W rules versus proposed GHGRP revisions, it is presented in the tables below which is reflective of a current Producer Associations' member's operations and actual voluntary LDAR program results:

<table>
<tr><td colspan="2">Comparison of Methane Emissions Associated with Intermittent-Bleed Pneumatic Devices as Determined by Current GHGRP "Eq. W-1" v. Proposed GHGRP "Eq. W-1A" v. Proposed GHGRP "Eq. W-1B"</td></tr>
<tr><td colspan="2">Case study based on actual results of one Producer Associations' member's operations and associated LDAR program:
- Numbers rounded to nearest whole number for illustrative purposes
- Operator reports under the Production Segment of Subpart W
- Approximately 10,000 Intermittent-bleed Pneumatic Devices @ roughly 1,500 Locations with 4,000 wells
- Locations not subject to Subpart OOOOa
- Operator Performs voluntary Subpart OOOOa compliant OGI leak surveys at all 1,500 locations one-time per annum
- Approx. 100 malfunctioning (i.e., leaking) devices identified; a 1.0% leak rate (actual leak rate identified by operator less than 1% based on 2 years of voluntary LDAR surveys at all locations)
- Remaining 9,900 devices, verified to be operating normally
- Default of 8760 hours per device for "operating" (current rule) and "In-service" (proposed rule) times
- Default of 8760 hours per malfunctioning device for leak duration
- Operator produces dry gas with a 98% CH_4 Fraction and 0% VOCs
- Conversions performed at standard conditions, 60 °F and 14.7 psia.</td></tr>
<tr><td>Current – "Eq. W-1"</td><td>$$E_{s,i} = \sum_{t=1}^{3} Count_t * EF_t * GHG_i * T_t \quad \text{(Eq. W-1)}$$

10,000 devices x 13.5 scf/hr/device x 0.98 CH4 % x 8760 hours = 1,158,948,000 scf CH_4 emissions

$$Mass_i = E_{s,i} * \rho_i * 10^{-3} \quad \text{(Eq. W-36)}$$
Where:
$Mass_i$ = GHG_i (either CH_4, CO_2, or N_2O) mass emissions in metric tons.
$E_{s,i}$ = GHG_i (either CH_4, CO_2, or N_2O) volumetric emissions at standard conditions, in cubic feet.
ρ_i = Density of GHG_i. Use 0.0526 kg/ft^3 for CO_2 and N_2O, and 0.0192 kg/ft^3 for CH_4 at 60 °F and 14.7 psia.

1,158,948,000 scf CH4 * 0.0192 kg/ft^3 * 0.001 mt/kg = 22,252 mt CH_4</td></tr>
</table>

Proposed – "Eq. W-1A"	$$E_{s,i} = \sum_{t=1}^{3} Count_t * EF_t * GHG_i * T_t$$ (Eq. W-1A) **10,000 devices x 8.8 scf/hr/device x 0.98 CH4 % x 8760 hours = 755,462,400 scf CH_4 emissions** $$Mass_i = E_{s,i} * \rho_i * 10^{-3}$$ (Eq. W-36) Where: $Mass_i$ = GHG_i (either CH_4, CO_2, or N_2O) mass emissions in metric tons. $E_{s,i}$ = GHG_i (either CH_4, CO_2, or N_2O) volumetric emissions at standard conditions, in cubic feet. ρ_i = Density of GHG_i. Use 0.0526 kg/ft^3 for CO_2 and N_2O, and 0.0192 kg/ft^3 for CH_4 at 60 °F and 14.7 psia. **755,462,000 scf CH4 * 0.0192 kg/ft^3 * 0.001 mt/kg = 14,505 mt CH_4**
Proposed – "Eq. W-1B" **One OOOOa compliant LDAR survey per annum, leak durations of 8,760 hours**	$$E_i = GHG_i * \left[\left(24.1 * \sum_{z=1}^{x} T_z\right) + \left(0.3 * Count * T_{avg}\right)\right]$$ (Eq. W-1B) **0.98 CH4 % x [(24.1 scf/hr/device x 100 leaking devices x 8760 hours) + (0.3 scf/hr/device x 9,900 non-leaking devices x 8760 hours)] = 46,186,224 scf CH_4 emissions** $$Mass_i = E_{s,i} * \rho_i * 10^{-3}$$ (Eq. W-36) Where: $Mass_i$ = GHG_i (either CH_4, CO_2, or N_2O) mass emissions in metric tons. $E_{s,i}$ = GHG_i (either CH_4, CO_2, or N_2O) volumetric emissions at standard conditions, in cubic feet. ρ_i = Density of GHG_i. Use 0.0526 kg/ft^3 for CO_2 and N_2O, and 0.0192 kg/ft^3 for CH_4 at 60 °F and 14.7 psia. **46,186,224 scf CH4 * 0.0192 kg/ft^3 * 0.001 mt/kg = 887 mt CH_4**

Proposed – "Eq. W-1B"	$$E_i = GHG_i * \left[\left(24.1 * \sum_{z=1}^{x} T_z\right) + \left(0.3 * Count * T_{avg}\right)\right] \quad \text{(Eq. W-1B)}$$
Four OOOOa compliant LDAR surveys per annum, leak durations of 2,190 hours **FOR ILLUSTRATION ONLY**	**0.98 CH4 % x [(24.1 scf/hr/device x 100 leaking devices x 2190 hours) + (0.3 scf/hr/device x 9,900 non-leaking devices x 8760 hours)] = 30,669,198 scf CH_4 emissions** $$Mass_i = E_{s,i} * \rho_i * 10^{-3} \quad \text{(Eq. W-36)}$$ Where: $Mass_i$ = GHG_i (either CH_4, CO_2, or N_2O) mass emissions in metric tons. $E_{s,i}$ = GHG_i (either CH_4, CO_2, or N_2O) volumetric emissions at standard conditions, in cubic feet. ρ_i = Density of GHG_i. Use 0.0526 kg/ft^3 for CO_2 and N_2O, and 0.0192 kg/ft^3 for CH_4 at 60 °F and 14.7 psia. **30,669,198 scf CH4 * 0.0192 kg/ft^3 * 0.001 mt/kg = 589 mt CH_4**
Summary – Based on the scenario above, current GHGRP requirements ("Eq. W-1") overstate methane emissions associated with intermittent-bleed pneumatic devices by approx. 35% compared to proposed GHGRP alternative 1 ("Eq. W-1A") and by approx. 96% compared to proposed GHGRP alternative 2 ("Eq. W-1B"). **If the same 1% leak rate was assumed AND quarterly LDAR surveys were performed, such that all leak durations were 2,190 hours vs. the default of 8,760 hours, GHG emissions would be overstated by approx. 97.4% when using proposed GHGRP alternative 2 ("Eq. W-1B").**	

The approximately 1,500 locations in this example are most analogous to "medium model plants" as that term is used in EPA's cost-effectiveness analysis, and virtually none of the locations has access to grid power. As such, based on EPA's projected cost estimates, this operator would have an initial total capital investment ("TCI") in the range of $57,661,500 to $180,000,000 to reduce 887 mt of methane emissions per year. Using the EPA's total annual cost ("TAC") projections and a 15-year equipment life span, the cost per ton of methane reduced would be in the range of $4,681 to $23,819, which is well outside of EPA's reasonableness threshold of $1,970/ton of methane reduced.

This example is one of many across the Oil and Gas Industry which demonstrates that EPA is well aware current GHGRP rules and associated mandated calculation methodologies, significantly overstate emissions for intermittent-bleed pneumatic devices. Yet, EPA largely utilized historical data from its GHGRP as the basis for policy development, such as the requirements in NSPS Subpart OOOOb and EG Subpart OOOOc, which will require the Oil and Gas Industry, amongst other things, to transition to zero-emitting pneumatic devices as the BSER.

EPA's cost-effectiveness analysis and determinations for this BSER are also based on the same historical GHGRP data and are therefore inaccurate. In fact, when comparing the calculated

methane emissions from the example above, utilizing proposed "Eq. W-1B", almost none of the proposed methods in EPA's cost-effectiveness evaluation for new sources are reasonable and NONE are reasonable for existing sources. And, this also assumes that the cost estimates used by EPA in the analysis are accurate and right-sized for the entire industry – which is almost certainly not the case. A comparison of the EPA's cost-effectiveness determinations, for both new sources and existing sources, compared to determinations utilizing proposed GHGRP revisions for pneumatic controller emissions calculations, based on the Producer Associations member scenario above, is provided below.

Comparison of New Source Cost Effectiveness for Pneumatic Controller Systems Not Driven By Natural Gas (Production Segment Only)

Table 28 (FR p.74768) v. IPAA Member Example Using "Eq. W-1A" v. IPAA Member Example Using "Eq. W-1B"

Single Pollutant (Methane)

	Table 25 (FR p. 74762)		IPAA Member Scenario Using "Eq. W-1A"		IPAA Member Scenario Using "Eq. W-1B"	
Segment/model plant	Cost effectiveness[a] ($/ton methane reduced)	Reasonable? (Y/N)	Cost effectiveness[b] ($/ton methane reduced)	Reasonable? (Y/N)	Cost effectiveness[c] ($/ton methane reduced)	Reasonable? (Y/N)
Production:						
Small—Electric controllers—grid	$ 162	Y	$ 131	Y	$ 2,147.69	N
Small—Electric controllers—solar	$ 238	Y	$ 192	Y	$ 3,134.16	N
Small—Compressed air—grid	$ 1,969	Y	$ 1,600	Y	$ 26,169.67	N
Small—Compressed air—generator	$ 2,673	N	$ 2,172	N	$ 35,524.24	N
Medium—Electric controllers—grid	$ 96	Y	$ 83	Y	$ 1,351.47	Y
Medium—Electric controllers—solar	$ 167	Y	$ 145	Y	$ 2,366.12	N
Medium—Compressed air—grid	$ 1,062	Y	$ 918	Y	$ 15,019.73	N
Medium—Compressed air—generator	$ 1,187	Y	$ 1,027	Y	$ 16,789.74	N
Large—Electric controllers—grid	$ 62	Y	$ 53	Y	$ 873.73	Y
Large—Electric controllers—solar	$ 130	Y	$ 112	Y	$ 1,839.35	Y
Large—Compressed air—grid	$ 593	Y	$ 513	Y	$ 8,394.02	N
Large—Compressed air—generator	$ 780	Y	$ 674	Y	$ 11,028.75	N

[a] For the production and processing segments, the owners and operators realize the savings for the natural gas that not emitted and lost. The cost effectiveness values shown do not consider these savings. Note that the consideration of savings does not impact whether the cost effectiveness of any of these options falls within the ranges considered reasonable by the EPA.

[b] Based on 1.45 tpy methane emissions per intermittent bleed pneumatic device from IPAA Member Scenario using proposed "Eq. W-1A" for 10,000 intermittent-bleed pneumatic devices, 98% methane fraction and default 8760 operating hours. Intermittent-bleed pneumatic controller counts per model plant match counts from Table 23 (FR p. 74761) - 4 per small model plant, 8 per medium model plant and 20 per large model plant.

[c] Based on 0.09 tpy methane emissions per intermittent bleed pneumatic device from IPAA Member Scenario using proposed "Eq. W-1B" for 10,000 intermittent-bleed pneumatic devices, 98% methane fraction, default 8760 operating hours, 1% malfunctioning ("leaking") rate, 1 OOOOa compliant LDAR survey per annum and default 8760 hours leaking time. Intermittent-bleed pneumatic controller counts per model plant match counts from Table 23 (FR p. 74761) - 4 per small model plant, 8 per medium model plant and 20 per large model plant.

Reasonableness determination based on a cost of $1970/ton methane reduced as specified in Supplemental Proposed Rule (FR p. 74718)

Comparison of Existing Source Cost Effectiveness for Pneumatic Controller Systems Not Driven By Natural Gas (Production Segment Only)

Table 28 (FR p.74768) v. IPAA Member Example Using "Eq. W-1A" v. IPAA Member Example Using "Eq. W-1B"

Single Pollutant (Methane)

Segment - model plant	Table 28 (FR p. 74768)		IPAA Member Scenario Using "Eq. W-1A"		IPAA Member Scenario Using "Eq. W-1B"	
	Cost effectiveness[a] ($/ton methane reduced)	Reasonable? (Y/N)	Cost effectiveness[b] ($/ton methane reduced)	Reasonable? (Y/N)	Cost effectiveness[c] ($/ton methane reduced)	Reasonable? (Y/N)
Production Segment:						
Small—Electric controllers—grid	$ 195	Y	$ 232	Y	$ 3,790.87	N
Small—Electric controllers—solar	$ 255	Y	$ 304	Y	$ 4,963.36	N
Small—Compressed air—grid	$ 1,524	Y	$ 1,811	Y	$ 29,611.05	N
Small—Compressed air—generator	$ 2,225	N	$ 2,643	N	$ 43,227.17	N
Medium—Electric controllers -grid	$ 158	Y	$ 167	Y	$ 2,728.30	N
Medium—Electric controllers—solar	$ 227	Y	$ 239	Y	$ 3,900.79	N
Medium—Compressed air—grid	$ 918	Y	$ 966	Y	$ 15,801.86	N
Medium—Compressed air—generato	$ 1,153	Y	$ 1,214	Y	$ 19,849.21	N
Large—Electric controllers -grid	$ 136	Y	$ 128	Y	$ 2,090.76	N
Large—Electric controllers—solar	$ 208	Y	$ 196	Y	$ 3,202.37	N
Large—Compressed air—grid	$ 603	Y	$ 567	Y	$ 9,272.27	N
Large—Compressed air—generator	$ 836	Y	$ 786	Y	$ 12,849.49	N

[a] For the production segment, the owners and operators realize the savings for the natural gas that not emitted and lost. The cost effective- ness values shown do not consider these savings. Note that the consideration of savings does not impact whether the cost effectiveness of any of these options falls within the ranges considered reasonable by the EPA.

[b] Based on 1.45 tpy methane emissions per intermittent bleed pneumatic device from IPAA Member Scenario using proposed "Eq. W-1A" for 10,000 intermittent-bleed pneumatic devices, 98% methane fraction and default 8760 operating hours. Intermittent-bleed pneumatic controller counts per model plant match counts from Table 26 (FR p. 74767) - 4 per small model plant, 8 per medium model plant and 20 per large model plant.

[c] Based on 0.09 tpy methane emissions per intermittent bleed pneumatic device from IPAA Member Scenario using proposed "Eq. W-1B" for 10,000 intermittent-bleed pneumatic devices, 98% methane fraction, default 8760 operating hours, 1% malfunctioning ("leaking") rate, 1 OOOOa compliant LDAR survey per annum and default 8760 hours leaking time. Intermittent-bleed pneumatic controller counts per model plant match counts from Table 26 (FR p. 74767) - 4 per small model plant, 8 per medium model plant and 20 per large model plant.

Reasonableness determination based on a cost of $1970/ton methane reduced as specified in Supplemental Proposed Rule (FR p. 74718)

This cost-effectiveness comparison, albeit based on one Producer Associations' member's operations, demonstrates that the proposed one-size-fits-all regulations, in fact, do not fit all and importantly do not satisfy the EPA's obligation to ensure promulgated rules are cost effective in reducing methane emissions.

C. Producer Associations Propose Alternatives to Unsupported "Zero-Emitting" Standard.

The Producer Associations recommend that EPA withdraw the current "one-size fits all" BSER of zero-emitting pneumatic controllers and pumps across the board, and consider the following BSER alternatives:

- New, Modified, or Reconstructed sources subject to proposed NSPS OOOOb:
  - Continuous-bleed Pneumatic Controllers (low and high bleed):
    - Required to be zero-emitting, consistent with current proposed BSER, if the BSER is determined to be "reasonable" based on a cost-effectiveness analysis performed by the operator of affected facilities. Reasonableness threshold of $1,970/ton methane emissions reduced or less.

      OR

    - If zero-emitting BSER is determined to be unreasonable/not cost effective, emissions must be routed to a control device with a

destruction efficiency of at least 95%. All existing and proposed requirements for destruction devices would apply.

- Intermittent-bleed Pneumatic Controllers:
  - Required to be zero-emitting, consistent with current proposed BSER, if the BSER is determined to be "reasonable" based on a cost-effectiveness analysis performed by the operator of affected facilities. Reasonableness threshold of $1,970/ton methane emissions reduced or less.

    OR

  - If zero-emitting BSER is determined to be unreasonable/not cost effective, and a control device with a destruction efficiency of at least 95% is currently available onsite, emissions must be routed to the control device. All existing and proposed requirements for destruction devices would apply.

    OR

  - If zero-emitting BSER is determined to be unreasonable/not cost effective, and no control device is currently available onsite, intermittent-bleed pneumatic devices required to be managed as part of proposed fugitive emissions requirements in Subpart OOOOb, including leak detection surveys, timely repairs, verifications, etc.
- Pneumatic Pumps:
  - Required to be zero-emitting, consistent with current proposed BSER, if the BSER is determined to be "reasonable" based on a cost-effectiveness analysis performed by the operator of affected facilities. Reasonableness threshold of $1970/ton methane emissions reduced or less.

    OR

  - If zero-emitting BSER is determined to be unreasonable/not cost effective, emissions must be routed to a control device with a destruction efficiency of at least 95%. All existing and proposed requirements for destruction devices would apply.

- Existing sources subject to proposed EG Subpart OOOOc:
  - Continuous-bleed Pneumatic Controllers (low and high bleed):
    - Required to be zero-emitting, consistent with current proposed BSER, if the BSER is determined to be "reasonable" based on a cost-effectiveness analysis performed by the operator of affected facilities. Reasonableness threshold of $1,970/ton methane emissions reduced or less.

      OR

- If zero-emitting BSER is determined to be unreasonable/not cost effective, and a control device with a destruction efficiency of at least 95% is currently available onsite, emissions must be routed to the control device. All existing and proposed requirements for destruction devices would apply.

  OR

- If zero-emitting BSER is determined to be unreasonable/not cost effective, and no control device is currently available onsite, pneumatic devices required to be managed as part of proposed fugitive emissions requirements in EG Subpart OOOOc, including leak detection surveys, timely repairs, verifications, etc.

- Intermittent-bleed Pneumatic Controllers:
  - Required to be managed as part of proposed fugitive emissions requirements in EG Subpart OOOOc, including leak detection surveys, timely repairs, verifications, etc.

    OR

  - Emissions routed to a control device with a destruction efficiency of at least 95%. All existing and proposed requirements for destruction devices would apply.

    OR

  - Zero-emitting, consistent with current proposed BSER
- Pneumatic Pumps:
  - Required to be managed as part of proposed fugitive emissions requirements in EG Subpart OOOOc, including leak detection surveys, timely repairs, verifications, etc.

    OR

  - Emissions routed to a control device with a destruction efficiency of at least 95%. All existing and proposed requirements for destruction devices would apply.

    OR

  - Zero-emitting, consistent with current proposed BSER.

The Producer Associations acknowledge that the proposed alternatives above include options to route emissions from natural gas-drive pneumatic controllers and pumps to existing or new control devices, which EPA specifically indicates that it considers to be a "viable option to achieve emission reductions", but due to the significance of emissions from this source, ultimately concluded this option was inappropriate. See excerpt from the FR below:

> Several commenters requested that the EPA include an option to collect the emissions from natural gas-driven controllers and route them to a flare or combustion device that achieves 95 percent reduction in methane and VOC.

> These comments stated that in many situations, an onsite control device already exists and that using it would be a cost-effective method of achieving significant emission reductions.
>
> The EPA acknowledges that this is a viable option to achieve emission reductions from natural gas-driven pneumatic controllers. However, as discussed above, we have determined that BSER for pneumatic controllers is use of one of the several types of controllers that have zero methane and VOC emissions. Thus, routing to an existing control device (i.e., achieving 95 percent reduction) would result in a less stringent standard than the BSER. In the 2021 Inventory of U.S. Greenhouse Gas Emissions and Sinks (GHGI), the estimated methane emissions for 2019 from pneumatic controllers were 700,000 metric tons of methane for petroleum systems and 1.4 million metric tons for natural gas systems. These levels represent 45 percent of the total methane emissions estimated from all petroleum systems (i.e., exploration through refining) sources and 22 percent of all methane emissions from natural gas systems (i.e., exploration through distribution). While we recognize that these emissions include emissions from existing sources, it is clear that pneumatic controllers represent a significant source of methane and VOC emissions. Allowing an option that results in 5 percent more emissions would be a quite significant increase.

87 FR 74765.

As demonstrated, in detail, by Producer Associations comments above, this stance from the EPA is misleading, mischaracterized, and inaccurate, at best AND willfully exaggerates emissions from pneumatic devices with clear undertones of a political agenda, at worst. As evidenced by the EPA's proposed revisions to its own GHGRP program rules, specifically those related to pneumatic device emission calculation methodologies in Subpart W, EPA acknowledges that historical GHG inventories, including those from the 2021 GHGI for 2019 emissions, are significantly overstated. Overstated by approximately 35% at least and over 90% or more at most for intermittent-bleed pneumatic devices, which represent a majority of the pneumatic devices in operation within the petroleum and natural gas system segments today. As such, a 5% difference in emission reduction by allowing the use of existing or new control devices is hardly a "significant increase" and should absolutely be an acceptable alternative BSER.

D. Producer Associations Responses to Specific Requests to Pneumatic Issues.

- Now that the EPA is proposing in this supplemental proposal to define the affected facility as the collection of natural gas-driven continuous bleed and intermittent vent controllers at a site, the EPA solicits comment on the proposed changed definition. 87 FR 74756.

    - The Producer Associations support this proposal opposed to defining each individual natural gas-driven pneumatic device as an affected facility.

    - **Shared Sites**: Assuming EPA proceeds to describe the collective of all controllers at a site as the "affected facility," it must revise its proposed regulatory text to make clear that regulated entities will not be responsible for equipment that they neither

own nor operate at shared production sites. As proposed, "modification" and "reconstruction" of a pneumatic controller affected facility can be triggered by installation of new pneumatic controllers at a "site."[7] The term "site" is undefined and creates uncertainty where, as is common, multiple companies operate in close proximity. Owners and operators cannot be responsible for equipment over which they have no control. EPA should revise the definition of "pneumatic controller affected facility" to read: "Each pneumatic controller affected facility, which is the collection of natural gas-driven pneumatic controllers *that you own or operate* at a well site, centralized production facility, onshore natural gas processing plant, or a compressor station." EPA should then replace references to "site" in the relevant definitions of modification[8] and reconstruction[9] with "pneumatic controller affected facility." EPA must also revise its proposed regulations for pneumatic pump affected facilities,[10] consistent with the foregoing. A similar clarification should be considered for all sections of the rule, so that it is made completely clear that the owner or operator is responsible only for the collectives of equipment that it owns at a site, even though a "site" might comprise equipment that is under separate ownership and control. This includes but is not limited to (1) the "affected facility" for fugitive emission control purposes, which, like "pneumatic controllers," is defined by refence to the totality of equipment at a site, and (2) the Super emitter response program, which purports to impose obligations on a site, when it need to be clear that the obligations are imposed on the owner or operator of the individual equipment item that is responsible for any alleged super-emitting event.

- **Modification**: Also consistent with the above discussion, EPA should revise its proposed definition of modification for pneumatic controller affected facilities to require an actual increase in emissions.[11] Under the NSPS program, a "modification" that converts an existing facility into a new facility requires not only a physical or operational change, but also a corresponding increase in emissions.[12]

- EPA solicits comment on this proposed two-year rolling aggregation period for all continuous programs of pneumatic controller and pneumatic pump replacement (see Section IV.E.b.i. for a discussion of proposing the same approach for determining reconstruction for pneumatic pumps). EPA is particularly interested in comments regarding whether this approach will make it easier for owners and operators to determine reconstruction at their sites, whether using a set timeframe is reasonable and feasible to put into practice, whether two years is an appropriate timeframe, and whether a rolling basis for the two-year timeframe is a reasonable calculation (for example, see Scenario 5 below). EPA is also interested in understanding how frequently controllers and pumps are typically replaced. 87 FR 74758.

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[7] *See* Proposed § 60.5365b(d).

[8] Proposed § 60.5365b(d)(1).

[9] Proposed § 60.5365b(d)(2).

[10] *See* Proposed § 60.5365b(h).

[11] Proposed § 60.5365b(d)(1).

[12] *See* 40 C.F.R. § 60.14(a).

- The Producer Associations support the concept of a fixed two-year aggregation period, but NOT a rolling two-year period. The administrative burden of keeping-up with a rolling two-year period outweighs the benefits of the approach.

- EPA specifically solicits comments on whether the two-year timeframe should be implemented on a rolling basis or as a discrete time period. 87 FR 74758.

    - See comments above, the Producer Associations support a fixed two-year time period.

- EPA is specifically requesting more detailed information on the use of generators at sites without access to the grid to power pneumatic controllers, primarily to power instrument air systems. EPA is also interested in receiving more information on the costs associated with this equipment. Table 24 provides the updated pneumatic controller systems not driven by natural gas costs. This table also provides the costs from the November 2021 analysis for comparison. 87 FR 74762.

    - Consistent with the Producer Associations' comments above, a "one-size fits all" approach to cost estimates does not accurately represent the costs for any of the methods that could be used to achieve "zero-emitting" pneumatics, including generators at locations without access to grid power. The Producer Associations recommends that the agency allow operators of affected facilities to perform their own cost-effectiveness evaluations specific to their equipment, geographic location, and other unique operational complexities. The problem is acknowledged for Alaska-based sites, but the same issues of remoteness can affect almost every basin in which domestic production occurs. Providing relief only for one state is of questionable legality and fairness.

- We are interested in information to support this understanding that routing emissions from pneumatic controllers to a process achieves a 100 percent reduction in emissions. 87 FR 74763.

    - The Producer Associations agrees that routing emissions from natural gas-driven pneumatic devices back to a process is one method of achieving the zero-emitting BSER proposed. That said, as supported in detail within our comments above, Producer Associations disagrees that this BSER is reasonable, across the board, from a cost-effectiveness perspective.

- EPA is interested in information that may dispute the conclusion that there is a technically feasible option that does not emit methane or VOC available for all sites in all segments. 87 FR 74766.

    - See Producer Associations' comments above, while there may be technically "possible" ways to achieve the zero-emitting BSER for natural gas-driven pneumatic devices at all site and across all segments, there are many instances where it is absolutely NOT feasible…especially when you consider the inflated estimate of emissions from intermittent-bleed pneumatic devices that the agency used in its cost-effectiveness evaluations.

- As a result, EPA is particularly interested in understanding whether there are site characteristics that would make every zero-emitting option (electric controllers powered by the grid or by solar power; instrument air systems powered by the grid, a generator, or by solar power; collecting the emissions and routing them to a process; self-contained controllers, etc.) technically infeasible at the site. 87 FR 74766.

    - There are many characteristics that could cause every zero-emitting option to be infeasible at a site. One example is that the actual emissions from devices at a site are much lower than the overstated emissions EPA used in its cost-effectiveness determinations.

V. SUPER-EMITTER RESPONSE PROGRAM

The Producer Associations support the establishment of a program where owners/operators of well sites and other sources of methane can be made aware of malfunctions or other events that do not represent normal operations where emissions of methane and/or VOCs are occurring at a rate not designed or anticipated – a so-called "super-emitter" event. The Producer Associations understand the benefit of identifying and addressing malfunctioning or broken equipment resulting in emission rates to the atmosphere that do not represent normal operating conditions. Characterizing, perhaps sensationalizing, these events, and by association, the owners/operators, as a "Super Emitter" seems unnecessary. Instead of "super emitter," EPA could consider whether it would be more accurate and less charged to refer to the "event" (as opposed to implying an entity responsible), as an Unexpected Significant Release ("USR").

A. Producer Associations Seek Clarification on Purpose of "SERP".

EPA needs to unequivocally state they are not deputizing third parties to enforce the CAA. EPA needs to unequivocally state that the information/data submitted by third parties will not be the basis for enforcement action by state or federal regulators. Congress has spoken as to when third parties can engage in enforcement of the CAA and the process is set forth in Section 304 of the CAA. Noting in Section 111 of the CAA hints at utilizing third parties to provide regulators data to serve as the basis for enforcement of the CAA. Clarity on this issue from EPA would benefit all stakeholders.

B. EPA Should Hold Third Parties to Same Standards as Owners/Operators.

Without any justification or analysis, EPA deemed three detection methodologies for identification of super-emitter emissions events: remote-sensing aircraft, mobile monitoring platforms, or satellite. "Third-party notifier(s)" would need to apply/demonstrate to EPA that they possess the technical expertise to utilize the detection methodologies and EPA would maintain a list of approved qualified third-party notifiers. EPA solicited comments on approval criteria. Producer Associations recommend that the criteria for third-party notifiers be as stringent and equivalent to the criteria required of owners/operators submitting data to state or federal regulators to demonstrate compliance with applicable standards, e.g., results/data certified by a professional engineer or appropriate in-house professional.[13] Additionally, EPA

[13] The results/data submitted by the third party need to be certified by a professional engineer or another qualified individual with relevant experience. Said individual should be required to provide a certification as to the accuracy

should not simply deem these three detection methodologies sufficient/adequate/warranted without input from the general public and/or stakeholders. EPA should provide their basis and justification for these methodologies for the general public to evaluate, instead of simply picking three methodologies and asking the general public/stakeholders for the criteria – the "burden of proof" should be on EPA to demonstrate these methodologies are appropriate, not the other way around.

C. EPA Must Be the "Gatekeeper" Regarding Submitted Information.

EPA must be the "gatekeeper" and control the process of disseminating information submitted by third-party notifiers. EPA's proposal to almost immediately post "data" associated with alleged super-emitter events on a publicly available website without any validation by EPA is unwarranted and reckless – subjecting owners/operators to conviction by the court of public opinion before any effort is made by regulators to determine the validity of the data submitted. Validating the data and attributing the emissions to a particular source and whether the emissions represent a super-emitter event is not an easy undertaking. Issues not addressed by EPA's proposal include:

- How does the third-party notifier and/or EPA pinpoint the source and to the extent, how do they identify who owns or has responsibility for the source?

- How does the third-party notifier and/or EPA know what regulations, in any, apply to the "source" in question – if the "source" is not an affected facility or designated facility, Section 111 is not violated?

- How does the third-party notifier and/or EPA know the emissions are a function of a leak or malfunction – versus a permitted process which allows emissions to be vented or released for a period of time?

- EPA needs to evaluate the accuracy and sufficiency of the data submitted – validated against the same standards and conditions required by owners/operators when demonstrating compliance with emissions standards/limits.

D. EPA's Definition of |"Super-Emitter" Event is Insufficient.

EPA's definition of a super-emitter event, i.e., 100kg/hour is problematic on a number of fronts. From a basic engineering perspective, the measuring units are not typical/utilized by the industry. Additionally, the basis for this threshold is unclear as EPA has identified significantly different thresholds as super emitting events in other regulatory programs.[14] EPA fails to justify or explain the inconsistencies. Of much greater concern is EPA's lack of discussion associated with duration and frequency or repeatability of emissions emitted at the triggering rate. Will one "fly-by" measurement extrapolated out to an hour be sufficient to trigger EPA's requirements on owners/operators? If EPA is using an hourly based emissions rate, and it would seem unlikely

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of the data that is equivalent to, if not the same as, that required of professional engineers or other qualified individuals are required in other sections of this Supplemental Proposal.

[14] 87 Fed. Reg. 36920, 36982 (June 21, 2022).

that a shorter time would be sensible, then data taken to identify the super-emitter incident is both of that duration and persistence. For example, measurements must be longer than one hour such as either multiple hours over a single day or hourly over more than one day. Past history of data collection using the methods EPA has identified for this program have generated not just hourly emissions but annual emissions based on data taken for ten minutes or less. This type of short duration data collection must not be allowed. The burden of proof that the source is emitting at a rate of 100kg/hour needs to be on the third-party notifier – a snapshot in time is not sufficient. EPA should establish criteria for the third party to demonstrate that there is some reasonable likelihood that there is potential event at the facility such that excessive rates of methane are occurring for an extended period of time. Examples of requirements that EPA could require include, but are not limited to, continuous actual measurement for a period of time or repeated snap-shot measurements, periodically, over a period of period, e.g., three measurements separated by 12-hour intervals.[15]

E. EPA Fails to Reflect the True Cost of the Proposed SERP.

EPA's leniency with regard to third-party notifiers submitting inaccurate information skews EPA's "cost-effectiveness"/BSER analysis. First off, requiring a third party submitting inaccurate information three times at the same source/location before a third-party notifier loses its certification is unacceptable. "Three-strikes and you're out" is not appropriate when you are dealing with existing sources, often operated by small business. Who is going to compensate the owner/operator for the costs associated with conducting a root cause analysis (a concept not defined or described by EPA in its proposal), when it is determined that the third-party notifier made a mistake? EPA fails to account for the costs associated with the SERP when the third party gets the data wrong. To suggest that a third-party notifier can submit an owner/operate to the expenses associated with the SERP three times, with no ramifications to the third-party notifier is simply unfair. The Producer Associations suggest that third-party notifiers post a bond sufficient to cover the cost associated with an owner/operator responding to the SERP. If the third-party's data is inaccurate, the bond is released to the owner/operator and the third-party notifier is required to post twice the bond amount which would be released to the next owner/operator if/when the next time the third-party notifier wrongly accuses an owner operator of a super-emitter event. If EPA is insistent on requiring "three strikes", then the bond should be tripled after the second erroneous submittal. The third-party notifiers need to have skin in the game and owner/operators need to be compensated for erroneous submittals.

Related to EPA's leniency to reporting inaccurate/false information and removing third-party notifier's certification, third-party notifiers that violate federal, state or local ordinances in the attempt to gather information/data on alleged super-emitter events should have their certifications revoked for no less than a year and the particular third-party notifier and any/all affiliates should be prohibited from the ability to allege future super-emitter events at the underlying source/facility.

[15]The cost of multiple flights/verification should not be a consideration as EPA does not consider the costs of flights associated with advanced methane detection technologies.

VI. ADVANCED METHANE DETECTION TECHNOLOGIES

The Producer Associations support EPA's efforts to provide owner/operators additional flexibility by proposing to incorporate advanced technologies as a regulatory option. The Producer Associations support the use of a matrix that takes into consideration inspection frequency and minimum detection sensitivity. The Producer Associations are strongly supportive of EPA's consideration of compliance mechanisms in lieu of required surveys using only OGI, Method 21, and/or AVO. Technologies on the market today such as aerial screening and monitoring technologies are capable of detecting fugitive emissions from affected sources as well as periodic surveys using OGI or Method 21. In certain instances, aerial technologies can detect certain types of emissions that OGI has missed.

The Producer Associations are concerned that, like the four categories for well sites and associated monitoring, EPA's matrix is too restrictive to be of real benefit to the Oil and Gas Industry. The Producer Associations appreciate EPA's willingness to adopt a matrix approach, but as proposed will likely be of limited benefit – the concept is sold, but the implementation falters.

The Producer Associations are not in a position, at this point, to opine on EPA's use of FEAST modeling to demonstrate equivalency with the statutory requirement of BSER. The Producer Associations encourage EPA to continue to consider/accept other models. Consistent with the Oil and Gas Industry's position that EPA should not regulatory lock in a particular technology, like OGI, EPA should retain flexibility to encourage innovation. As part of this update for the Final Rule, we recommend EPA also consider whether additional combinations of detection limits and sample frequency detections can enable a broader range of technologies if they can demonstrate equivalency to EPA's determined BSER. For example, EPA could include additionally frequencies and combinations of technologies to encourage the deployment of technologies that can demonstrate equivalency with BSER.

Three more targeted recommendations relate to common sense revisions to the use of OGI for "follow-up" survey requirements, as recommended by Pioneer Natural Resources:

1. Change the full-site follow-up OGI survey requirement to a follow-up OGI survey only over the spatial extent corresponding to the verified localization performance of the detection technology.

2. Exclude from the follow-up OGI survey requirement those emission sources corresponding to normal permitted (i.e., allowable) operating process emissions or emission events that are otherwise confirmed to no longer exist.

3. If any degree of OGI follow-up remains a requirement, a leak detected with aerial technology must be confirmed by a second fly over pass before it is deemed an actionable event that triggers the follow up.

VII. COMMENTS ON GUIDELINES FOR STATES AND EXISTING SOURCES

As a part of the Subpart OOOOc proposal, EPA includes a framework of the application of Section 111(d) for oil and natural gas production facilities. Separately, after this proposal, EPA

has released a separate proposal revising its Section 111(d) implementing regulations. These two proposals need to be assessed together because EPA has indicated that for those issues not directly addressed in the Subpart OOOOc proposal, the provisions of the general regulations would apply. This creates an immediate problem because they are two different proposals on different completion schedules. Regardless, there are issues that must be addressed.

The intent of Congress in crafting Section 111(d) was to create a program to fill the potential gaps regulating existing sources of emissions when new source regulations were created for pollutants that were neither criteria pollutants nor hazardous air pollutants, both of which have existing source provisions. Because Section 111(d) was written long before EPA decided to regulate GHG, it did not envision a circumstance where there would be a million existing sources to address. This difference is substantial regarding the structure of state programs and the structure of EPA's Section 111(d) requirements. Some of these issues are inherent in the challenges of regulating so many sources; others result from EPA putting its thumb on the balance to limit state options.

There are several elements of the EPA proposal that are designed to maintain control by EPA and limit states. It begins with something as simple as the definition of "satisfactory" in the context of approving state plans that provide for less stringent regulations of sources based on Congress providing that:

> Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies.

EPA has characterized the authority to consider RULOF. As EPA notes: CAA Section 111(d)(2)(A) authorizes the EPA to promulgate a Federal plan for any state that "fails to submit a satisfactory plan" establishing standards of performance under CAA Section 111(d)(1). Accordingly, the EPA interprets "satisfactory" as the standard by which the EPA reviews state plan submissions. Consequently, EPA presents this strained assessment of the definition of "satisfactory":

> Additionally, while states have discretion to consider RULOF under CAA section 111(d), it is the EPA's responsibility to determine whether a state plan is "satisfactory," which includes evaluating whether RULOF was appropriately considered. The relevant dictionary meaning of "satisfactory" is "fulfilling all demands or requirements." The American College Dictionary 1078 (C.L. Barnhart, ed. 1970). Thus, the most reasonable interpretation of a "satisfactory plan" is a CAA section 111(d) plan that meets the applicable conditions or requirements, including those under the implementing regulations that the EPA is directed to promulgate pursuant to CAA section 111(d), including the provisions governing the application of RULOF.

Why EPA has chosen this particular 1970 dictionary as the relevant dictionary is mysterious. Other contemporary dictionaries such as the 1975 American Heritage Dictionary define "satisfactory" as "giving satisfaction; sufficient to meet a demand or requirement; adequate".

The contemporary Merriam-Webster Online Dictionary definition is "adequate". The Oxford American English Dictionary Online definition is "good enough for a particular purpose". Given this substantial difference in definitions, one can only assume that EPA wants to establish a different standard to constrain the state flexibility that Congress chose to establish. Similar issues arise elsewhere in the Section 111(d) proposal.

One of the challenges in analyzing the EPA proposal relates to putting it into a realistic framework. EPA presents its discussion at a largely theoretical level but, since it would apply to oil and natural gas production facilities, it needs to be discussed in that context. The RULOF issues that must be addressed will be related to low production oil and natural gas wells, those producing 15 boe/day or less. This has always been the issue with over 700,000 of these in the United States and thousands in each producing state. The effect of regulation on these facilities will be the most compelling.

A. EPA's Proposed Application of RULOF is Impractical.

Here is where the RULOF decision making process needs to be considered. EPA proposes in both this rulemaking and the general rulemaking of Section 111(d) that state plans should include source by source decisions on the application of RULOF. Such an approach would be impractical. First, at the same time these individual decisions would be considered, the state would be developing its overall plan and would not know whether EPA would approve it. This is no small matter. As described previously, EPA's framework for its proposal does not track with state regulatory approaches. For example, no state appears to use EPA's component count approach to define well categories for fugitive emissions programs. Similarly, EPA has divided wells sites into different facilities – e.g., pneumatic controllers, pneumatic pumps, storage vessels, and fugitive well sites. If states use different approaches, there is a built in federal state conflict that must be resolved.

Second, EPA proposes that:

> …the proposed rule would only allow that cost unreasonableness be considered in a state's demonstration that a source's remaining useful life based on its retirement date reasonably warrants a less stringent standard for the following types of designated facilities: oil wells with associated gas, storage vessels, pneumatic controllers, and pneumatic pumps. A cost unreasonableness determination would not be allowed for any other designated facility types.

87 FR 74823. This is an arbitrary position that reflects EPA's efforts to limit state flexibility. Increasing operating costs for small wells can have a significant impact on their economic viability. Consequently, fugitive emissions requirements or liquids unloading requirements can produce comparable cost unreasonableness, too. This raises a more fundamental question. EPA's approach to assessing RULOF appears driven by the assumption that it applies to facilities that have a predetermined end of life less than the cost recovery period associated with the application of the Subpart OOOOc regulations. If so, states can consider less stringent requirements for the facility until it shuts down – but it must shut down in a finite and prescribed period. This framework, however, ignores the more realistic situation facing low production wells; it is the new Subpart OOOOc requirements that make the facility uneconomic and drives it

to shut down. Many low production wells can continue to operate for decades at production rates that may be in the less than 2 boe/day range. They pose minimal methane emissions threats. Federal regulation should not be the cause of their demise and states should have the authority to provide for a regulatory framework that allows their continued operation until their normal end of life. This situation is ignored by the proposed interpretation of RULOF.

Third, if states must make source by source RULOF interpretations, the 18-month schedule to develop state plans will be inadequate. States will need far longer and the more low production wells in a state, the longer it will need to be. EPA needs to create a clear process that would allow states to present a process by which it would assess RULOF for oil and natural gas production facilities in its state and for approval of those processes. States could then get approval for a state plan in a timely manner while making its source by source determinations thereafter.

Fourth, EPA raises then dismisses the possibility of states getting plan approval for a mix of regulations that embrace parts of the Subpart OOOOc proposal and supplementing those elements with other regulations that produce a comparable overall methane management program. However, in its proposed general revisions to Section 111(d), EPA supports programs for compliance flexibility including trading and other mechanisms that provide for state flexibility. EPA should not preclude such options under Subpart OOOOc plan development.

Fifth, EPA seems inordinately concerned that different states could create different RULOF approaches for similar facilities. However, the nature of oil and natural gas production results in different production challenges that do not appear evident from casual comparisons. EPA has observed these differences in its programs and should recognize that they can result in consequences to emissions management and economic implications. As a part of the federal state partnership, EPA must not try to impose uniform regulatory requirements on state plans after the state has addressed the different operations under its jurisdiction.

Sixth, EPA should make the compliance date with these new state regulations based on the approval of the state plans rather than their submission. In its general revisions to the Section 111(d) program, EPA gives itself 12 months to approve state plans. Since states and the regulated community will not know if the state regulations will be approved or whether EPA will be proposing a federal plan until EPA acts, compliance should be based on final EPA action.

In another instance of EPA trying to limit state ability to develop regulatory approaches – including RULOF decisions – EPA proposes that states must use EPA's BSER development approach. However, there is no absolute guarantee that EPA's analytical approach is sound or accurate for every state. Moreover, as shown previously with regard to the fugitive emissions analysis, EPA is so wedded to its component count approach that it distorts results. States may choose to assess issues differently and thereby produce different approaches based on their experience – which in the context of regulating existing sources is far more comprehensive than EPA's experience since its authority is primarily directed at new sources. Perhaps more significantly, EPA has effectively applied its NSPS BSER analysis to its Section 111(d) assessment where existing sources are affected. This transposition of a new source analysis to existing sources fails to follow the Congressional intent evident throughout the CAA that existing sources need to be treated differently than new ones. EPA rather cavalierly concludes

that its new source BSER applies to existing sources without ever making a full analysis. In these regulations applying to oil and natural gas production operations, the Producer Associations has consistently presented information to EPA that the declining nature of oil and natural gas production requires EPA to assess low production wells differently because – at a minimum – the ability of these sources to absorb additional costs differs significantly from new sources. Congress went further than just distinguishing between new and existing sources by adding the RULOF process to address even more unique problems. EPA fails to meet the task demanded of it in addressing existing source BSER and needs to revise its assessments.

VIII. EPA COMPLIANCE WITH THE ADMINISTRATIVE PROCEDURES ACT ("APA") AND RELATED CAA PROVISIONS IS DUBIOUS

A. EPA is Forcing an Arbitrary and Unwarranted Rulemaking Timeline.

Many trade associations, including the Producer Associations, individual companies and states requested an extension of the comment period on the Supplemental Proposal. On January 31, 2023, EPA provided a one page letter response that indicated EPA is "not planning to extend the comment period." No justification for the decision was provided. If anything, EPA's letter only provided additional justification for the extension citing "more than 470,000 written comments" and 300 speakers providing testimony during public hearings. As the Producer Associations and others pointed out, there was no statutory deadline or court ordered deadline to finalize rules. Additionally, what was published in the November 15, 2021, Federal Register was not a "proposed rule." At best it was an "advanced notice of proposed rulemaking" characterized as a "proposed rule" to meet a political agenda associated with the 2021 Conference of the Parties to the UNFCC in Glasgow, Scotland. While the Producers Associations are not currently in a position to prove this, they believe it is accurate to state that few if any rule package proposed by EPA has the potential to regulate as many actual/existing sources as EPA's Supplemental Proposal. It is not disputed that the Supplemental Proposal, when finalized, will set in motion the process of controlling approximately one million sources – a large majority of which have not been previous controls. EPA's Supplemental Proposal also will impose a Herculean task on state regulator agencies utilizing antiquated provisions pursuant to Section 111(d). Granted, EPA is proposing to change those regulations as they pertain to the Oil and Gas Industry specifically while simultaneously proposing to make changes more generically for CAA section 111(d) at 40 CFR, Part 60, Subpart Ba.[16] The comment period for that rulemaking closes February 27, 2022. While closing two weeks after the comment period on the Supplemental Proposal "EPA intends to finalize that rulemaking before finalizing this oil and gas rulemaking."[17] While the potential for "moving the goal posts" for states is great, EPA was unwilling to grant states and stakeholders even an additional two weeks to comment and coordinate the close of the comment period on two rulemakings that are clearly related and intertwined. EPA's response to stakeholder's request for additional time was very much akin to a parent's response to a child questioning the parent's directive: "because I said so!" While that

[16] 87 FR 79176 (Dec. 23, 2022).

[17] 87 FR 74813 (Dec. 6, 2022).

may be an acceptable response from parent to child, the Producer Associations question whether such a decision, in and of itself, is not arbitrary and capricious.

B. EPA Cannot Pick and Choose What Issues are "Open" for Comment in This Unorthodox "Rulemaking" Process.

Another aspect of that Supplemental Proposal that seems peculiar if not contrary to the Administrative Procedure Act is that "EPA is not reopening for comment any aspect described in the November 2021 proposal that the EPA is not proposing to substantively address or update in this supplemental proposal."[18] No legal basis or justification for taking such a position is provided. The Producer Associations question whether EPA can pick and choose what aspects of the November 15, 2021, publication to "reopen" for comment. Such a position would be dubious with a "supplemental proposal" when the original "proposal" actually provided proposed regulatory language. The appropriateness/legality of such position is even more in question when no regulatory language was provided in the original "proposal." How is it not arbitrary and capricious for EPA to tell stakeholders what portions of a "proposal" is or is not open for comment?

C. EPA Cannot Have it Both Ways.

If EPA persists with its position that it has the authority/ability to choose what portions of a "proposal" are reopened for comment, then EPA should be precluded from responding to comments provided on the original "proposal" that were not addressed in a response to comment document placed in the docket prior to or concurrent with the supplemental proposal or addressed in the supplemental proposal preamble. Various legal and technical arguments were raised by the Producer Associations, other trade associations, and certain states. In the supplemental proposal, EPA has elected to address some of the comments and has failed to address others while also indicating only certain issues would be open for additional comment during the limited 60-day comment period on the Supplemental Proposal. If one were cynical, one could argue that EPA's selective response to comments on the original "proposal" is an effort keep "its power dry" on certain issues and have industry further reveal its positions/arguments via a supplemental proposal to a "proposal" that had no regulatory language in the first place.

IX. EPA CONTINUES TO NOT UNDERSTAND LIQUIDS UNLOADING

A. EPA's "Proposal" is an Information Collection Request.

EPA is attempting to use the proposed regulation to significantly increase their understanding of the gas well liquid unloading by including an overly broad and poorly defined affected facility definition and by including wells that do not vent during liquid unloading. EPA defines liquid unloading as: "[l]iquids unloading means the unloading of liquids that have accumulated over time in gas wells which are impeding or halting production."[19] This broad definition will lead to a variety of interpretations concerning which production techniques, among the dozen or so

[18] 87 FR 74810 (Dec. 6, 2022).

[19] https://www.epa.gov/system/files/documents/2022-11/8510_OilandGasClimate_OOOObRegText_Supplemental_20221005.pdf, page 303.

employed in industry, this should apply to. This will lead to poor consistency in the interpretation of what type of production techniques constitute liquid unloading which will create regulatory compliance uncertainty among reporters. EPA acknowledges this by specifically asking the following "EPA has yet to reach a conclusion on whether certain types of liquids unloading events could be an operational change to a well. The EPA is therefore requesting comment on operational scenarios where a well liquids unloading event could constitute a modification." 87 FE 74782.

Furthermore, as previously commented liquid unloading techniques will change over the potential 30 or more years producing life of wells. If venting is required at a particular time in a well's life subsequent techniques may not vent. Put another way, just because a well vents through the application of a certain liquid unloading technique now, future techniques may not vent. For example, the installation of a field wide gas lift system, or the addition of wellhead compression, or the reduction in gathering line pressures may occur in the later phases of well life that may not vent during liquid unloading.

EPA's attempt to use their current definition of liquids unloading for source applicability is ambiguous. Each type of liquid unloading activity may require a unique and thorough assessment to formulate appropriate regulations as potential emission sources. EPA should understand these differences and develop regulations with enough specificity to avoid such ambiguity.

The proposed regulation, as it pertains to wells that do not vent while liquid unloading, seems more like an Information Collection Request than a regulation to control emissions. EPA needs to develop regulations specific to each type of liquid unloading technique and needs to ensure it is consistent with the other forms of regulations associated with the equipment and techniques that could be part of these unloading activities. If EPA requires further understanding of these techniques, they should not use this regulation to acquire such information by requiring significant reporting burdens for activities with no emissions.

EPA states

> [f]urther, since each well liquids unloading operation is conducted based on the site-specific circumstances at the time the operation is planned, the EPA is concerned that a well might fluctuate between falling within and out of the scope of the standards if the standards only applied to well liquids unloading operations that result in vented emissions. Therefore, for ease of implementation to the owner or operator, the EPA is proposing to apply the proposed standards to all well liquids unloading operations regardless of if the operation results in vented emissions.

87 FR 74782. Ease of implementation from a reporter's perspective is certainly questionable. It would be much easier, and more emission focused for the standards to only apply to wells that vent. EPA should develop emission regulations for facilities that vent emissions, not for facilities that would only vent emissions if something goes wrong

or not as planned. In these situations, EPA should develop regulations that would apply then.

EPA should not be attempting to regulate Liquid Unloading Events that do not vent any emissions. Previous comments from the Producer Associations and other trade associations were clear in this regard. "The EPA is, however, specifically requesting further comment and any additional information regarding co-proposed option 2, where standards only apply to wells with well liquids unloading operations that result in vented emissions." 87 FE 74782. This is an overreach as proposed and would be an extreme reporting burden. As detailed in the EPA cited study by Dr. Allen, University of Texas, Environmental Science & Technology, December 9, 2014, *Methane Emissions from Process Equipment at Natural Gas Production Sites in the United States: Liquids Unloadings*, "[s]ome wells with plunger lifts are automatically triggered and unload thousands of times per year." Just a single well with thousands of unloading events per year, this creates a significant reporting burden, and when wells do not vent this reporting should not be required.

B. Economic Considerations are Not Reflected in the Proposed Regulatory Language.

The Supplemental Proposal acknowledges that economic feasibility can be factored in to determining when is appropriate to utilizing an unloading method that vents to the atmosphere: "[a]dditionally, for wells that utilize methods that vent to the atmosphere, the proposed rule would require: (1) Documentation explaining why it is infeasible to utilize a non-venting method due to technical, safety, or economic reasons."[20] However the proposed regulatory language in the context of record keeping and certification makes no mention of economic feasibility:

> I certify that the technical and safety infeasibility justification of needing to use a non-zero emitting liquids unloading method for all liquids unloading events at the well affected facility was prepared under my direction or supervision. Based on my professional knowledge and experience, and inquiry of personnel involved in the infeasibility justification, the certification submitted herein is true, accurate, and complete.[21]

There are limited instances where an engineer or qualified professional would certify "infeasibility" – pour enough money at a particular issues, most technical and/or safety issues can be resolved or are "feasible." The "economic" considerations allowed for the Supplemental Proposal must be included in the rule language for the certification.

Regarding Certification: EPA is proposing the following requirements: (1) Written justification needs to include supporting information justifying why it is infeasible to utilize a non-zero emitting liquids unloading method at the well affected facility due to technical or safety reasons

[20] 87 FR 74782.

[21] Page 250 of the Proposed Regulatory Text at https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/epa-issues-supplemental-proposal-reduce.

(e.g., related to a well's operating conditions and reservoir energy with respect to well-bore liquid management) and (2) Technical and safety reasons provided as support need to be certified by a professional engineer or another qualified individual with expertise in liquids unloading operations.

EPA should provide additional supporting documentation about what would be considered acceptable "Written Justification". EPA does not provide a single example of what level of detail a certifier should use, provides no minimum set of requirements, no specific economic input criteria, and has created a level of ambiguity regarding this very exacting statement. Professional Engineers or another qualified individual with expertise in liquids unloading operations will be reluctant to provide such a statement without more specificity about the criteria for such a statement. If EPA cannot provide such detail, there will be considerable challenges within the industry for qualified certifiers and this requirement should therefore be withdrawn.

EPA needs to define more clearly what would be considered "zero emitting". The routing of vented emissions to flare or a control device should be considered zero emitting in this context as it is often the best solution for emission reduction.

X. PRODUCER ASSOCIATIONS STILL CONCERNED WITH APPENDIX K

The Producer Associations generally support the proposed changes to Appendix K, particularly with the narrowed applicability. That said, the Producer Associations still has various concerns with Appendix K that EPA should address in the final rule and more specifically recommend the following changes to the proposed version of Appendix K:

- Section 3.0 Definitions:
    - For clarity, consider adding a definition for "OGI camera operator/camera operator/trained OGI camera operator". An "*OGI Camera Operator/Camera Operator/Trained OGI Camera Operator"* is a camera operator that does not yet meet the definition of a "Senior OGI camera operator" but has completed the training specified in Section 10.0.
- Section 9.7:
    - Section 9.7.1 and 9.7.2 seem to contradict each other as written. For clarity, consider revising Section 9.7 as follows:

    "The site must have a procedure for documenting fugitive emissions or leaks found during the monitoring survey according to 9.7.1 or 9.7.2 one of the following approaches. If no emissions are found, no recorded footage is required to demonstrate that the component was not leaking."
- Section 8.0 Camera Specification Confirmation and Development of the Operating Envelope:

- In Section 8.5.3, please clarify the training requirements for the "observers" discussed in the section 8.5.3. This is of interest as having four (4) trained OGI camera operators in the same location may be difficult for most, if not all, operators.

These are not monumental changes/clarifications but for those still subject to Appendix K, these revisions would be beneficial with no reduction in environmental protection.

If there are questions regarding these Comments, please contact me, counsel for the Producer Associations.

Respectfully submitted,

/s/ James D. Elliott

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