February 13, 2023

U.S Environmental Protection Agency
EPA Docket Center
Docket ID No. EPA-HQ-OAR-2021-0317
Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: **Docket ID No. EPA-HQ-OAR-2021-0317** Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review. Submitted via electronic mail at: a-and-r-docket@epa.gov and www.Regulations.gov.

The Marcellus Shale Coalition (MSC), a regional trade association with a national membership, appreciates the opportunity to submit comments regarding the above-referenced proposed rulemaking. The MSC was formed in 2008 and is currently comprised of approximately 130 producing, midstream, transmission and supply chain members who are fully committed to working with local, county, state and federal government officials and regulators to facilitate the development of the natural gas resources in the Marcellus, Utica and related geological formations. Our members represent many of the largest and most active companies in natural gas production, gathering, processing, transmission and utilization, in the country, as well as the supply chain companies, contractors and professional service firms who work with the industry.

The MSC appreciates the opportunity to offer the following comments on the above-referenced proposed rule relating to Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review. The member companies of the MSC are proud of their cumulative efforts to date to strengthen domestic energy production, meet the needs of America's citizens and businesses, enhance our nation's national security, all the while doing so in a manner that protects and enhances our shared environment, and which has led to a precipitous drop in criteria pollutant emissions that has significantly enhanced air quality in Pennsylvania and throughout our nation.

Introduction

The MSC offers its support for the public comments submitted by the American Petroleum Institute, the Interstate Natural Gas Association of America, the GPA Midstream Association and the American Exploration and Production Council.

Before providing specific comments to the proposed rule, the MSC offers the following information for consideration to both better illustrate the current regulatory climate here in Pennsylvania as well as the environmental progress already achieved to date.

The Final Rule Should Recognize the Critical Role of Oil & Gas in Meeting the Nation's Energy & Environmental Needs

Any final rules must have a reasonable and cost-effective pathway to compliance. We note for the record that several representatives and nominees of the federal Administration have expressed a public desire to eliminate the use of fossil fuels, including by bankrupting American companies that invest in and produce these energy resources. Such punitive goals and motivations are contrary not only to sound public policy, but also the authority of various governing statutes vested within the U.S. Environmental Protection Agency (U.S. EPA or Agency) and other executive agencies. Any motivation for a federal rulemaking that is driven by anything other than protecting the environment through reasonable, affordable and cost-effective measures is cause for concern, and we urge the Agency to resist such efforts.

Pennsylvania's shale operators are focused on producing natural gas and natural gas liquids. The importance of these critical resources could not be more apparent right now – both domestically and abroad, as countries seek adequate and affordable energy resources to meet the winter needs of their citizens while more broadly seeking to emerge from the grasp of a global pandemic. American natural gas and liquids are critical to both missions: providing affordable, clean energy to heat and power American homes, schools, businesses, and other facilities while fueling American manufacturers, including pharmaceuticals, as evidenced by the role natural gas liquids are playing in the health care arena, from PPE to medical equipment to vaccine development and deployment.

U.S. EPA ought to recognize this critical national interest. It has been disconcerting to hear high ranking Administration officials accuse American oil and gas companies of collusion and price gouging, without any evidence, while simultaneously pleading with OPEC[1] – a cartel designed to prohibit market competition – to increase production and exports to meet the energy needs of our own citizens. This is particularly troubling given that these countries do not subscribe to virtually any environmental standards or commitment to competitive markets. These misguided comments understandably give serious pause to the intended end-goals of federal rules targeted at domestic oil and natural gas production.

Recognize and Account for States with Existing Regulatory Requirements

Since 2005, Pennsylvania has risen to become the second largest natural gas producer in the nation, accounting for 20% of our country's natural gas production[2]. Yet since this time, increased use of natural gas for power generation has provided significant environmental benefits for the citizens of Pennsylvania and throughout the region. These benefits[3] of enhanced air quality include:

- A decline in volatile organic compound emissions (VOC) of 40%.
- A decline in SO2 and NOx emissions of 93% and 81%, respectively.

[1] The Organization of the Petroleum Exporting Countries
[2] In 2021, Pennsylvania produced approximately 7.6 trillion cubic feet of natural gas
[3] PA Department of Environmental Protection – Air Emission Report (Power BI)

- A decline of carbon dioxide of 44%, far surpassing the goals laid out in the Paris Climate Agreement.

Comprehensive and robust regulatory programs and new requirements have been adopted since the onset of significant unconventional natural gas development in Pennsylvania. New and existing sources are covered by performance measures to identify and limit leaks, with well pads and midstream infrastructure operating under new and revised air quality general permits. Pennsylvania has compiled an inventory of emissions since 2012 and expanded the scope of participating facilities over the years.

It is also important for the U.S. EPA to recognize that natural gas development in the United States, and particularly in the Appalachian Basin, has some of the lowest methane intensity rates in the world. For example, the International Energy Agency recognizes that the U.S. methane intensity of 8 tons (per thousand tons of oil equivalent) is one of the lowest of major oil and natural gas producing countries in the world, lower than China (9), Russia (13), Venezuela (48) and Libya (103). Here in the United States, the Appalachian Basin's methane intensity is the lowest of the nine major hydrocarbon producing basins in the entire country.[4]

Natural gas operators are rightfully proud of their contribution to reducing climate change inducing emissions. Operators have demonstrated this commitment through their voluntary participation in meaningful initiatives such as One Future, API's The Environmental Partnership, the U.S. EPA's Methane Challenge and the Global Methane Initiative, to name a few. Over 85% of MSC Board members participate in one or more of these initiatives.

Balancing the Role of the States with the Role of the Federal Government

The proposed rulemaking continues to erode the traditional cooperative federalism which had been the historical cornerstone of federal rulemaking generally, and environmental rulemaking specifically.

States are neither subjects of nor created by the federal government. While federal laws duly enacted by the U.S. Congress are certainly applicable to the states, the state has historically been the primary regulator of the activities within its borders. With respect to oil and gas activity and its regulation, intended to protect both the environment and public health, Pennsylvania has a mature regulatory regimen that adequately addresses most if not all of the criteria that U.S. EPA seeks to promulgate. In some areas, such as well closure plans, the Agency clearly seeks to expand its historic role of oil and gas oversight under the guise of air quality. This extension is tenuous at best and not justified by any demonstration that the various states are not already adequately addressing the underlying issue or equipped with the necessary statutory authority to do so if warranted.

In abandoning the long-held and successful principle of cooperative federalism, the Agency seeks to impose a one-size-fits-all regulatory framework upon the states themselves, negating the states' authority to design different but equally effective regulatory programs. It imposes

[4] Clean Air Task Force & Ceres: Benchmarking Methane & Other GHG Emissions (June 2021)

unnecessary, burdensome and duplicative requirements upon not only industry, but the states themselves. It creates significant uncertainty and perpetuates confusion upon the industry as to what standards it is to meet; applicable to what date; and achieved within what timeframe. In doing so, it wastes valuable and limited government resources, while also significantly raising the overall cost of doing business for operators with little, if any, commensurate environmental benefit for our citizens.

Conclusion

The MSC and its member companies take great pride in their efforts to conduct operations safely, efficiently, and in a manner that protects our shared environment and local communities, while at the same time meeting the critical energy needs of our citizens. We welcome the opportunity to discuss in greater detail any questions or need for clarification that you may have regarding our comments.

Sincerely,

David E. Callahan
President

SPECIFIC COMMENTS

The MSC offers the following specific comments for consideration:

ALTERNATIVE MONITORING REQUIREMENTS FOR FUGITIVE EMISSIONS AND APPENDIX K

1. The proposed requirement of a ground-based monitoring survey of the entire facility when emissions are identified by alternative technology are burdensome and not necessary in all cases. MSC believes the following alternatives are more appropriate.
    a. The requirement to assess the full facility with OGI following detection of emissions should be dependent on the capability of the alternative technology used. Many technologies can detect source level emissions. In this case, only the source should be evaluated.
    b. Cause(s) of emissions identified by alternative technology are often documented by other records. A facility/source level inspection should only be required if the cause cannot be identified by separate records such as operator logs, SCADA data, etc.
    c. Where the cause cannot be identified based on other records, an audio, visual, olfactory (AVO) inspection should be allowed as the first response. Only when AVO cannot identify the cause of emissions, should OGI be required.
    d. When OGI is necessary, the requirements in §60.5398b (b)(4)(iv) using the term "ground-based monitoring survey" should be removed. The term "ground-based monitoring survey" can be interpreted to exclude the ability to use OGI cameras mounted to drones or aircraft. MSC believes the daily verification requirements that exist in the proposed rule §60.5397b(c)(7) and 40 CFR 60.5397a(c)(7) are sufficient to determine the distance at which the OGI camera can view the release, and the OGI inspection must be performed within that distance.

2. The alternative monitoring matrix is not adoptable by operators in its current form. The following suggestions would assist with developing requirements that would allow operators to utilize alternative technologies now and provide the ability to adjust frequencies and use of technology as the technology improves and costs reduce.
    a. MSC urges EPA to develop a technology agnostic matrix that allows a combination of techniques (e.g. AVO, OGI, Flyovers, Continuous Monitoring) at varying frequency. For example, an operator could deploy both flyovers, continuous monitoring, and OGI, but at reduced individual frequencies as proposed in the rule.
    b. It is important to not under-represent the effectiveness of OGI or under-represent the effectiveness of alternative technology with the modeling inputs. MSC requests EPA to work closely with stakeholders such as API or others who have spent considerable time determining the appropriate inputs to the model that establishes a baseline performance for OGI and equivalency for alternative monitoring methods.

3. Dwell times and multiplier factors in Section 9.4 of Appendix K add unnecessary time to monitoring surveys with no added benefit. There is no data supporting longer dwell times result in increased leak detection rates by qualified camera operators. The extensive level of training for OGI camera operators and the quarterly audits, proposed under Appendix K, are more than adequate to demonstrate that operators are capable and qualified to detect leaks without arduous dwell time requirements. The dwell time in Section 9.4 and multiplier factors in Sections 9.4.1 and 9.4.2 should be removed.

4. Section 9.7.2 sates "A full video of the monitoring survey must be recorded." The term "a full video" suggests that the monitoring survey must be recorded in one uninterrupted video. Due to limited storage space on SD cards and the need to charge and change batteries for OGI cameras, the MSC requests clarification in the Appendix K language that multiple videos will be acceptable for one survey.

5. There is no justification for the minimum 5-minute duration requirement for the quality assurance (QA) verification videos in Section 9.8. The 5-minute requirement does not add value to the QA verification video and would result in unnecessary data storage. The requirement should be based on the completion of required QA verification tasks and not an arbitrary amount of time. MSC requests that the minimum 5-minute duration be removed from the QA verification video requirement and replaced with the requirement to complete all elements described in section 9.1.

6. The requirement for quarterly audits of all OGI operators seems excessive. Generally, recertification and training requirements are imposed on an annual basis. The MSC recommends that any audit requirements follow a similar approach.

7. The MSC thanks the U.S. EPA for reconsidering the burdensome requirements of applying Appendix K to upstream operations and encourages the U.S. EPA to maintain this reconsideration in the final rulemaking.

WELL CLOSURE PLAN

1. The U.S. EPA has proposed requiring owners and operators to develop and submit a well closure plan within 30 days of the cessation of production from all wells at the well site or centralized production facility.

   This plan would include: (1) The steps necessary to close all wells at the well site, including plugging of all wells; (2) the financial requirements and disclosure of financial assurance to complete closure; and (3) the schedule for completing all activities in the closure plan.

   The U.S. EPA is also proposing to require that owners and operators submit a notification to the Agency 60 days before beginning well closure activities. Numerous states, including Pennsylvania, already have sufficient statutory and regulatory standards in place that governs the cessation of well production and appropriate well plugging

requirements. These steps include ensuring wells are in full compliance with all applicable air quality standards, including this rulemaking.

Respectfully, this proposed requirement is far beyond the scope of this rulemaking and encroaches upon the authority of the state as the primary regulator for oil and gas operations. It is a burdensome, unnecessary, duplicative requirement that exceeds the scope of the rulemaking and underlying statutory authority. The MSC strongly recommends that the well closure plan provisions of the rulemaking be removed or default to state level well-closure requirements.

STORAGE VESSELS

1. §60.5365b(e)(2)(i) states: For purposes of determining the applicability of a storage vessel tank battery as an affected facility, a legally and practicably enforceable limit must include the elements provided in paragraphs (e)(2)(i)(A) through (F) of this section. The determination may take into account requirements under a legally and practicably enforceable limit in an operating permit or other requirement established under a Federal, state, local, or tribal authority.

   Suggested revision: Please clarify that a legally and practically enforceable limit applies to both; 1) an operating permit and, 2) other requirement established under a Federal, state, local, or tribal authority.

2. §60.5365b(e)(2)(i)(A) appears to establish a quantitative production limit and quantitative operational limit(s) for the equipment, or quantitative operational limits for the equipment.

   Suggest revision: The MSC requests clarification that both a quantitative production limit, meeting criterion of §60.5365b(e)(2)(i)(B) and a quantitative operational limit are required. Also, please confirm that more than one operational limit (e.g., 95% control) that does not qualify as a parametric limit is required.

3. The MSC acknowledges the incorporation of t6e uncontrolled methane emission rate (14 tpy) for affected facilities as requested in comments dated January 31, 2022, and expresses its appreciation for this incorporation.

PNEUMATIC CONTROLLERS

1. §60.5365b(d)(1) states that facilities shall become subject to §60.5390b upon an increase in a facility pneumatic controller count of one or more. MSC requests consideration to the purpose of the new device(s). New pneumatic controllers, which are installed as part of an emissions mitigation project that will result in a net reduction of VOC and methane emissions should be granted exemption from applicability.

Suggested revision: For the purposes of §60.5390b, MSC requests a revision to the definition in §60.14 or specific additional language in §60.5365b(d)(1) as follows: a modification occurs when the number of natural gas-driven pneumatic controllers at a site is increased by one or more, unless the new controller(s) result in a reduction of emissions.

2. Language should be included in this section similar to the process unit equipment affected facility stating that addition (or replacement) of natural gas-driven pneumatic controllers for the purpose of process improvement which is accomplished without a capital expenditure shall not be considered a modification.

3. §60.5365b(d) excludes pneumatic controllers from applicability only if they function as emergency shutdown devices or are not powered by natural gas. EPA goes on to suggest operators meet the "zero emissions" standard by utilizing alternatives such as compressed air or electrically-driven devices powered by line power or solar. No option is provided to allow the operator to conduct a study to demonstrate the feasibility of these alternatives.

   The MSC suggests modifying this to include those devices which cannot operate on compressed air due to safety concerns the potential introduction of air to the gas stream may create. Also, the evaluation of technical and economic feasibility of these options should be allowed as, even in the lower-48, there are many locations without convenient sources of electricity or reliable solar regeneration time. The cost to run power; install adequate solar systems; or install, operate, and maintain compressed air systems could be economically challenging for some locations and could also entail environmental impacts in and of themselves. They also may increase load demand upon the electric grid.

   Suggested revision: Addition of technical feasibility demonstration as in other source categories within the proposed rule.

4. §60.5390b(a) dictates that pneumatic controller facilities must be designed to emit zero emissions of VOC and methane. Many MSC member companies currently utilize existing control technologies to reduce pneumatic vent emissions. The proposed regulation allows 95% control as an option for other source categories. In the case of site modifications, it may not be feasible to route pneumatic vents to existing processes; therefore, some new beneficial process may need to be installed, potentially with the risk of adding new emissions. Also, considering the difference in volume between pneumatic sources and others, such as storage vessels, 95% control of pneumatic venting should be considered. This option is also critical for existing pneumatic devices that, as noted above, are currently controlled. Requiring a zero-emission standard for units already controlled by 95% or more requires the same capital and annual investment, but with little additional emission reduction over the baseline.

   Suggested revision: Allow the 95% control of pneumatic vent streams.

5. Due to severe supply chain shortages and disruptions, generators and other equipment and parts necessary for zero-emission systems can take up to three months or longer for delivery. These supply chain challenges may be exacerbated by this rulemaking, as facilities across the country move to come into compliance. If U.S. EPA determines that it is necessary to move towards a rule for zero-emission controller systems, consideration must be given to establishing a reasonable compliance timeframe and allow for a phase-in period for procurement and installation of the systems and equipment necessary (including labor necessary for installation) to accommodate compliance with a final rulemaking. This compliance timeline was included for the same source category during the development of Subpart OOOO.

WELL LIQUID UNLOADING

1. U.S. EPA is attempting to use the proposed regulation to significantly increase their understanding of 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. U.S. EPA defines liquid unloading as: "Liquid unloading means the unloading of liquids that have accumulated over time in gas wells which are impeding or halting production." This broad definition will lead to a variety of interpretations concerning which production techniques, among the dozen or so 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. U.S. EPA acknowledges this by specifically asking the following "U.S. 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."

   As noted in previous comments, liquid unloading techniques will change over the potential 30 or more years in the producing life of wells. Venting may be required at a particular time in a well's life; however subsequent techniques may not vent as future unloading techniques evolve. 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.

   U.S. 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. U.S. EPA should understand these differences and develop regulations with enough specificity to avoid such ambiguity.

   Due to the factors discussed, the MSC requests that U.S. EPA more narrowly define liquids unloading operations to clarify those activities regulated rather than all unloading activities as currently proposed. The MSC suggests defining liquids unloading operations as those operations that vent to the atmosphere. This action would clearly define the

source and limit the recordkeeping to the liquid unloading events that vent to the atmosphere.

2. The proposed regulation, as it pertains to wells that do not vent during liquids unloading, seems more like an Information Collection Request than a regulation to control emissions. U.S. 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 U.S. 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. The MSC requests the removal of reporting requirements that do not provide valuable emissions-related information.

3. U.S. EPA states "Further, since each well liquids unloading operation is conducted based on the site-specific circumstances at the time the operation is planned, the U.S. 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 U.S. EPA is proposing to apply the proposed standards to all well liquids unloading operations regardless of if the operation results in vented emissions."

   Ease of implementation from a regulated entity's perspective is questionable. It would be much easier, and more emission-focused for the standards to only apply to wells that vent. U.S. 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, U.S. EPA should develop regulations that would apply then.

4. U.S. EPA should not be attempting to regulate Liquid Unloading Events that do not vent any emissions. Previous comments (from MSC, AXPC, IPAA) were clear in this regard. "The U.S. 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." This is an overreach as proposed and would be an extreme reporting burden. As detailed in the U.S. 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. "Some 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, creates a significant reporting burden, and when wells do not vent this reporting should not be required.

5. The proposed certification language needs to include not only technical and safety reasons but should include economic feasibility as well, as follows: "I certify that the technical, economic 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."

6. Regarding Certification: U.S. 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 (e.g., related to a well's operating conditions and reservoir energy with respect to well-bore liquid management). (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.

   U.S. EPA should provide additional supporting documentation about what would be considered acceptable "Written Justification". U.S. EPA does not provide examples 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 U.S. EPA cannot provide such detail, there will be considerable challenges within the industry for qualified certifiers and this requirement should therefore be withdrawn.

7. U.S. 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.

RECIPROCATING COMPRESSORS

1. The proposed regulation and guidance (OOOOb & OOOOc) are not clear if the volumetric flow rate of 2 scfm which trigger repair is per compressor or per throw or per set of packing. It is assumed to be per set of packing or per throw, but clarification is requested.

2. Clarification is also needed on the timing of the repair. Repair of the seal will require the compressor to be taken out of service resulting in a significant reduction in facility capacity. Availability of parts is also a concern. The MSC recommends timing of repair should be similar to fugitive emissions where parts availability and performing repairs during the next equipment outage are relevant.

3. The MSC supports the flexibility to repair or replace rod packing.

4. The MSC supports the use of operating hours to define the testing cycle.

5. The MSC also requests allowing rod packing replacement every 8,760 operating hours as an alternative option to the flow measurement. This would allow operators to change

packings on a scheduled timeframe and avoid the repair timing questions and uncertainties noted above.

6. The MSC supports the removal of the language "under negative pressure" as part of the requirement of routing rod packing emissions to a process. In addition, additional flexibility should be allowed in the regulatory requirements for reducing or controlling rod packing emissions. Technology to reduce emissions, such as seal gas recovery, is relatively new and emerging and the regulation should not discourage these options. These systems will be monitored as fugitive emission sources and the additional requirements of them being closed vent systems does not provide additional value. Simply requiring reduction of 95% of emissions and fugitive emissions monitoring should be adequate to verify compliance.

7. The MSC also requests the use of proven add-on controls, such as an existing combustor or flare, be allowed. Such options may be key for existing units and units that are modified or reconstructed.

8. MSC requests verification regarding performing flow measurement. The compressor is the affected source. Flow measurement for the affected source is to be made at the packing vent or at a point in a collection header or system prior to the introduction of emissions from other sources. The threshold for requiring repair is 2 scfm per the number of throws/vents. For example, if a collection header for a compressor having 4 throws/vents has total flow greater than 8 scfm, then relevant inspection and repairs for the collected rod packing must be made. If individual vents are measured, then only the vent with flow greater than 2 scfm would need to be inspected and repaired. Assuming this is correct, it would allow flexibility to take measurements at a point with safe and reasonable access.

CENTRIFUGAL COMPRESSORS

1. The proposed regulation and guidance (OOOOb & OOOOc) are not clear if the volumetric flow rate from seals which trigger repair is per compressor or per seal. The MSC requests clarification that the measurement is per seal.

2. Clarification is also needed on the timing of the repair. Repair of the seal will require the compressor to be taken out of service resulting in a significant reduction in facility capacity. Timing of a repair should be similar to fugitive emissions where parts availability and performing repairs during the next equipment outage are relevant.

DRY SEAL COMPRESSORS

1. Dry seal centrifugal compressors typically consist of a primary and secondary seal which use natural gas. Is addition, the assembly has a buffer seal which uses air. U.S. EPA should verify that measurement of air from the buffer seal is not required.

2. U.S. EPA's volumetric flow rate of 3 scfm is not consistent with manufacturer's data and further evaluation is needed. Volumetric flow rate will vary per compressor model and suction pressure. Assuming a suction pressure of 500 to 1,000 psig, manufacturer's maximum seal gas leakage will be at least three-plus times this rate.

3. U.S. EPA should allow flexibility regarding methods for identifying the need for a seal repair. Centrifugal compressors monitor many parameters to ensure proper operation and to prevent damage to the unit. This includes monitoring and regulating gas pressure to the seals. This type of monitoring should be allowed as an alternative to annual volumetric flow monitoring.

4. U.S. EPA needs to expand its cost analysis. Estimated cost for repair is noted as $15,000 per year. Parts and labor for a seal repair can range from $100,000 to $150,000. An aggressive volumetric flow rate requirement may significantly increase the frequency of required repairs. In addition, the regulatory supplement assumes a typical repair will correct the volumetric flow rate. Other options should be available.

5. U.S. EPA should allow additional flexibility in means for reducing or controlling dry gas seal emissions. Technology to reduce emissions, such as seal gas recovery, is relatively new and emerging and the regulation should not discourage these options.

6. In addition, the use of proven add-on controls, such as a combustor, should be allowed. Such options may be key for modified or reconstructed units.

<u>WET SEAL COMPRESSORS</u>

1. The MSC agrees with U.S. EPA's recognition that wet seal systems have low seal emissions and additional controls should not be required. A volumetric flow rate requirement is appropriate.

2. U.S. EPA should allow additional flexibility in means for reducing or controlling seal emissions to meet the flow requirement. Technology to reduce emissions, such as seal gas recovery, is relatively new and emerging and the regulation should not discourage these options.

3. The compliance alternative of OOOOc, requirement to reduce emissions should note a reduction of 95% or less than the presumptive standard. The MSC recommends incorporating the following language:

> "an owner or operator of a centrifugal compressor equipped with wet seals can comply with EG OOOOc by reducing methane emissions from each centrifugal compressor wet seal fluid degassing system by 95 percent, ~~***which***~~ ***or*** achieve~~***s***~~ emission reductions ***resulting in emissions less than*** ~~***greater than***~~ or equal to the 3 scfm proposed presumptive standard."

SUPER-EMITTERS & THIRD-PARTY MONITORING

1. The MSC is requesting that EPA clarify the source of the 100 kg/hr emission rate used in the definition of "super-emitter events." Our understanding is that not all remote sensing technologies that are proposed and not all vendors providing these technologies are able to meet that sensor resolution. Additionally, the threshold does not include a minimum monitoring period to characterize an event as a "super-emitter." As a result, a brief event lasting seconds or minutes could be categorized as a "super-emitter" event during a flyover using remote sensing technology. This could result in high numbers of events requiring a rapid response and use of operational resources when the total emissions from the event do not meet this threshold over a one-hour period. At a minimum, there should be a duration component determined by at least two observations more than 24 hours apart with detected emissions above the permitted threshold. Additionally, any technology utilized by third parties must meet the same technological requirements that apply to operators and regulators alike.

2. The proposed regulation does not account for the fact that using remote sensing to detect methane emissions accurately often takes five to seven detections during multiple flyovers[5]. Weather conditions, wind speed, distance from the source and other factors can produce variability in results. Geolocation errors are also common, creating the potential for mis-identifying sources or even which facility the emissions are coming from.

3. The MSC is concerned that the prescribed methods may overstate the emission rate due to variability in leak localization. The prescribed testing methods have varying ability for leak localization from 1 to 10 meters for fixed monitors, 1 to 50 meters for flyovers and 25 meters to 7 kilometers for satellite monitoring. Variability in leak localization can be due to distance, weather, and site conditions.

   Identified emissions can include background emissions and emissions from other sources. The combined emissions will result in overstating emissions and potentially triggering the super-emitter programs investigation, publication and reporting requirements.

4. MSC objects to the usage of the term "super-emitter" as it sensationalizes these events and has been used to describe events of varying magnitudes from various different sources.

5. U.S. EPA justifies the super emitter program as BSER but fails to establish that it has the legal authority to delegate enforcement authority to non-governmental organizations

[5] To better understand the variables regarding remote sensing, the MSC encourages the U.S. EPA to review "Monitoring methane emission from oil and gas operations" – Collins, Orbach et al; Optics Express: https://opg.optica.org/oe/fulltext.cfm?uri=oe-30-14-24326&id=477126

(NGOs). The obligations that flow from receipt of a super-emitter event notice clearly represent steps in the enforcement process. The usage of third parties rather than regulatory authorities for emission monitoring under the proposed rule represents an unprecedented delegation of authority to non-governmental entities that lack the objectivity of a regulatory agency and may in fact have an agenda hostile to the industry. U.S. EPA assumes an unprecedented level of responsibility in granting third parties authority for these actions, including culpability for their safe operations on and around industry facilities.

6. Third parties approved to conduct monitoring should be required to obtain approval from the applicable state before being allowed to operate. While U.S. EPA has oversight, the states have the primary enforcement role, and it is inappropriate for the Agency to approve an entity to interject itself into the state's regulatory program without the state's approval.

7. The proposed criteria for how U.S. EPA will certify third party entities lacks transparency and specific details. Appropriate experience and expertise must be demonstrated more fully and should be commensurate with the requirements proposed for industry personnel. Additionally, the regulated community should have access to technical data on the proposed monitoring technology from the specific monitoring entity along with approved protocols and procedures from that entity.

8. A third-party entity will have difficulty discriminating between an upset condition resulting from abnormal operating conditions from intermittent permitted emissions events. Recent experience in Pennsylvania with fixed-wing aerial flyovers and drone monitoring have indicated that these technologies are more accurate in determining emission rates from continuous emission sources (i.e. engines) rather that intermittent events.

9. The U.S. EPA does not provide enough detail on the criteria that would result in a third-party monitoring entity having their authorization revoked. Further, the potential to have entities lose their authorization is not a sufficient remedy to having inaccurate emissions data being published in a public forum prior to verification. The three-time threshold for inaccurate notifications from a third party is too high and limited to multiple notifications at the same facility owned by the same operator. This results in the potential for a third party to submit demonstrably inaccurate information for many different facilities/operators with no penalty to the third party before the U.S. EPA even considers revocation of the approval for a third party to conduct monitoring.

10. Many facilities are located on private property significant distances from public access points. Third party monitoring entities cannot trespass on private sites and would need to have knowledge of safe setback distances and other safety considerations at each facility depending on the monitoring method employed. Usage of drones for monitoring is of

particular concern as it requires Federal Aviation Administration certification and may employ equipment that is not intrinsically safe. This should be specifically addressed in the requirements for certification of third-party entities.

11. U.S. EPA has indicated that it will make a copy of the notice from the third-party publicly available, but also states that it will not verify the information prior to posting. Notice should not be posted without some level of verification before accusations are made.

12. The proposed regulations fail to place any restrictions on approved third parties. U.S. EPA will make available the notice and the sources report. Will the third party also be allowed to publish the notice and if so, will it also be required to publish the sources report? The proposal lacks any safeguards or limitations on potential abuses by third parties.

13. The program will be of limited value unless the alleged source receives prompt notice of the alleged event. The proposal that notification be given "as soon as practicable" is not adequate. Recent experience has shown that delays greatly hamper the ability of a source to investigate and respond to the notice. Notice should be required within 7 business days of the alleged event.

14. A sound program addressing the largest sources of methane emissions can have significant environmental benefits. However, as recent experience with flyovers in Pennsylvania has demonstrated, most of the large emission sources are not from oil and gas operations. If U.S. EPA believes that a super-emitter response program is warranted, it should be a stand-alone program addressing all such sources and should not be limited to the oil and gas sector.

ADOPTION OF STATE PLANS

1. Each state has mandated procedures that must be followed when adopting new regulations. Those procedures routinely include public comment and public hearings. U.S. EPA's existing regulations at §60.23a outline the basic requirements for state plan adoption while respecting individual state differences. The proposed regulations at §60.5366c impose new and more onerous requirements applicable to the oil and gas industry only. These new requirements should be eliminated. The requirements in §60.23a are adequate.

2. As proposed, it would appear that U.S.EPA could reject a state plan no matter how environmentally stringent its provisions are based solely on U.S. EPA's opinion regarding the extent of "meaningful engagement". The Clean Air Act only empowers U.S. EPA to evaluate the environmental adequacy of a state plan.