ENERGY WORKFORCE & TECHNOLOGY COUNCIL

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February 13, 2023

Michael Regan
EPA Administrator
U.S. Environmental Protection Agency
Docket ID No. EPA-HQ-OAR-2021-0317
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,

Energy Workforce and Technology Council ("Energy Workforce") appreciates the opportunity to comment on the Environmental Protection Agency ("EPA") questions informing the supplemental proposal to update, strengthen and expand on the standards proposed on November 15, 2021.

Energy Workforce represents more than 300 energy technology and services companies working to deliver safe, profitable, and sustainable lower-carbon products. Like the rest of the energy sector, the companies that comprise our membership are diverse in size, scope, and governance models. Our members represent the spectrum from private sole proprietorships, to publicly held companies with thousands of employees.

Energy Workforce members are leading in the development of lower carbon technology such as CCUS, methane leak detection and mitigation technology, geothermal, offshore wind support, hydrogen, and other new technologies.

Changes to Proposed Emissions Standards

General Comments

Energy Workforce members are making cleaner energy possible by building on our industry's long history of developing and deploying technological solutions on a global scale. Our companies are making the production of oil and gas cleaner, safer and more cost-effective than ever before with technologies that cut energy usage, reduce emissions, detect leaks, and streamline operations. These technologies include comprehensive methane monitoring, comprised of leak detection that includes the location and rate quantification in real time so that operators can take immediate action to reduce greenhouse gas (GHG) emissions and save costs. These technologies have been available to operators since the 2010s and include a wide range of options.

For example, since 2018, a team has been utilizing drones equipped with methane detection cameras and sensors in the Permian Basin. It has conducted over 1,000 inspections using drones and drone mounted sensors, combined with an artificial intelligence (AI) enabled software platform. This effort is contributing to meeting an operator's goals of maintaining methane emissions intensity below 0.2% by 2025 and meeting the requirements of the Oil and Gas Methane Partnership (OGMP) 2.0 framework.

Similarly, since 2018, there has been commercially available continuous monitoring using a sensor network strategically placed at an oil or natural gas production site to monitor for emissions. Industry-wide, there are at least 5 million sensor operation hours for continuous monitoring, providing years of reliable and actionable emissions data for operators. The real-time and historical trend data available from continuous monitoring has provided many advantages in data science and process automation for operators including new levels of emissions visibility and how emissions correlate to the operational schedules and processes. Ultimately this not only provides a better source of information to help prioritize repair efforts, but also significantly shortens the time between initial detection and repair.

There is also gas cloud imaging (GCI) system in Europe to provide automated and continuous monitoring for leaks of dangerous and polluting gases such as methane at oil and gas, chemical and power generation facilities across the continent. The Mini GCI systems can be placed throughout an industrial facility to continuously monitor for gas leaks and provide alerts as soon as they occur. The system provides facility operators with an easy-to-interpret, colored visualization of the gas plume type, location, direction, size and concentration. This allows for an earlier and more effective response before leaks have the chance to grow into bigger emissions or safety issues.

Energy Workforce supports the goal of lowering methane emissions and has a number of suggestions improve this rule and make certain areas more workable. While this proposal is centered on eliminating existing leaks; it does not have a "carrot-based" performance element, which Energy Workforce believes would make a greater impact on environmental change and be more attractive for business. For instance, operators that invest in continuous monitoring might be entitled to relaxed periodic inspection requirements.

AVO Inspections

AVO inspection may detect leaks after the event, but AVO inspection does not identify potential failures caused, e.g., by seal failures or loosening of threaded/flange connections. This is an inherent flaw in the AVO inspection methodology—i.e., it's not predictive, and it only catches emissions happening at the moment of inspection. Continuous monitoring, on the other hand, allows an inspector to monitor over time.

Small Well Site

Energy Workforce suggests that a small well site be defined as "two or less wells on pad with no other production equipment."

Additional note: Pad size is an incomplete or insufficient metric on which to base monitoring. Instead, the amount of production should also be factored in, as well as other considerations such as whether artificial lift or other operations with high emission potentiality operate onsite.

Methane Detection Technology

Energy Workforce believes that based on the leak rate threshold matrix, there should be an understanding and uniformity as to the timeline of leak events and when they must be abated. The understanding today is that if a leak event at certain threshold is captured by OGI/method 21 inspection, the duration to address that event can be longer than one that is detected from innovative detection technology, such as continuous fence line, laser spectroscopy, non-thermal cameras. This can lead to a perverse incentive for operators that choose not to invest in innovative monitoring technologies. Instead, the repair/corrective action timeline should be less punitive for those who adopt innovative monitoring technologies.

Continuous monitoring systems and quantification

Continuous monitoring systems that do not quantify emissions provide value in aiding to understand where events are occurring and may be used with operational data to provide root cause of intermittent events.

Corrective Actions

An appropriate deadline for corrective actions should be uniform across all monitoring methodologies. If a deadline is lower than the super emitter threshold, it should be within 45-day window. Super emitters should be addressed as quickly as possible after determining the root cause of the event. It is important to determine the typical timeline in the industry to assess root cause, and to establish a standard.

While it is understood that corrective action should be taken to eliminate a leak once discovered, treating technologies equally in this manner may not be appropriate (except for super-emitters). A continuous monitoring device, for example, provides earlier notice of emerging fugitive emissions that may/will deteriorate over time; continuous monitoring also detects periodic emission events that are less likely to be discovered by a quarterly or semi-annual inspection regime.

Prequalification for Requesting Approval of Technology

Technology approval should include proof of results, including an accredited third-party's validation, as they relate to detecting methane leak events, field-proven evidence, and technology validation accurately capturing events per a given range of detection and quantification thresholds that are not false events.

As of today, it is common in the industry to use the METEC standard from the Colorado State University in Fort Collins.

Flaring

Traditionally, flaring has been a means for producers and operators to combust uneconomic or unusable natural gas that is produced as a part of the extraction process at the well site. While the majority of harmful components in field gas are neutralized through flaring, incomplete combustion by inefficient flares can result in significant quantities of methane emitted to the atmosphere, so called "methane slip".

Flaring alternatives and on-site innovations that have emerged from within the energy sector have already addressed the concerns regarding traditional flaring and companies are developing new ways to reduce and decrease flaring efforts altogether. Chief among these efforts has been the repurposing of collected field gas to power wellsite operations. Gases that would have traditionally been flared or vented are now being used on-site in a closed-loop process with minimal methane emissions. Recent efforts by industry have begun to yield results. For example, in Texas the percentage of natural gas flared in Texas dropped from a previous record low of 0.20% in September 2021 to a new record low of 0.19% in November.

Beneficial uses of associated gas

Generators that use associated gas to generate electrical power, such as combustion engines and micro gas turbines. The generated electrical power may be sold to the power grid if possible. Local power generation can also be complemented with server banks for cloud computing (e.g. mining of crypto currency), as the monetization occurs in the form of data which can be easily transferred off location.

Information should be included in a demonstration that flaring is needed for safety or technical reasons:

Process and instrumentation diagram (P&ID) of the system, cause and effect matrix of possible safety and operationally related events (C&E), a hazard and operability study (HAZOP), and work instructions for personnel operating the system.

Definition of Qualified Individual

A "qualified individual" for production systems should have a background in process and/or petroleum engineering, with experience operating and/or starting up production facilities in the field. Qualified persons for other activities, such as drilling and completions, would require expertise and field experience in these respective areas.

A time threshold may be appropriate to allow for characterization of production prior to installing the beneficial technology solution or gas pipeline. This allowed time should only be awarded if the operator can prove that it plans to install a gas pipeline or other alternative method to utilize associated gas. Such a time threshold, however, should be limited to 2-3 months, as the suggested 2-year period may comprise the most productive period, and therefore period of highest emissions, of the well's life.

Pneumatic Controllers

Energy Workforce & Technology Council companies have developed technologies that can support emissions reductions and Energy Workforce supports pneumatic controller updates when technically feasible.

Adding Presumptive Standards for Liquids Unloading

Energy Workforce members believe there are significant opportunities to reduce emissions associated with liquids unloading despite the diversity of circumstances and technologies involved. One means of facilitating reductions in methane emissions generated by liquids unloading is to deploy advanced methods that reduce the frequency of unloading events. For example, there are artificial lift solutions that use advanced analytics and "smart" edge technology to boost production and reduce associated methane emissions from oil and gas wells. During one recent three-month pilot project in the Haynesville Shale using one artificial lift solution across 10 wells, the operator's gas production increased by 5% and well unloading events decreased by 94%. We believe best management practices should include technologies that reduce the frequency of events as a means of reducing overall emissions.

Intermittent emissions may constitute modification in the example of liquids being unloaded from storage tank to truck which is captured in "Ongoing liquids unloading as part of a regular operational schedule."

Updating Proposed Requirements for Centrifugal Compressors

Energy Workforce proposes the following addition to the NSPS definition:

"The process of directing pressurized fluids containing any combination of water, proppant, and any added chemicals to penetrate tight formations, such as shale or coal formations, that subsequently require high rate, extended flowback to expel fracture fluids and solids during completions for the purpose of production, NOT intervention."

Changes to Protocol for using Optical Gas Imaging for Leak Detection (Appendix K)

Energy Workforce recommends that audit frequency should be reduced for operators that have invested in a continuous monitoring system at the site/facility, because where a system that detects emissions at the asset level is in place, the need for periodic inspection is satisfied by that continuous monitoring, and therefore lessened. Where continuous monitoring is not in place, there is no justification for lessening periodic inspection.

Rest Breaks: Empirical data is needed to determine the 30-minute requirement and also should include dwell time that may equate for rest as well as environmental conditions.

Super Emitter Response Program

Technologies for Super Emitters:

Metal oxide, Laser Spectroscopy, OGI, Non-thermal cameras, satellite plane.

Third party notifiers:

Energy Workforce has significant concerns that potentially biased third-party notifiers could utilize this program in a discriminatory fashion. We have concerns some third-party notifiers may be inadequately trained to detect methane leaks. Should EPA move forward with the Super Emitters Response Program We would recommend that third-party notifiers be required to have appropriate training/certification in order to validate emissions events. Additionally, such notifiers should be required to provide proof of data of the event (time, date, location, visual evidence of leak origin), per the specifics of the equipment used to detect the event. The standards are accreditation of such notifiers would need to be put into place, as none exists today, and should be a government certified activity. These third-party notifiers must also have authorization to be on private, tribal, and federal land, as well as clearance of OSHA or industry required training if on neighboring well or production site.

Amount of time:

If an emission event is validated by qualified personnel and technology, then the notifier should be required to report the emission to the operator within a 1-day of discovery and validation. This is possible where a continuous monitoring system is in place because such a system produces data very quickly—i.e., location, threshold, and duration are reported at the time of detection via email/text to the service provider and the customer/operator.

Sincerely,

Tim Tarpley
President
Energy Workforce & Technology Council