pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

December 17, 2018

Mr. Andrew R. Wheeler
Acting Administrator
United States Environmental Protection Agency
Air and Radiation Docket Center
1200 Pennsylvania Ave, N.W.
Washington, DC 20460

Attn: Docket No. EPA–HQ–OAR–2017–0483

Re: Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Reconsideration. 83 FR 52056 (December 17, 2018)

Dear Acting Administrator Wheeler:

The Pennsylvania Department of Environmental Protection (PA DEP) appreciates the opportunity to provide comments on the United States Environmental Protection Agency's (EPA) reconsideration of emission standards for new, reconstructed, and modified sources in the oil and natural gas sector published on October 15, 2018.

Introduction

On June 3, 2016, EPA finalized the New Source Performance Standards for the Oil and Natural Gas Sector (2016 NSPS OOOOa) which established emission standards for greenhouse gases (GHG). EPA received petitions for reconsiderations of several of the provisions of 2016 NSPS OOOOa and granted reconsideration on three issues: (1) fugitive emissions requirements, (2) well site pneumatic pump standards, and (3) professional engineer certification requirements for closed vent systems. The reconsideration addresses these three concerns as well as implementation issues and technical corrections identified after 2016 NSPS OOOOa was promulgated.

Pneumatic Pump Requirements

The current requirement under 2016 NSPS OOOOa allows operators of new pneumatic pumps at an existing, or non-greenfield, site to demonstrate the technical infeasibility of routing pump emissions to an existing control system. PA DEP agrees with EPA's proposal to extend the demonstration of technical infeasibility for routing pneumatic pump emissions to a control or process at greenfield sites. This allows operators to assess whether control of new pneumatic pump emissions is technically feasible based on site-specific conditions, such as insufficient pressure or control device capacity, at both new and existing sites.

Fugitive Emissions from Well Sites and Compressor Stations

General Comments

EPA is soliciting data to support the proposed 180-day initial monitoring deadline. In Pennsylvania, under the conditional exemption (Exemption 38) in the Air Quality Permit Exemptions list, the General Plan Approval/General Operating Permit 5A for Unconventional Natural Gas Well Site Operations and Remote Pigging Stations (GP-5A), and the General Plan Approval/General Operating Permit 5 for Natural Gas Compressor Stations, Processing Plants, and Transmission Stations (GP-5), the initial leak detection and repair (LDAR) monitoring is required to be performed within 60 days after the startup. PA DEP recommends that EPA maintain the initial monitoring deadline of 60 days after the startup of production for well sites or the initial startup of a compressor station, processing plant, or transmission station.

PA DEP recommends that the delay of repair condition that limits the delay to a maximum of two years should instead account for the estimated emissions for the leak. The repair of any leak should be required before the emissions from the leak exceed the emissions from the repair. This would be determined by dividing the blowdown volume or other emissions associated with the repair by the estimated leak rate to determine the maximum hours for the delay of repair. For example, a leak of 0.5 standard cubic feet per hour (scf/h) that requires a blowdown of five thousand standard cubic feet (Mcf) to affect repair would be required to be repaired no later than 10,000 hours from the time the leak was detected, or approximately one year, 52 days from the date the leak was detected. Any calculated time above 17,520 hours, or two years, would default to the current maximum two years for repair.

The 2016 NSPS OOOOa requires owners and operators using optical gas imaging (OGI) to develop a site map and an observation path in their fugitive emissions monitoring plan. PA DEP agrees with the proposal to allow either plot plans or detailed equipment inventories as an alternative to a site map for fugitive emissions monitoring plans for OGI inspections. In addition, the inventory method would allow operators to be flexible with the inspection method, allowing them to use OGI or 40 CFR Part 60, Appendix A-7, Method 21 (Method 21) interchangeably.

The proposal is soliciting comments on whether the observation path is necessary. PA DEP recommends that the personnel conducting the fugitive emission monitoring certifies on each survey record that all required components were inspected, taking into account on-site conditions to ensure that the monitoring was completed in accordance with applicable requirements.

EPA is soliciting comment on how cold weather may impact the ability to comply with the 60-day initial monitoring deadline for well sites and compressor stations. Looking at daily average temperature data from 33 monitors across Pennsylvania between the years 2013 to 2017, the average number of days 0 °F or below are one or less. At any given location, the maximum number of days 0 °F or below was 5 over the same period; in many instances there were no days where the temperature was 0 °F or below. Therefore, PA DEP concludes that waiving one quarterly monitoring event is unnecessary in Pennsylvania.

Well Sites

EPA is proposing to reduce the LDAR frequency of well sites from semi-annual to annual. Since August 10, 2013, new unconventional natural gas production facilities in Pennsylvania were required to perform an annual LDAR program as part of Exemption 38. On August 8th of this year, the revised Exemption 38 became effective, so that new or modified unconventional natural gas production facilities were required to perform semi-annual LDAR consistent with 2016 NSPS OOOOa.

PA DEP also finalized GP-5A for use by facilities that could not meet the revised Exemption 38 criteria. In the GP-5A, which also became effective on August 8, 2018, the best available technology (BAT) determination based on technical and economic feasibility was quarterly LDAR. The GP-5A does offer a reduced inspection frequency, as suggested by EPA, for facilities that have less than two percent of components leaking in two consecutive inspections allowing those facilities to monitor semi-annually until such time as the percentage of leaking components equals or exceeds two percent.

As EPA has shown, and PA DEP's BAT determination has confirmed, LDAR is a cost-effective method of reducing fugitive emissions. While PA DEP's analysis shows cost-effectiveness at a quarterly frequency, PA DEP concedes that costs in Pennsylvania may not be reflective of costs across the nation. Therefore, rather than recommending a more frequent inspection interval with a possible step-down as in the GP-5A, PA DEP strongly recommends that EPA maintain the monitoring frequency at well sites at semi-annual. Due to the variable nature of leaks, PA DEP believes that a step-down provision from semi-annual LDAR frequency is not appropriate.

EPA is proposing to further reduce the LDAR frequency of low production well sites, defined as those that produce less than 15 barrel of oil equivalent per day (boe/day), to biennially. In Pennsylvania, there are 79,634 wells that produced natural gas, condensate, or oil in 2017 and this proposal allows over 89 percent of wells to use this requirement. Recent U.S. Energy Information Administration (EIA) data shows a similar number of wells eligible to be classified as low production wells nationwide.[1]

EPA's 1995 Protocol for Equipment Leak Emission Estimates (Protocol), provides emission factors for different types of fugitive emission components. The Protocol does not factor in production or line pressure. In addition, EPA states it is unable to account for lower operational pressures or pressure changes in the model plants used to determine cost effectiveness. Therefore, PA DEP recommends that the LDAR requirements for well sites be determined solely based on economic feasibility.

EPA also suggests that the definition of "well site" should be modified for purposes of fugitive emissions monitoring to exclude the flange upstream of the custody transfer meter assembly and all other fugitive emissions components downstream of this flange. PA DEP strongly opposes this change as it produces an absurdity of outcome regarding the monitoring of this equipment. The owner of the custody transfer meter assembly would be required to include this equipment in

[1] See: The Distribution of U.S. Oil and Natural Gas Wells by Production Rate, EIA, October 2018, https://www.eia.gov/petroleum/wells/pdf/full_report.pdf, last accessed November 21, 2018.

their own monitoring schedule, with the effect that there would be two different LDAR teams travelling to a well site, with the second team ostensibly travelling there to monitor only a small number of fugitive emissions components.

EPA should not consider separating third-party equipment from LDAR inspection requirements. PA DEP believes that separating the custody transfer meter assembly and other third-party equipment sets the stage for patchwork well sites where multiple, independent operators contract with one another such that state agencies will have to unravel a Gordian knot of independent LDAR programs creating recordkeeping, reporting, and enforcement issues. In any event, the final rule should require that all fugitive components before and after the custody meter assembly should be inspected.

PA DEP agrees with the proposed definitions of "custody meter" and "custody meter assembly"; however, given PA DEP's position on the definition of "well site", they are moot. For the same reasons, PA DEP recommends that no other definitions to provide clear separation to distinguish third-party equipment at well sites for the purposes of fugitive emissions monitoring be developed or incorporated.

EPA proposed changing the definition of startup of production to "the beginning of the continuous recovery of salable quality gas and separation and recovery of any crude oil, condensate or produced water." This proposed definition gives a definite reference for wells that were not hydraulically fractured to commence the required LDAR program without greatly affecting those that were hydraulically fractured. Therefore, PA DEP agrees with EPA's proposed definition of "startup of production" as not all wells are hydraulically fractured.

Compressor Stations

EPA is proposing to reduce the LDAR frequency of compressor stations from quarterly to semi-annually. Since February 2, 2013, natural gas compressor stations and processing plants in Pennsylvania have been required to conduct monthly audible, visual, and olfactory (AVO) inspections and quarterly LDAR monitoring in the previous GP-5. This inspection interval was again determined to be BAT in the revised GP-5 for natural gas compressor stations, processing plants, and transmission stations, which became effective on August 8th. Therefore, PA DEP recommends that EPA not reduce the LDAR frequency for natural gas compressor stations in Subpart OOOOa.

Alternative Means of Emission Limitation

PA DEP thanks EPA for recognizing the state fugitive emissions program from the GP-5A and GP-5 as an alternative means of emission limitation (AMEL). PA DEP recommends that EPA determine that the fugitive emissions program described in Exemption 38 is also AMEL. As of August 8th, compliance with Exemption 38(c) will ensure compliance with 2016 NSPS OOOOa.

The owners and operators of facilities covered by Exemption 38, GP-5A, and GP-5 in Pennsylvania are required to comply with the fugitive emissions requirements which have been determined (or shown) to be AMEL. The owners and operators should not also have to submit

notification to EPA, or a delegated Administrator such as PA DEP, that they are using a required AMEL. This information will be self-evident in the annual report and the records, which are available upon request.

Professional Engineer Certifications

EPA is proposing to allow in-house engineers to certify the design of a closed vent system or the technical infeasibility of routing pneumatic pump emissions to a control, regardless of licensure. PA DEP agrees with EPA's proposal because the in-house engineer certifying the design or statement of infeasibility are being held accountable to the same level as a professional engineer. Also, PA DEP, and other state agencies, employ engineers of varying levels of education, that may or may not have a professional licensure. PA DEP recommends that the final rule does not limit certifications to state-certified professional engineers only.

Storage Vessels

EPA cited that there are implementation issues related to the determination of the maximum average daily throughput used to calculate the potential emissions for storage vessels. PA DEP is concerned that during the 30 days during which the maximum average daily throughput is determined, which is likely to be the time the storage vessels will have the highest emissions, the storage vessel (or vessels) will be uncontrolled. PA DEP recommends requiring installation of a control device if the potential emissions from an engineering estimation based on maximum throughput exceeds the six ton per year (tpy) of volatile organic compound (VOC) threshold.

If the potential emissions after the 30 days is less than the 6 tpy VOC threshold based on the calculated maximum average daily throughput or the actual uncontrolled VOC emissions are less than or equal to 4 tpy, the operator can then remove the control as allowed under Subpart OOOOa. However, PA DEP would like to state that, in Pennsylvania, the threshold of control at unconventional well sites for VOC has been 2.7 tpy under Exemption 38 since 2013 and no operator has submitted a plan approval; therefore, EPA's threshold of 4 tpy actual VOC emission may be too high.

PA DEP agrees that emissions from fugitive emission components on a storage vessel, such as pressure relief valves and thief hatches, should be monitored as part of the LDAR program; however, this should be independent of the storage vessel's status as an affected facility under 2016 NSPS OOOOa. Covers and closed vent systems on storage vessels, centrifugal compressors, reciprocating compressors, and pneumatic pumps already require either an AVO inspection or a no detectible emission inspection, which uses Method 21. PA DEP recommends that, since there are inspection requirements for covers and closed vent systems, these components should simply be monitored in the required LDAR program in lieu of the current AVO and no detectible emissions inspections.

Conclusion

To reiterate, PA DEP appreciates EPA's recognition of the GP-5 and GP-5A LDAR inspection requirements as an AMEL. Lastly, PA DEP's key recommendations for the reconsideration are

to not reduce the LDAR inspection frequency for well sites and compressor stations; to not allow a step-down provision for LDAR at well sites as it is not appropriate to reduce semi-annual inspection frequencies; to require that LDAR frequency be based upon the economic feasibility and not the production of a well; to recognize Exemption 38(c) as AMEL; and to not require owners and operators to notify the Administrator of their use of an AMEL as it will be self-evident in their annual report.

PA DEP thanks EPA for the opportunity to comment on the reconsideration of Subpart OOOOa and appreciates your consideration of our comments.

Sincerely,

Patrick McDonnell
Secretary