Oil & Natural Gas Sector Emissions in New York
Stakeholder Regulation Outline
November 8, 2018

The New York State Department of Environmental Conservation (DEC) has developed this stakeholder regulation outline for new requirements in the oil and natural gas sector (the "rule"). The United States Environmental Protection Agency (EPA) published "Control Techniques Guidelines for the Oil and Natural Gas Industry" [1] on October 20, 2016. The Control Techniques Guidelines (CTG) set minimum requirements in determining reasonably available control technology (RACT) for volatile organic compound (VOC) emissions from select oil and natural gas industry emission sources. Some proposed requirements in this regulation outline go beyond the CTG to address methane emissions as well as New York air quality and nonattainment area concerns. This stakeholder document outlines what DEC is considering for a state regulation. In addition to the specific requests for feedback outlined in the document below, DEC will consider and evaluate all comments, general feedback and questions.

Applicability

- Oil and natural gas production
- Crude oil, condensate and produced water separation and storage
- Natural gas storage
- Natural gas gathering and boosting stations
- Natural gas transmission compressor stations

Combustion sources would not be regulated under this program but they are regulated under several federal and state regulations including NOx RACT and NSPS KKKK.

DEC is seeking input on whether the proposed requirements for oil and gas production should apply to economically marginal and low producing oil and gas wells. To inform this input, DEC is seeking feedback from stakeholders on factors that would be used to define economically marginal or low producing oil or gas wells. If economically marginal and low producing wells are covered, DEC seeks input on whether control requirements should differ for those wells.

For wells associated with both a lessee operator and a lessor, DEC would place the compliance obligation on the lessee operator ("operator") and is asking for stakeholder feedback on this approach.

[1] On October 20, 2016 EPA issued a final Control Techniques Guidelines for reducing smog-forming volatile organic compound (VOC) emissions from existing oil and natural gas equipment and processes in certain states and areas with smog problems. (https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/2016-control-techniques-guidelines-oil-and)

Gas Production

Storage Vessels

Applicability: Storage vessels with a potential to emit (PTE) greater than or equal to 6 tons per year (TPY) of volatile organic compounds (VOCs).
Proposed Requirements: 95 percent reduction of emissions (VOC and methane) from applicable storage vessels. Any storage vessel with a PTE of 6 TPY or more installed after the effective date of this rule may not vent to the atmosphere.
Discussion: DEC requests comment on the feasibility and cost of tank retrofit to capture potential emissions from storage tanks. DEC also requests comment on whether the proposed requirements should apply to brine and produced water tanks. Finally, DEC requests comment on potential methane emissions from storage vessels and if a threshold of PTE methane should be included in this category.

Pneumatic Controllers

Applicability: Continuous bleed natural gas driven pneumatic controllers.
Proposed Requirements: Pneumatic controllers must have a natural gas bleed rate less than or equal to 6 standard cubic feet per hour (scf/h).

Pneumatic Pumps

Applicability: Natural gas-driven diaphragm pumps.
Proposed Requirement: Routing of emissions from natural gas-driven diaphragm pumps to onsite control systems with a 95 percent emission control rate.

Leak Detection and Repair (LDAR)

Applicability: Well sites
Proposed Requirements:

- For both methane and VOCs, develop and implement a quarterly optical gas imaging (OGI) monitoring and repair plan that covers all components which may result in fugitive emissions. DEC seeks input on whether to require less frequent monitoring of lower production wells.
- EPA Method 21 may be used as an alternative to OGI at a 500 parts per million repair threshold level.
- Repair or replace all equipment with leaks within 5-30 days of discovery, unless the component is a critical component. A critical component is one that must remain in service because of the importance to the overall process and is therefore required to continue operation. If the leak involves a critical component, operators shall minimize the leak within one day of detection and repair the leak by the end of the next process shutdown or within twelve months, whichever is sooner.
- Each repaired or replaced component must be resurveyed for continuing and new leaks within 15 days of repair or replacement.
- **Innovative Technology/Alternative Compliance Pathway:** To address the evolution of continuously improving leak detection technology, the Department will accept applications for the use of innovative methane detection technology. Once approved by the Director, Division of Air Resources, that technology may be used to comply with the LDAR requirement.

Metering and Regulating Stations
Applicability: Metering and regulating stations.
Proposed Requirements: LDAR
Discussion: DEC is considering the requirement of LDAR at metering and regulating stations and is seeking feedback from stakeholders on the feasibility of this requirement, cost, and case studies demonstrating implementation.

Oil Production

Storage Vessels
Applicability: Storage vessels with a PTE greater than or equal to 6 tpy of VOCs.
Proposed Requirements: 95 percent reduction of emissions (VOC and methane) from applicable storage vessels. Any storage vessel with a PTE of 6 TPY or more installed after the effective date of this rule may not vent to the atmosphere.
Discussion: DEC requests comment on the feasibility and cost of tank retrofit to capture potential emissions from storage tanks. DEC also requests comment on whether the proposed requirements should apply to brine and produced water tanks. Finally, DEC requests comment on potential methane emissions from storage vessels and if a threshold of PTE methane should be included in this category.

Pneumatic Controllers
Applicability: Continuous bleed natural gas driven pneumatic controllers.
Proposed Requirements: Pneumatic controllers must have a natural gas bleed rate less than or equal to 6 scf/h.
Discussion: DEC seeks stakeholder feedback on if wells, which are designated as primarily oil wells, may produce gas and possess gas driven pneumatic devices at the well site.

Pneumatic Pumps
Applicability: Natural gas-driven diaphragm pumps.
Proposed Requirement: Routing of emissions from natural gas-driven diaphragm pumps to onsite control systems with a 95 percent emission control rate.
Discussion: DEC seeks stakeholder feedback on if wells in New York, which are designated as primarily oil wells, but also produce gas, may possess gas driven pneumatic devices at the well site.

Leak Detection and Repair (LDAR)
Applicability: Well sites
Proposed Requirements:

- For both methane and VOCs, develop and implement a quarterly OGI monitoring and repair plan that covers all components which may result in fugitive emissions. DEC seeks input on whether to require less frequent monitoring of lower production wells.
- EPA Method 21 may be used as an alternative to OGI at a 500 parts per million repair threshold level.
- Repair or replace all equipment with leaks within 5-30 days of discovery, unless the component is a critical component. A critical component is one that must remain in service because of the importance to the overall process and is therefore required to continue operation. If the leak involves a critical component, operators shall minimize the leak within one day of detection and repair the leak by the end of the next process shutdown or within twelve months, whichever is sooner.
- Each repaired or replaced component must be resurveyed for continuing and new leaks within 15 days of repair or replacement.
- **Innovative Technology/Alternative Compliance Pathway:** To address the evolution of continuously improving leak detection technology, the Department will accept submissions for the use of innovative methane detection technology. Once approved by the Director, Division of Air Resources, that technology may be used to comply with the LDAR requirement.

Natural Gas Infrastructure

Storage Vessels
Applicability: Storage vessels with a PTE greater than or equal to 6 tpy of VOCs.
Proposed Requirements: 95 percent reduction of emissions (VOC and methane) from applicable storage vessels. Any storage vessel with a PTE of 6 TPY or more installed after the effective date of this rule may not vent to the atmosphere.
Discussion: DEC requests comment on the feasibility and cost of tank retrofit to capture potential emissions from storage tanks. DEC also requests comment on whether the proposed requirements should apply to brine and produced water tanks. Finally, DEC requests comment on potential methane emissions from storage vessels and if a threshold of PTE methane should be included in this category.

Pneumatic Controllers
Applicability: Continuous bleed natural gas driven pneumatic controllers.
Proposed Requirements: Pneumatic controllers must have a natural gas bleed rate less than or equal to 6 scf/h.

Pneumatic Pumps
Applicability: Natural gas-driven diaphragm pumps.
Proposed Requirement: Routing of emissions from natural gas-driven diaphragm pumps to onsite control systems with a 95 percent emission control rate.

Centrifugal Compressors
Applicability: Centrifugal compressors.
Proposed Requirement:

- Reduce VOC and methane emissions from each wet seal centrifugal compressor fluid gassing system by 95 percent or replace with dry seals.
- Compressors shall be designed so that no gas from compressor blowdown vents is emitted into the atmosphere. This may be achieved by routing the gas to a vapor recovery system, a combustion device or other technology with a 95 percent removal rate.

Reciprocating Compressors
Applicability: Reciprocating compressors.
Proposed Requirements:

- Reduce VOC and methane emissions by replacing reciprocating compressor rod packing on or before 26,000 hours of operation or 36 months.
- Alternatively, route rod packing emissions to an emissions control process through a closed vent system under negative pressure ensuring 95 percent reduction in emissions.
- Compressors shall be designed so that no gas from compressor blowdown vents is emitted into the atmosphere. This may be achieved by routing the gasses to a vapor recovery system, a combustion device or other technology.

Pipeline or Compressor Blowdown
Applicability: All blowdown activities along the natural gas gathering and transmission pipelines.
Proposed Requirement: Use inline pipeline compressors to reduce the pressure in the pipeline to the lowest technically feasible amount based on compressor requirements.
Reporting:

- *Planned blowdown:* Notify the DEC and other responsible officials of blowdown 48 hours in advance of a blowdown event.
- *Unplanned blowdown:* Notify responsible officials of blowdown within 30 minutes of blowdown or whenever it is safe to do so.

Discussion: DEC is considering a requirement to fully capture pipeline blowdown gas with no venting to the atmosphere. Compliance may be achieved through several technology and operational options including, but not limited to, pigging with inert gas, capture with external compressor and rerouting downstream, re-routing to a lower pressure line or flaring. DEC is seeking feedback from stakeholders on the feasibility of this requirement, cost, and case studies demonstrating implementation. DEC is also seeking stakeholder feedback on which responsible officials should be notified regarding blowdown activity.

Metering and Regulating Stations
Applicability: Metering and regulating stations.
Proposed Requirement: LDAR
Discussion: DEC is considering the requirement of LDAR at metering and regulating stations and is seeking feedback from stakeholders on the feasibility of this requirement, cost, and case studies demonstrating implementation.

Pigging
Applicability: Pigging activity.
Discussion: DEC is considering the requirement of using a vapor recovery unit (VRU) or other technology at each pigging station to eliminate venting those emissions to the atmosphere. DEC is seeking feedback from stakeholders on the feasibility of this requirement, cost, and case studies demonstrating implementation.

Leak Detection and Repair (LDAR)
Applicability: Natural Gas Infrastructure, including compressor stations and storage
Proposed Requirements:

- For both methane and VOCs, develop and implement a quarterly OGI monitoring and repair plan that covers all components which may result in fugitive emissions.
- EPA Method 21 may be used as an alternative to OGI at a 500 parts per million repair threshold level.
- Repair or replace all equipment with leaks within 5-30 days of discovery, unless the component is a critical component. A critical component is one that must remain in service because of the importance to the overall process and is therefore required to continue operation. If the leak involves a critical component, operators shall minimize the leak within one day of detection and repair the leak by the end of the next process shutdown or within twelve months, whichever is sooner.
- Each repaired or replaced component must be resurveyed for continuing and new leaks within 15 days of repair or replacement.
- **Innovative Technology/Alternative Compliance Pathway:** To address the evolution of continuously improving leak detection technology, the Department will accept submissions for the use of innovative methane detection technology. Once approved by the Director, Division of Air Resources, that technology may be used to comply with the LDAR requirement.

Discussion: DEC is also exploring the idea of continuous emissions monitoring at compressor stations and is seeking feedback from stakeholders on the feasibility of this requirement, cost, and case studies demonstrating implementation.

General Items for Consideration

Technical Feasibility and Safety

If an owner or operator is not able to comply with the standards set forth in this rule, it would have to complete an engineering evaluation and certification providing the basis for the determination that it is technically infeasible or unsafe to comply. The owner or operator would need to maintain and provide that record to DEC for review and approval.

Information Request

This rule will include requirements that would allow DEC to collect information from each affected facility with respect to activity data and equipment data. The information requirement request may include activities and equipment which are not currently proposed for regulation.