

INSIGHTS

EPA Hits Oil and Gas Industry With a Flurry of Proposed Methane Regulations

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EPA took major steps on August 18, 2015 to curtail methane emissions from the oil and gas industry by simultaneously releasing four new proposed rules. These actions are part of the Obama Administration's larger climate action plan, which focuses primarily on reducing greenhouse gas emissions from the power and oil and gas sectors. President Obama announced his expectations from the oil and gas sector in January 2015, stating that the sector must reduce its methane emissions by 40-45% from 2012 levels by 2025. The Administration will strive to achieve this goal through actions from various federal agencies, including EPA, BLM and potentially DOE. EPA's regulations will have the widest reach and are the first to be proposed.

Key Takeaways

While none of the sources or activities proposed in EPA's methane regulations for new sources were unexpected, other actions EPA took today may have a broader reach and will require careful thought regarding industry's legal options.

In addition to the anticipated rule to regulate methane from new sources, EPA also announced proposed guidelines to reduce VOC emissions from existing sources in ozone nonattainment areas, proposed changes to EPA's aggregation policy which could influence whether more oil and gas sources are subject to major source air permitting, and a proposed minor source air permitting program for oil and gas production in Indian Country.

Stakeholders from the industry and non-governmental organizations are expected to have strong reactions to these proposed regulations during the overlapping comment periods, and even more regulations are expected in the future. In particular, BLM is expected to announce in 2015 regulations to reduce venting and flaring on federal and tribal lands. And by adopting regulations to directly reduce methane emissions from new oil and gas sources, EPA will be required to regulate methane from existing sources in the future.

Today's announcement included the following:

Stricter Standards for New Upstream Emission Sources

EPA has proposed updating the existing NSPS OOOO by creating NSPS OOOOa. If adopted as proposed, NSPS OOOOa would apply to sources that are constructed, modified or reconstructed after the date that the **proposed** rule is published in the Federal Register. In

addition, NSPS OOOO would be modified to apply to facilities constructed, modified or reconstructed after August 23, 2011 but before the date of the publication of the proposed NSPS OOOOa.

The proposed amendments are intended to fill gaps in the existing NSPS OOOO requirements by extending further downstream and covering activities that were unregulated by the 2012 NSPS OOOO rules.

If adopted as proposed, the proposed rule would require:

- **Compressors**

- EPA is proposing to add methane standards to those currently subject to the NSPS OOOO and to create VOC and methane standards for those subject to NSPS OOOOa.
- EPA has proposed reducing methane and VOC emissions by 95% from wet seal centrifugal compressors (except those located at well sites because there are none) by either utilizing a cover and closed vent system to a control device that can achieve 95% reduction or by routing the captured emissions to a process.
- Under the proposed rule, the rod packing would need to be changed in reciprocating compressors every 26,000 hours of operation or every 36 months. Or, as an alternative, owners or operators may route the emissions from the rod packing through a closed vent system operated at negative pressure.

- **Pneumatic controllers**

- EPA is proposing low-bleed controllers in lieu of high-bleed controllers.
- For pneumatic controllers at locations other than natural gas processing plants, EPA is proposing a bleed rate of 6 standard cubic feet per hour.
- For natural gas processing plants, EPA is proposing a natural gas bleed rate of zero.

- **Pneumatic pumps**

- For pneumatic pumps at locations other than natural gas processing plants, EPA is proposing a reduction of VOC and methane emissions by 95% from natural gas-driven chemical/methanol pumps and diaphragm pumps.
- For pneumatic pumps at gas processing plants, EPA has proposed that the methane and VOC emissions from such pumps be zero.

- **Hydraulically fractured well completions**

- EPA has proposed adopting the same standards for hydraulically fractured oil wells as apply to hydraulically fractured gas wells in the 2012 NSPS. EPA is proposing to revise the current NSPS to regulate both methane and VOC emissions from both types of wells.
- For non-wildcat, non-delineation wells (subcategory 1 wells), EPA has proposed that hydraulically fractured oil wells use “green completions” or “reduced emission completions” (RECs) in combination with a combustion device. RECs would not be required where their use is technically infeasible.
- For wildcat wells (i.e., exploratory wells) and delineation wells (subcategory 2), EPA has proposed that hydraulically fractured oil well completions use a completion combustion device.
- **Fugitive emissions from well sites and compressor stations**
 - For new and modified well sites and compressor stations, including both the transmission and storage segment and the gathering and boosting segment, EPA has proposed conducting fugitive VOC and methane emissions surveys by using optical gas imaging (OGI) technology.
 - EPA has also proposed that sources of fugitive emissions be repaired within 15 days of discovery during those surveys. If a repair is technically infeasible or unsafe during ongoing operations, EPA has proposed that the repair or replacement must be completed during the next scheduled shutdown or within 6 months, whichever is earlier.
 - In order to create an incentive to reduce fugitive emissions, EPA has proposed that the frequency of the surveys decrease from semiannually to annually for sites that find less than 1% of their fugitive emission components during a survey. EPA has also proposed that the frequency of such surveys increase from semiannually to quarterly for sites that find fugitive emissions from 3% or more of their fugitive emission components during a survey. The frequency of surveys may be decreased if emissions are in either the 1-3% or less than 1% range during a subsequent survey.
- **Equipment leaks at gas processing plants**
 - EPA is proposing to add methane standards.

EPA acknowledges that methane emissions from the oil and gas sector have declined 16% since 1990. However, despite these voluntary reductions, EPA claims that the proposed rule would reduce emissions by 340,000 – 400,000 short tons of methane in 2025, which is equivalent to reducing 7.7 – 9 million metric tons of CO₂. EPA estimates that the total capital cost of the proposed rule is \$170 million to \$180 million in 2020 and \$280 million to \$330 million in 2025. In addition, EPA estimates that total annualized engineering costs will be \$180 million to \$200 million in 2020 and \$370 million to \$500 million in 2025 using a seven percent discount rate.

EPA will provide a 60-day public comment period from the time the proposed rule is published in the Federal Register and plans to hold several public hearings on the proposed rule. Final regulations are expected to be adopted by December 2016.

Measures to Reduce Methane from Existing Sources

By regulating new sources of methane directly under Section 111(b) of the Clean Air Act, EPA will be legally obligated to regulate existing sources of methane under 111(d) of the Clean Air Act in the future. Any such regulations for existing sources are expected to be adopted after the standards for new sources are established. Until then, EPA has taken a few additional steps to reduce emissions from existing sources.

In late July 2015, EPA proposed a framework for reducing emissions from existing sources through a voluntary program that would begin on January 1, 2016. EPA will finalize the voluntary program by the end of 2015 and is taking comment on the proposed framework through the recently extended deadline of October 13, 2015. Proposed options to participate in the voluntary program to reduce methane emissions from existing sources include:

- implementation of best management practices,
- participating in the industry led coalition known as “One Future,”
- or committing to reduce emissions by a certain percentage by a company-selected date.

In addition, on August 18, EPA proposed draft guidelines to be used by the states to reduce VOCs from existing sources that are in nonattainment for ozone and in the Ozone Transport Region. These Control Technique Guidelines or CTGs do not impose legal requirements on sources. Rather, they provide states with recommendations for establishing “reasonably available control technology (RACT).” These RACT would apply to existing storage tanks, pneumatic controllers, pneumatic pumps, centrifugal and reciprocating compressors, equipment leaks from natural gas processing plants, and fugitive emissions. States would then need to revise their state implementation plans (SIPs) to implement RACT for existing sources of VOCs that are covered by a CTG.

These CTGs will affect more existing sources in the near future because in November 2014, EPA proposed to make the ozone national ambient air quality standard (NAAQS) more stringent. Pursuant to a court-ordered deadline, EPA must issue a final ozone NAAQS by October 1, 2015. Designations of attainment and nonattainment areas are then expected to be made by October 2017 based on air quality data from 2014-2016. Methane emissions will decrease as a co-benefit to taking steps to address ozone nonattainment.

Aggregation

Also on August 18, EPA proposed modifying the term “adjacent” in its regulations that determine whether to aggregate various sources of air emissions. EPA’s regulations state that air emissions should be aggregated if the sources:

- belong to the same industrial grouping (“SIC code”)
- are under common control

- are located on contiguous or adjacent properties

The definition of “adjacent” has been the subject of much litigation in the oil and gas industry because the industry does not fit well within the commonsense definition of a source or plant. To address this problem, EPA has proposed two options for redefining or clarifying the term “adjacent” for the oil and gas industry. EPA’s preferred option would define “adjacent” based on distance or proximity. In other words, equipment or activities would be considered “adjacent” if they are located on the same site or are on sites that are “within a short distance (1/4 mile) of each other.” As an alternative, EPA is also considering defining “adjacent” by looking at either proximity or function. Under this second alternative, equipment or activities would be “adjacent” “if they are near each other or if they are related by function - such as being connected by a pipeline, for example.”

Proposed Federal Implementation Plan for EPA’s Indian Country Minor New Source Review (NSR) Program

Finally, on August 18, EPA proposed a federal implementation plan (FIP) for the Federal Minor New Source Review (NSR) Program in Indian Country for oil and natural gas production. The proposed FIP would apply to new true minor sources and minor modifications at existing true minor sources in Indian Country (i.e., those that emit or have a potential to emit regulated NSR pollutants in amounts above 10 tons per year but less than 250 tons per year in attainment areas).

The proposed FIP would incorporate requirements in NSPS OOOO, including those proposed in NSPS OOOOa. In particular it proposes to include emissions limits for:

- completions of oil and gas wells that are hydraulically fractured
- storage tanks
- pneumatic controllers used in production
- compressors (reciprocating and centrifugal)
- leaks/fugitive emissions from oil and gas well sites and natural gas compressor stations
- pneumatic pumps
- glycol dehydrators
- stationary compression ignition and spark ignition engines
- fuel storage tanks
- process heaters

Under the proposed rule, minor sources would be required to register at least 30 days before the start of construction rather than submit a permit application. In addition, documentation would need to be provided to address threatened and endangered species, as well as historic properties.