

## EPA Takes Actions to Reduce Methane Emissions from Oil and Gas Sector

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On May 12, 2016, the **Environmental Protection Agency (EPA)** issued a [package of regulatory actions](#) aimed at limiting emissions of methane and other pollutants from sources in the oil and gas sector. The actions—three final rules and a draft information collection request (ICR)—are the latest taken under a [comprehensive methane strategy](#) for the sector released by the White House in 2015. The White House’s goal is to reduce methane emissions from the sector by 40-45 percent from 2012 levels by 2025.

As explained below, the May 12 package mostly targets new and modified sources in the oil and gas sector. However, the draft ICR represents an initial step toward issuing rules for existing sources in the sector, consistent with a March 2016 [joint commitment](#) the Obama Administration made with the Government of Canada.

### New Source Performance Standards for New, Modified, and Reconstructed Sources in the Oil and Gas Sector

Most significantly, EPA finalized a rule, issued under section 111(b) of the Clean Air Act, to establish New Source Performance Standards (NSPS) for emissions of methane and volatile organic compounds (VOCs) from certain new, modified, and reconstructed sources in the oil and gas sector. The rule covers equipment, processes, and activities in the onshore production, gathering, transmission, and storage segments of the sector. This rule amends and expands a [2012 NSPS rule that only covered emissions of VOCs](#) (the 2012 NSPS rule) by adding methane-specific emission limits and extending applicability of both methane limits and the VOC limits to a broader set of sources throughout the sector.

Under the final rule, sources already subject to the 2012 NSPS rule will now face methane emission limits that are consistent with the limits established in the 2012 NSPS rule for VOCs—because controls that reduce VOCs from those sources also reduce methane. These sources include onshore compressors and pneumatic controllers at gas processing plants and gathering & boosting stations, pneumatic controllers at oil and natural gas wells, completions of hydraulically fractured natural gas wells, and storage tanks across the sector. Accordingly, the sources subject to VOC limits under the

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2012 NSPS rule would not need to install additional or different controls under the final rule.

However, EPA also established VOC and methane limits for onshore sources that are not covered by the 2012 NSPS rule. These sources and limits include:

- most hydraulically-fractured *oil* wells—which must, within 6 months, meet the same requirement for “green completions” as currently applies to *gas* wells;
- centrifugal compressors using wet seal systems (except those at well sites)—which must reduce emissions by 95 percent;
- reciprocating compressors (except those at well sites)—which must regularly replace rod packing systems or route emissions to be reused;
- certain pneumatic pumps at natural gas processing plants (natural-gas driven diaphragm pumps)—which must reduce emissions to zero;
- certain pneumatic pumps at well sites (natural-gas driven diaphragm pumps located at sites that already include a control device or the ability to route to a process)—which must reduce emissions 95 percent or route leaks to the control device;
- pneumatic controllers used at transmission compressor stations—which generally must reduce gas bleed to 6 ft<sup>3</sup>/hr; and
- pneumatic controllers used at natural gas processing plants—which generally must have a zero bleed rate.

In addition, owners and operators of new, modified, and reconstructed equipment throughout the sector (including low-production well sites but not including well sites that contain only wellheads) must undertake Leak Detection and Repair (LDAR) regimes to reduce fugitive methane emissions. Specifically, they must conduct a leak monitoring survey—using optical gas imaging, VOC monitoring instruments, or, with approval, other innovative monitoring technologies—within one year from the effective date of the final NSPS rule (or, for sources built, modified or reconstructed after that, within 60 days of startup), and on a fixed schedule thereafter (e.g., twice a year for oil and natural gas well sites, and quarterly for gathering, boosting, and transmission compressor stations). Any leaks found must be repaired within 30 days, with the possibility of an extension for up to two years if the repair would require a vent blowdown or cannot be quickly made for some other “technical feasibility” reason.

EPA anticipates that this rule will reduce methane emissions by 510,000 tons in 2025, or the equivalent of 11 million metric tons of CO<sub>2</sub> (when global warming potential of methane is measured over a 100-year time-frame), producing \$690 million in monetized benefits for a cost of \$530 million.

## **Draft Information Collection Request for Existing Oil and Gas Sources**

In March 2016, President Obama and Prime Minister Justin Trudeau announced a joint commitment between the United States and Canada to, among other things, regulate existing sources of methane emissions from the oil and gas sector. EPA took the first step in [a process](#) that is ultimately intended to result in the establishment of emission standards for existing oil and gas sources under section

Specifically, EPA issued the first draft of an ICR. The draft ICR would *require* the collection and submission to EPA of information from various segments of the oil and gas industry, including information on the venting of natural gas that occurs as part of the operation, maintenance, and malfunction of wells, pipelines, storage tanks, and other equipment. In addition, EPA says it intends to use the ICR to better understand the emission controls that are currently deployed, how those controls are configured, whether electricity is available at source sites, and how often sites are staffed or visited. This information would build on emission estimates collected as part of EPA's Greenhouse Gas Reporting Program (GHGRP).

The draft ICR consists of:

- a more general “operator survey” that will be sent to all operators with a 30 day response deadline, and
- a more specific and detailed “facility survey” that will be sent to a representative sample of facilities with a 120 day response deadline.

EPA has indicated it expects most information to be readily available to operators but that some additional information collection activity may be required, such as counts of specific types of devices. Submissions will be made through the electronic reporting tool EPA uses as part of the GHGRP.

EPA says it intends to use the information collected as part of the ICR to form the basis of a proposed rule for regulating methane emissions from existing oil and gas sources under section 111(d) of the Clean Air Act. EPA also has indicated that it intends to provide owners and operators, states, NGOs, and academic experts with the opportunity to contribute information by issuing a *voluntary* Request for Information “shortly.”

When issuing regulations under section 111(d), EPA establishes an “emission guideline”—an emission limit based on EPA's determination of the “best [adequately demonstrated] system of emission reduction” (BSER)—for a particular source category. States then develop plans that establish emission standards consistent with the emission guideline. Information collected as part of the ICR and Request for Information could be useful in future BSER determinations for the oil and gas sector. However, a proposed section 111(d) rule is not expected until the next Administration.

EPA is requesting comment on this draft within 60 days of its publication in the *Federal Register*. EPA will then revise the draft and provide the public an additional 30 days to comment on the revised draft.

## **Source Determination for Certain Emissions Units in the Oil and Natural Gas Sector**

EPA issued a final rule—referred to as the “Source Determination” Rule—amending its general permitting regulations for onshore upstream oil and gas sources under the Nonattainment New Source Review (NNSR), Prevention of Significant Deterioration (PSD), and Title V permit programs. EPA explained that its aim was to clarify the rules for determining the boundaries of oil and gas sources for purposes of these permit programs given the linear nature of production, gathering, and processing activities in the sector.

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Under the Clean Air Act, the NNSR, PSD and Title V provisions apply to new or modified stationary “sources” that have emissions in excess of certain statutory emission thresholds. Such sources are deemed “major sources.” The NSR and PSD programs subject new and modified “major sources” to extensive pre-construction permitting obligations, including stringent emission control, air quality modeling, and public review requirements.

As a result, determining what collection of emitting equipment and activities constitute a single “source” is important for determining what emission control requirements apply. All other things being equal, if more equipment and activities are aggregated as a single “source”, then it is more likely that the total emissions of that “source” will exceed “major source” thresholds and thereby trigger these stringent permitting requirements.

The “Source Determination” rule would amend the existing regulations that interpret the term “source” to include, in certain circumstances, the aggregation of separate emitting equipment and activities. Notably, the current rules generally allow aggregation if the equipment and activities meet the following three conditions: (1) they share the same SIC code; (2) they are under common control; and (3) they are “contiguous or adjacent.” The new regulations clarify this provision by defining the term “adjacency” for the particular industry segments. Surface sites are considered “adjacent” if they are located on the same “site” (“any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed”) or if they share equipment (such as storage tanks, phase separators, dehydrators) with another site that is within a distance of a ¼ mile.

## **Federal Implementation Plan for Implementing the Indian Country Minor NSR Program for Oil and Gas Production Sources**

EPA also finalized a rule that affects preconstruction permitting for new and modified sources located in Indian Country in the oil and gas production and gathering segment and the natural gas processing segment. Under this final rule, EPA established a federal implementation plan (FIP) that establishes an alternative permitting procedure, which can be used (at the source’s discretion) in place of source-specific “minor” source permits. (A “minor” source is a source with a potential to emit one or more regulated pollutants at a level that is below the threshold for a “major” source under the three permit programs noted above but above a certain minimum threshold.)

The FIP would incorporate emission limits established by eight federal rules, including NSPS rules for oil and gas sources (discussed above), liquid storage tanks, stationary compression ignition internal combustion engines, stationary spark ignition internal combustion engines, and new stationary combustion turbines, as well as establish air toxics standards for oil and gas production facilities and stationary reciprocating internal combustion engines. Sources electing to use the FIP would also have to address threatened and endangered species and historic properties by demonstrating that other federal agencies have met all necessary Endangered Species Act and National Historic Preservation Act requirements or by completing additional EPA-developed screening procedures.

This FIP is *not* available to sources that are in areas designated as in “nonattainment” for any National Ambient Air Quality Standard, and EPA has reserved the right to require individual sources to obtain source-specific permits “based on local or reservation-specific air quality concerns.”

EPA asserts that its standardized approach will help streamline permitting for most sources.

The FIP will go into effect October 3, 2016.

## Next Steps

The final rules were released in a pre-publication version, and eventually will appear in the *Federal Register*. It is possible that the rules will be subject to legal challenge. Under the Clean Air Act, a petition for review of a rule must be filed within 60 days of the publication of the rule in the *Federal Register*.

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