

# **Oil and Natural Gas Air Pollution Standards Regulatory Actions**

**Dallas Bar Association**

**Energy Law Section**

**Review of Oil and Gas Law XXXI**

**August 18-19, 2016**

Carrick Brooke-Davidson  
Guida, Slavich & Flores, P.C.  
816 Congress Avenue, Suite 1500  
Austin, Texas 78701  
Direct Dial: 512-476-6326  
E-Mail:  
[brooke-davidson@guidaslavichflores.com](mailto:brooke-davidson@guidaslavichflores.com)

## Table of Contents

<b>I.</b>	Updates to New Source Performance Standards (NSPS) .....	1
A.	Sources covered by the 2012 NSPS for VOCs and the 2016 NSPS for Methane and VOCs, by site .....	1
B.	Overview of the final rules .....	3
C.	Natural gas well sites .....	9
D.	Oil well sites .....	13
E.	Natural gas production gathering and boosting stations .....	17
F.	Gas producing plants.....	19
G.	Natural gas transmission compressor stations .....	21
<b>II.</b>	Source Determination Rule.....	25
<b>III.</b>	Information Collection Request.....	29
A.	Overview .....	29
B.	Draft Information Request .....	33
<b>IV.</b>	Federal Implementation Plan for EPA’s Indian Country Minor New Source Review (NSR) program for oil and gas production sources .....	37

**Sources covered by the 2012 New Source Performance Standards (NSPS) for VOCs and the 2016 NSPS for Methane and VOCs, by site**

Location and Equipment/Process Covered	Required to Reduce Emissions Under EPA Rules	Rules that Apply		
		2012 NSPS for VOCs*	2016 NSPS for methane	2016 NSPS for VOCs
Natural Gas Well Sites				
Completions of hydraulically fractured wells	✓	•	•	
Compressors				
Equipment leaks	✓		•	•
Pneumatic controllers	✓	•	•	
Pneumatic pumps	✓		•	•
Storage tanks	✓	•		
Oil Well Sites				
Completions of hydraulically fractured wells	✓		•	•
Compressors				
Equipment leaks	✓		•	•
Pneumatic controllers	✓	•	•	
Pneumatic pumps	✓		•	•
Storage tanks	✓	•		
Production Gathering and Boosting Stations				
Compressors	✓	•	•	
Equipment leaks	✓		•	•
Pneumatic controllers	✓	•	•	
Pneumatic pumps				
Storage tanks	✓	•		
Natural Gas Processing Plants*				
Compressors	✓	•	•	
Equipment leaks	✓	•	•	
Pneumatic controllers	✓	•	•	
Pneumatic pumps	✓		•	•
Storage tanks	✓	•		
Natural Gas Compressor Stations (Transmission & Storage)				
Compressors	✓		•	•
Equipment leaks	✓		•	•
Pneumatic controllers	✓		•	•
Pneumatic pumps				
Storage tanks	✓	•		

\* Note: Types of sources already subject to the 2012 NSPS requirements for VOC reductions that also are covered by the 2016 methane requirements will not have to install additional controls, because the controls to reduce VOCs reduce both pollutants



## **EPA's Actions to Reduce Methane Emissions from the Oil and Natural Gas Industry: Final Rules and Draft Information Collection Request**

---

### **Overview**

- On May 12, 2016, the U.S. Environmental Protection Agency (EPA) took another set of steps under the President's *Climate Action Plan: Strategy to Reduce Methane Emissions* and the Clean Air Act to cut methane emissions from the large and complex oil and natural gas industry and keep the Administration on track to achieve its goal of cutting methane emissions from the oil and gas sector by 40 to 45 percent from 2012 levels by 2025.
- EPA's actions include three final rules that together will curb emissions of methane, smog-forming volatile organic compounds (VOCs) and toxic air pollutants such as benzene from new, reconstructed and modified oil and gas sources, while providing greater certainty about Clean Air Act permitting requirements for the industry.
- EPA also took a critical step needed to carry out the Administration's commitment to regulate methane emissions from *existing* oil and gas sources: the agency issued for public comment an Information Collection Request (ICR) that will require companies to provide extensive information instrumental for developing comprehensive regulations to reduce methane emissions from existing oil and gas sources.
- Methane, the key constituent of natural gas, has a global warming potential more than 25 times greater than that of carbon dioxide. Methane is the second most prevalent greenhouse gas emitted by human activities in the United States, and approximately one-third of those emissions come from oil production and the production, processing, transmission and storage of natural gas.
- Methane from the oil and gas industry comes packaged with other pollutants: VOCs, which are a key ingredient in ground-level ozone (smog); and a number of pollutants known as "air toxics" – in particular, benzene, toluene, ethylbenzene and xylene.
- Ozone is linked to a variety of serious public health effects, including reduced lung function, asthma attacks, asthma development, emergency room visits and hospital admissions, and early death from respiratory and cardiovascular causes. Air toxics are known or suspected to cause cancer and other serious health effects.
- The methane reductions from the final New Source Performance Standards (NSPS) will build on the agency's 2012 rules to curb VOC emissions from new, reconstructed and modified sources in the oil and gas industry. EPA's final rule will get more methane reductions than estimated at proposal because of changes made in response to the more

the 900,000 public comments we received. For example, the final rule requires low production wells to monitor leaks, rather than exempting them as proposed. Also, the final rule requires compressor stations to monitor leaks four times a year, rather than twice a year.

- Reducing methane emissions is an essential part of an overall strategy to address climate change. Climate change impacts affect all Americans' lives, from stronger storms and longer droughts to increased insurance premiums, food prices and allergy seasons. The most vulnerable among us -- including children, older adults, people with heart or lung disease and people living in poverty -- are most at risk from the impacts of climate change.
- The reductions from the final NSPS, along with methane reductions from EPA's new Natural Gas STAR: Methane Challenge Program and actions by other federal agencies, will help the country continue moving toward safe and responsible oil and natural gas development.
- EPA also is working to complete final Control Techniques Guidelines (CTGs) for reducing VOC emissions from existing oil and gas sources in certain ozone nonattainment areas and states in the Ozone Transport Region. The agency anticipates issuing the CTGs later this spring.

## **Summary of Actions**

### **Reducing Methane and VOCs from New and Modified Sources**

- Building on its 2012 requirements to reduce VOC emissions, EPA has updated the NSPS for the oil and gas industry to add requirements that the industry reduce emissions of greenhouse gases and to cover additional equipment and activities in the oil and gas production chain. The final rule will accomplish this by setting emissions limits for methane, which is the principal greenhouse gas emitted by equipment and processes in the oil and gas sector. Owners/operators will be able to meet the limits using technologies that are cost-effective and readily available.
- The final NSPS will yield significant reductions in methane emissions from new, reconstructed and modified processes and equipment, along with reducing VOC emissions from sources not covered in the agency's 2012 rules. These sources include hydraulically fractured oil wells, some of which can contain a large amount of gas along with oil, and equipment used across the industry that was not regulated in the agency's 2012 rules.
- The final rule also requires owners/operators to find and repair leaks, also known as "fugitive emissions," which can be a significant source of both methane and VOC pollution.
- Most sources subject to the 2012 VOC reduction requirements now also are covered by the new requirements to reduce methane. However, they will not have to install additional controls, because the controls to reduce VOCs also reduce methane.

- EPA made a number of changes to the final rule based on information received during the public comment period. The final rule:
  - *Sets a fixed schedule for monitoring leaks.* The final rule sets a fixed schedule for monitoring leaks rather than a schedule that varies with performance. For well sites, including low-production well sites, the rule requires leaks monitoring twice a year. Compressor stations -- generally large facilities encompassing numerous pieces of equipment that operate continuously and under significant pressure -- must conduct quarterly leaks monitoring. Owners and operators at all sites will have one year to conduct an initial leaks monitoring survey.
  - *Allows an alternative approach for finding leaks.* In addition to optical gas imaging (special cameras that allow the user to “see” leaks), the final rule allows owners/operators to use “Method 21” with a repair threshold of 500 ppm as an alternative for finding and repairing leaks. Method 21 is an EPA method for determining VOC emissions from process equipment. The method is based on using a portable VOC monitoring instrument, such as an organic vapor analyzer (sometimes referred to as a “sniffer”).
  - *Offers owners/operators the opportunity to use emerging, innovative technologies to monitor leaks.* The final rule outlines the type of information owners/operators would need to submit to receive approval to use those technologies to meet their leaks monitoring requirements.
  - *Phases in requirements for using a process known as a “green completion” to capture emissions from hydraulically fractured oil wells.* Owners/operators will have six months from the time the final rule is published in the Federal Register to meet the green completion requirements. Owners/operators of hydraulically fractured oil wells will be required to reduce emissions using combustion controls until the green completion requirement takes effect.
- Before issuing the proposed regulations in 2015, EPA sought input from states, tribes, industry and environmental groups, and continued to do so as it developed the final rules. The agency received more than 900,000 public comments on the proposed NSPS and held three public hearings.
- A number of states regulate, or are considering regulating, air pollution from the oil and natural gas industry, and EPA’s rules allow them to continue to do so. Under the Clean Air Act, states have the authority to regulate air emissions from sources within their boundaries, provided their requirements are at least as protective as federal requirements. The final rule provides a pathway for companies to harmonize the NSPS with any comparable state requirements they may have.

- The final NSPS is expected to reduce 510,000 short tons of methane in 2025, the equivalent of reducing 11 million metric tons of carbon dioxide. Natural gas that is recovered as a result of the rule can be used as a fuel on site or sold.
- EPA estimates the final rule will yield climate benefits of \$690 million in 2025 (2012\$), which will outweigh estimated costs of \$530 million. Net climate benefits are estimated at \$170 million in 2025.
- The rule also is expected to reduce other pollutants, including 210,000 tons of VOCs and 3,900 tons of air toxics in 2025. These reductions also are expected to yield benefits; however, EPA was not able to quantify those. Those benefits include reductions in health effects related to fine particle pollution, ozone and air toxics, along with improvements in visibility.

### **Collecting Information to Develop Regulations for Existing Sources**

- EPA issued the first draft of an [Information Collection Request](#) (ICR), seeking a broad range of information on the oil and gas industry, including: how equipment and emissions controls are, or can be, configured; what installing those controls entails; and the associated costs. This includes information on natural gas venting that occurs as part of existing process or maintenance activities, such as well and pipeline blowdowns, equipment malfunctions and flashing emissions from storage tanks. Industry will be legally required to respond to the final ICR.
- EPA announced its plans to issue the ICR on March 10, 2016, as part of a joint commitment between the U.S. and Canadian governments to take new actions to reduce methane pollution from the oil and gas sector, including through regulations for existing sources. The ICR is the first step in that process; the information companies will report to EPA will provide the foundation necessary for developing comprehensive regulations to reduce emissions from existing oil and gas sources.
- Over the past year, substantial amounts of new information on methane emissions from the oil and gas industry have become available from a range of entities, including EPA's Greenhouse Gas Reporting Program, industry organizations, and research studies by government, academic and industry researchers. That information shows that methane emissions from this large and complex industry are much higher than previously understood.
- The information EPA receives through the ICR will help the agency determine how to best reduce emissions from existing sources. It will help EPA identify sources with high emissions and the factors that contribute to those emissions. And it will build on information that states with regulatory programs have already developed about this industry.



- In addition, because technology to detect, measure and mitigate methane emissions is rapidly developing, EPA plans to issue a voluntary Request for Information, inviting oil and gas owners and operators, along with states, nongovernmental organizations, academic experts and others, to provide information on innovative strategies to accurately and cost-effectively locate, measure and mitigate methane emissions. EPA will issue the Request for Information soon.
- For more details on the draft ICR and the comment process, see <https://www3.epa.gov/airquality/oilandgas/methane.html>

### **Clarifying and Implementing Permitting Requirements**

- EPA issued two rules to clarify permitting requirements for the oil and natural gas industry: the Source Determination Rule, and a final federal implementation plan to implement the Minor New Source Review Program in Indian country.

#### *Final Source Determination Rule*

- EPA has issued a final rule to clarify when multiple pieces of equipment and activities in the oil and gas industry must be deemed a single source when determining whether major source permitting programs apply. The programs are the Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review preconstruction permitting programs, and the Title V Operating permits program.
- The final rule defines the term “adjacent” to clarify that equipment and activities in the oil and gas sector that are under common control will be considered part of the same source if they are located near each other – specifically, if they are located on the same site, or on sites that share equipment and are within ¼ mile of each other. Input from states, industry and other commenters was helpful in finalizing these requirements.
- The final rule applies to equipment and activities used for onshore oil and natural gas production, and for natural gas processing. It does not apply to offshore operations.
- For more information on the final Source Determination Rule, including a fact sheet on the rule, see <https://www3.epa.gov/airquality/oilandgas/actions.html>.

#### *Final Federal Implementation Plan for Indian Country*

- EPA also has issued a final rule to implement the Minor New Source Review Program in Indian country for oil and natural gas production. Known as a Federal Implementation Plan, or FIP, the rule will limit emissions of harmful air pollution while making the preconstruction permitting process more streamlined and efficient for this industry, which has expanded rapidly in some areas of Indian country.
- The FIP will be used instead of site-specific minor New Source Review (NSR) preconstruction permits in Indian country and incorporates emissions limits and other

requirements from eight federal air standards -- including the final NSPS -- to ensure air quality is protected.

- The final FIP applies throughout Indian country, except non-reservation areas, unless a tribe or EPA demonstrates jurisdiction for those areas.
- Requirements of the FIP apply to all new and modified true minor sources in the production segment of the industry that are seeking minor NSR permits in areas designated as attainment or unclassifiable for a National Ambient Air Quality Standard. Sources locating in nonattainment areas will need to seek site-specific minor NSR permits, or comply with reservation-specific FIPs, where those exist.
- For more information on the final FIP, including a fact sheet on the rule, see <https://www3.epa.gov/airquality/oilandgas/actions.html> .

### **For More Information**

- To read the final rules, including additional fact sheets, visit <https://www3.epa.gov/airquality/oilandgas/actions.html> .
- To read the draft Information Collection Request notice, along with additional information, visit <https://www3.epa.gov/airquality/oilandgas/methane.html> .
- To learn more about the Natural Gas STAR: Methane Challenge Program, see <https://www3.epa.gov/gasstar/methanechallenge/>
- To read the Climate Action Plan: Strategy to Reduce Methane Emissions, see: [https://www.whitehouse.gov/sites/default/files/strategy\\_to\\_reduce\\_methane\\_emissions\\_2014-03-28\\_final.pdf](https://www.whitehouse.gov/sites/default/files/strategy_to_reduce_methane_emissions_2014-03-28_final.pdf)

## **SUMMARY OF REQUIREMENTS FOR PROCESSES AND EQUIPMENT AT NATURAL GAS WELL SITES**

---

On May 12, 2016, EPA issued final updates to its New Source Performance Standards (NSPS) for the oil and gas industry to reduce emissions of greenhouse gases – most notably methane – along with smog-forming volatile organic compounds (VOCs) from new, modified and reconstructed sources in the oil and natural gas industry. At natural gas well sites, the updates add new requirements for detecting and repairing leaks, and requirements to limit emissions from pneumatic pumps.

### **Finding and Repairing Leaks (Fugitive Emissions)**

- Leaks, also known as “fugitive emissions,” can occur at a number of points at a natural gas well site when connections are not properly fitted, hatches are not properly weighted and sealed, or when seals and gaskets start to deteriorate. Leaks can be a significant source of methane and VOC emissions in the oil and gas industry.
- The updated NSPS requires that owners/operators of natural gas well sites develop and implement a leaks monitoring plan. Owners/operators must use a technology known as optical gas imaging to conduct a leaks survey. Optical gas imaging equipment uses a special camera to “see” emissions of methane and VOCs.
  - Owners/operators may use “Method 21” as an alternative to optical gas imaging. Method 21 is an EPA method for determining VOC emissions from process equipment. The method is based on using a portable VOC monitoring instrument, such as an organic vapor analyzer (sometimes referred to as a “sniffer”).
- For new and modified well sites, owners/operators must conduct the initial survey one year after the final rule is published in the Federal Register, or within 60 days of the startup of production, whichever is later. After the first survey, leaks monitoring surveys must be conducted twice a year.
- The survey covers a number of components, including valves, connectors, pressure-relief devices, open-ended lines, flanges, closed vent systems, compressors and thief hatches on controlled storage tanks, among others.
- Any leaks found during the surveys must be repaired within 30 days, unless the repair would require shutting down production, which could lead to significantly greater emissions releases. In that case, owners/operators are required to fix the leak at the next shutdown, or within two years.
  - Equipment that vents natural gas as part of normal operation is not considered to be leaking and is not covered by this requirement; however, leaks surveys can also help

operators detect malfunctions in these venting devices, such as pneumatic controllers.

- The final rule exempts some well sites that contain only wellheads (known as “Christmas trees”) from the leak detection and repair requirements.
- After considering public comment on the proposed rule, and based on available data, EPA is not exempting low-production well sites (those with an average combined oil and natural gas production of less than 15 barrels of oil equivalent per well per day), from the requirements to find and repair leaks. Available data indicate that methane and VOC emissions from these sites could be similar to emissions from well sites that are not low-production. As a result, low-production well sites must meet the requirements of the leaks monitoring program.
- The final rule also creates a pathway for EPA to approve the use of emerging alternative leaks monitoring technology, which is developing rapidly. The rule outlines the information owners/operators must submit to demonstrate that using the alternative technology is capable of achieving methane and VOC reductions equivalent to those that can be achieved by using optical gas imaging or Method 21 to find leaks, and then repair them.

### **Pneumatic Pumps**

- Pneumatic pumps use gas pressure to drive fluids. These pumps are used at natural gas production sites where electricity is not readily available. At natural gas well sites, pneumatic diaphragm pumps are used to transfer fluids or to circulate glycol “heat trace medium,” which is used to keep pipes and equipment from freezing, for example.
- The final rule requires owners/operators of diaphragm pumps at natural gas well sites to route methane and VOC emissions from the pumps to a control device or process that is available on site, such as a device to control emissions from other equipment. Limited-use pneumatic pumps – those at a well site that operate for less than a total of 90 days per year – are exempt from the requirements. Owners/operators must meet these requirements within 180 days after the final rule is published in the Federal Register.
- Limited-use pneumatic pumps – those at a well site that operate for less than a total of 90 days per year – are exempt from the requirements. In addition, the rule clarifies that lean glycol circulation pumps are not covered by the pneumatic pumps standards.
- EPA is not finalizing requirements that owners/operators reduce emissions from natural gas-driven piston pumps, which are used to inject small amounts of chemicals to limit production problems and protect equipment. After analyzing currently available data and considering public comments on the proposed rule, EPA determined that these pumps are low-emitting and should not be subject to the final rule requirements.

- The final rule encourages owners/operators to use pumps that are not driven by natural gas where technically feasible. These pumps include solar-powered, electrically-powered and air driven pumps, and are exempt from requirements of the rule.

### **Compressors**

- EPA did not establish requirements for compressors at natural gas well sites, because these compressors are typically small and low emitting. However, compressors at natural gas well sites are included in the equipment covered by the leaks survey and repair requirements.

### **Requirements for Equipment Covered by the 2012 Rules**

- The final updates to the NSPS add greenhouse gas standards, in the form of limitations on methane, for some the types of equipment and processes that were covered in the 2012 NSPS for VOCs. EPA's analyses have determined that best systems for reducing methane and VOC emissions are the same. As a result, the requirements for completions of hydraulically fractured natural gas wells and pneumatic controllers, remain the same as in the 2012 rule.
- In addition, the 2012 rules included requirements for storage tanks across the oil and gas sector. The 2016 final NSPS does not change those requirements.

### **MORE INFORMATION**

- To read the final rule and summary information on requirements for other types of facilities in the oil and gas industry, visit [www.epa.gov/airquality/oilandgas](http://www.epa.gov/airquality/oilandgas)



## **SUMMARY OF REQUIREMENTS FOR PROCESSES AND EQUIPMENT AT OIL WELL SITES**

---

On May 12, 2016 EPA issued final New Source Performance Standards to reduce emissions of greenhouse gases – most notably methane – along with smog-forming volatile organic compounds (VOCs) from new, modified and reconstructed sources in the oil and natural gas industry. At oil productions sites, the updates set emission limits for completions of hydraulically fractured oil wells and pneumatic pumps, in addition to requirements for detecting and repairing leaks at oil well sites.

### **Requirements for New, Modified and Reconstructed Sources Not Covered in the 2012 Rules**

#### **Completions of Hydraulically Fractured Oil Wells**

- Many hydraulically fractured wells that are drilled primarily for oil production contain natural gas along with the oil. During a stage of well completion known as “flowback,” following the fracture of these wells, gas flows to the surface along with water, fracturing fluids, condensate and crude oil.
- The final rule requires owners/operators of hydraulically fractured oil wells to capture the natural gas that currently escapes into the air. Capturing the gas will both reduce methane and VOC emissions and maximize natural gas recovery from well completions. The rule requires that significant emissions reduction be accomplished primarily through the use of a proven process known as a “reduced emissions completion” or “green completion.” This process is estimated to reduce methane and VOC emissions by 95 percent.
- In a green completion, special equipment separates gas and liquid hydrocarbons from the flowback that comes from the well as it is being prepared for production. The gas and hydrocarbons can then be treated and used or sold, avoiding the waste of natural resources that cannot be renewed. Owners/operators must have a separator on site during the entire well completion process for development wells.
- EPA is phasing in the green completion requirement for hydraulically fractured oil wells to give the industry time to ensure that a sufficient supply of green completion equipment and personnel is available. Owners/operators will have six months after the final rule is published in the Federal Register to begin using green completions; they must reduce methane and VOC emissions using combustion controls until the green completion requirement takes effect.
  - Like the 2012 requirements for hydraulically fractured natural gas wells, the 2016 updates do not require green completions for certain oil wells, such as new

exploratory (“wildcat”) wells, delineation wells (used to define the borders of a reservoir), or low-pressure wells. A separator is not required to be on site for these wells; however, emissions from the wells must be controlled.

- The final rule does not require emissions reductions from wells with a gas-to-oil ratio of less than 300 standard cubic feet of gas per barrel, provided the owner/operator maintains records of the low gas-to-oil ratio certification and a claim signed by a certifying official.
- The rule also does not require green completions from other hydraulically fractured oil wells if it is not technically feasible to get the gas to a pipeline. Owners/operators of these wells generally must reduce emissions using combustion during the well-completion process.
- Oil wells that are refractured and recompleted are not be considered to be “modified” if well owners and operators use green completions to reduce emissions, and they meet notification and reporting requirements for new wells. This also was a requirement for completions of hydraulically fractured natural gas wells in the 2012 rules.
  - In a number of states, this allows owners/operators to refracture wells without triggering state permitting requirements. This flexibility reduces burden to both industry and permitting agencies, without compromising the environmental benefits of the rule.

### **Finding and Repairing Leaks (Fugitive Emissions)**

- Leaks, also known as “fugitive emissions,” can occur at a number of points at an oil well site when connections are not properly fitted, hatches are not properly weighted and sealed, or when seals and gaskets start to deteriorate. Leaks can be a significant source of methane and VOC emissions in the oil and gas industry.
- The updated NSPS requires that owners/operators of oil well sites develop and implement a leaks monitoring plan. Owners/operators must use a technology known as optical gas imaging to conduct a leaks survey. Optical gas imaging equipment uses a special camera to “see” emissions of methane and VOCs.
  - Owners/operators may use “Method 21” as an alternative to optical gas imaging. Method 21 is an EPA method for determining VOC emissions from process equipment. The method is based on using a portable VOC monitoring instrument, such as an organic vapor analyzer (sometimes referred to as a “sniffer”).
- For new and modified oil well sites, owners/operators must conduct the initial survey one year after the final rule is published in the Federal Register, or within 60 days of the startup of production, whichever is later. After the first survey, leaks monitoring surveys must be conducted twice a year.



- The survey covers a number of components, including valves, connectors, pressure-relief devices, open-ended lines, flanges, closed vent systems, compressors and thief hatches on controlled storage tanks, among others.
- Any leaks found during the surveys must be repaired within 30 days, unless the repair would require shutting down production, which could lead to significantly greater emissions releases. In that case, owners/operators are required to fix the leak at the next shutdown, or within two years.
  - Equipment that vents natural gas as part of normal operation is not considered to be leaking and is not covered by this requirement; however, leaks surveys can also help operators detect malfunctions in these venting devices, such as pneumatic controllers.
- After considering public comment on the proposed rule, and based on available data, EPA is not exempting low-production well sites (those with an average combined oil and natural gas production of less than 15 barrels of oil equivalent per well per day), from the requirements to find and repair leaks. Available data indicate that methane and VOC emissions from these sites could be similar to emissions from well sites that are not low-production. As a result, low-production well sites must meet requirements of the leaks monitoring program.
- The final rule also creates a pathway for EPA to approve the use of emerging alternative leaks monitoring technology, which is developing rapidly. The rule outlines the information owners/operators must submit to demonstrate that using the alternative technology is capable of achieving methane and VOC reductions equivalent to those that can be achieved by using optical gas imaging or Method 21 to find leaks, and then repair them.

### **Pneumatic Pumps**

- Pneumatic pumps use gas pressure to drive fluids. These pumps often are used at oil production sites where electricity is not readily available. At well sites, pneumatic diaphragm pumps are used to transfer fluids or to circulate glycol “heat trace medium,” which is used to keep pipes and equipment from freezing, for example.
- The final rule requires owners/operators of diaphragm pumps at natural gas well sites to route methane and VOC emissions from the pumps to a control device or process that is available on site, such as a device to control emissions from other equipment. Owners/operators must meet these requirements within 180 days after the final rule is published in the Federal Register.
- Limited-use pneumatic pumps – those at a well site that operate for less than a total of 90 days per year – are exempt from the requirements.

- EPA is not finalizing requirements that owners/operators reduce emissions from natural gas-driven piston pumps, which are used to inject small amounts of chemicals to limit production problems and protect equipment. After analyzing currently available data and considering public comments on the proposed rule, EPA determined that these pumps are low-emitting and should not be subject to the final rule requirements.
- The final rule encourages owners/operators to use pumps that are not driven by natural gas where technically feasible. These pumps include solar-powered, electrically powered and air-driven pumps, which are exempt from requirements of the rule.

### **Compressors**

- EPA did not establish requirements for compressors at oil well sites, because these compressors are typically small and low emitting. However, compressors at oil gas well sites are included in the equipment covered by the leaks survey and repair requirements.

### **Requirements for Equipment Covered by the 2012 Rules**

- The final updates to the NSPS add greenhouse gas standards, in the form of limitations on methane, for the types of equipment and processes that were covered in the 2012 NSPS for VOCs. EPA's analyses have determined that best systems for reducing methane and VOC emissions are the same. As a result, the final requirements for pneumatic controllers remain the same as in the 2012 rule.
- In addition, the 2012 rules included requirements for storage tanks across the oil and gas sector. The 2016 final NSPS does not change those requirements.

### **MORE INFORMATION**

- To read the final rule and summary information on requirements for other types of facilities in the oil and gas industry, visit [www.epa.gov/airquality/oilandgas](http://www.epa.gov/airquality/oilandgas)

## **SUMMARY OF REQUIREMENTS FOR PROCESSES AND EQUIPMENT AT NATURAL GAS PRODUCTION GATHERING & BOOSTING STATIONS**

---

On May 12, 2016, EPA issued final updates to its New Source Performance Standards for the oil and gas industry to reduce emissions of greenhouse gases – most notably methane – along with smog-forming volatile organic compounds (VOCs). Gathering and boosting compressor stations collect gas from multiple wells and move it toward a natural gas processing plant. For these stations, the final updates add requirements for detecting and repairing leaks.

### **Finding and Repairing Leaks**

- Leaks, also known as “fugitive emissions,” can occur at a number of points at a natural gas gathering and boosting station when connections are not properly fitted, hatches are not properly weighted and sealed, or when seals and gaskets start to deteriorate. Leaks can be a significant source of methane and VOC emissions in the rapidly growing oil and gas industry.
- The final NSPS requires that owners/operators of gathering and boosting stations develop and implement a leaks monitoring plan. Owners/operators must use a technology known as optical gas imaging to conduct a leaks survey. Optical gas imaging equipment uses a special camera to “see” emissions of methane and VOCs.
  - Owners/operators may use “Method 21” as an alternative to optical gas imaging. Method 21 is an EPA method for determining VOC emissions from process equipment. The method is based on using a portable VOC monitoring instrument, such as an organic vapor analyzer (sometimes referred to as a “sniffer”).
- The leaks survey covers a number of components, including valves, connectors, pressure-relief devices, open-ended lines, flanges, compressors and thief hatches on controlled storage tanks, among others.
- Owners/operators must conduct an initial leaks survey within one year after the final rule is published in the Federal Register or within 60 days of the startup of a new or modified gathering and boosting station, whichever is later. Monitoring must be repeated quarterly following the initial survey.
- Any leaks found during the surveys must be repaired within 30 days, unless the repair would require shutting down production. In that case, owners/operators are required to fix the leak at the next scheduled shutdown, or within two years.
  - Equipment that vents natural gas as part of normal operation is not considered to be leaking and is not covered by this requirement; however, leaks surveys can also

help operators detect malfunctions in these devices, such as pneumatic controllers.

- The final rule also creates a pathway for EPA to approve the use of emerging alternative leaks monitoring technology, which is developing rapidly. The rule outlines the information owners/operators must submit to demonstrate that using the alternative technology is capable of achieving equivalent methane and VOC reductions that can be achieved by using optical gas imaging or Method 21 to find leaks, and then repair them.

#### **New & Modified Pneumatic Pumps**

- EPA is not finalizing requirements for pneumatic pumps used at gathering and boosting stations. After considering information that became available during the comment period on the proposed rule, EPA has determined that the agency does not have reliable information about the prevalence of pneumatic pump use at these sites at this time.

#### **Requirements for Equipment Covered by the 2012 Rules**

- The final updates to the NSPS add greenhouse gas standards (in the form of methane emissions limits) for the equipment and processes that were covered in the 2012 NSPS for VOCs. EPA's analyses have determined that the best systems for reducing methane and VOC emissions are the same. As a result, the final requirements for new, modified and reconstructed centrifugal and reciprocating compressors and the requirements for pneumatic controllers, remain the same as in the 2012 rule.
- In addition, the 2012 rules included requirements for storage tanks across the oil and gas sector. The 2016 final NSPS does not change those requirements.

#### **MORE INFORMATION**

- To read the final rule and summary information on requirements for other types of facilities in the oil and gas industry, visit [www.epa.gov/airquality/oilandgas](http://www.epa.gov/airquality/oilandgas)

## **SUMMARY OF 2016 REQUIREMENTS FOR PROCESSES AND EQUIPMENT AT NATURAL GAS PROCESSING PLANTS**

---

On May 12, 2016, EPA issued final updates to its New Source Performance Standards (NSPS) for the oil and gas industry to reduce emissions of greenhouse gases – most notably methane – along with smog-forming volatile organic compounds (VOCs). At natural gas processing plants, the updates add requirements for controlling emissions from certain pneumatic pumps. Natural gas processing plants remove impurities from “raw” gas to prepare it for industrial and residential use.

### **NSPS Requirements for Pneumatic Pumps**

- Pneumatic pumps use gas pressure to drive a fluid. Pneumatic diaphragm pumps are used to transfer fluids or to circulate glycol “heat trace medium,” which is used to keep pipes and equipment from freezing, for example.
- The final rule sets a zero emissions limit for natural gas-driven diaphragm pumps.
  - Electricity is widely available at natural gas processing plants to power diaphragm pumps through the use of compressed air. Pumps driven by electricity or compressed air (also called “instrument air”), and solar-powered pumps are not subject to the requirements of final rule.
- Owners/operators are required to notify EPA when they construct, modify or reconstruct pneumatic diaphragm pumps subject to the rule. This notification is required as part of the owner/operator’s next annual report.
- EPA is not finalizing requirements that owners/operators reduce emissions from natural gas-driven piston pumps, which are used to inject small amounts of chemicals to limit production problems and protect equipment. After analyzing currently available data and considering public comments on the proposed rule, EPA determined that these pumps are low-emitting and should not be subject to the final rule requirements.

### **Requirements for Equipment Covered by the 2012 Rules**

- The final updates to the NSPS add greenhouse gas standards, in the form of limitations on methane, for the equipment and processes that were covered in the 2012 NSPS for VOCs. EPA’s analyses have determined that best systems for reducing methane and VOC emissions are the same. As a result, the requirements in the final rule for compressors (includes centrifugal compressors and reciprocating compressors) and pneumatic controllers at gas processing plants are the same as the requirements in the 2012 NSPS.

- Natural gas processing plants are subject to leak detection and repair requirements established in the 2012 rule. The 2012 rules also included requirements for storage tanks at natural gas transmission stations. The final updates to the NSPS do not change those requirements.
- The 2012 rule also included requirements for control of sulfur dioxide emissions from natural gas sweetening units. The 2016 final rule does not change these requirements.

**For more information**

- To read the final rule, and for summary information on requirements for other types of facilities in the oil and gas industry, visit [www.epa.gov/airquality/oilandgas](http://www.epa.gov/airquality/oilandgas)

## SUMMARY OF REQUIREMENTS FOR EQUIPMENT AT NATURAL GAS TRANSMISSION COMPRESSOR STATIONS

---

On May 12, 2016, EPA issued final updates to its New Source Performance Standards (NSPS) for the oil and gas industry to reduce emissions of greenhouse gases – most notably methane – along with smog-forming volatile organic compounds (VOCs). The updates affect some equipment at natural gas transmission compressor stations, which move gas along a pipeline. In addition to compressors, compressor stations often include equipment to remove and store water vapor, condensate and other remaining impurities

The updates add requirements for detecting and repairing leaks, and requirements to limit emissions from compressors and pneumatic controllers used at compressor stations.

### Requirements for New, Modified and Reconstructed Sources Not Covered in the 2012 Rules

#### Compressors

- Compression is necessary to move natural gas along a pipeline. The 2016 final rule sets requirements to control greenhouse gases (through a limit on methane emissions) and VOCs from two types of compressors used at natural gas compressor stations: centrifugal compressors and reciprocating compressors.
- **Centrifugal compressors** - Centrifugal compressors are equipped with either wet seal systems, or dry seal systems.
  - Compressors with wet seals use oil as a barrier to keep gas from escaping. The gas that becomes absorbed in the oil is continuously vented, along with the methane, VOCs and air toxics it contains. The final rule requires a 95 percent reduction of methane and VOC emissions from compressors with wet seal systems. This can be accomplished through flaring, or by routing captured gas back to a process.
  - Compressors using dry seal systems, which have low methane and VOC emissions, are not covered by the final rule. EPA encourages owners/operators to use compressors with dry seal systems where possible.
- **Reciprocating compressors** – The final rule requires the replacement of rod packing systems in reciprocating compressors. Over time, these packing systems can wear, leaking methane and VOCs. The rule provides two options for replacing rod packing:
  - On or before every 26,000 hours of operation (operating hours must be monitored and documented); or

- Every 36 months (monitoring and documentation of operating hours not required).
- As an alternative to changing rod packing, operators may opt to route emissions from the rod packing via a closed vent system under negative pressure to be reused or recycled by a process or piece of equipment.
- The final rule also includes requirements for recordkeeping and annual reporting.

### **Pneumatic Controllers**

- Pneumatic controllers are automated instruments used for maintaining liquid levels, pressure and temperature. These controllers often are powered by high-pressure natural gas and may release gas (including methane and VOCs) with every valve movement, or continuously, in many cases, as part of their normal operations.
  - For continuous bleed, gas-driven controllers, the final rule sets a gas bleed limit of 6 standard cubic feet of gas per hour at an individual controller.
  - Low-bleed controllers used at compressor stations (with a gas bleed rate of 6 standard cubic feet per hour or less) are not subject to this rule.
- The rule includes exceptions for applications requiring high-bleed controllers for certain purposes, including operational requirements and safety. The rule also includes requirements for recordkeeping and annual reporting.

### **Finding and Repairing Leaks (Fugitive Emissions)**

- Leaks, also known as “fugitive emissions,” can occur at a number of points at a compressor station when connections are not properly fitted or when seals and gaskets start to deteriorate. Leaks can be a significant source of methane and VOC emissions in the oil and gas industry.
- The updated NSPS requires that owners/operators of compressor stations develop and implement a leaks monitoring plan. Owners/operators must use a technology known as optical gas imaging to conduct a leaks survey. Optical gas imaging equipment uses a special camera to “see” emissions of methane and VOCs.
  - Owners/operators may use “Method 21” as an alternative to optical gas imaging. Method 21 is an EPA method for determining VOC emissions from process equipment. The method is based on using a portable VOC monitoring instrument, such as an organic vapor analyzer (sometimes referred to as a “sniffer”).
- For new and modified compressor stations, owners/operators must conduct the initial survey within one year after the final rule is published in the Federal Register or within 60



days of the startup of a new or modified compressor station, whichever is later. Monitoring must be repeated quarterly following the initial survey.

- The survey covers a number of components, including valves, connectors, pressure-relief devices, open-ended lines, flanges, compressors, and thief hatches on controlled storage tanks, among others.
- Any leaks found during the surveys must be repaired within 30 days, unless the repair would require shutting down. In that case, owners/operators are required to fix the leak at the next scheduled shutdown, or within two years.
  - Equipment that vents natural gas as part of normal operation is not considered to be leaking and is not covered by this requirement; however, leaks surveys can also help operators detect malfunctions in these devices, such as pneumatic controllers.
- The final rule also creates a path for EPA to allow use of alternative leaks monitoring technology, which is developing rapidly. The rule outlines the information owners/operators must submit to show that using the alternative technology is capable of achieving equivalent methane and VOC reductions that can be achieved by using optical gas imaging or Method 21 to find leaks, and then repair them.

#### **Pneumatic Pumps**

- EPA is not finalizing requirements for pneumatic pumps used at compressor stations. After considering information in the record and comments on the proposed rule, EPA has determined information about the prevalence of pneumatic pump use at compressor stations is not reliable at this time.

#### **Storage Tanks**

- The 2012 rules included requirements for storage tanks across the oil and gas sector. The 2016 final NSPS does not change those requirements.

#### **For More Information**

- To read the final rule, and for summary information on requirements for other types of facilities in the oil and gas industry, visit [www.epa.gov/airquality/oilandgas](http://www.epa.gov/airquality/oilandgas)



## Clarification of Air Permitting Rules for the Oil and Gas Industry: Fact Sheet

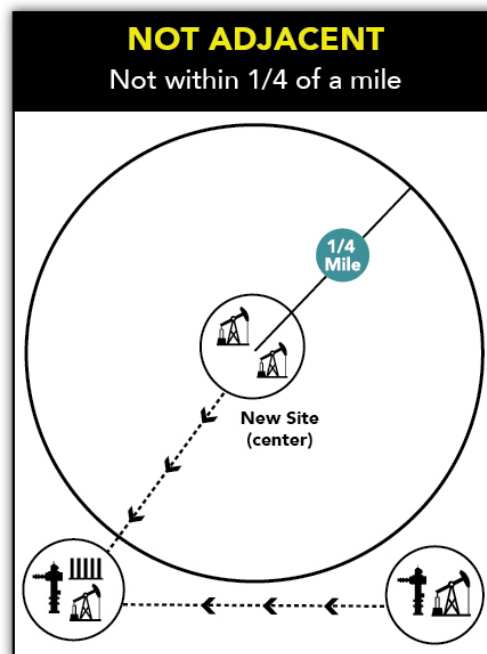
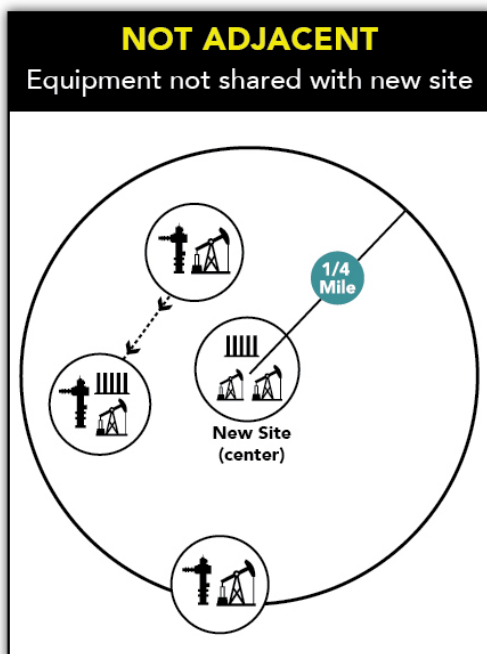
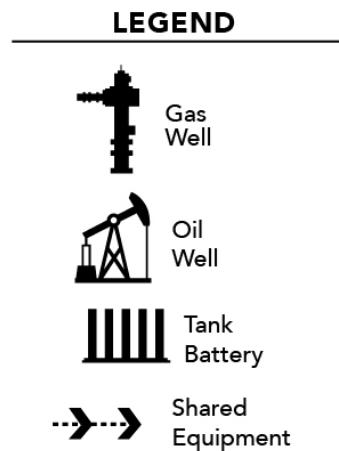
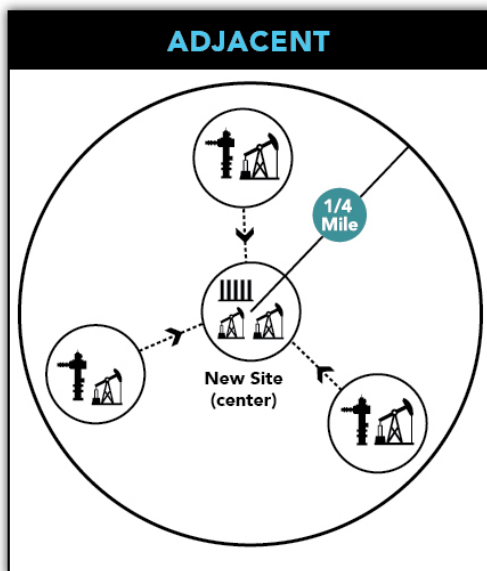
---

### Summary of Action

- On May 12, 2016, the U.S. Environmental Protection Agency (EPA) issued a final rule to clarify the agency's air permitting rules as they apply to the oil and natural gas industry. The clarifications are part of a package of final rules that together will reduce emissions of methane and smog-forming volatile organic compounds (VOCs) from new and modified oil and gas sources, while providing greater certainty about Clean Air Act permitting requirements for industry.
- The final "Source Determination Rule" clarifies when oil and gas equipment and activities must be deemed a single source when determining whether major source permitting programs apply. The programs are the Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review preconstruction permitting programs, and the Title V Operating permits program.
- By defining the term "adjacent," the rule specifies that equipment and activities in the oil and gas sector that are under common control will be considered part of the same source if they are located near each other – specifically, if they are located on the same site or on sites that share equipment and are within ¼ mile of each other. EPA previously addressed this definition through policy interpretation and guidance.
- EPA uses three key factors to determine whether a source needs a permit and the type of permit required. The factors are whether equipment and activities are:
  - In the same industrial grouping (defined by standard industrial classification code, or "SIC code"),
  - Under the control of the same person/people, and
  - Located on contiguous or adjacent properties.
- The final rule applies to equipment and activities used for onshore oil and natural gas production, and for natural gas processing. It does not apply to offshore operations.
- The following graphic provides simplified examples of when activities and equipment would be considered adjacent, or not adjacent under the final rule.

# Adjacent Equipment in the Oil and Gas Industry: Simplified Examples

New or modified equipment/activities are “adjacent” if they are on the same site, or on sites that share equipment and are within 1/4 mile of each other.



## About EPA's Air Permitting Programs

- New Source Review is a Clean Air Act program that requires industrial facilities to install modern pollution control equipment when they are built or when they make a change that would result in a significant emissions increase. The program accomplishes this by requiring owners or operators to obtain permits that limit air emissions before they begin construction. For that reason, NSR is commonly referred to as the “preconstruction permitting program.”
- The purpose of the NSR program is to protect public health and the environment, even as new industrial facilities are built and existing facilities expand. Specifically, its purpose is to ensure that air quality:
  - Does not worsen where the air is currently unhealthy to breathe (nonattainment areas), and
  - Is not significantly degraded where the air is currently clean (attainment areas).
  - The program also requires that the most effective pollution controls be considered when new sources of pollution are built or sources are modified.
- Permits in nonattainment areas are known as NNSR permits; permits in attainment areas are known as PSD permits. PSD and NNSR permits often are issued by state or local permitting agencies.
- Title V operating permits are legally enforceable documents that permitting agencies issue to pollution sources after the source has begun to operate. These permits are designed to improve compliance by clarifying what facilities (also called “sources”) must do to control air pollution. Title V permits include both federal and federally enforceable state regulations that apply to a particular source.

## More Information

- To read the final Source Determination rule, along with other rules for the oil and gas industry, visit <https://www3.epa.gov/airquality/oilandgas/actions.html>
- For information on the New Source Review permitting program, see <https://www.epa.gov/nsr>
- Information on the Title V Operating Permits program is available at <https://www.epa.gov/title-v-operating-permits>



## **Reducing Methane Emissions from the Oil and Natural Gas Industry**

March 10, 2016 – As part of the Obama Administration’s commitment to addressing air pollution and climate change, EPA announced its next step in reducing emissions of methane from the oil and natural gas industry: moving to regulate emissions from existing sources. The agency will begin with a formal process to require companies operating existing oil and gas sources to provide information to assist in the development of comprehensive regulations to reduce methane emissions.

An Information Collection Request (ICR) will enable EPA to gather important information on existing sources of methane emissions, technologies to reduce those emissions and the costs of those technologies in the production, gathering, processing, and transmission and storage segments of the oil and gas sector.

There are hundreds of thousands of existing oil and gas sources across the country; some emit small amounts of methane, but others emit very large quantities. Through the ICR, EPA will be seeking a broad range of information that will help us determine how to effectively reduce emissions, including information such as how equipment and emissions controls are, or can be, configured, and what installing those controls entails.

EPA will also be seeking information that will help the agency identify sources with high emissions and the factors that contribute to those emissions. The ICR will likely apply to the same types of sources covered by the current and proposed New Source Performance Standards for the oil and gas sector, as well as additional sources.

**Stakeholder outreach** -- In the next few weeks, EPA will be reaching out to stakeholders about the ICR process. We’ll be talking with industry, environmental groups, state, local and tribal air agencies, and communities to walk them through the process and to hear feedback and insights on our plans.

**Seek public comment on the draft ICR** -- The ICR process, which is governed by the Paperwork Reduction Act, provides the public opportunities to review drafts of the information collection request. EPA will begin the ICR process next month, signing a draft information collection request that will be made available for public comment. The agency will revise that draft as necessary based on comment and send it to the Office of Management and Budget for additional review and input. Once the collection request is approved– which can include surveys and required emissions monitoring – it will go to industry, which is required to respond and attest that the information it provides is accurate. EPA’s goal is to receive the first phase of information later this year.

### **EPA’s progress addressing methane from the oil and gas industry**

Methane, the key constituent of natural gas, is a potent greenhouse gas with a global warming potential more than 25 times that of carbon dioxide. Methane is the second most prevalent greenhouse gas emitted in the United States from human activity – and nearly 30 percent of those

emissions come from oil production and the production, processing transmission and distribution of natural gas. Methane from the oil and gas industry comes packaged with other pollutants, including volatile organic compounds (VOCs) that help form harmful smog, and a number of harmful pollutants known as air toxics.

Since 2012, EPA has taken a number of important steps to reduce air pollution from the oil and gas sector, while allowing continued responsible development in this industry that is important to the economy and energy security, and to improve measurement of methane emissions from this dynamic and diverse industry. These steps include:

**April 2012: EPA issues rules to reduce smog-forming VOCs that also yield significant reductions in methane** -- These rules include the first federal air standards for hydraulically fractured and re-fractured natural gas wells, along with requirements for several other sources of pollution in the oil and natural gas industry that were not previously regulated at the federal level. The 2012 rules are expected to achieve significant methane reductions as a co-benefit of reducing volatile organic compounds: EPA estimates the rules will reduce 1 to 1.7 million short tons of methane when they are fully implemented in 2015– the equivalent of about 19 to 33 million metric tons of carbon dioxide.

**March 2014: Obama Administration releases Climate Action Plan: Strategy to Reduce Methane Emissions** -- The Methane Strategy sets out the Administration's plan to reduce both domestic and international methane emissions through voluntary programs and existing regulatory authorities, and outlines efforts to improve measurement of this potent greenhouse gas. The Strategy calls on EPA to build on the success of its voluntary programs and regulations in reducing methane emissions from the oil and gas sector, and to improve data collection and measurement.

**April 2014: EPA releases technical white papers** -- As noted in the Methane Strategy, EPA releases for peer and public review five technical white papers on significant sources of emissions in the oil and gas sector. The papers focus on technical issues covering emissions and mitigation technologies and practices that target reductions in methane and VOCs. EPA indicates that it will use the papers, along with input from peer reviewers and the public, to determine how best to pursue additional reductions from these sources.

**January 2015: EPA outlines strategy for making progress toward a new Administration methane reduction goal** – The agency outlines a series of steps it will take to address methane and VOCs from the oil and gas industry. The strategy targets actions aimed at reducing methane emissions from new and modified sources in this sector, reducing ozone-forming pollutants from existing sources in areas that do not meet federal ozone health standards, and building on work that states and industry are doing to address emissions from existing sources elsewhere.

**August 2015: EPA proposes rules to reduce methane and VOCs from new and modified oil and gas sources, and issues draft guidelines to reduce VOCs from existing sources in areas with smog problems** – The proposed rules are a part of a suite of commonsense requirements that together will help combat climate change, reduce air pollution that harms public health, and provide greater



certainty about Clean Air Act permitting requirements for the oil and natural gas industry. The proposals include:

- Updates to the agency's New Source Performance Standards that would set methane and VOC requirements for additional new and modified sources in the oil and gas industry. The proposal would require methane and VOC reductions from hydraulically fractured oil wells, extend emission reduction requirements further "downstream" than the 2012 rules, and require owners/operators to find and repair leaks, which can be a significant source of both methane and VOC pollution. The updates are expected to reduce up to 400,000 short tons of methane in 2025, the equivalent of cutting up to 9 million metric tons of carbon dioxide.
- Draft guidelines for reducing VOC emissions from existing oil and gas sources in certain ozone nonattainment areas as well as in the mid-Atlantic and northeastern states in the Ozone Transport Region. EPA estimates these Control Techniques Guidelines would reduce about 82,000 short tons of VOCs a year – and yield about 220,000 short tons of methane reductions as a co-benefit.
- Updates to clarify the agency's air permitting rules as they apply to the oil and natural gas industry; and
- A Federal Implementation Plan to implement minor New Source Review permitting in Indian country.

**October 2015: EPA publishes new Greenhouse Gas Reporting Program Oil & Gas Activity Data --**

The Greenhouse Gas Reporting Program's publication of annual greenhouse gas data includes, for the first time, activity data from oil and gas facilities (for 2014 and for previous years) that had previously been deferred. This information includes equipment counts, operational parameters, and other data that are used to calculate GHG emissions. This new information, along with additional new data that will be submitted starting in 2016 and 2017, supports the goals outlined in the Methane Strategy to improve the completeness, quality, accuracy and transparency of data from this sector, and improve the ability of agencies and the public to use the GHG data to analyze emissions and understand emission trends.

**January 2016: EPA finalizes Best Management Practices Commitment Framework for the Voluntary Natural Gas STAR Methane Challenge Program --**

Based on extensive stakeholder feedback, EPA finalizes this framework, which provides a new mechanism through which oil and gas companies can make and track ambitious commitments to reduce methane emissions. The Program, which will cover onshore oil production and the entire natural gas value chain from onshore production through distribution, has the capability to comprehensively and transparently reduce emissions and realize significant voluntary reductions in a quick, flexible, cost-effective way. The program will be launched March 30, 2016 with founding partners.

**February 2016: EPA releases Public Review Draft of the U.S. Inventory of Greenhouse Gas**

**Emissions and Sinks: 1990-2014 --** The draft inventory contains a number of important updates reflecting new and improved data that have become available on the oil and gas sector through

EPA's Greenhouse Gas Reporting Program and studies by government, academic, and industry researchers, and industry organizations. The new information shows that methane emissions from existing sources in the oil and gas sector are substantially higher than we previously understood.

## EPA's Actions to Reduce Methane Emissions from the Oil and Natural Gas Industry: Draft Information Collection Request for Existing Sources

---

### Overview

- On May 12, 2016, the U.S. Environmental Protection Agency (EPA) issued a draft Information Collection Request (ICR) to require oil and natural gas companies to provide extensive information needed to develop regulations to reduce methane emissions from existing oil and gas sources. In addition, the agency announced plans to issue a Request for Information to seek information on innovative strategies that can accurately and cost-effectively locate, measure and mitigate methane emissions.
- The draft ICR is a critical step toward meeting the Obama Administration's commitment to reduce emissions from existing oil and gas sources, as part of the President's *Climate Action Plan: Strategy to Reduce Methane Emissions*. Also as part the Strategy, EPA has issued final New Source Performance Standards (NSPS) to reduce methane and smog-forming volatile organic compounds from new, modified and reconstructed sources in the oil and gas industry.
- EPA announced its plans to issue the ICR on March 10, 2016, as part of a joint commitment between the U.S. and Canadian governments to take new actions to reduce methane pollution from the oil and gas sector, including developing regulations to reduce methane emissions from existing sources. The ICR is the first step in that process; the information that companies will be required to collect and report to EPA will provide the foundation necessary for developing comprehensive regulations to reduce emissions from existing sources in the large and complex oil and gas industry.
- The draft ICR seeks a broad range of information that will help the agency determine how to best reduce emissions. This includes information on how equipment and emissions controls are, or can be, configured, and what installing those controls entails and the associated costs.
- The agency is seeking this information on numerous sources, including natural gas venting that occurs as part of existing processes or maintenance activities, such as well and pipeline blowdowns, equipment malfunctions and flashing emissions from storage tanks. Recent studies have identified these processes and activities as likely large sources of methane emissions. Industry will be legally required to respond to the final ICR. EPA also is seeking information on existing underground storage facilities. The agency currently does not regulate these existing facilities.
- Methane, the key constituent of natural gas, has a global warming potential more than 25 times greater than that of carbon dioxide. Methane is the second most prevalent greenhouse gas emitted in the United States from human activities, and nearly one-third of those emissions come from oil production and the production, processing and transmission

of natural gas. The oil and gas industry is the largest industrial methane source.

- In order to gain as much knowledge as possible about the rapidly developing technology used to measure and mitigate methane emissions from the oil and gas industry, EPA will also issue a voluntary Request for Information inviting oil and gas owners and operators, along with states, nongovernmental organizations, academic experts and others, to provide information on innovative strategies to accurately and cost-effectively locate, measure and mitigate methane emissions. The agency will issue the Request for Information shortly.

### **Why EPA Needs Additional Information**

- Over the past year, substantial amounts of new information on methane emissions from existing sources, operations and activities in the oil and gas industry have become available from a range of entities, including EPA's Greenhouse Gas Reporting Program, industry organizations, and studies by government, academic and industry researchers. That information shows that methane emissions from existing sources – sources not covered by the NSPS also issued May 12 -- are higher than previously understood.
- While this recent information has substantially improved EPA's understanding of the magnitude of emissions from existing oil and gas sources, the agency needs information that is not currently available to develop standards for existing sources under section 111(d) of the Clean Air Act for existing sources and to evaluate the impact of those standards.
- Unlike standards for new sources, which apply on startup, standards for existing sources likely would apply to all covered processes and equipment at the same time. There are hundreds of thousands of existing oil and gas sources across the country: some emit small amounts of methane, but others emit methane in very large quantities.
- To determine how to effectively and efficiently address emissions from those sources, EPA needs information that is different from the information the agency needed to develop the NSPS, such as what emission controls are being used in the field, how those are configured, whether electricity or generating capacity is available, and how often sites are staffed or visited.
- These types of information will help EPA determine how the agency can, working with states, best develop and apply standards to effectively reduce emissions from existing sources. It also will help identify sources with high emissions and the factors that contribute to those emissions. The information EPA receives will build on what state and other federal agencies have learned through their own rules, programs and experiences.
- The public will have two opportunities to comment on the draft ICR before surveys are sent to industry. See the end of this fact sheet for commenting instructions.

## **The Draft ICR**

- The draft ICR seeks information from the following segments of the oil and gas industry: onshore production; gathering and boosting; gas processing; transmission; storage; and import/export. It does not request information from offshore production or local natural gas distribution facilities that provide gas to businesses and homes.
- The draft ICR comprises two parts:
  1. An “operator survey” designed to obtain readily available information on the number and types of equipment at all onshore oil and gas production facilities in the United States; and
  2. A “facility survey,” to collect detailed information on emissions sources and emissions control devices or practices in use at facilities in the onshore production, gathering and boosting, processing, compression/transmission, pipeline, natural gas storage, and liquefied natural gas storage and import/export facilities. EPA expects much of the information requested in the facility survey to be readily available from company records; however, owners/operators will have to collect some information – such as counts of pneumatic devices. The more detailed survey will be sent to a representative sample of facilities rather than industry wide, in order to reduce the burden to the industry.
- Owners/operators will have 30 days to respond to the operator survey; they will have 120 days to respond to the more detailed facility survey. EPA’s goal is to receive data from the operator survey later this year.
- EPA has designed the draft ICR so that it will not duplicate information industry already must submit through federal programs such as the Greenhouse Gas Reporting Program. To make it easier for industry to submit responses, EPA will use the agency’s electronic Greenhouse Gas Reporting Tool (e-GGRT) to collect the data and information.
- EPA estimates the industry cost of responding to the ICR at about \$40 million: \$16 million to respond to the operator survey (or about \$700 per facility); and \$24 million to respond to the more detailed facility survey (or \$7,000 per facility).

## **The ICR Process: Opportunities for Public Comment**

- The ICR process, which is governed by the Paperwork Reduction Act, provides the public two opportunities to review drafts of the ICR and supporting materials.
  1. EPA will accept public comment on the draft of the ICR for 60 days after the Federal Register publishes a notice of its availability. After reviewing and considering public comment, the agency will revise the draft as necessary and send it to the Office of Management and Budget (OMB).
  2. After additional review and input, OMB will publish a second draft of the ICR for a 30-day public review.

- To submit comments on the first draft ICR, visit [www.regulations.gov](http://www.regulations.gov), and enter this Docket ID number in the search box: EPA-HQ-OAR-2016-0204. Click “Comment Now” on the search results page, and follow the online instructions for submitting comments.
- Commenters also may mail comments to: EPA Docket Center, U.S. Environmental Protection Agency, Mail Code 28221T, 1200 Pennsylvania Ave. NW, Washington, DC 20460. Comments should be marked “Attention Docket ID No. EPA-HQ-OAR-2016-0204.”

#### **For More Information**

- To read the draft ICR – including the surveys owners/operators would be required to answer – visit <https://www3.epa.gov/airquality/oilandgas/methane.html>
- For information on the New Source Performance Standards for new, modified and reconstructed sources, see: <https://www3.epa.gov/airquality/oilandgas/actions.html>

## **Federal Plan for Implementing the Indian Country Minor New Source Review Program for the Oil and Natural Gas Industry: Fact Sheet**

---

### **SUMMARY OF ACTION**

- On May 12, 2016, the U.S. Environmental Protection Agency (EPA) finalized a federal implementation plan (FIP) to implement the agency's Indian Country Minor New Source Review (NSR) program for the oil and natural gas production and natural gas processing segments of the oil and natural gas sector.
- The final plan limits emissions of harmful air pollutants, while streamlining the preconstruction permitting process for this large and complex industry.
- The FIP is part of a package of final rules that together will combat climate change, reduce air pollution that harms public health, and provide greater certainty about Clean Air Act permitting requirements.
- The final FIP will be used instead of source-specific minor NSR preconstruction permits in Indian country. It incorporates emissions limits and other requirements from eight federal standards, applying limits for a range of equipment and processes used in oil and natural gas production and natural gas processing. The eight standards are:
  - The final New Source Performance Standards for the Oil and Natural Gas Industry, also issued May 12.
  - Performance standards for volatile organic compound (VOC) liquid storage tanks,
  - Performance standards for stationary compression ignition internal combustion engines,
  - Performance standards for stationary spark ignition internal combustion engines,
  - Performance standards for new stationary combustion turbines,
  - Air toxics standards for industrial, commercial and institutional boilers and process heaters,
  - Air toxics standards for oil and natural gas production facilities, and
  - Air toxics standards for stationary reciprocating internal combustion engines.
- The agency also issued a number of updates to the Indian Country Minor NSR rule to accommodate the FIP.

### ***What the FIP Covers***

- Requirements in the FIP apply to all new and modified true minor sources in the oil and natural gas production and the natural gas processing segments of the oil and gas industry.

EPA anticipates the majority of true minor sources needing preconstruction permits in Indian country in the oil and gas sector will be in those segments.

- For crude oil, production operations include equipment and activities generally found prior to the point where crude oil enters storage and transmission terminals where the oil is loaded for transport to refineries.
  - For natural gas, production and processing operations include equipment and activities that occur prior to natural gas plants or prior to the point where natural gas enters the transmission and storage segment for distribution.
- Under the final rule, beginning Oct. 3, 2016, new and modified true minor sources using the FIP will be required to register using a specific form tailored to the FIP, rather than a permit application.
- Owners/operators may choose to seek a source-specific minor source NSR permit instead of complying with the FIP. EPA also may determine that a source-specific permit is required based on local or reservation-specific air quality concerns. The agency will provide advance notice before requiring source-specific permits in these instances.
- The final FIP applies throughout Indian country except non-reservation areas, unless a tribe or EPA demonstrates jurisdiction for those areas. It does not apply in areas designated as nonattainment for a National Ambient Air Quality Standard (NAAQS). Sources locating in nonattainment areas will have to seek a source-specific permit, or comply with reservation-specific FIPs where those exist. EPA will consider whether to apply requirements of the FIP to true minor sources in specific nonattainment areas in the future.

#### ***Additional requirements***

- Owners/operators planning to use the FIP also are required to address threatened and endangered species, and historic properties. They can accomplish this in one of two ways:
  - Submitting documentation to the EPA that demonstrates that prior Endangered Species Act and/or National Historic Preservation Act compliance has been completed by another federal agency in connection with the specific oil and natural gas activity operated under this FIP; or
  - Submitting completed EPA-developed screening procedures for consideration of threatened and endangered species and/or historic properties and obtaining written confirmation from EPA of satisfactory completion.

#### **BACKGROUND**

- The oil and gas industry has grown rapidly in many areas of Indian country, prompting air quality concerns in some areas, along with concerns about potential permitting delays for minor sources covered by the Indian Country NSR rule.



- NSR is a Clean Air Act program that requires industrial facilities to install modern pollution control equipment when they are built or when they make a change that has the potential to significantly increase emissions. The program accomplishes this by requiring owners or operators to obtain permits that limit air emissions before they begin construction. For that reason, NSR is commonly referred to as the “preconstruction permitting program.”
- The purpose of the NSR program is to protect public health and the environment, even as new industrial facilities are built and existing facilities expand. NSR is designed to ensure that emissions from new and expanding industrial facilities do not worsen air quality in areas with unhealthy air (nonattainment areas), or that they do not significantly degrade air quality in areas where the air is currently clean (attainment areas).
- EPA issued the Indian Country NSR rule in 2011, as part of a FIP that put in place the two remaining pieces of the NSR program in Indian country. The 2011 rule includes requirements for EPA to issue air permits to sources in Indian country but allows tribes to take responsibility for issuing air permits according to EPA’s requirements.
- Together with existing rules for permitting major sources in areas of Indian country that currently meet clean air health standards, the 2011 rule established federal programs for issuing all minor pre-construction air permits in Indian country. These permit programs are similar to those being implemented by states.
- The 2011 rule requires preconstruction permits for certain smaller sources of air pollution commonly found in Indian country, including the oil and natural gas industry. The rule covers new and modified “minor” sources of air pollution.
  - Minor sources have the potential to emit a number of pollutants in amounts above the minor NSR thresholds established in the 2011 rule, but below major NSR thresholds. These thresholds vary by pollutant, and by whether the area where the source is located is designated as attainment or nonattainment for a NAAQS.

#### **FOR MORE INFORMATION**

- The final FIP is available at <https://www.epa.gov/tribal-air/tribal-minor-new-source-review>
- For additional information and to read the other oil and natural gas rules, visit <https://www3.epa.gov/airquality/oilandgas/actions.html>