



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Air Quality

# **EPA's Proposed Emission Standards for New and Modified Sources and Draft Control Technique Guidelines for the Oil and Natural Gas Sector**

Citizens Advisory Council Meeting

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Harrisburg, PA

## ▶ Proposed Standards and Control Technique Guidelines

- On August 18, 2015, the U.S. Environmental Protection Agency (EPA) released proposed amendments to the new source performance standards (NSPS) for the oil and gas sector.
- The revised NSPS will include emission standards to reduce volatile organic compound (VOC) and methane emissions from certain sources, processes and activities in the sector.
- EPA also released the draft Control Techniques Guidelines (CTG) for the oil and natural gas industry on August 18, 2015.
- The Department intends to submit comments to EPA on the proposed rules and CTG by December 4, 2015.

# EPA's Proposed NSPS and CTG

- The proposed rule updates EPA's NSPS to adopt additional methane and VOC requirements for new and modified sources in the oil and gas industry.
- The CTG recommendations will assist State, local and tribal agencies with reasonably available control technology (RACT) determinations for reducing VOC and methane emissions from existing oil and gas sources in ozone nonattainment areas.
  - State Implementation Plan (SIP) revisions must be submitted to EPA two years following the issuance of the final CTG.

# EPA's Proposed NSPS Amendments

- Require that the oil and gas industry reduce methane
- Add emissions reduction requirements for sources of methane and VOC pollution that were not covered in the 2012 Subpart OOOO rule. These include requirements that owners/operators:
  - Capture natural gas from the completion of hydraulically fractured wells
    - Natural gas wells were covered in the 2012 rule
    - Green completion/reduced emissions completion required; exemptions for some types of wells (those would have to reduce emissions using combustion)
  - Find and repair leaks (fugitive emissions)
  - Limit emissions from new and modified pneumatic pumps
  - Expand coverage to limit emissions from several types of equipment used at natural gas transmission compressor stations and gas storage facilities
  - Include compressors and pneumatic controllers that were not covered by the 2012 rule

Sources covered by the 2012 NSPS for VOCs and the 2015 Proposed 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*	2015 proposed NSPS for methane	2015 proposed NSPS for VOCs
<b>Natural Gas Well Sites</b>				
Completions of hydraulically wells	✓	•	•	
Compressors	<i>Not covered</i>			
Equipment leaks	✓		•	•
Pneumatic controllers	✓	•	•	
Pneumatic pumps	✓		•	•
Storage tanks	✓	•		
<b>Oil Well Sites</b>				
Completions of hydraulically fractured wells	✓		•	•
Compressors	<i>Not covered</i>			
Equipment leaks	✓		•	•
Pneumatic controllers	✓	•	•	
Pneumatic pumps	✓		•	•
Storage tanks	✓	•		
<b>Production Gathering and Boosting Stations</b>				
Compressors	✓	•	•	
Equipment leaks	✓		•	•
Pneumatic controllers	✓	•	•	
Pneumatic pumps	✓		•	•
Storage tanks	✓	•		
<b>Natural Gas Processing Plants</b>				
Compressors	✓	•	•	
Equipment leaks	✓	•	•	
Pneumatic controllers	✓	•	•	
Pneumatic pumps	✓		•	•
Storage tanks	✓	•		
<b>Natural Gas Compressor Stations (Transmission &amp; Storage)</b>				
Compressors	✓		•	•
Equipment leaks	✓		•	•
Pneumatic controllers	✓		•	•
Pneumatic pumps	✓		•	•
Storage tanks	✓	•		
* Note: Sources already subject to the 2012 NSPS requirements for VOC reductions that also would be covered by the proposed 2015 methane requirements would not have to install additional controls, because the controls to reduce VOCs reduce both pollutants				

## ▶ Draft CTG for the Oil and Natural Gas Industry

- The draft CTG for the oil and gas sector include EPA's RACT recommendations for storage tanks, pneumatic controllers, pneumatic pumps, centrifugal and reciprocating compressors, equipment leaks from natural gas processing plants, and other equipment leaks that are known as "fugitive emissions."
- Many of the recommended RACT levels of control are similar to the VOC requirements established under the 2012 NSPS and August 18, 2015, NSPS proposal.

# Draft CTG for Storage Vessels and Pneumatic Controllers

## Summary of the Oil and Natural Gas Industry Emission Sources and Recommended RACT Included in this Guideline

Emission Source	Applicability	RACT Recommendations
Storage Vessels	Individual storage vessel.	95 percent reduction of VOC emissions from storage vessels with a potential to emit (PTE) greater than or equal to 6 tpy.
Pneumatic Controllers	Individual continuous bleed, natural gas-driven pneumatic controller located at a natural gas processing plant.	Natural gas bleed rate of zero scfh (unless there are functional needs, including but not limited to response time, safety and positive actuation, requiring a bleed rate greater than zero scfh).
	Individual continuous bleed natural gas-driven pneumatic controller located from the wellhead to the natural gas processing plant or point of custody transfer to an oil pipeline.	Natural gas bleed rate less than or equal to 6 scfh (unless there are functional needs, including but not limited to response time, safety and positive actuation, requiring a bleed rate greater than 6 scfh).

# Draft CTG for Pneumatic Pumps

Pneumatic Pumps	Individual natural gas-driven chemical/methanol and diaphragm pump located at a natural gas processing plant.	Zero natural gas emissions.
	Individual natural gas-driven chemical/methanol and diaphragm pump at locations other than natural gas processing plants from the wellhead to the point of custody transfer to the natural gas transmission and storage segment.	<p>-If there is an existing control device at the location of the pneumatic pump, reduce VOC emissions from each gas-driven chemical/methanol and diaphragm pump at the location by 95 percent or greater.</p> <p>- If there is no existing control device at the location of the pneumatic pump, submit a certification that there is no device.</p>



# Draft CTG for Compressors

<p>Compressors (Centrifugal and Reciprocating)</p>	<p>Individual reciprocating compressor located between the wellhead and point of custody transfer to the natural gas transmission and storage segment.</p>	<p>Reduce VOC emissions by replacing reciprocating compressor rod packing after 26,000 hours of operation or 36 months since the most recent rod packing replacement. Alternatively, route rod packing emissions to a process through a closed vent system under negative pressure.</p>
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# Draft CTG for Compressors (Cont.)

Compressors Centrifugal and Reciprocating	Individual reciprocating compressor located at a well site, or an adjacent well site and servicing more than one well site	RACT would not apply.
	Individual centrifugal compressor using wet seals that is located between the wellhead and point of custody transfer to the natural gas transmission and storage segment.	Reduce VOC emissions from each centrifugal compressor wet seal fluid gassing system by 95 percent or greater.
	Individual centrifugal compressor using wet seals located at a well site, or an adjacent well site and servicing more than one well site.	RACT would not apply.
	Individual centrifugal compressor using dry seals.	RACT would not apply.

# Draft CTG for Equipment Leaks and Fugitive Emissions

Equipment Leaks	Equipment components in VOC service located at a natural gas processing plant.	Implement the 40 CFR part 60, subpart VVa leak detection and repair (LDAR) program for natural gas processing plants constructed or modified on or before August 23, 2011.
Fugitive Emissions	Individual well site with wells that produce, on average, greater than 15 barrel equivalents per day per well.	Implement a semiannual optical gas imaging (OGI) monitoring and repair program.
	Individual compressor station located from the wellhead to the point of custody transfer to the natural gas transmission and storage segment or point of custody transfer to an oil pipeline.	Implement an OGI monitoring and repair program.

# Proposed Source Determination Rule

- EPA is proposing to clarify the term “adjacent” in the definitions of: (1) “building, structure, facility or installation” used to determine the “stationary source” for purposes of the Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR) programs and (2) “major source” in the Title V program as applied to the oil and natural gas sector.
- EPA has further defined these terms to mean activities or sources which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control).
- The EPA has previously issued guidance on how to assess “adjacency” for this industry, but the use of the guidance has been challenged, resulting in uncertainty for the regulated community and for permitting authorities.

# Proposed Source Determination Rule

- EPA is co-proposing two definitions for the term “adjacent” and is seeking comment on both:
  - The first option, which the agency prefers, would define adjacent based on proximity.
    - Under this definition, equipment or activities would be considered adjacent if they are located on the same site or are on sites that are within a short distance (1/4 mile) of each other.
    - EPA believes this straightforward definition will clarify permitting, compliance and enforcement for state, local and tribal air agencies, source operators and other interested parties.
  - The second option would define adjacency by looking at either proximity or function.
    - This definition would consider equipment or activities adjacent if they are near each other or if they are related by function – such as being connected by a pipeline, for example.

# Questions?





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Bureau of Air Quality

**Krishnan Ramamurthy**  
**Chief, Division of Permits**  
**Bureau of Air Quality**  
**[kramamurth@pa.gov](mailto:kramamurth@pa.gov)**  
**717.787.4325**