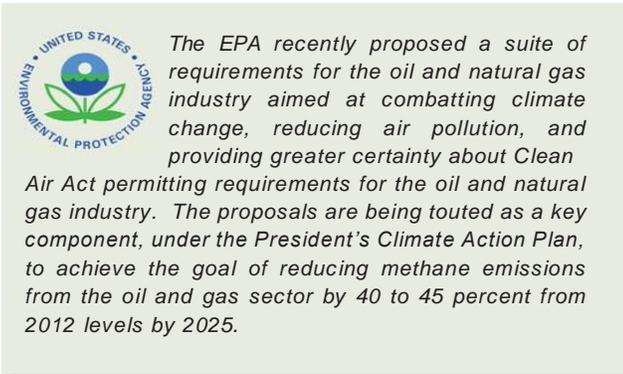


## Proposed Climate, Air Quality, and Permitting Rules for the Oil and Natural Gas Industry



### Background

On August 18, 2015, the U.S. Environmental Protection Agency (EPA) proposed additional regulation and guidance for the oil and natural gas industry. The proposals include amendments to New Source Performance Standard (NSPS) Subpart OOOO (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution), a new NSPS Subpart OOOOa (Standards of Performance for Crude Oil and Natural Gas Facilities), new emission control guidance by way of the Draft Control Techniques Guidelines (CTG) for the Oil and Natural Gas Industry, and clarification of permitting requirements through revised definitions of "adjacent" and "major source" under 40 CFR Parts 51 and 52 and 40 CFR Parts 71 and 72, respectively. Each of the proposed elements is discussed in further detail below.

These new requirements and guidance continue the regulation of the oil and natural gas industry, which is currently regulated at the federal level by existing NSPS and NESHAPS (e.g., NSPS Subpart OOOO) and at the state level through various permitting requirements.

EPA has solicited comment on all of the items outlined below, including on certain additional items, like third party verification, which are not currently in the proposed regulations and guidance. The EPA will receive comments on the proposals for 60 days after they are published in the Federal Register. It is important to note that as with any proposal, the final regulation/guidance may change (in some cases substantially) from the original proposed version. For this reason, it is important to review both the proposed and final requirements with respect to applicability.

### NSPS Subpart OOOO (Amended) & NSPS Subpart OOOOa for Crude Oil & Natural Gas Facilities (Proposed)



The EPA is proposing to amend the NSPS to include standards for reducing methane as well as VOC emissions across the oil and natural gas source category (i.e., production, processing, transmission and storage) and to include improvements to several aspects of the existing standards related to implementation. The existing NSPS Subpart OOOO will be amended, and a new NSPS Subpart OOOOa will expand on the existing regulations and implement additional requirements for the types of locations and equipment shown in the table on the next page.

As a part of this proposal, the existing NSPS Subpart OOOO would be amended to apply to facilities constructed, modified or reconstructed after August 23, 2011, (i.e., the original proposal date of subpart OOOO) and before the proposal date of the new subpart OOOOa (i.e., the date of publication in the Federal Register). NSPS Subpart OOOO would also be amended to include the revisions reflecting implementation improvements in response to issues raised in petitions for reconsideration.

The new NSPS Subpart OOOOa would apply to facilities constructed, modified or reconstructed after the proposal date (i.e., the date of NSPS Subpart OOOOa publication in the Federal Register) and would include current VOC requirements already provided in NSPS Subpart OOOO as well as new provisions for methane and VOC across the oil and natural gas source category.

Many of the emission reductions outlined in the proposed NSPS Subpart OOOOa are as outlined in the CTG for the Oil and Natural Gas Industry (described below) and/or as previously regulated under NSPS Subpart OOOO. In addition, the rule has control requirements for hydraulically fractured oil wells as follows:

- For **non-wildcat, non-delineation wells**, owners and/or operators use reduced emissions completions, also known as "RECs" or "green completions," to reduce methane and VOC emissions and maximize natural gas recovery from well completions. To achieve these reductions, owners and operators of hydraulically fractured oil wells must use RECs in combination with a completion combustion device. The use of a REC is not required where it is not feasible (e.g., if it technically infeasible for a separator to function); and
- For wildcat and delineation wells, and for low pressure wells, owners and/or operators use a completion combustion device to reduce methane and VOC emissions. [This is the same as the requirement for hydraulically fractured oil well completions under NSPS Subpart OOOO.]

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			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			2012 NSPS for VOCs*	2015 proposed NSPS for methane	2015 proposed NSPS for VOCs
<b>Natural Gas Well Sites</b>				<b>Natural Gas Processing Plants</b>					
Completions of hydraulically fractured wells	✓	.	.	Compressors	✓	.	.		
Compressors	Not covered			Equipment Leaks	✓	.	.		
Equipment Leaks	✓		.	Pneumatic Controllers	✓	.	.		
Pneumatic Controllers	✓	.	.	Pneumatic Pumps	✓	.	.	.	
Pneumatic Pumps	✓		.	Storage Tanks	✓	.	.	.	
Storage Tanks	✓	.		<b>Natural Gas Compressor Stations (Transmission &amp; Storage)</b>					
<b>Oil Well Sites</b>				Compressors	✓	.	.	.	
Completions of hydraulically fractured wells	✓		.	Equipment Leaks	✓		.	.	
Compressors	Not covered			Pneumatic Controllers	✓		.	.	
Equipment Leaks	✓		.	Pneumatic Pumps	✓		.	.	
Pneumatic Controllers	✓	.	.	Storage Tanks	✓	.	.	.	
Pneumatic Pumps	✓		.	<p>* 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.</p>  <p>Additional guidance on the proposed regulations and guidance can be found on the EPA's website:  <a href="http://www.epa.gov/airquality/oilandgas/actions.html">http://www.epa.gov/airquality/oilandgas/actions.html</a></p>					
Storage Tanks	✓	.	.						
<b>Production Gathering and Boosting Stations</b>									
Compressors	✓	.	.						
Equipment Leaks	✓		.						
Pneumatic Controllers	✓	.	.						
Pneumatic Pumps	✓		.						
Storage Tanks	✓	.	.						

The rule has additional requirements, exclusions, and definitions, not all of which are captured in this overview, but include items such as:

- **Wells with a gas-to-oil ratio (GOR) of less than 300 scf of gas per barrel of oil produced** would not be affected facilities subject to the well completion provisions of the NSPS;
- **Fugitive emissions at well sites and compressor stations** must be monitored at a frequency which is dependent on the overall percentage of components detected to be leaking during consecutive semiannual monitoring surveys. In other words, the frequency may increase or decrease depending on the percentage of components detected to be leaking.

As a part of the implementation improvements, EPA is proposing regulatory text changes that address performance testing and monitoring of control devices used for new storage vessel installations and centrifugal compressor emissions, specifically relating to in-field performance testing of enclosed combustors. Initial and ongoing performance testing will be required for any enclosed combustors used to comply with the emissions standard for an affected facility and whose make and model are not listed on the EPA Oil and Natural Gas Web site (<http://www.epa.gov/airquality/oilandgas/implement.html>). EPA is also proposing amendments to make the requirements for monitoring of visible emissions consistent for all enclosed combustion units, a revision to §60.5416 to include notification via remote alarm to the nearest field office (consistent with the previously revised §60.5411), and recordkeeping amendments.

Control Techniques Guidelines for the Oil and Natural Gas Industry (Draft)

In anticipation of the release of the revised ozone health standard, which is currently intended for final rule release by October 1, 2015, EPA has released the Control Techniques Guidelines for the Oil and Natural Gas Industry (Draft) to provide state, local and tribal air agencies with information to assist them in determining RACT for reducing VOC emissions from select oil and natural gas industry emission sources.

Under the Clean Air Act<sup>1</sup>, RACT applies in ozone nonattainment areas classified as “Moderate” and above, and throughout the Ozone Transport Region.<sup>2</sup> Affected areas and states have to address the sources covered in the CTGs as part of state plans for meeting EPA’s ozone health standards.

The draft CTG for the Oil and Natural Gas Industry covers five source categories: storage vessels, compressors, pneumatic controllers, pneumatic pumps, fugitive/equipment leaks. The specific RACT requirements vary depending on the type of source category and equipment location (industry segment), as shown below:

- **Crude Oil and Condensate Storage Vessels** - 95 percent control of VOC emissions from storage vessels that emit greater than or equal to 6tpy of VOC emissions;
- **Reciprocating Compressors** - Replacement of the packing every 36 months or after 26,000 hours of operation for reciprocating compressors in the production and processing segments (excluding compressors at the well site), -OR- if allowed by the regulatory agency, the compliance alternative of routing rod packing emissions to a process via a closed vent system under negative pressure;
- **Centrifugal Compressors** - 95 percent control of emissions from the wet seal degassing system, which can be achieved by using a closed vent system and routing emissions to a combustor or routing the emissions back to the compressor or fuel line (routing to the process);
- **Continuous Bleed Natural Gas-Driven Pneumatic Controllers Located at a Natural Gas Processing Plant** - controllers have a 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);
- **Continuous Bleed Natural Gas-Driven Pneumatic Controllers Located from the Wellhead to the Natural Gas Processing Plant or Point of Custody Transfer to an Oil Pipeline** - an emission limit of 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) apply to each continuous bleed pneumatic controller;
- **Natural Gas-Driven Chemical/Methanol and Diaphragm Pumps Located at a Natural Gas Processing Plant** - zero natural gas emissions;
- **Natural Gas-Driven Chemical/Methanol and Diaphragm Pumps Located From the Wellhead to the Natural Gas Processing Plant** - using natural gas as a surrogate for VOC, each pump must reduce natural gas emissions by 95 percent by routing to a control device if there is a control device located on-site of the location of the pump, or to a process, -OR- if there is no existing control device at the location of the pneumatic pump, submit a certification that there is no device -AND- if a control device is subsequently added to the site where the pump is located, then the natural gas emissions from the pump must be routed to the newly installed control device;
- **Equipment Leaks at Natural Gas Processing Plants**- implementation of an LDAR program equivalent to what is required under 40 CFR Part 60 Subpart VVa for equipment components (with the exception of compressors) in VOC service; and
- **Fugitive Emission Components at Oil and Natural Gas Well Sites with Wells that Produce, on Average, Greater than 15 Barrel Equivalents per Day per Well and Compressor Stations in the Production Segment (Located from the Wellhead to the Point of Custody Transfer to the Natural Gas Transmission and Storage Segment or Oil Pipeline)** - implementation of a monitoring plan that includes semiannual monitoring using optical gas imaging (OGI) and repair of components that are found to be leaking at well sites and at compressor stations, -AND- each fugitive emissions component repaired or replaced be resurveyed to ensure there is no leak after repair by the use of either Method 21 or OGI no later than 15 days of finding fugitive emissions.

For the most part, the control requirements shown above are familiar in that they are a continuation of regulatory works outlined in prior regulations (NSPS Subpart OOOO and the EPA Mandatory Reporting Rule for Greenhouse Gas Emissions); however, for certain source categories, the requirements have been increased (e.g., OGI for equipment leaks for well sites and compressor stations). While the CTG does not directly impose any requirements on facilities in the oil and natural gas industry, it provides recommendations for Air agencies to consider in determining RACT. Air agencies can use the recommendations in the CTG to inform their own determination as to what constitutes RACT for VOC for the oil and natural gas industry emission sources presented in the CTG in their particular nonattainment areas.

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<sup>1</sup> Section 172(c)(1) of the Clean Air Act (CAA) provides that state implementation plans (SIPs) for nonattainment areas must include “reasonably available control measures” including “reasonably available control technology” (RACT), for existing sources of emissions. CAA Section 182(b)(2)(A) provides that for moderate ozone nonattainment areas, states must revise their SIPs to include RACT for each category of volatile organic compound (VOC) sources covered by control techniques guidelines (CTG) document issued between November 15, 1990, and the date of attainment.

<sup>2</sup> The Ozone Transport Region encompasses 11 northeast states and the metropolitan statistical area that includes Washington D.C. and portions of northern Virginia. The states are: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.



## Oil and Natural Gas Sector Source Determination Rule (Proposed)

The EPA previously issued guidance on how to assess “adjacency” for this industry, but the use of the guidance was challenged; therefore, in this action, the EPA is proposing two options for determining whether two or more properties in the oil and natural gas sector are “adjacent” for purposes of defining the “stationary source” in the PSD and NNSR programs. The preferred option would define “adjacent” for the oil and natural gas sector in terms of proximity. The EPA is co-proposing and taking comment on an alternative option to define “adjacent” in terms of proximity or functional interrelatedness.

The definition of “building, structure, facility, or installation” as relating to the oil and natural gas industry under 40 CFR Parts 51 and 52 is proposed to be an addition to the existing definition of “building, structure, facility, or installation” [e.g., §51.165(a)(1)(ii)(B), §51.166(b)(6)(ii), §52.21(b)(6)(ii)]. The proposed definitions are shown below:

Option 1: [...] *building, structure, facility, or installation* for onshore activities under SIC Major Group 13: Oil and Gas Extraction, all of the pollutant-emitting activities included in Major Group 13 that are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant emitting activities shall be considered adjacent if they are located on the same surface site, or on surface sites that are located within ¼ mile of one another, where a surface site has the same meaning as in 40 CFR 63.761.

Option 2: [...] *building, structure, facility, or installation* means, for onshore activities in SIC Major Group 13: Oil and Gas Extraction, all of the pollutant-emitting activities included in Major Group 13, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities shall be considered adjacent if one of the following circumstances apply: 1) the pollutant-emitting activities are separated by a distance of ¼ mile or more and there is an exclusive functional interrelatedness; or 2) the pollutant-emitting activities are separated by a distance of less than ¼ mile.

The definition of “major source” as relating to the oil and natural gas industry under 40 CFR Parts 70 and 71 are proposed to be an addition to the existing definition of “major source” [i.e., under §70.2 and §71.2]. The proposed extension of the definition is shown below:

Option 1: [...] For onshore activities belonging to SIC Major Group 13: Oil and Gas Extraction, pollutant emitting activities shall be considered adjacent if they are located on the same surface site, or are on surface sites that are located within ¼ mile of one another, where a surface site has the same meaning as in 40 CFR 63.761.

Option 2: [...] For onshore activities belonging to SIC Major Group 13: Oil and Gas Extraction, pollutant emitting activities shall be considered adjacent if one of the following circumstances apply: 1) the pollutant-emitting activities are separated by a distance of ¼ mile or more and there is an exclusive functional interrelatedness; or 2) the pollutant-emitting activities are separated by a distance of less than ¼ mile.

### We Can Help!

Interpreting and implementing new regulations can be challenging. Although the rule and guidance are subject to change, it may be beneficial to start reviewing your operations early. Due to existing regulations such as NSPS Subpart OOOO, some of the requirements may already be met, but some requirements may also be new. Providence can help you with this new suite of regulations, whatever your needs for may be. Providence has experience with regulatory analyses, gap assessments, leak detection and repair programs, recordkeeping systems, permitting, and air dispersion modeling. Give us a call today!

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