



Oil & Natural Gas Sector

Proposed Methane and VOC Regulations

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Oil & Natural Gas Sector

- Source Determination
- FIP for Indian Land Minor NSR Program
- Control Technology Guidelines (CTGs)
- NSPS 0000
- NSPS 0000a

Source Determination

- Two Options for “Adjacent” Definition
- Option 1 – Proximity
 - Located on the same *surface site* or on surface sites that are located within $\frac{1}{4}$ mile of one another
- Option 2 – Proximity or functional interrelatedness
 - Separated by a distance of $\frac{1}{4}$ mile or more and there is an exclusive functional interrelatedness
 - Separated by a distance of less than $\frac{1}{4}$ mile

Indian Land Minor NSR FIP

- “True minor” sources in oil and natural gas production segment
- Construction/modification on or after October 3, 2016
- Requires registration (form proposed)
- Must address threatened and endangered species and historic properties
- What about synthetic minor sources?

Indian Land Minor NSR FIP

- Incorporates requirements from 6 standards
 - NSPS Kb (fuel storage tanks)
 - NSPS IIII, JJJJ (stationary engines)
 - NSPS OOOOa (compressors, fugitives, well completions, pneumatic controllers, pneumatic pumps, storage vessels)
 - MACT HH (glycol dehydrators)
 - MACT DDDDD (process heaters)

Control Technology Guidelines

- Suggested requirements for existing Oil & Gas sources in non-attainment areas
 - Suggest NSPS OOOOa
 - “moderate” and higher non-attainment areas
- CO is “marginal” in Denver and northern Front Range
 - Some areas to be designated “moderate” based on existing ozone standard
 - More areas likely become non-attainment based on new ozone standard

NSPS 0000

- 2012 Final Rule
 - Natural Gas Sector through natural gas processing plant
 - Oil Sector up to pipeline custody transfer
 - Excludes oil well completions
 - Storage vessels & pneumatic controllers
- August 2015 Final Amendments
 - Storage vessels in parallel
 - Low pressure gas well definition

NSPS 0000

- September 2015 Proposed Amendments
 - After August 23, 2011 and On or Before September 18, 2015
 - Capital expenditure definition
 - Control devices on storage vessel and centrifugal compressors
 - Monthly Method 22 tests
 - 600 ppmv for enclosed combustor outlet
 - Currently 20 ppmv
 - Bypass devices: both alarm at device and remote alarm

NSPS 0000a

- VOCs, SO₂, & CH₄
- 2015 Proposed Rule
 - After September 18, 2015
 - Natural Gas Sector up to city gate
 - Natural gas transmission and storage
 - Oil Sector up to pipeline custody transfer
 - Oil well sites
 - CH₄ regulation identical to VOC regulation

Newly Affected Facilities/ Locations

- Pneumatic pumps
 - All locations
- Well completions
 - Oil well sites
- Fugitive Emissions
 - Well sites and compressor stations
- Natural gas compressor stations
 - Transmission and storage segment
 - Gathering and boosting segment

Pneumatic Pumps

- Natural gas-driven
 - Chemical/methanol pumps
 - Diaphragm pumps
- Natural gas processing plants
 - Zero emissions
- All other locations
 - 95% emission reduction IF control device already available on site

Oil Well Completions

- Same standards as natural gas wells
- Non-wildcat and non-delineation wells
 - Reduced Emissions Completions (REC) and combustion
- Wildcat and delineation wells
 - Completion combustion device

Fugitive Emissions

- NOT just equipment leaks
- Well sites and compressor stations
 - Exclude Christmas tree and low production well sites
- Initial and semiannual surveys
- Optical gas imaging (OGI) for detection
 - Any observed visible emission from component
- Monitoring plan
- “Modification” definition
 - whole facility or only added/modified equipment?
- 15 day repair
 - OGI (no visible emission) or Method 21 (500 ppm)

Compressor Stations

- Wet seal centrifugal compressors
 - 95% emission reduction
- Reciprocating compressors
 - Rod packing replacement OR
 - Route emissions to a process
- Pneumatic controllers
 - 6 scfh natural gas bleed rate limit
- Pneumatic pumps
 - 95% emission reduction IF control device already available on site
- Storage vessels
 - 95% emission reduction OR
 - Uncontrolled actual VOC emissions less than 4 tpy

Next Generation Compliance

- Reporting on Corporate Maintained Websites
 - Quantitative environmental results
- Electronic Reporting to EPA
- Third-party Reporting Directly to Regulator
 - Combustor vendors
- Third-party Compliance Verification Programs
 - PE Verification of Closed Vent System and Control Device Design and Installation
 - Auditing Infrared Camera Fugitives Monitoring

Comments Requested

- Wells
 - Low pressure wells
 - Low production wells
 - Low GOR wells
 - Inherently low fugitive wells
- How to Regulate Liquids Unloading Operations
- Use of Pressure Assisted Flares
- Excluding well site water recycling operation storage vessels

CO Regulation 7 Comparison

Item	NSPS 0000a	CO Regulation 7 Section XVII
Storage tank controls	6 tpy PTE 95% emission reduction	6 tpy Uncontrolled Actual Emissions 95% control efficiency (with 98% design destruction efficiency if combustion device)
Storage tank “components”	Fugitive Emissions – LDAR Includes access doors, PRD, thief hatches or other storage vessel openings	Leaking – LDAR Venting (thief hatches, PRD) - STEM
Storage tank associated equipment (separators, control equipment)	Separators – LDAR Control equipment – closed vent and control device provisions	AVO and additional visual inspections

CO Regulation 7 Comparison

Item	NSPS 0000a	CO Regulation 7
Fugitives LDAR Well sites and compressor stations	OGI - Any visible emission from OGI Semiannual monitoring – (can be increased or decreased) 15 day repair - OGI or Method 21 for repair verification	OGI - Any detectable emission not associated with normal equipment operation Method 21 - 500 – 2000 ppm detection threshold Monthly, quarterly, annual, or initial monitoring 5 day first attempt at repair or 15 days if need parts
Pneumatic controllers Well sites and compressor stations	Low bleed (< 6scfh)	Low bleed (< 6scfh) or no bleed

Any Questions?

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