



Oil & Gas Regulation Update
NSPS 0000 and NESHAP HH
Webinar Presentation
July 12, 2012

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Agenda

- Introduction
- General Review of NSPS / NESHAP
- Final NSPS Subpart 0000
- Final NESHAP Subparts HH/HHH
- Questions



Trinity Consultants - Overview



- Founded 1974 in Dallas
- Over 300 employees in 32 U.S. offices plus China and Bahrain
- Regulatory compliance and environmental management services with focus on air
- ISO 9001 quality program certified in Dallas HQ



Trinity's U.S. Office Locations



Trinity Services & Products

- Environmental Consulting
- EH&S Auditing Services
- Environmental Software
- Professional Training
- EH&S Staffing Services
- Compliance Management
- Compliance Audits



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NSPS vs. NESHAP

- New Source Performance Standards (NSPS)
 - ❖ Criteria pollutants
 - ❖ New, reconstructed, modified sources
 - ❖ Controls consider economic viability
- National Emission Standard for Hazardous Air Pollutants (NESHAP)
 - ❖ Hazardous Air Pollutants (HAPs)
 - ❖ All sources, existing and new at major or area sources of HAP
 - ❖ Maximum Achievable Control Technology (MACT)

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NSPS - 40 CFR Part 60

- Not technology forcing, reflect the best practice at the time
- Applicability date is the proposal date (not final date)
- Applicability must be evaluated for new, modified, and reconstructed sources
- No NSPS for “existing” sources
 - ❖ “Existing” source if construction/reconstruction commenced before rule proposal date.
 - ❖ An existing source becomes an “affected facility” when it is modified or reconstructed after the rule proposal date

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Definitions (§ 60.2, 60.14, 60.15)

- Commence: undertake a continuous program of construction or modification or enter into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification
- Construction: fabrication, erection, or installation of an affected facility
- Affected facility: any apparatus to which a standard is applicable (e.g. boiler, engine)
- Modification: physical change in, or change in method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere

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Dissection of Modification

- > Means an HOURLY emissions rate change
 - ❖ Increasing hours of operation alone is not a modification
- > Increase in emissions of a pollutant not regulated by the NSPS Subpart is not a modification
- > Routine Repair and Maintenance is not a Modification
- > Alternative Fuel (if capable) is not a Modification

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Reconstruction

- Replacement of components of an existing facility to such an extent that the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable entirely new facility.
- Unlike a modification, an existing unit upon reconstruction, becomes an affected facility, irrespective of any change in emission rate

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NSPS for O&G Industry 40 CFR Part 60, Subpart 0000

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Changes from Proposed Rule

- Phased timeline for control implementation for controllers, storage vessels, and well completions
- Exemptions for equipment meeting design or control standards (e.g., REC, dry seal centrifugal compressors, low bleed controllers)
- Storage vessel applicability based on emissions, not throughput
- Certain equipment in transmission not subject
- No third party verification of well completion
- 30-day advance notice of well completion changed to 2-day advance email

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Affected Facilities

- Each natural gas well
- Each centrifugal compressor using wet seals
- Each reciprocating compressor
- Each continuous bleed natural-gas driven pneumatic controller
- Each storage vessel
- Group of equipment (pump, pressure relief device, open-ended valve or line, valve, and flange or other connector in VOC or wet gas service), within a process unit located at onshore natural gas processing plants
- Sweetening units located at onshore natural gas processing plants

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Affected Facility Exceptions

- Pneumatic controllers with a natural gas bleed rate ≤ 6 scfh not at gas processing plant are not affected
- Intermittent pneumatic controllers are not affected
- Centrifugal compressors using dry seals are not affected
- Centrifugal and reciprocating compressors located at a well site are not affected

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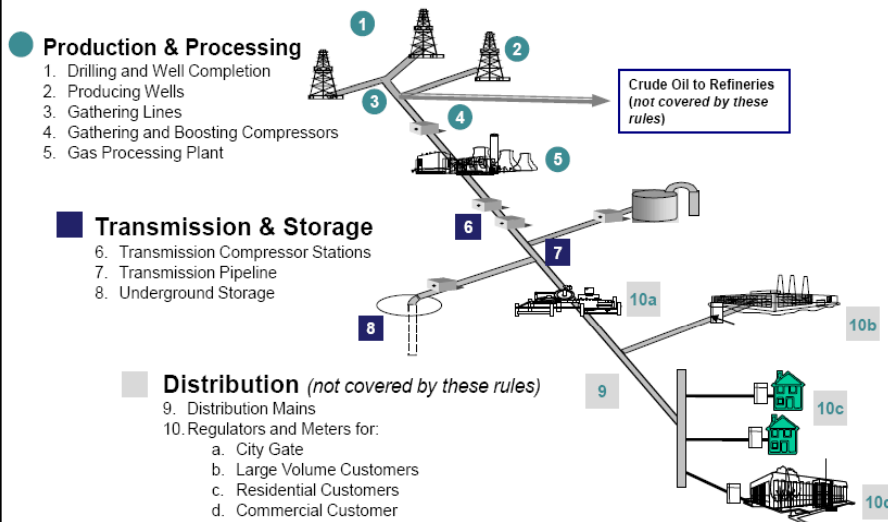
Subpart OOOO Applicability

NSPS OOOO Affected Facility	Production (Well Site)	Gathering	Gas Processing	Transmission
Gas Well	X			
Centrifugal Compressors		X	X	
Reciprocating Compressors		X	X	
Pneumatic Controller	X	X	X	
Storage Vessels	X	X	X	X
Equipment Leaks			X	
Sweetening Units			X	



Oil and Natural Gas Operations

Oil and natural gas systems encompass wells, gas gathering and processing facilities, storage, as well as transmission and distribution pipelines. These components are all important aspects of the process of getting natural gas out of the ground and to the end user.



Source: Adapted from American Gas Association and EPA Natural Gas STAR Program

Compliance Dates

- Applies to affected facilities that commence construction, reconstruction or modification after 8/23/11 (date of proposed rule), but the compliance date depends on the type of emission source
- Standards apply at all times (i.e., no exemption during periods of startup, shutdown, or malfunction)
- Affirmative defense codified in final rule

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Gas Well Requirements

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§60.5375

Gas Well - Definitions

- Natural Gas Well
 - ❖ An onshore well drilled principally for the production of natural gas
- Flowback
 - ❖ The process of allowing fluids to flow from a natural gas well following a treatment, either in preparation for a subsequent phase of treatment or in preparation for cleanup and returning the well to production.
 - ❖ The flowback period begins when material introduced into the well during the treatment returns to the surface immediately following hydraulic fracturing or refracturing.
 - ❖ The flowback period ends with either well shut in or when the well is producing continuously to the flow line or to a storage vessel for collection, whichever occurs first.



§60.5375

Gas Wells

- Gas well categories:
 - ❖ Hydraulically fractured wildcat and delineation wells
 - ❖ Hydraulically fractured low pressure wells
 - ❖ All other hydraulically fractured wells
- *Low pressure well*: a well with reservoir pressure and vertical well depth such that 0.445 times the reservoir pressure (in psia) minus 0.038 times the vertical well depth (in feet) minus 67.578 psia is less than the flow line pressure at the sales meter



Required Well Completion Practices

List of Potential Requirements:

1. Perform reduced emissions completions (REC)/green completions:
 - route the recovered liquids into one or more storage vessels or re-inject the recovered liquids into a well;
 - route the recovered gas into a gas flow line or collection system, reinject the recovered gas into a well, use the recovered gas as an on-site fuel source, or use the recovered gas in place of a purchased fuel or raw material, with no direct release to the atmosphere.
2. (Route to Sales) Route salable gas to the gas flow line as soon as practicable.
3. (Completions Flaring) Capture and direct flowback emissions that cannot be directed to the flow line to a completion combustion device (unless risk of fire or explosion).
4. (General Duty) Maximize resource recovery and minimize releases to the atmosphere during flowback and subsequent recovery.

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Standards for Gas Wellheads

Hydraulically Fractured Well Operation	Control Option 1 REC	Control Option 2 Sales	Control Option 3 Flare	Control Option 4
Wildcat and Delineation			X	X
Low Pressure non-wildcat and non-delineation			X	X
Other gas wells before 1/1/2015			X	X
Other gas wells after 1/1/2015	X	X	X (if 1 infeasible)	X

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Prior to Well Completion

At least 2 days before beginning any completion of a hydraulically fractured natural gas well:

- Submit a well completion notification to the US EPA as required by 0000:
 - Anticipated Date of Well Completion
 - API Well Number
 - Lat/Long (5 decimal places)
 - Planned Date for Beginning of Flowback
 - Type of Well (Normal, Wildcat, Delineation, Low Pressure)
 - Well Completion Will Use (REC, Flaring, Neither)
 - If Neither, Reasons Why
- Examples of why flaring can not be used:
 - Potential fire hazard
 - Potential explosion hazard
 - Damage to a waterway

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During Well Completion

During every day of the well completion activity:

- Keep a daily log book for each well completion:
 - Location
 - API Well Number
 - Duration of Flowback (hours)
 - Duration of Venting (hours)
 - Duration of Recovery to the Flow Line (hours)
 - Duration of Combustion (hours)
 - Reasons for Venting to Atmosphere

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§60.5365(h)

Hydraulically Refractured Gas Wells

- Gas well affected facilities that conduct completion operations following hydraulic fracturing are not affected, provided the requirements of § 60.5375 are met (Green completions)
- Well completion not conducted pursuant to § 60.5375 is a modification to the gas well affected facility
- Refracturing does not affect the modification status of other equipment located on the well site
- Sources initially constructed after August 23, 2011 are affected sources regardless

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Compressor Requirements

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§60.5380 and §60.5385

Standards for Centrifugal Compressors

- Centrifugal compressors equipped with wet seals:
 - ❖ Reduce VOC emissions from each wet seal fluid degassing system by ≥ 95.0 percent
 - ❖ If using a control device, equip with specified cover and connect through a closed vent system to a control device
 - ❖ Conduct initial inspection
 - ❖ Install and operate continuous parameter monitoring system (CPMS)
 - ❖ Initial performance test required



Standards for Reciprocating Compressors

- Primary requirement is to replace the rod packing
- You can choose to replace rod packing before either of the following occur:
 - ❖ the compressor has operated for 26,000 hours
 - ❖ 36 months from the last replacement.
- If you choose to continuously monitor the hours of operation, then you must track the hours of operation beginning on the later of one of the following:
 - ❖ initial startup of the reciprocating compressor;
 - ❖ 60 days after FR publication; or
 - ❖ the most recent reciprocating compressor rod packing replacement.
- If you choose not to monitor hours of operation, then the rod packing must be replaced prior to 36 months from the most recent rod packing replacement (or 36 months from initial start-up if a new unit).



Natural Gas Driven Pneumatic Controller Requirements

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Definitions

Natural Gas-Driven Pneumatic Controller

An automated instrument powered by pressurized natural gas and used for maintaining a process condition such as liquid level, pressure, delta-pressure and temperature.

Bleed Rate

The rate in standard cubic feet per hour at which natural gas is continuously vented (bleeds) from a pneumatic controller.

Continuous Bleed

A continuous flow of pneumatic supply natural gas to the process control device (e.g., level control, temperature control, pressure control) where the supply gas pressure is modulated by the process condition, and then flows to the valve controller where the signal is compared with the process set-point to adjust gas pressure in the valve actuator.

Wellhead

The piping, casing, tubing and connected valves protruding above the earth's surface for an oil and/or natural gas well. The wellhead ends where the flow line connects to a wellhead valve. The wellhead does not include other equipment at the well site except for any conveyance through which gas is vented to the atmosphere.

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§60.5390

Standards for Pneumatic Controllers

- Each affected continuous bleed pneumatic controller at natural gas processing plants must have a bleed rate of zero
- Each affected continuous bleed pneumatic controller between the wellhead and a natural gas processing plant must have a bleed rate of ≤ 6 scfh
 - ❖ 1 year phase in period
 - ❖ Existing units already in stock and ordered before August 23, 2011 can be used

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§60.5390

Standards for Pneumatic Controllers

- Each pneumatic controller affected source must be tagged with the month and year of installation and identification information
- Pneumatic controllers required to have a greater bleed rate due to “functional needs” (positive actuation, safety, and response time) are exempt from the < 6 scfh limitation

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When Must I Be In Compliance?

How the Rule Is Currently Written

The bleed rate requirement only applies to controllers installed one year after publication in the Federal Register.

EPA's Intent Implied by the Preamble

The bleed rate requirement applies to controllers installed after August 23, 2011, but there is a one year phase-in period to achieve compliance.

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Storage Vessel Requirements

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Definitions

Storage Vessel

The following are NOT considered to be storage vessels:

- Vessels that are skid-mounted or permanently attached to something that is mobile (such as trucks, railcars, barges or ships), and are intended to be located at a site for less than 180 consecutive days. If you do not keep or are not able to produce records showing that the vessel has been located at a site for less than 180 consecutive days, the vessel is considered to be a storage vessel.
- Process vessels such as surge control vessels, bottoms receivers or knockout vessels.
- Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

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§60.5395

Standards for Storage Vessels

- Tanks with emissions equal to or greater than 6 tpy:
 - Reduce VOC emissions by ≥ 95.0 percent through use of a control device or floating roof
 - ❖ If using a control device, equip with specified cover and connect through a closed vent system to a control device
 - ❖ Initial performance test required
 - ❖ Install and operate continuous parameter monitoring system (CPMS)
- Tanks at well sites without wells in production have 30 days from startup to calculate emissions and 60 days from startup to meet control requirements
- One year phase in period for control requirements

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Is My Storage Vessel Subject to OOOO?

NSPS OOOO applies to all storage vessels that meet the following:

- were constructed, modified, or reconstructed after August 23, 2011;
- are located in the:
 - oil and natural gas production segment
 - natural gas processing segment
 - natural gas transmission and storage segment

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Emissions Determination and Reduction

Well site with no other wells in production

Within 30 days after startup:

- determine the VOC emission rate for *each* storage vessel using any generally accepted model or calculation methodology;
- minimize emissions to the extent practicable using good engineering practices.

Within 60 days after startup:

- for each storage vessel emitting more than 6 tpy VOC, reduce VOC emissions by $\geq 95\%$.

Well site with one or more wells in production

Before or at least by startup:

- determine the VOC emission rate for *each* storage vessel using any generally accepted model or calculation methodology;
- for each storage vessel emitting more than 6 tpy VOC, reduce VOC emissions by $\geq 95\%$.

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Leaks and Sweetening Units

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§60.5400, §60.5401, §60.5402

Standards for VOC Leaks

- Applies to equipment, except compressors, in VOC or wet gas service within a process unit
 - ❖ *Process unit* means components assembled for the extraction of natural gas liquids from field gas, the fractionation of the liquids into natural gas products, or other operations associated with the processing of natural gas products
 - ❖ Comply with NSPS Subpart VVa (lower leak definitions and additional monitoring required)
- Sampling connection systems are exempt
- Exemptions for nonfractionating plants with design capacity less than 10 million scf per day

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§60.5405

Standards for Sweetening Units

- Applies to each onshore sweetening unit at a natural gas processing plant:
 - ❖ Emission limits remain the same as proposed rule (comply with percent reduction requirements based on sulfur feed rate and hydrogen sulfide [H_2S] content of acid gas)
 - ❖ Initial performance test required
 - ❖ Monitoring of sulfur product accumulation, H_2S content, and acid gas flow rate
- Facilities with design capacities less than 2 long tons per day of H_2S in the acid gas are subject to recordkeeping and reporting only

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General Compliance Requirements

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§60.5410

Gas Wellhead Compliance Demonstration

- For gas wellheads subject to both REC and completion combustion equipment, digital photograph must be taken that contains:
 - ❖ Date of photograph
 - ❖ Longitude and latitude of the well site embedded within or stored with the photograph (or separate GIS device visible in frame)
 - ❖ Picture of equipment for storing or re-injecting recovered liquid, equipment for routing recovered gas to gas flow line, and the completion combustion device connected to and operating at each completion operation

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§60.5412, §60.5413 and §60.5415

Compliance Demonstration for Storage Vessels and Centrifugal Compressors

- For storage vessels and centrifugal compressors with wet seals using control devices:
 - ❖ Initial performance test and periodic performance test within 60 months of previous test
 - ❖ Manufacturer tests can be used to replace on-site initial and periodic performance tests
 - ❖ Design analyses are allowed in lieu of a performance test for certain control devices (e.g., condensers, carbon adsorbers)

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§60.5415 - §60.5417

Compliance Demonstration for Storage Vessels and Centrifugal Compressors

- Maintain daily average control device parameters above (or below) the minimum (or maximum) level established during the performance test
- Prepare site-specific monitoring plan for continuous monitoring system
- Conduct initial and annual inspections of covers and closed vent systems for leaks or defects

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§60.5420

Notification Requirements

- Applicable to affected facilities except gas wells, pneumatic controllers, and storage vessels
 - ❖ Date construction commenced (within 30 days)
 - ❖ Date of initial startup (within 15 days)
 - ❖ Notification of change that increases emissions (within 60 days)

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§60.5420

Notification Requirements

- Gas well (no later than 2 days prior to commencement of well completion):
 - ❖ Anticipated date of well completion operation
 - ❖ Contact information for the owner or operator
 - ❖ API well number
 - ❖ Latitude and longitude coordinates (five decimals of a degree in NAD83)
 - ❖ Planned date of the beginning of flowback
- Can be submitted in written or electronic format
- If state regulations require advance notification of well completions, those notifications can meet these requirements

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§60.5420

Reporting Requirements

- Annual reports due 30 days after end of initial compliance period (60.5410). Periods can be different for different sources or source categories.
- Subsequent reports due on the same date as initial report
- Can combine reports for multiple affected facilities [can coincide with Title V reports (60.5420(b))]
- Semiannual reports are required for equipment leaks (Subpart VVa)
- Electronic reporting of stack tests within 60 days of completion

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§60.5420

Annual Report Content

- Name, address, affected facility, reporting dates, and responsible official certification
- List of well completion operations and deviations from requirements that occurred during the reporting period
- Identification of each centrifugal compressor using wet seal constructed, modified, or reconstructed during period
- Number of hours (or months) of operation for reciprocating compressors
- Excess emissions from sweetening units

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§60.5420

Annual Report Content (cont'd)

- ID of each pneumatic controller constructed, modified, or reconstructed during period
- Documentation that a bleed rate higher than 6 scfh is required, if applicable
- ID of each storage vessel with VOC emissions greater than 6 tpy
- Documentation that VOC emission rate is < 6 tpy
- Deviations from operating limits
- Closed vent and cover inspection records

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§60.5420

Recordkeeping

- Information required in annual reports
- For gas wellheads: location, API well number, duration (hrs) of flowback, duration (hrs) of recovery to the flow line, duration (hrs) of combustion, duration (hrs) of venting, specific reasons for venting, documentation for exception from control/recovery, digital photographs (if applicable)
- Date, location, and manufacturer's specifications for pneumatic controllers
- Emission calculations for storage vessels
- Number of days a skid mounted or mobile source mounted storage vessel is located on site

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Action Items and Other Issues

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Compliance Schedule

NSPS OOOO Affected Facility	Standard	Compliance Date
Hydraulically fractured wildcat and delineation wells	Completion combustion	60 days from FR publication
Hydraulically fractured low pressure non-wildcat and non-delineation wells	Completion combustion	60 days from FR publication
Other hydraulically fractured wells	Completion combustion	Before 1/1/2015
Other hydraulically fractured wells	REC and completion combustion	After 1/1/2015
Centrifugal compressors with wet seals	95% reduction	60 days from FR publication
Reciprocating compressors	Change rod packing	60 days from FR publication
Pneumatic controllers at NG processing plants	Zero bleed rate	60 days from FR publication
Pneumatic controllers between wellhead and NG processing plants	6 scfh bleed rate	1 year from FR publication
Storage Vessels	95% reduction	1 year from FR publication
Equipment Leaks	LDAR program	60 days from FR publication
Sweetening Units	Reduce SO ₂ as calculated	60 days from FR publication

Action Items

- Develop an inventory of the following existing equipment installed or modified after August 23, 2011:
 - ❖ Natural Gas Pneumatic Controllers
 - ❖ Centrifugal Compressors
 - ❖ Reciprocating Compressors
 - ❖ Storage Tanks
 - ❖ New gas wells expected to be completed with hydraulic fracturing
 - ❖ Existing gas wells expected to be reworked/refractured
- Tag existing continuous bleed pneumatic controller affected facilities
- Develop maintenance schedule and hours of operation monitoring for applicable reciprocating compressors
- Perform emission calculations for applicable storage tanks
 - ❖ Evaluate compliance options if over 6 tpy
- Determine the scope and cost for any projects necessary for compliance

Action Items

- Implement trial recordkeeping for gas well completions with hydraulic fracturing
- Incorporate NSPS OOOO, where applicable, into management of change and project development procedures
- Develop environmental recordkeeping, reporting, and performance testing procedures
- Will likely be a growing list....



Hazardous Air Pollutants

MACT / NESHAP Regulations

40 CFR Part 63



Air Toxics Standards Review

- Hazardous Air Pollutants (HAPs) - Listed toxics
- CAA requires EPA to conduct 2 types of reviews of NESHAPs for Major Sources
 1. Residual Risk - One time review 8 years after standard is initially developed
 2. Technology Review - Every 8 years after standard is initially developed
- Subparts HH and HHH were initially promulgated in 1999

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Major vs. Area Sources (Facilities)

- Most standards apply only to **Major Sources**
 - ❖ Potential to Emit (PTE) > 10 tons/year for any single HAP, or
 - ❖ PTE > 25 tons/year for combined HAPs
 - ❖ Major Sources must implement MACT (Maximum Achievable Control Technology)
- Non-major sources are called **Area Sources**
 - ❖ Area Sources must implement GACT (Generally Available Control Technology)

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New vs. Existing Sources

- **Existing** sources are constructed or reconstructed before the MACT standard *proposal* date.
- **New** sources are constructed or reconstructed *on or after* the proposal date.
- Important because:
 - ❖ More stringent requirements for new sources
 - ❖ Earlier compliance date for new sources

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Current NESHAPs for O&G Sector

- Subpart HH - Oil and Natural Gas Production Facilities (Major and Area Sources)
 - ❖ Glycol dehy units (major and area sources)
 - ❖ Storage vessels with potential for flash emissions (major sources)
 - ❖ Compressors and ancillary equipment in VOC HAP service (major sources)
- Subpart HHH - NESHAP for Natural Gas Transmission and Storage (Major Sources)
 - ❖ Glycol dehy units

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Significant Changes from Proposed Rules

- Small glycol dehydrator emission limits increased
- 1 tpy benzene compliance option for large glycol units maintained (proposed rule wanted to lower the benzene limit)
- No emission limits for storage vessels without the potential for flash emissions

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Revisions to Subparts HH and HHH

- Finalized April 17, 2012 (yet to be published in the Federal Register)
- Clarifications to potential to emit calculations
- Includes previously unregulated sources
- Affirmative defense replaces startup, shutdown, and malfunction exemption
- Revisions affect major sources only
 - ❖ No revisions to area source standards

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Revisions to Subparts HH and HHH

- Revisions to potential to emit calculations:
 - ❖ For production fields, include all storage vessels (not just those with potential for flash)
 - ❖ Assume worst-case glycol circulation rate
- 3-yr compliance timeline for area sources that become major as a result of new calculation methodology
- Area sources under HH with actual emissions greater than 50% of the major source threshold must review major source determination annually using gas composition data measured within the last 12 months

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Revisions to Subparts HH and HHH

- Test methods to determine BTEX emissions for all size units
- Initial and periodic (every 5 years) performance testing in lieu of design analysis for non-condenser control devices (new and existing)
 - ❖ Submitted via CDX
 - ❖ Existing sources have three year compliance timeline
 - ❖ Allow for manufacturer's testing with periodic maintenance and inspections

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Revisions to Subparts HH and HHH

- Leak definition for valves reduced to 500 ppm
- Site-specific monitoring plan for control device continuous monitoring systems
- Removal of requirement for a minimum residence time for an enclosed combustion device
- Addition of recordkeeping and reporting requirements to document carbon replacement intervals
- Initial notifications required one year from publication of final rule for previously unregulated sources
 - ❖ For area sources that became major due to new PTE calculations, but want to remain area sources, a non-binding schedule of actions to achieve area source status is required

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Dehy Unit Requirements

- Definition of small glycol dehydration unit:
 - ❖ Subpart HH: Actual annual average natural gas flowrate < 3 MMscfd
 - ❖ Subpart HHH: Actual annual average natural gas flowrate < 10 MMscfd
 - ❖ Actual annual emissions of benzene < 1 tpy
 - ❖ Compliance Dates:
 - ◆ New affected sources: immediately upon initial startup or on the effective date (60 days after publication in the FR), whichever is later
 - ◆ Existing small glycol dehydration units that are subject to MACT for the first time: 3 years after the effective date (60 days after publication in FR)

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Small Dehy Unit Requirements

- Calculated BTEX Emission Limits - **Subpart HH**

$$EL_{BTEX} = BTEX_{const} \times Throughput \times C_{i,BTEX} \times 365 \frac{\text{days}}{\text{year}} \times \frac{1 \text{ Mg}}{1 \times 10^6 \text{ g}}$$

EL_{BTEX} = unit-specific BTEX limit (Mg/yr)

$BTEX_{const}$ = BTEX emission limit (g/ scm-ppmv)

Throughput = Annual average daily natural gas throughput (scm/day)

$C_{i,BTEX}$ = Annual average BTEX concentration in gas at inlet to dehy unit (ppmv)

- ❖ For Existing Units $BTEX_{const} = 3.28 \times 10^{-4}$
- ❖ For New Units $BTEX_{const} = 4.66 \times 10^{-6}$

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Small Dehy Unit Requirements

- Calculated BTEX Emission Limits - **Subpart HHH**

$$EL_{BTEX} = BTEX_{const} \times Throughput \times C_{i,BTEX} \times 365 \frac{\text{days}}{\text{year}} \times \frac{1 \text{ Mg}}{1 \times 10^6 \text{ g}}$$

EL_{BTEX} = unit-specific BTEX limit (Mg/yr)

$BTEX_{const}$ = BTEX emission limit (g/ scm-ppmv)

Throughput = Annual average daily natural gas throughput (scm/day)

$C_{i,BTEX}$ = Annual average BTEX concentration in gas at inlet to dehy unit (ppmv)

- ❖ For Existing Units $BTEX_{const} = 3.10 \times 10^{-4}$
- ❖ For New Units $BTEX_{const} = 5.44 \times 10^{-5}$

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Dehy Unit Control Requirements

- Meet emission limits by:
 1. Routing vent through closed-vent system to a control device (incinerator, flare, VRU, etc.);
 2. Implementing process modifications;
 3. Combination of process modifications and control device; or
 4. Demonstrating that uncontrolled actual emissions are below the limit

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GHG Deadlines and ICR

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Upcoming Deadlines!

- July 30th: Register Facilities in e-GGRT
- September 28th: GHG Reports Due
- January/February 2013: GHG Data Released by EPA
- March 31st: Next GHG Reports Due

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GHG Monitoring Plans (98.237)

- Monitoring Plans must be completed by April 1, 2011 (follow 98.3(g)(5) requirements)
 - ❖ Who collects the data
 - ❖ Explanation of processes and methods used to collect data
 - ❖ Description of quality assurance procedures
- No need to submit, but must be provided upon request
- Keep it updated

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Information Collection Requests (ICR)

- Also known as “Section 114 Requests”
- EPA can ask for information at any time
- Information must be provided, or face potential legal action
- Can be sent industry wide, or to a single facility/operator
- Often used to develop new regulations or modify existing regulations
- Can also be used in enforcement

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Questions?

EPA claims that the new rules will result in cost savings of \$11 to 19 million (due to recovery of otherwise “wasted” gas)?

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