SLIDES: Details of the Regulatory Framework: Air Quality Regulation of Oil and Gas Development

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Details of the Regulatory Framework

Air Quality Regulation of Oil and Gas Development

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Outline

► Clean Air Act – General Framework
► Oil & Gas Specific Programs
► The Federal/State Relationship
► Enforcement
Clean Air Act – General Framework

► Pollutant Standards
  ► Criteria Pollutants
  ► NAAQS
  ► Location: Attainment/Non-Attainment Areas

► Industry/Source Specific Standards
  ► NSPS (criteria pollutants plus)
  ► NESHAPs (Hazardous Air Pollutants)

► Permits
  ► Types
  ► Triggers
Criteria Pollutants

- Ozone
  - Ozone precursors (VOC, NO\textsubscript{x})
- Particulate Matter (PM)
  - PM\textsubscript{10}, PM\textsubscript{2.5}
- Carbon Monoxide (CO)
- Nitrogen Oxides (NO\textsubscript{x})
- Sulfur Dioxide (SO\textsubscript{2})
- Lead (Pb)
CAA General Framework – Pollutant Standard

► National Ambient Air Quality Standards (NAAQS) (40 C.F.R. Part 50)
  ► National numerical air quality standard for each criteria pollutant adequate to protect public health
  ► Expressed in ppm, ppb, and µg/m³, with various averaging times
    ► E.g. 2008 Primary and Secondary NAAQS for Ozone is 0.075 ppm, averaged over 8 hours. The NAAQS is attained when the ambient air contains less than 0.075 ppm as determined by the annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years.
  ► Reviewed every 5 years
NAAQS Attainment Designations

- **Attainment**: These are places where air pollution levels do not exceed NAAQS standards for any criteria pollutants.

- **Non-Attainment area**: Geographic regions where levels of air pollution exceed permissible levels for one or more pollutants. Many major cities are nonattainment areas for at least one criteria pollutant.

Designation has import for permitted entities seeking to modify existing sources or build new sources

- More stringent emission limits in permits
- Control technologies
8-Hour Ozone Nonattainment Areas (2008 Standard)

Nonattainment areas are indicated by color. When only a portion of a county is shown in color, it indicates that only that part of the county is within a nonattainment area boundary.
Many Shale Plays in Ozone Nonattainment Areas
New Source Performance Standards (CAA Section 111; 40 CFR Part 60)

- Federal emission standards promulgated by EPA for new or modified sources
- Address criteria pollutants and other non-criteria pollutants such as fluorides, sulfuric acid mist, opacity
- Applied on a categorical basis (i.e. by type of source), irrespective of existing ambient air quality
  - Standard may be a numerical emission limit, or a design, equipment, or work practice standard
- As of 2011, EPA had adopted NSPS for approximately 82 source categories
  - E.g., industrial boilers, Portland cement plants, beverage can surface coating, natural gas processing plants, crude oil and natural gas production, petroleum refineries
Hazardous Air Pollutants (HAPs) (CAA Section 112)

- Other air pollutants that “may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible or incapacitating reversible illness”
- 188 compounds designated by Congress for EPA to control
- Majority of HAPs are volatile organic compounds (VOCs)
National Emission Standards for Hazardous Air Pollutants (NESHAPs)
- Regulate specific categories of stationary sources that emit (or have the potential to emit) one or more HAP in particular amounts
- Source category list revised at least once every 8 years

Maximum Achievable Control Technology (MACT) standards
- Major sources must meet MACT standards
- Area sources – MACT or GACT
  - Generally prescribe work practices or control technology, and reporting

Example: NESHAP for Oil and Natural Gas Production Facilities—40 CFR Part 63 Subpart HH. Sets standards for glycol dehydrators, storage vessels, equipment in VOC service, compressors, etc.
CAA General Framework - Permits

► Types
  ► New Source Review
  ► Title V
  ► Minor Source Permits

► Triggers
  ► Quantity of potential emissions
  ► Type of emissions units (e.g. subject to NSPS)
Oil & Gas Specific Programs

► NSPS

► 40 CFR 60 Subpart OOOO - Well completions, Compressors, Pneumatic devices, storage tanks
► 40 CFR 60 Subpart KKKK - Equipment leaks from onshore natural gas processing plants
► 40 CFR 60 subpart LLLL - Onshore natural gas processing- SO$_2$
► 40 CFR 60 subpart JJJJJ - Stationary spark ignition internal combustion engines
► 40 CFR 60 Subpart IIII - Compression Ignition internal combustion engines
► 40 CFR subpart KKKKK - Stationary combustion turbines
Oil & Gas Specific Programs

► NESHAPS
  ► 40 CFR 63 subpart HH - oil and natural gas production facilities
  ► 40 CFR 63 subpart HHH – oil and natural gas production and natural gas transmission and storage
  ► 40 CFR 63 Subpart ZZZZ - RICE
Oil & Gas Specific Programs

► Greenhouse Gases
  ► Must report GHG emissions if emit above certain threshold
  
  ► No federal emissions limitations yet
    ► Voluntary Natural Gas STAR program to encourage partners to reduce methane emissions from oil production and all parts of natural gas cycle
    
  ► Tailoring Rule requires incorporation into new and renewed Title V permits and PSD permits Encompassed in new Title V and PSD permits
The Federal/State Relationship - Cooperative Federalism

► EPA role
  ► Emission standards
  ► Implementation and enforcement on federal lands and in non-delegated states
  ► Oversight/auditing of state programs
  ► Retained enforcement authority

► State role
  ► Most states have been delegated implementation and enforcement authority
The Federal/State Relationship – NAAQS and SIP

- State Implementation Plans (SIPs) for compliance with NAAQS
  - EPA approval
    - State Plans must comply with Section 110, including effective permitting
    - EPA can impose a Federal Implementation Plan
  - Enforceable emission limitations, control measures, and schedules for compliance
    - Prohibits sources from contributing to nonattainment or interfering with maintenance of NAAQS
    - Source emission monitoring and reporting
  - SIPs revised periodically
    - Extensive rulemaking/stakeholder involvement at state level
    - EPA approval/disapproval
The CAA allows states to adopt state-only statute and regulations at least as stringent as EPA’s requirement (42 § 7416)

States power to regulate more stringently varies by state

- Some states do not allow more stringent laws
  - E.g., Arizona, Idaho, Missouri, New Mexico, South Dakota, and Wyoming

- Other states have to justify why more stringent standards are necessary
  - E.g., Colorado, Florida, Indiana, Maine, North Dakota, Ohio, Pennsylvania, Utah and Wisconsin.
Enforcement

► EPA/State enforcement
  ► EPA stated enforcement initiatives for 2014-2016 includes “Assuring Energy Extraction Sector Compliance with Environmental Laws”

► Citizen Involvement
  ► CAA Citizens Suits
  ► APA Challenges to Final Agency Action
Enforcement – EPA/State Enforcement

► EPA/State

► Information gathering
  ► Entry
  ► Requests for Information

► Informal Response
  ► Warning letters
  ► NOVs
  ► Orders

► Administrative Penalties
  ► Federal = up to $37,500 per violation per day

► Civil Judicial Action
  ► Federal = up to $37,500 per violation per day (after 2009)

► Criminal actions
Enforcement – Citizen Involvement

► CAA Citizens Suits - 40 USC § 7604
  ► Enforce compliance with emissions standards or permits – agency and/or source
  ► Require agency to act on nondiscretionary duty
  ► 60-day notice of intent to sue individual party or agency
  ► Can be barred if agency already diligently prosecuting issue

► APA lawsuits – Appeal of Final Agency Action
  ► Federal permitting action
  ► Federal rulemaking
Questions?

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