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
CAA General Framework – Pollutant Standards

► Criteria Pollutants

► Ozone
  ► Ozone precursors (VOC, NOx)

► Particulate Matter (PM)
  ► PM10, PM2.5

► Carbon Monoxide (CO)

► Nitrogen Oxides (NOx)

► Sulfur Dioxide (SO2)

► Lead (Pb)
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
CAA General Framework – Pollutant Standard

► 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
CAA General Framework – Ozone Nonattainment Map

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 KKK - Equipment leaks from onshore natural gas processing plants
  ▶ 40 CFR 60 subpart LLL - Onshore natural gas processing - SO₂
  ▶ 40 CFR 60 subpart JJJJ - Stationary spark ignition internal combustion engines
  ▶ 40 CFR 60 Subpart IIII - Compression Ignition internal combustion engines
  ▶ 40 CFR subpart KKKK - 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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