Clean Air Act - The History

- Precursors to Clean Air Act
  - Air Pollution Control Act of 1955
  - Clean Air Act of 1963
  - Air Quality Act of 1967
- Clean Air Amendments of 1970
  - Implemented many of the current requirements of the Act
- Clean Air Act Amendments of 1977
- Clean Air Act Amendments of 1990

Clean Air Act - The Titles

- Title I - Air Pollution Prevention and Control
  - Air Quality and Emission Limitations
    - National Primary and Secondary Ambient Air Quality Standards
    - State Implementation Plans
    - Standards of Performance for New Stationary Sources
    - Hazardous Air Pollutants
    - Federal Enforcement
  - Prevention of Significant Deterioration of Air Quality
    - Plan Requirements for Nonattainment Areas
- Title II - Emission Standards for Moving Sources
- Title III - General Provisions
  - Includes definitions and citizen suit process
- Title IV - Acid Deposition Control
- Title V - Operating Permits
- Title VI - Stratospheric Ozone Protection
Major Clean Air Act Programs

- National Primary and Secondary Ambient Air Quality Standards (NAAQS)
- State Implementation Plans (SIPs)
- Federal New Source Review (NSR) Preconstruction Permits
  - Prevention of Significant Deterioration (PSD) Permits
- Nonattainment New Source Review (NNSR) Permits
- Title V Operating Permits Program
- New Source Performance Standards (NSPSs)
- Maximum Achievable Control Technology (MACT) Standards and National Emission Standards for Hazardous Air Pollutants (HAPs)
- Mobile Sources/Fuels

National Ambient Air Quality Standards (NAAQS)

- Six “Criteria Pollutants” - Section 108
  - Ozone
  - Sulfur dioxide (SO₂)
  - Particulate matter (PM)
  - Nitrogen dioxide (NO₂)
  - Lead
  - Carbon monoxide (CO)
- Promulgation of NAAQS - Section 109
  - Primary NAAQS - Protect “public health” with an “adequate margin of safety”
  - Secondary NAAQS - Protect “public welfare” from adverse effects
- Five-year Review and, if Appropriate, Revise
- New or Revised NAAQS Trigger Two Mandatory Actions:
  - Designation as meeting (attainment/unclassifiable) or not meeting (nonattainment)
  - State development of State Implementation Plans (SIPs)
In 2015 EPA established an 8-hour 70 ppb ozone NAAQS after determining a more stringent standard was necessary to protect the public health and welfare.

- This tightens the existing 2008 ozone NAAQS of 75 ppb, which has yet to be revoked.
- EPA revoked the 1979 1-hour (124 ppb) and 1997 8-hour (84 ppb) NAAQS in 2015.

**2015 Ozone NAAQS Implementation Rule**

- 83 Fed. Reg. 62998 (Dec. 6, 2018)
NAAQS - Ozone, Challenges to Standard

2015 ozone standard has been targeted in legal challenges
- Murray Energy Corp., et al. v. EPA, No. 15-1385 (D.C. Cir.)
  - Consolidates multiple challenges to the new standard brought by states, industry, and environmental groups
  - Fully briefed, was scheduled for oral argument on April 19, 2017
  - Case temporarily abated “EPA officials appointed by the new Administration are closely reviewing the 2015 [ozone NAAQS] Rule to determine whether the Agency should reconsider the rule or some part of it.”
  - Argued December 18, 2018

Implementation of 2015 ozone standard
- American Lung Ass’n, et al. v. EPA, No. 17-1172 (D.C. Cir.)
  - Air quality designations were due Oct. 1, 2017
  - 85% of counties designated as attainment/unclassifiable on Nov. 6, 2017
  - Nonattainment designations finalized April 30, 2018, and July 17, 2018 (San Antonio, Texas)

South Coast Air Quality Management Dist., et al. v. EPA, No. 15-1115 (D.C. Cir.)
- Challenge to 2008 ozone standard implementation rule, which among other things established mechanisms to address areas that had not yet attained 1979 and 1997 ozone standards
- Section 110(l) anti-backsliding: “The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in Section 171), or any other applicable requirement of this Act.”
- Court vacates redesignation substitute mechanism and waiver of attainment deadlines
- Vacatur delayed until February 16, 2019, based on EPA’s petition for panel rehearing

NAAQS - PM Standards

- EPA last revised PM standards in 2012
- Current NAAQS expressed as PM_{10} and PM_{2.5}
  - PM_{10}: 150 µg/m³ (primary and secondary 24-hour)
  - PM_{2.5}: 12 µg/m³ (primary annual); 15 µg/m³ (secondary annual); 35 µg/m³ (primary and secondary 24-hour)
- Evolving science
  - TSP (filterable only)
  - PM_{10} (filterable and condensable)
  - PM_{2.5} (filterable and condensable)
  - Secondary PM
Counties Designated Nonattainment - 2012 PM-2.5 Standard

NAAQS - Carbon Monoxide (CO), Standards

- EPA retained primary CO standards in 2011
  - 9 parts per million (ppm) (primary 8-hour standard)
  - 35 ppm (primary 1-hour standard)
  - No secondary standard

- Environmental groups unsuccessfully challenged EPA’s 2011 retention of the previous standards
  - Communities for a Better Environment v. EPA, 748 F.3d 333 (D.C. Cir. Apr. 11, 2014)

NAAQS - Sulfur Dioxide (SO$_2$), Standards

- EPA last revised SO$_2$ primary standards in 2010
  - 75 Fed. Reg. 35,520 (June 22, 2010)
  - 75 ppb (1-hour)

- EPA retained SO$_2$ secondary standards in 2012
  - 500 ppb (3-hour)

- EPA retained SO$_2$ primary standards on February 25, 2019

- D.C. Circuit upheld SO$_2$ standards against challenge twice
  - National Environmental Development Association’s Clean Air Project v. EPA, 686 F.3d 803 (D.C. Cir. 2012) (upholding primary standards)
  - Center for Biological Diversity v. EPA, 749 F.3d 1079 (D.C. Cir. 2014) (upholding retention of secondary standards)
**NAAQS - SO$_2$, Implementation**

  - Area designations deadlines established by consent decree
    - First round designations in July 2013 (based on 2009-2011 certified monitoring data)
    - Second round designations in June and November 2016 (based on updated data or for areas near large sources)
    - Third round designations in December 2017 (remaining undesignated areas without new monitors)
    - Fourth round designations due December 2020 (all remaining areas)

- EPA SO$_2$ Data Requirements Rule
  - Requires states to use monitoring or modeling data to characterize current air quality around large sources

**NAAQS - Nitrogen Dioxide (NO$_2$), Standards**

- EPA set current NO$_2$ primary 1-hour standards in 2010
  - 75 Fed. Reg. 6,474 (Feb. 9, 2010)
  - 100 ppb (1-hour)
- EPA retained primary and secondary annual standards in 2010 and 2012
  - 75 Fed. Reg. 6,474 (Feb. 9, 2010)
  - 53 ppb (annual)
- D.C. Circuit has twice rejected challenges
  - Center for Biological Diversity v. EPA, 749 F.3d 1079 (D.C. Cir. 2014) (upholding retention of secondary standards)

**CAA Standard Setting**

- Standards of Performance
  - Section 111(b): Standards of performance for new, modified and reconstructed sources (NSPS)
    - Federal standards that “reflect the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.”
  - Section 111(d): Standards of performance for existing sources (ESPS)
    - Federal emission guidelines reflecting the best system of emission reduction . . .
- Hazardous Air Pollutants
  - Section 112(d)
    - "Technology-based" standards for control of emissions of air toxics from sources in an industry group or source category (MACT standards)
    - "Risk-based" standards to determine whether the MACT standards are adequate to protect public health with an ample margin of safety, and protect against adverse environmental effects (Residual risk standards)
State Implementation Plans (SIPs)

- Blueprint for attaining and maintaining NAAQS in each air quality control region (AQR) - Section 110
- Cooperative federalism: states develop to meet minimum requirements for EPA review and approval
- "Attainment" SIPs = Infrastructure SIPs
  - Emissions limits and control measures, ambient air quality monitoring, enforcement of permitting programs, adequate personnel and funding, adequate authorities, stationary source monitoring, consultations, public notices, PSD and visibility protection, etc.
- "Nonattainment" SIPs = Attainment Demonstration SIP
  - CAA Part D, Subparts 1-5
  - Path to attain and maintain the NAAQS, to include emissions limits and control measures, emissions inventories, RACT, nonattainment new source review
- Redesignation SIP = Maintenance SIP

PSD Permits

- Preconstruction permit for any criteria pollutant in an attainment area for that pollutant
- New “major sources” and “major modifications” of existing sources on a pollutant by pollutant basis
- Special rules for greenhouse gases (GHGs) following Utility Air Regulatory Group v. EPA, 134 S. Ct. 2427 (2014)
- Twin pillars:
  - Best Available Control Technology (BACT)
    - "An emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting unit, which the permitting authority, in exercising its discretion for such unit, determines will achieve the maximum practicable reduction of emissions of each such pollutant and which the permitting authority is capable of applying to such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuels or fuel combustion techniques for control of each such pollutant.”
  - Air Quality Analysis
    - Demonstration that modeled impacts will not cause or contribute to a NAAQS violation, PSD increment violation, additional impacts analysis, and Class I area analysis

Nonattainment Permits

- Preconstruction permit for any criteria pollutant in a nonattainment area for that pollutant
- New “major sources” and “major modifications” of existing sources on a pollutant by pollutant basis
- Heightened control technology review - Lowest Achievable Emissions Rate (LAER)
  - "The most stringent emissions limitation which is contained in the implementation plan of any State for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitation is not achievable, or (B) The most stringent emissions limitation which is achieved in practice by such class or category of stationary sources. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within (that stationary source). In no event shall the application of the term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.”
- Emissions offsets in lieu of air quality analysis
Clean Air Act - Enforcement

- Section 113 of the CAA provides for the following:
  - Civil administrative actions - non-judicial enforcement actions taken by EPA without involving a judicial court process
    - Notices of violation
    - Administrative orders (with or without penalties)
    - Penalties up to $47,357/day (with inflation)
  - Civil Judicial Actions - formal lawsuits against persons or entities that have failed to comply with statutory or regulatory requirements or an administrative order
    - Filed by the U.S. Department of Justice on behalf of EPA
    - Penalties up to $99,681/day (with inflation)
    - Injunctive relief
    - 5-year statute of limitations

Clean Air Act - Enforcement, cont’d

- Criminal actions
  - Usually reserved for the most serious violations - those that are willful, or knowingly committed
  - Court conviction can result in fines or imprisonment up to 5 years for the first offense
  - Defendant also may be ordered to pay restitution to anyone affected by the violation

Clean Air Act - Enforcement, cont’d

- Citizen suits
  - Section 304(a)(1) of the CAA authorizes any person to enforce compliance with emission standards or limitations and orders issued by EPA or a state
  - Can sue the violator, EPA and/or the state
  - Standing - must be personally affected
  - Must give 60-day notice of intent to sue
  - Suit may not be commenced if EPA or the state is already diligently prosecuting
  - In a citizen suit, the court may grant an injunction, impose penalties, and award attorneys’ fees and litigation costs to a prevailing party when the court determines it is appropriate
Title V Operating Permits Program

- CAA requires states to implement operating permits programs
- Generally post-construction vs. preconstruction
- Single source-specific permit that identifies all applicable air quality requirements in federally enforceable document
- Required of “major sources”
  - Default for criteria pollutants is 100 tons per year (TPY) and for HAPs is 10 TPY for a single HAP or 25 TPY for all HAPs
  - Lower thresholds in nonattainment areas
- Five year term
- EPA review and petition process

Title V Operating Permit Program, cont’d

- Elements of a Title V Operating Permit
  - Applicable requirements
  - Supplemental monitoring
  - Permit shield
  - Compliance schedule
- Compliance demonstration requirements
  - Deviation reporting
  - Annual compliance certification
  - Responsible official’s certification of truth, accuracy and completeness

Hot Issues

- Cutting Carbon Emissions from Power Plants
- Interstate Air Pollution - Transport
- Regional Haze Program
- New Source Review Reform
Climate Change Program: Clean Air Act Authority

  - “Under the clear terms of the Clean Air Act, EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do.”
- 2015 Clean Power Plan (“CPP”) Rule Adoption
  - Section 111(b): Standards of performance for new, modified and reconstructed sources (NSPS)
    - Federal standards that “reflect the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.”
  - Section 111(d): Standards of performance for existing sources (ESP)
    - Federal emission guidelines reflecting the best system of emission reduction . . .
- West Virginia, et al. v. EPA, No. 15–1363 (D.C. Cir.)
  - U.S. Supreme Court issued stay pending resolution of challenges in the D.C. Circuit; D.C. Circuit has abated proceedings pending proposed repeal of Clean Power Plan in 2017
- 2018 Affordable Clean Energy (“ACE”) Rule Proposal

Interstate Air Pollution Transport

- CAA “Good Neighbor” Provision - Section 110(a)(2)(D)(ii)(I)
  - Each state in its SIP must prohibit emissions that will significantly contribute to nonattainment of a NAAQS, or interfere with maintenance of a NAAQS, in a downwind state
  - SO₂ and NOₓ can react in the atmosphere to form fine particulate while NOₓ can react in the atmosphere to create ozone. These pollutants travel great distances and the transport of these pollutants across state borders, referred to as interstate air pollution transport, makes it difficult for downwind states to meet health-based air quality standards for PM2.5 and ozone
  - Litigated programs:
    - NOₓ Budget Trading Program (2003–2008)
    - Clean Air Interstate Rule (2008–2014)
    - Cross-State Air Pollution Rule (2015–present)
    - Cross-State Air Pollution Rule Update (Begin 2017)

Regional Haze Program

- Sections 169A and B require EPA to adopt rules and states to submit SIPs to reduce visibility impairment resulting “from man-made air pollution,” known as regional haze, in 156 mandatory Class I federal areas (Class I areas)
- Goal is to achieve “natural visibility conditions” by 2064, to be accomplished through a series of 10 year implementation periods
- First implementation period ends in 2018
- Key elements:
  - Best Available Retrofit Technology (BART) for sources that are “BART-eligible” and “subject to BART”
  - Reasonable further progress towards goal
  - CSAPR better than BART rulemaking
  - Federal and state determinations frequently litigated
Regional Haze: Visibility Trends on 20% Cleanest Days (2000-2014)

Recent and Anticipated NSR Reforms

A. Projected Actual Emissions – Dec 2017
B. Project Emissions Accounting (Netting) – Mar 2018
C. Source Aggregation - Common Control – Apr 2018
D. Draft ACE Rule NSR Reforms – Aug 2018
E. Project Aggregation – Nov 2018
F. Definition of Ambient Air – Nov 2018 (Draft)
G. Revised RMRR definition – Anticipated
H. What constitutes construction – Anticipated
I. Reactivation policy (reinstating permits) – Anticipated

How familiar are you with these NSR Reforms?

NSR Reform, Projected Actual Emissions

- Background
  - “Actual-to-projected-actual” applicability test for modifications
  - “Projected actual emissions” is defined as:
    - “The maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the 5 years following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the unit’s design capacity or its potential to emit...”
- EPA Dec. 7, 2017 Guidance
  - EPA does not intend to “second guess” pre-project projections:
    - “When a source owner ... performs a pre-project NSR applicability analysis in accordance with the calculation procedures ... and follows the applicable recordkeeping and notification requirements ... that owner has met the pre-project obligations of the regulations, unless there is clear error.”
    - Focus instead should be on actual emissions levels during 5- or 10-year period, as applicable.
**NSR Reform, Project Emissions Accounting**

- **Background**
  - Federal Clean Air Act defines “modification” as “any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emissions of any air pollutant not previously emitted.” 42 U.S.C. 7411(a)(4).
  - Applicability test for “major modifications”:
    - If the project is “any physical change or change in the method of operation of a stationary source,” then
      - Step 1: Will the project alone result in a significant emission increase (in tons per year); and
      - Step 2: Will the project’s net emissions, including contemporaneous and otherwise credible increases and decreases, result in a significant emission increase (in tons per year).

- **EPA Mar. 13, 2018 Guidance**
  - Emissions decreases that may result from a project are to be considered in Step 1 as “project emissions accounting.”

- **EPA Oct. 16, 2017 Affordable Clean Energy (ACE) Rule Proposal**
  - Proposes addition of additional step, before Step 1:
    - Will the project alone result in an hourly increase in emissions (in pounds per hour).

**NSR Reform, Project Aggregation**

- **Background**
  - Federal Clean Air Act defines “modification” as “any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emissions of any air pollutant not previously emitted” 42 U.S.C. 7411(a)(4).
  - Guidance and interpretation of statutory language “any physical change” as mandate to avoid NSR circumvention
    - EPA June 17, 1993 Guidance [3M Memo]
      - Case-by-case evaluation to assess whether emissions increases from multiple physical changes should be combined
      - Multi-factored analysis considering intent, timing, funding, consumer demand, operation planning, objective assessment of economic realities, relationship to plant purpose, etc.
  - Final project aggregation reconsideration rule (2010 reconsideration proposal)
    - “Substantially-related” test and 3 year presumption

**NSR Reform, Source Aggregation**

- **Background**
  - Federal Clean Air Act defines “modification” as “any physical change in, or change in the method of operation of, a stationary source which increase the amount of any air pollutant emitted by such source or which results in the emissions of any air pollutant not previously emitted.” 42 U.S.C. 7411(a)(4).
  - “Stationary source” defined as “all of the pollutant emitting activities that are
    - Located on one or more contiguous or adjacent properties; and
    - Are under common control of one person or persons under common control; and
    - Belong to the same major industrial grouping (2 digit SIC codes).”
  - Guidance and interpretation of “adjacent” and “common control” as mandate to avoid NSR circumvention
    - Support/dependency relationships
  - EPA Apr. 30, 2018 Guidance
    - Common control is based on “the power or authority of entity to dictate decisions of the other that could affect the applicability of, or compliance with, relevant air pollution regulatory requirements.”
    - Dependency relationships should not result in presumption of common control.
Additional Reading

- Clean Air Act Requirements and History
  http://www.epa.gov/clean-air-act/requirements-and-history
- Overview of the Clean Air Act and Air Pollution
  http://www.epa.gov/clean-air-act-overview
- EPA’s Clean Power Plan
  http://www.epa.gov/clean-power-plan
- Overview of Greenhouse Gases
- EPA’s Next Generation Compliance Strategic Plan 2014-2017
- American College of Environmental Lawyers Memo on CAA 111(d) History and Background
- Legal Pathways to Reducing Greenhouse Gas Emissions Under Section 115 of the Clean Air Act

Questions?

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