

ALSTON & BIRD

Clean Air Act

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Thank You

- Much of the material covered in today's presentation was created by:

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Clean Air Act Acronyms

- NAAQS
- HAPs
- NSPS
- BACT
- PSD
- GHG
- CFCs
- NEPA
- RFS
- NESHAP
- CO
- CO₂
- SO₂
- NO₂
- PM
- VOCs
- SIP
- FIP
- RACM
- RFP
- BSER
- MACT
- PTE
- RTR

Goals of the Clean Air Act - 42 U.S.C. § 7401

- To protect human health and welfare from air pollution.
 - Through health-, welfare-, and/or risk-based standards (e.g., NAAQS, HAPs)
 - Through technology-based standards (e.g., NSPS, BACT, mobile-source standards)
- To provide federal oversight while giving states flexibility in implementing programs to achieve healthy air quality.
- To continuously improve the scientific understanding of air pollution.
- To promote through grants and other forms of assistance measures and programs to reduce air pollution and lower- and zero-emitting technologies.

What Pollutants are Regulated by the Clean Air Act?

- Act contains a very broad definition of air pollutant (42 USC 7602(g))
 - “The term ‘air pollutant’ means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term ‘air pollutant’ is used.”
- Criteria Air Pollutants and their precursors (NAAQS) (42 USC 7408-09)
- Hazardous Air Pollutants (HAPs) (42 USC 7412)
- Stratospheric Pollutants (CFCs, etc.) (Title VI)
- Other Pollutants (including GHGs) (42 USC 7411, 42 USC 7475, Title II)
- *See Mass. v. EPA*, 549 U.S. 497 (2007)

Clean Air Act History

- Pre-1970: Increasing efforts to tackle air pollution but little federal role
- 1970 Clean Air Act (Earth Day, EPA, NEPA): Basic structure of modern Act
- 1977 Amendments: PSD, mobile standards, regional haze, 7607(d)
- 1990 Amendments:
 - Expanded Section 7412 for hazardous air pollutants
 - Expanded nonattainment planning requirements & interstate programs
 - Acid Rain Program (Title IV) & other market-based programs
 - Operating Permits (Title V)
 - Stratospheric Ozone (Title VI) (AIM Act of 2020)
- 2005 and 2007 – Renewable Fuel Standards (RFS)
- 2022 Inflation Reduction Act – GHG programs (Repealed)

Clean Air Act Organization and Structure

■ **Title I - Air Pollution Prevention and Control**

- **Part A - Air Quality and Emission Limitations** (CAA § 101-131; USC § 7401-7431)
- **Part B - Ozone Protection** (replaced by Title VI)
- **Part C - Prevention of Significant Deterioration of Air Quality** (CAA § 160-169b; USC § 7470-7492)
- **Part D - Plan Requirements for Nonattainment Areas** (CAA § 171-193; USC § 7501-7515)

■ **Title II - Emission Standards for Moving Sources**

- **Part A - Motor Vehicle Emission and Fuel Standards** (CAA § 201-219; USC § 7521-7554)
- **Part B - Aircraft Emission Standards** (CAA § 231-234; USC § 7571-7574)
- **Part C - Clean Fuel Vehicles** (CAA § 241-250; USC § 7581-7590)

Clean Air Act Organization and Structure

- Title III - General (CAA § 301-328; USC § 7601-7627)
- Title IV - Noise Pollution (USC § 7641-7642).
- Title IV-A - Acid Deposition Control (CAA § 401-416; USC § 7651-7651o)
- **Title V - Permits** (CAA § 501-507; USC § 7661-7661f)
- Title VI - Stratospheric Ozone Protection (CAA § 601-618; USC § 7671-7671q)

Title I: Air Pollution Prevention and Control

Clean Air Act: Title I

- Part A - Air Quality and Emission Limitations
 - National Ambient Air Quality Standards (NAAQS) Program
 - New Source Performance Standards (NSPS) Program
 - National Emission Standards for Hazardous Air Pollutants (NESHAPs)

- Part D - Plan Requirements for Nonattainment Areas

National Ambient Air Quality Standards (NAAQS)

National Ambient Air Quality Standards (NAAQS)

- Established by the 1970 CAA
 - Nationwide air quality standards set by EPA for certain pollutants; reviewed every 5 years.
 - States ensure achievement of NAAQS through plans containing enforceable control measures and meeting other requirements (monitoring, etc.).
 - EPA reviews, approves/disapproves state plans, implements federal plans where needed, and has backup enforcement authority.

National Ambient Air Quality Standards (NAAQS)

- NAAQS

- Expressed in terms of concentration (e.g., parts per billion (ppb) or $\mu\text{g}/\text{m}^3$) of a pollutant in the outdoor “ambient” air over specified “averaging times” (e.g., 1-hour, 8-hour, annual).

- Primary NAAQS (42 USC 7409(b)(1))

- Ambient air quality standards that will **protect the public health** with an “adequate margin of safety.”
- Margin-of-safety expresses a risk avoidance policy: setting NAAQS at air pollution levels below those at which adverse health effects have been found in sensitive groups.
- CAA prohibits EPA from considering either economic cost or technical feasibility.

- Secondary NAAQS (42 USC 7409(b)(2))

- Ambient air quality standards that will **protect the public welfare** “from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air.”
- *EPA has established separate secondary standards only for SO_2 and $\text{PM}_{2.5}$.*

National Ambient Air Quality Standards (NAAQS)

- What air pollutants are covered by NAAQS?
 - Criteria air pollutants
 - Air pollutants that are “generally present in the ambient air in all areas of the nation” and “generally detectable through monitoring devices and systems.”
- Requirements for listing criteria air pollutants (42 USC 7408)
 - EPA has a duty to list a substance if:
 - (1) The substance is an air pollutant as defined by 42 USC 7602(g)
 - (2) Emissions of the air pollutant “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare”
 - (3) The pollutant is emitted by numerous or diverse sources

National Ambient Air Quality Standards (NAAQS)

- To date, EPA has promulgated NAAQS for **six criteria air pollutants**:
 - Sulfur Dioxide (SO₂)
 - Particulate Matter (PM)
 - Nitrogen Dioxide (NO₂)
 - Carbon Monoxide (CO)
 - Ozone (O₃)
 - Lead (Pb)

Ozone National Ambient Air Quality Standard

- Ozone is the primary component of smog – created by chemical reactions between Nitrogen Oxides (NO_x) and Volatile Organic Compounds (VOCs) in the presence of sunlight
- Sources: Industrial facilities, electric utilities, motor vehicle exhaust, gasoline vapors, chemical solvents
- Health effects: Lung damage in humans; chronic respiratory diseases; asthma
- Environmental effects: Loss of species diversity; changes to habitats; loss of visibility

Ozone National Ambient Air Quality Standard

- Multiple Ozone NAAQS established over time:
 - 0.08 ppm (1970)
 - 0.12ppm (1-hour) (1979)
 - 0.08 ppm (8-hour) (1997)
 - 0.075 ppm (8-hour) (2008)
 - CURRENT STANDARD: 0.070 ppm (70 ppb) (8-hour) (2015)
 - Both primary (“protect the public health”) and secondary (“protect the public welfare”)

NAAQS Implementation

- EPA sets the NAAQS to protect public health and welfare.
- Implemented “implementation plans” under 42 USC 7410, etc.
 - States design State Implementation Plans (SIPs) to attain and maintain healthy air quality and submit them to EPA.
 - EPA approves or disapproves the plans.
 - If approved, the requirements in the SIP become enforceable federal law under Sections 42 USC 7413 and 42 USC 7604.
 - If a state does not submit a plan, EPA makes a “finding of failure to submit.”
 - If EPA disapproves a SIP, then EPA must promulgate a Federal Implementation Plan (FIP).

NAAQS Implementation: State Implementation Plans

- SIPs: state-crafted and EPA-approved control strategies and regulations:
 - Include state statutes, rules, transportation control measures, emission inventories, monitoring programs, and local ordinances.
 - Designed to prevent air quality deterioration for areas that are in attainment with the NAAQS.
 - To reduce criteria pollutants emitted in nonattainment areas to levels that will achieve compliance with the NAAQS.
- Designations of nonattainment occur within 2 to 3 years of a NAAQS (42 USC 7407).
 - States with nonattainment areas subject to enhanced SIP requirements under CAA Title I, Part D.

NAAQS Implementation: State Implementation Plans

- General components of a SIP:
 - Program to monitor, compile and analyze ambient air quality
 - Provisions to meet requirements for attainment areas and nonattainment areas
 - Establish enforceable emission limitations and other control measures
 - Enforcement – set program to ensure emission limitations and controls are followed
 - Capabilities – ensure legal authority, adequate funding, and staff
 - Emergency air events – implement contingency plans to restrict emissions that present imminent and substantial endangerment to public health and welfare
 - Permits – establish permit program and payment of permit fees
 - “Good Neighbor” provision – SIPs must prohibit emissions that significantly contribute to nonattainment or interfere with maintenance of NAAQS in other states

NAAQS Implementation: State Implementation Plans

- To be approved, a SIP must provide for emission reductions through standards and provisions that are quantifiable, enforceable, replicable, and accountable (42 USC 7410(a)(2)); in certain cases, justifications that no additional measures are needed may be approvable but require adequate demonstrations.
- EPA has 60 days or 6 months to determine whether the completeness criteria have been met, then 12 months to approve or disapprove the submittal, in whole or part, and/or conditionally (42 USC 7410(k)(1)-(4)).
- EPA authorized to impose sanctions if state fails to submit or comply with certain SIP requirements (42 USC 7509):
 - Restrictions on new major sources
 - Withhold federal highway funds
 - Replace SIP with FIP
- EPA must promulgate FIPs within 2 years if finds failure to submit or disapproves (42 USC 7410(c)(1)).

NAAQS Implementation: Nonattainment

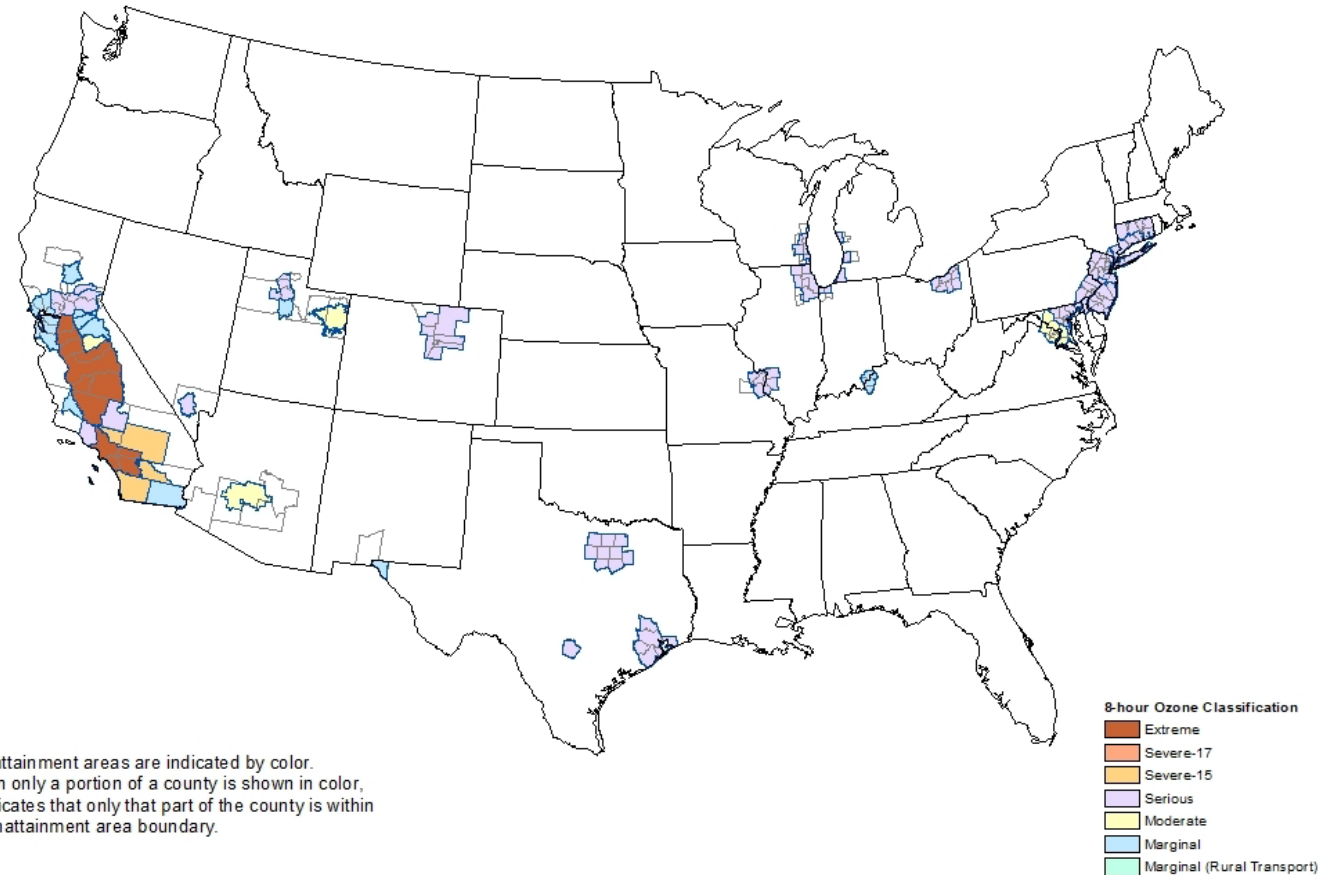
- CAA § 172 (42 USC 7502) requires states with areas that are not in attainment of the NAAQS to enact additional regulatory provisions designed to achieve and maintain attainment of the relevant NAAQS.
 - Must provide for implementation of reasonably available control measures (RACM) as expeditiously as practicable.
 - Nonattainment areas must come into attainment no later than 5 years from the nonattainment designation date, with possible extensions.
 - Must achieve incremental emission reductions that represent “reasonable further progress” (RFP) toward meeting the NAAQS.

NAAQS Implementation: Nonattainment

- Ozone Attainment Status: 2025

8-Hour Ozone Nonattainment Areas (2015 Standard)

09/30/2025



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.

New Source Performance Standards (NSPS)

New Source Performance Standards (NSPS) Program

- 1970 Amendments to CAA formulated a list of categories of stationary sources that cause or contribute significantly to air pollution and that may reasonably be anticipated to endanger public health or welfare 42 USC § 7411(b).
 - Standards for some 75 source categories are found at 40 CFR Part 60.
- Best System of Emission Reduction (BSER), *considering cost & other factors*.
 - *West Virginia v. EPA* – BSER may not include electricity “generation shifting” (major questions doctrine)
- NSPS under 7411(b) applies to new, modified, and reconstructed sources and can cover a broad set of pollutants.
 - Emissions standards for *existing* stationary sources set through 7411(d) cooperative-federalism process; EPA issues “emissions guidelines,” states develop plans imposing standards.
 - Cannot regulate NAAQS or NESHAPs pollutants.
- EPA can delegate authority to enforce NSPS to states but federal enforcement remains available.

New Source Performance Standards (NSPS) Program

- Standards of Performance are “emissions standards,” i.e., limits on the quantity of a given pollutant that can be emitted from particular sources.
 - Rate-based numerical limit
 - If numerical limit not feasible, EPA can set work practice standards
- NSPS regulations also set test methods & monitoring requirements to measure compliance.
- EPA may “subcategorize” within source categories.
- Significant examples of NSPS regulations:
 - Carbon Pollution Standards for Power Plants (April 25, 2024): CO₂ limits through NSPS for new gas-fired turbines & emissions guidelines for existing coal, oil, and gas fired plants.
 - Oil and Natural Gas Methane Rule (Dec. 2, 2023): NSPS and emissions guidelines to reduce methane and other pollutants from oil and natural gas operations.

National Emission Standards for Hazardous Air Pollutants (NESHAPs)

National Emission Standards for Hazardous Air Pollutants

- 1970 CAA mandated EPA identify hazardous air pollutants (HAPs) and establish emissions standards or work practice standards for HAPs. 42 USC 7412(e) (pre-1990)
 - Originally, only 8 HAPs-asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides and vinyl chloride. 40 CFR Part 61.
- 1990 Amendments significantly expanded and strengthened the NESHAP program. (42 USC 7412)
 - 189 substances identified as HAPs directly by Congress.
 - Categories of sources and emissions standards or work practice standards for sources.
 - Maximum achievable control (MACT) + “beyond the floor” MACT; residual risk review.
 - Area sources and existing sources covered in addition to new and major.

National Emission Standards for Hazardous Air Pollutants

- Major Sources:

- Stationary sources with potential to emit (PTE):
 - 10 tons per year of any one HAP or
 - 25 tons of any combination of listed HAPs

- Area Sources:

- Do not meet size threshold
- Pose “a threat of adverse effects to human health or environment”
- Categories of major industrial sources listed in 40 CFR Parts 61 & 63:
 - Chemical plants
 - Oil refineries
 - Aerospace manufacturers
 - Many others

National Emission Standards for Hazardous Air Pollutants

- Once In, Always In Policy & Major MACT-to-Area Source
 - Historic Policy:
 - Major source subject to NESHAPs is always subject to those standards
 - October 1, 2020, rulemaking:
 - Major sources of HAPs can reclassify as area sources at any time if they agree to PTE limits to remain below 10/25 tpy thresholds
 - Aug. 30, 2024, rulemaking:
 - Partially rescinds 2020 rule; requires continuing compliance with certain NESHAP requirements for seven specific pollutants
 - 2025 Congressional Review Act resolution of disapproval:
 - Rescinded 2024 rule
 - 2020 rule in place

National Emission Standards for Hazardous Air Pollutants

- Standards based on Maximum Achievable Control Technology (MACT):
 - Emissions levels that are being achieved by best performing (ie, lowest-emitting) sources in an industry (MACT floor) and can go “beyond the floor.”
- Every 8 years must review and, if necessary, revise MACT (7412(d)(6))
- Residual risk and technology review (RTR) (7412(f))
 - Within 8 years of setting the MACT standards, the Clean Air Act directs the EPA to assess the remaining health risk.
 - RTR is “risk-based” approach in which EPA must determine whether more health-protective standards are necessary.

Title II: Emission Standards for Moving Sources

Mobile Source Program: Types of Regulations

- Direct regulation of performance
 - Tailpipe emissions
 - Evaporative emissions
 - Emissions warranty
- Direct regulation of design
 - Onboard Diagnostic System (“check engine light”)
 - No “defeat devices” to evade tests
 - Labels, consumer disclosures

Mobile Source Program: Types of Regulations

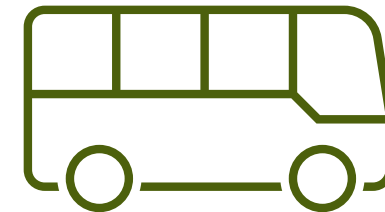
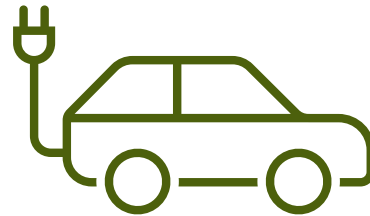
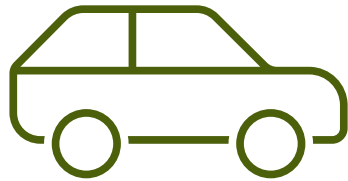
- **Technology-forcing**
 - **In the engine:**
 - Meticulous management of combustion
 - Exhaust gas recirculation
 - **Body:**
 - Lighter materials
 - Better aerodynamics
- **After the engine:**
 - Catalytic converter
 - Diesel particulate filter
 - Selective catalytic reduction system
- **New propulsion:**
 - Electric
 - Hydrogen
- Manufacturers must comply on a fleet-wide basis using a production-weighted average.
- Manufacturers may also use emissions credits purchased from competitors that over-comply.

Mobile Source Program: Regulated Pollutants

- Carbon monoxide (CO)
- Particulate matter (PM)
- Hydrocarbons
- Oxides of nitrogen (NO_x)
- *Greenhouse gases (GHGs)
 - Only since 2012
 - Only for light- and heavy-duty on-road vehicles
 - Subject to repeal

Mobile Source Program: Regulated Sectors

- Aircraft
- Heavy-duty vehicles
- Light-duty vehicles
- Locomotives
- Motorcycles
- Marine engines
- Marine auxiliary engines
- Nonroad engines and equip
- Recreational vehicles



Mobile Sources: Regulation of Fuels

- Conventional fuel standards (42 USC 7545)
 - **Sulfur** standards enable the use of advanced catalysts on vehicles, reducing ground-level ozone and particulate matter
 - **Air toxics** standards, especially benzene
 - **Reid vapor pressure** requirements reduces evaporative emissions
 - **Reformulated gasoline** requirements allow for cleaner combustion
 - **Winter oxygenates** required to improve combustion in cold weather

Mobile Sources: Regulation of Fuels

- Renewable fuel standard (RFS) (42 USC 7545(o))
 - Market-based program by which renewable fuel producers generate credits (“RINs”).
 - Petroleum companies must acquire and retire RINs.
 - Multi billion-dollar market where the traded commodity is necessary for compliance with federal law.
 - EPA sets overall volume requirements for various types of renewable fuel based in part on lifecycle GHG analysis.

	2023	2024	2025
Cellulosic biofuel	0.84	1.09	1.38
Biomass-based diesel^b	2.82	3.04	3.35
Advanced biofuel	5.94	6.54	7.33
Renewable fuel	20.94	21.54	22.33
Supplemental standard	0.25	n/a	n/a

Title V: Permits

Clean Air Act Permitting

- Established under Title V of the 1990 CAA Amendments, 42 U.S.C. §§ 7661–7661f
- Creates comprehensive operating permit program, as opposed to construction permit
- Modeled after Clean Water Act NPDES program
- Major goals/impacts:
 - Ensuring covered sources comply with all requirements
 - Improving enforcement efforts
 - Allowing states oversight authority

Creating Title V Permitting Programs

- EPA issued regulations implementing Title V
- States developed and submitted plans for permit programs for EPA review
- States assumed primary responsibility for issuing permits to covered sources, reviewing modifications, and processing renewals (every five years)
 - Part 70 Permits: Issued by States
 - Part 71 Permits: Issued by US EPA
 - States may delegate their responsibilities more locally
 - States may incorporate their own standards

Who Needs a Title V Permit?

- Applies to “*major sources*,” including stationary sources that meet any of the following criteria:
 - Emit or have the potential to emit (PTE) 100 TPY of regulated air pollutants
 - Emit or have a PTE 10 TPY of a hazardous air pollutant (HAP) or 25 TPY of any combination of HAPs
 - In a non-attainment area and have a PTE exceeding the area’s major source threshold
 - Certain sources subject to EPA’s Acid Rain, NSPS, and/or NESHAP programs
 - Required to have new source or modification permits under CAA Title I
- Exceptions may be available for “synthetic minor sources:”
 - Sources that can demonstrate that they have voluntarily subjected themselves to an enforceable emissions limit below the threshold to avoid the permitting requirements

Components of a Permit

- Emissions limitations and standards
- Monitoring, recordkeeping, and reporting
- Fee payments
- Annual certification by responsible officer

Permit Modifications

Administrative Permit Amendments

Typos, changes in personnel, more frequent monitoring, changes in ownership/control, incorporating new requirements

Minor Permit Modifications

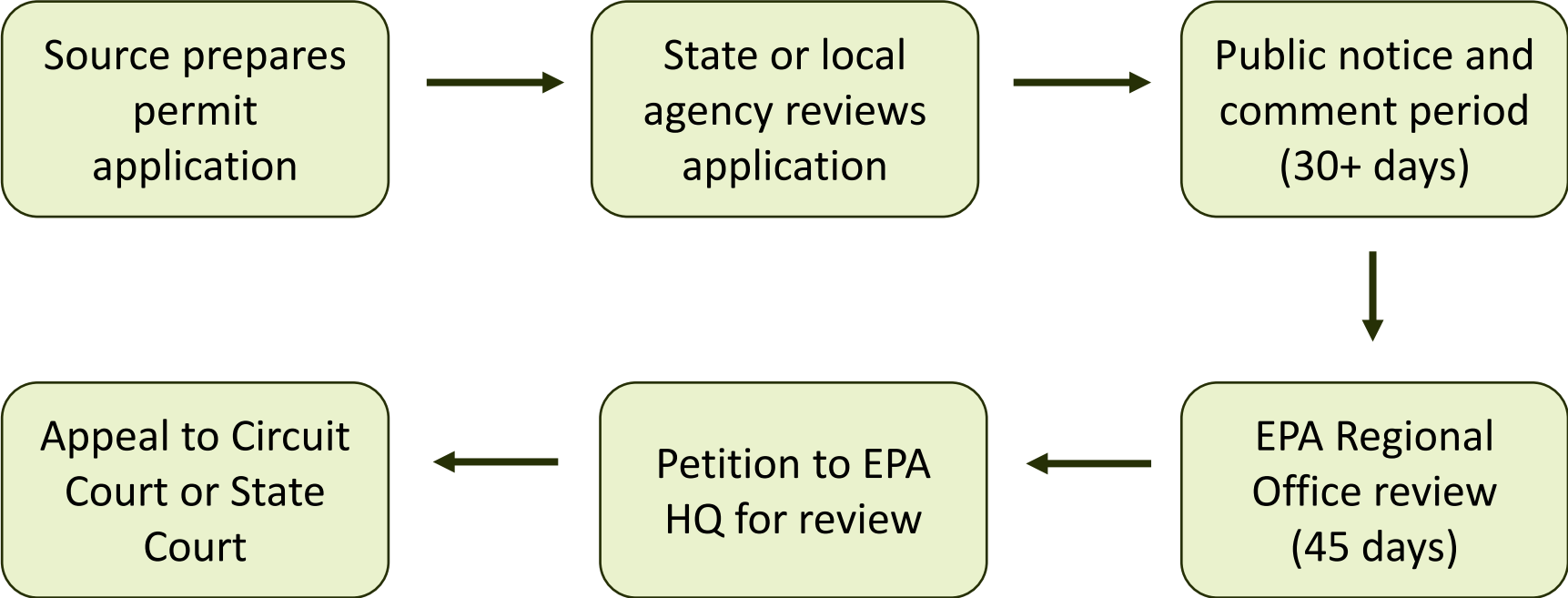
Changes that do not:

- Violate applicable requirements
- Involve significant changes to existing monitoring, reporting, or recordkeeping
- Change emission limits
- Implicate CAA Title I
- Fall under a State significant modification category

Significant Permit Modifications

Changes that do not qualify as minor permit amendments or administrative permit amendments

Title V Permitting Process



Enforcement

Investigatory Tools

- Information Requests under CAA § 114
 - Authorizes EPA to mandate monitoring, recordkeeping, submittal of information from regulated sources and others with relevant information
 - Authorizes EPA to seek any information for purposes of “carrying out any [CAA] provision” (CAA § 114(a)(iii))
- Information Requests under CAA § 208 and 206(c)
 - Authorizes EPA to require manufacturers of engines and producers of fuels, to establish records, reports, submit information, test products
- Administrative Subpoena Authority
 - 1990 CAA expanded authority
 - Section 307(a) – EPA may issue subpoenas to compel disclosure, production of documents, or testimony by witnesses in connection with any investigation

Monitoring, Recordkeeping, and Reporting

- In addition to § 114 and § 208, sources of required monitoring, recordkeeping and reporting include:
 - Construction and operating permits
 - State regulations
 - Federal regulations – NSPS, NESHAPs, GHG
 - Judicial Consent Decrees
 - Administrative Compliance Orders
 - Annual compliance certifications
 - Compliance assurance monitoring

Enforcement Types

Civil Administrative

- Liability: Strict
- BOP: Preponderance of the evidence
- Handled at the agency level via NOV or other order
- 2024 maximum penalty: **\$57,617** per day and **\$460,926** total per violation
- Emergency Orders under CAA § 303 allow for quick action in the event of an emergency

Civil Judicial

- Liability: Strict
- BOP: Preponderance of the evidence
- Handled through a formal legal proceeding in state or federal court (via DOJ)
- Often ends in settlement agreement (CA/FO or AOC)
- May involve monetary fine, injunctive relief, and/or SEPs

Criminal

- Liability: Knowing
- BOP: Beyond a reasonable doubt
- Handled through a formal legal proceeding in state or federal court (via DOJ)
- May end in a plea agreement
- May involve monetary penalty, restitution, SEPs, and/or *prison time*
- Federal Procurement Bar under CAA § 306

Stationary Sources: Action may be brought by federal government, state governments, or individual citizens*

Mobile Sources: Actions may be brought only by the federal government and/or CARB

Thank you!

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