

# AIR QUALITY

## Clean Air Act\* 42 U.S.C. §§7401-7671q

### National ambient air quality standards (NAAQS)

EPA must promulgate **primary NAAQS** necessary to protect the **public health**, allowing for an adequate margin of safety. [CAA §109]

EPA must promulgate **secondary NAAQS** necessary to protect the **public welfare**. [CAA §109] “Public welfare” includes effects on soils, water, crops, animals, weather, visibility, economic values, and personal comfort and well-being. [CAA §302(h)]

### State implementation plans (SIPs)

Each state must submit to EPA SIPs for the implementation, maintenance, and enforcement of primary and secondary NAAQS. [CAA §110] EPA must promulgate a **federal implementation plan** if a state fails to submit a SIP or revise a SIP that EPA deems inadequate. [CAA §110(c)]

### Nonattainment of NAAQS

States are divided into **areas**; areas are designated as **attainment, nonattainment, or unclassifiable**. [CAA §107(d)] Nonattainment areas are **further classified** based on the **severity** of nonattainment and the availability and feasibility of pollution **control measures** necessary for attainment. [CAA §172(a)]

Nonattainment areas for primary NAAQS must achieve attainment as expeditiously as practicable, but not later than five years after designation. Nonattainment areas for secondary NAAQS must achieve attainment as expeditiously as practicable. EPA may extend the attainment deadlines in certain cases. [CAA §172(a)(2)]

CAA §172(c) sets forth requirements for the content of nonattainment-area SIPs.

Before a **new major stationary source**, or a **modification** to an existing source, may be constructed in a nonattainment area, offsetting emission reductions must be obtained from the same source or other sources in the same nonattainment area. [CAA §173(c)]

Special provisions exist for areas that are nonattainment for **ozone** [CAA §§181-185B]; **carbon monoxide (CO)** [CAA §§186-187]; **particulate matter** [CAA §§188-190]; and **sulfur oxides, nitrogen dioxide, and lead**. [CAA §§191-192]

### Prevention of significant deterioration (PSD)

SIPs must contain requirements to prevent significant deterioration of air quality in regions designated as **attainment** or **unclassifiable**. [CAA §161]

The statute establishes a **three-tiered classification** system. **Class I** areas, which are subject to the greatest emission limitations, include **national parks** exceeding 6,000 acres and national wilderness and memorial parks exceeding 5,000 acres. All other areas are classified as **Class II** areas, except that such areas may be redesignated as **Class III** areas in certain limited circumstances. [CAA §§162, 164(a)]

**Preconstruction permits** are required for the construction in PSD areas of “**major emitting facilities**” on which construction began after August 7, 1977. [CAA §165] Permits must require facilities to employ **best available control technology (BACT)** for regulated pollutants. [CAA §165(a)(4)]

EPA must promulgate **regulations** to prevent the significant deterioration of air quality resulting from **hydrocarbon, CO, photochemical oxidant, and nitrogen oxide (NO<sub>x</sub>)** pollutant emissions. [CAA §166(a)] EPA must promulgate regulations to address the impairment of **visibility** in Class I areas resulting from man-made air pollution. [CAA §169A(a)]

### New source performance standards

EPA must promulgate **regulations** establishing **new source performance standards (NSPS)** for categories of stationary sources. [CAA §111(b)] NSPS must reflect the emission limitations achievable through the best system of emission reduction. EPA must consider the cost of achieving reduction, as well as nonair quality health and environmental impact and energy requirements. [CAA §111(a)(1)]

**Permits for major new or modified sources** in nonattainment areas must require compliance with the **lowest achievable emission rate (LAER)**. [CAA §173(a)(2)]

Each state may develop its own procedure for implementing and enforcing NSPS, and EPA must delegate implementation authority to states whose procedures it finds adequate. [CAA §111(c)] Each state must submit to EPA a plan that establishes, and provides for the implementation of, performance standards for existing stationary sources. [CAA §111(d)]

## Hazardous air pollutants (HAPs)

The statute lists **189 HAPs** and directs EPA to revise the list periodically. [CAA §112(b)]

EPA must publish and periodically modify a list of **categories** and **subcategories** of major and area sources of HAPs. [CAA 112(a) defines “**major source**” and “**area source**.”]

EPA must promulgate **emission standards** for categories and subcategories of major and area sources of HAPs. [CAA §112(d)(1)] The standards must require the **maximum degree of reduction** in HAP emissions achievable for new or existing sources in the category or subcategory. EPA must consider the cost of achieving reduction, as well as nonair quality health and environmental impact and energy requirements. [CAA 112(d)(2)] EPA may promulgate **area source standards** that provide for using **generally available control technologies** or management practices in lieu of meeting the §112(d)(2) requirements. [CAA §112(d)(5)] If EPA determines that it is infeasible to prescribe or enforce an emission standard, EPA may promulgate a design, equipment, work practice, and/or operational standard. [CAA §112(h)]

The statute sets strict **deadlines** for promulgation of, and compliance with, the emission standards. [CAA §112(e), (i)]

EPA must report to Congress on **residual risks** to public health remaining after application of the emission standards. If Congress fails to act, EPA must promulgate additional standards. [CAA §112(f)] EPA must promulgate residual risk **standards** for pollutants classified as known, probable, or possible human carcinogens if the §112(f) emission standards fail to reduce the **lifetime cancer risk** of the “**most exposed**” **individual** to less than one-in-one million. [CAA §112(f)(2)]

Source modifications must comply with **maximum achievable control technology**. [CAA §112(g)(2)]

## Operating permits

EPA must promulgate standards for a state-administered operating permit program. [CAA §502(b)] States must submit permit programs to EPA for approval. [CAA §502(d)]

Sources required to obtain operating permits include “major sources,” “affected sources,” sources subject to §111 NSPS, air toxic sources regulated under §112, sources required to have new source or modification permits under Title I pts. C or D, and other sources designated by EPA. [CAA §502(a)]

## Mobile sources

EPA must establish **emission standards** for new motor vehicles and engines [CAA §202(a)], subject to specified limitations for hydrocarbon, CO, and NO<sup>x</sup>

emissions by “light-duty” vehicles. [CAA §202(b)] EPA may set standards for heavy-duty vehicles after model year 1983, reflecting the greatest degree of emission reduction achievable for that model year. [CAA §202(a)(3)]

SIPs for states in certain ozone and CO nonattainment areas must require a specific percentage of fleet vehicles to be “**clean fuel vehicles**,” beginning with model year 1998. [CAA §246] CAA §249 establishes a pilot program for **California**. Other states may opt into the California program. [CAA §249]

EPA may require motor vehicle **fuels** to be registered and tested. [CAA §211] No manufacturer or processor may sell any EPA-designated fuel or additive that has not been registered by EPA. [CAA §211(a)]

## “Acid rain”

Title IV-A’s **goal** is to reduce **annual sulfur dioxide** (SO<sub>2</sub>) emissions from fossil fuel-fired electric utility plants by 10 million tons below 1980 levels and annual **NO<sub>x</sub>** emissions by 2 million tons below 1980 levels. [CAA §401(b)]

In **Phase I**, beginning January 1, 1995, 110 plants will receive **allowances** to emit SO<sub>2</sub> based on 1985-87 fuel consumption. [CAA §404(a)] In **Phase II**, beginning January 1, 2000, utilities will receive reduced SO<sub>2</sub> allowances, totaling 8.9 million tons. [CAA §405] Allowances may be used, sold, or carried forward. [CAA §403(a), (b)]

EPA must establish **NO<sub>x</sub>** emission limits for certain types of boilers [CAA §407] and issue revised NSPS for NO<sub>x</sub> emissions from fossil fuel-fired steam generating units [CAA §111].

## Stratospheric ozone protection

EPA must publish and revise lists of **ozone-depleting substances**, designated **Class I** or **Class II**. The Class I list must initially include specified chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform. The Class II list must initially include specified hydrochlorofluorocarbons. [CAA §602(a), (b)]

The statute requires **Class I** substances to be **phased out** by **January 1, 2000** (January 1, 2002 for methyl chloroform) [CAA §604] and **Class II** substances by **January 1, 2030** (subject to limited exceptions that terminate on January 1, 2040 [CAA §605].

## Enforcement

CAA §113 authorizes EPA to issue administrative compliance and penalty orders, and seek injunctions and civil and criminal penalties. EPA has emergency response authority. [CAA §§112(r)(9), 303] States may enforce SIP requirements. [CAA §110(a)(2)(C)] CAA §304 authorizes citizen suits.