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Key Historical Court Decisions Shaping EPA's Program Under the Clean Air Act

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Summary

This report provides a selective overview of court decisions that historically have most shaped EPA's program under the Clean Air Act (CAA). Court decisions described in the report deal with the following:

- **National ambient air quality standards (NAAQSs)**, holding that in setting the standards EPA is not to consider economic and technological feasibility.
- **State implementation plans** for achieving NAAQSs, holding that EPA also may not consider economic and technological feasibility in approving or disapproving such plans, or the fact that the state plan is more stringent than necessary, or does not require an EPA-preferred control method.
- **Interstate air pollution**, holding that EPA may consider costs in applying the CAA “good neighbor” provision, but any emissions trading program must assure some emission reduction in each upwind state. Nor does the CAA require that states be given a second opportunity to file an implementation plan after EPA has quantified the state emissions budget; EPA may promulgate its own plan for the state immediately.
- **New source performance standards (NSPSs)**, holding that while the Act requires them to be based on “adequately demonstrated” technology, that does not imply that any existing source of the type proposed for a NSPS is able to meet the NSPS.
- **New source review** in areas cleaner than NAAQSs, holding that EPA may override a state’s determination of the “best available control technology” required for new stationary sources. New source review may be required for greenhouse gas emitters only if the new source will emit conventional pollutants in threshold amounts.
- **The “routine maintenance” exemption** from NSPSs and new source review, created by EPA and accepted by the courts despite statutory silence. Courts hold that whether the exemption applies depends on the increase in a plant’s expected life due to the project, and the project’s cost, nature, and magnitude. Expansive interpretation of the exemption has been judicially rejected.
- **The “bubble concept,”** an EPA approach that looks at *net* changes in the emissions of a pollutant from a facility, holding that its permissibility depends on statutory context.
- **National standards for hazardous air pollutants**, holding that EPA may determine if a facility triggers the Act’s “maximum achievable control technology” requirement for such pollutants by aggregating emission sources in a contiguous plant under common control, not just sources within the same source category. Also, EPA is not limited in setting emission standards to hazardous air pollutants currently controlled with technology.
- **Greenhouse gas emissions**, holding that the CAA generally covers them, and that EPA cannot elect not to exercise that authority based on policy concerns. See, however, “new source review” above.
- **Enforcement**, holding that the recipient of an administrative compliance order must be allowed to seek pre-enforcement review of the order in court.

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Introduction

It is a truism that complex regulatory statutes cannot be fully understood solely by reading the statutory text. Among other sources, court decisions add substantial flesh to the statutory skeleton. This is emphatically true of the Clean Air Act (CAA), where hundreds of court decisions over more than four decades interpret the principal enactment in 1970 and its chief amendments in 1977 and 1990.

This report provides a selective overview of court decisions that historically have most shaped the program developed by the Environmental Protection Agency (EPA) under the CAA.¹ The universe of decisions from which those included here were selected is broad, resulting from the fact that almost every major EPA rule prompts the filing in court of a petition for review—either by those regulated under the rule seeking to invalidate or relax it, or by the “environmental” side seeking to make it more stringent, or by both. As the footnotes in this report show, these petitions for review are filed largely in the U.S. Court of Appeals for the D.C. Circuit, as required by the CAA for challenges to “nationally applicable regulations.”² Where the claim is instead that EPA has failed to perform a nondiscretionary duty under the Act, such as meeting a statutory deadline, a “citizen suit” must be filed in a federal district court.³ Over the 44 years of the modern CAA’s existence, more than a dozen of these circuit and district court decisions have yielded Supreme Court opinions on appeal.

Several court decisions would have been discussed in this report had they not been superseded by CAA amendments that either codified or repudiated them. These are briefly noted in a postscript on pages 16-17.

A glossary of acronyms used in this report is provided on page 18.

National Ambient Air Quality Standards

The central construct of the CAA is the **national ambient air quality standard** (NAAQS), a maximum concentration for an air pollutant that all areas of the country must meet. Toward the goal of establishing NAAQSs, Section 108 of the Act directs EPA to issue **air quality criteria**—documents assessing the scientific evidence on a pollutant’s effects—for pollutants that “may reasonably be anticipated to endanger public health or welfare,” and “the presence of which in ambient air results from numerous or diverse mobile or stationary sources”⁴ Section 109 then tells EPA to set **primary NAAQSs** at a level requisite to protect the public health, allowing an “adequate margin of safety,” and **secondary NAAQSs** at a level requisite to protect the “public

¹ 42 U.S.C. §§ 7401-7671q.

² CAA § 307(b); 42 U.S.C. § 7607(b). In contrast, petitions for review of EPA actions that are only “locally or regionally applicable” must be filed in the U.S. Court of Appeals for the “appropriate” circuit, though even these actions must be filed in the D.C. Circuit if “based on a determination of nationwide scope or effect.” *Id.*

³ CAA § 304(a); 42 U.S.C. § 7604(a).

⁴ CAA § 108(a)(1); 42 U.S.C. § 7408(a)(1).

welfare” from any known or anticipated adverse effects.⁵ Finally, Section 110 requires states to adopt **state implementation plans** to attain or maintain each NAAQS (see following section).⁶

EPA has established NAAQSs for six pollutants—all of them in the 1970s.⁷ The agency has not added any pollutants to the list since then. But it is required to review the existing standards at five-year intervals and promulgate revisions if appropriate.⁸ These reviews have raised continuing issues among stakeholders, including states, industrial and other sources of pollution, and nongovernmental organizations in the health and environmental fields, particularly over the role of cost and feasibility in determining the level at which standards should be set. In directing EPA to set and revise the NAAQSs, Sections 108 and 109 make no reference to the cost or feasibility of attaining the standards—in contrast to other CAA sections where cost, feasibility, or the role of demonstrated technology are specifically required to be considered.

The silence of Sections 108 and 109 as to cost and feasibility led to a number of cases, all of them holding that NAAQSs are to be set without regard to the cost of achieving them or their technological feasibility. The early leading decision is *Lead Industries Ass'n v. EPA*, where the D.C. Circuit in 1980 addressed the primary and secondary NAAQSs for lead.⁹ The court held the argument for requiring EPA to consider cost and feasibility in setting NAAQSs to be “totally without merit.”¹⁰ Specifically rejected was the argument that the “adequate margin of safety” required by Section 109 to be factored into primary NAAQSs requires EPA to consider costs and feasibility. Persuasive to the court was the fact that where the CAA intended EPA to factor in costs and feasibility, it expressly so provided, and that even if the technology to achieve a NAAQS did not currently exist, the CAA was of a “technology forcing” character.¹¹

In 2000, in *Whitman v. American Trucking Ass'ns*,¹² the Supreme Court unanimously affirmed *Lead Industries* as to the impermissibility of considering costs in setting primary NAAQSs. The *Whitman* challengers had offered a new argument: that the high costs of imposing a stringent primary NAAQS might produce health injury by closing down whole industries and impoverishing the workers and consumers dependent on them. This effect on health, the challengers contended, had to be considered too. The Court was unimpressed, pointing out that CAA Section 110(f)(1) allowed EPA to waive compliance deadlines for stationary sources in certain circumstances, and that, as noted in *Lead Industries*, numerous CAA provisions allow EPA to take compliance costs into account.¹³ That being so, the Court refused to infer from the ambiguous language of Section 109 an authority for EPA to consider costs that elsewhere in the Act had been granted expressly.

⁵ CAA § 109(b); 42 U.S.C. § 7409(b). “Welfare” is a term of art, defined in the CAA to include at a minimum “effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being” CAA § 302(h); 42 U.S.C. § 7602(h).

⁶ CAA § 110(a)(1); 42 U.S.C. § 7410(1)(1).

⁷ NAAQSs have been set for ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead. 40 C.F.R. pt. 50.

⁸ CAA § 108(d)(1); 42 U.S.C. § 7408(d)(1).

⁹ 647 F.2d 1130 (D.C. Cir. 1980).

¹⁰ *Id.* at 1148.

¹¹ *Id.* at 1149.

¹² 531 U.S. 457 (2001).

¹³ For example, the Court noted CAA Section 202(a)(2), specifying that motor vehicle emission standards can take effect only “after such period as the [EPA] Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance” 42 U.S.C. § 7521(a)(2).

State Implementation Plans

NAAQSs define what level of air quality must be attained or maintained, but it is to the states that responsibility falls to translate NAAQSs into emission limits for specific stationary sources. After a NAAQS is promulgated or revised, each state is required under CAA Section 110 to submit to EPA within three years a **state implementation plan** (SIP).¹⁴ SIPs specify what mix of federal, state, and local air pollution control measures will be implemented in order to reach or maintain attainment of the NAAQSs. To be approved by EPA, the SIP must satisfy a long list of requirements in Section 110(a)(2),¹⁵ including that it contain enforceable emission limitations, timetables for compliance, air quality monitoring, provisions addressing interstate pollution, and so on.

One factor left out of the Section 110(a)(2) list, however, is that the state-submitted SIP be economically and technologically feasible. Based on that omission, the Supreme Court concluded in *Union Electric Co. v. EPA* that infeasibility may not be considered by EPA in approving or disapproving a submitted SIP.¹⁶ Further, it held that the states may submit SIPs more stringent than the CAA requires and EPA must approve them if they meet the Section 110(a)(2) factors.¹⁷ Softening these holdings, the Court pointed to other ways that feasibility claims were relevant to the CAA program—such as when presented to a state agency formulating a SIP (so long as the NAAQS is met), or as a state-issued variance submitted to EPA as a plan revision, or possibly in the state courts.¹⁸ In *Indiana & Michigan Elec. Co. v. EPA*, the U.S. Court of Appeals for the Seventh Circuit added that such claims are also relevant in federal enforcement actions, as in setting compliance schedules and assessing an appropriate money penalty.¹⁹

The states' primary responsibility for distributing the pollution reduction burden among the stationary sources in that state has a corollary. As held in *Michigan v. EPA*, the CAA does not allow EPA to condition SIP approval on a state's adoption of any specific control measure.²⁰

Finally, *Indiana & Michigan Elec. Co.* instructs that EPA's action in approving or disapproving a submitted SIP does not require the agency to prepare an environmental impact statement under the National Environmental Policy Act (NEPA).²¹ (Courts have held EPA actions generally to be exempt from this requirement, since the agency's mission of protecting the environment duplicates that of NEPA.)²²

¹⁴ CAA § 110(a)(1); 42 U.S.C. § 7410(a)(1).

¹⁵ 42 U.S.C. § 7410(a)(2).

¹⁶ 427 U.S. 246, 256 (1976). Several CAA provisions noted in the *Union Electric* decision have been amended since, but it has never been suggested that these amendments undermine the Court's essential holdings.

¹⁷ *Id.* at 265.

¹⁸ *Id.* at 266-267.

¹⁹ 509 F.2d 839, 844-845 (7th Cir. 1975).

²⁰ 213 F.3d 663, 687 (D.C. Cir. 2000).

²¹ 509 F.3d at 842.

²² *See, e.g., Getty Oil Co. v. Ruckelshaus*, 467 F.2d 349, 359 (3d Cir. 1972).

Interstate Pollution

After a NAAQS is set or revised, the governor of each state, using available monitoring data, must submit to EPA a list identifying each **air quality control region** in the state as either attainment, nonattainment, or unclassifiable for the pollutant in question.²³ After reviewing these submissions, and often after negotiating over the boundaries of the listed areas, EPA formally promulgates a list of **nonattainment areas**.²⁴ Affected states are then required to submit SIPs or SIP revisions specifying what mix of federal, state, and local air pollution control measures will be implemented for each of the areas to reach or maintain the NAAQS.²⁵

In many states, particularly in the Northeast, air quality is so affected by emissions from other states (referred to as “transported” air pollution) that it is difficult or impossible for the state to demonstrate how all areas in the state will reach attainment. To assist these downwind states, the CAA contains several provisions dealing with transported air pollution. The most important (and most frequently litigated) is Section 110(a)(2)(D),²⁶ the so-called “**good neighbor**” provision. Section 110(a)(2)(D)(i)(I) requires that a state prohibit stationary sources within the state from emitting air pollutants in amounts that will “contribute significantly” to NAAQS nonattainment, or “interfere with maintenance” of a NAAQS, in any other state. These measures are to be included in the SIPs submitted by the states to EPA.²⁷ When EPA determines that existing SIPs will need to be revised to satisfy the good neighbor provision (or other CAA requirements), it must issue a “SIP call,” sometimes to many states at once.²⁸

Litigation over the good neighbor provision generally has involved emissions of nitrogen oxides (NO_x), particulates, and sulfur dioxide, all of which can remain in the atmosphere and travel long distances from the point of emission. These substances are not only pollutants in their own right; they also contribute (through atmospheric reactions) to the formation of ozone, particulates, acid deposition, and other widespread regional pollution problems.²⁹ Issues raised in litigation over the good neighbor provision include several with broad import for EPA's program: how one defines when a state “contribute[s] significantly” to another state's pollution; what role cost-effectiveness can play in identifying control measures; whether regional cap-and-trade systems can substitute for emission control requirements imposed at specific sources; and the respective roles of EPA and the states in identifying required controls.³⁰

The key Section 110(a)(2)(D) cases begin in 2000 with *Michigan v. EPA*,³¹ involving a NO_x SIP call. The D.C. Circuit held that nothing in 110(a)(2)(D) bars EPA from considering costs in

²³ CAA § 107(d)(1)(A); 42 U.S.C. § 7407(d)(1)(A). For a list of air quality control regions, see 40 C.F.R. pt. 81.

²⁴ CAA § 107(d)(1)(B); 42 U.S.C. § 7407(d)(1)(B).

²⁵ CAA § 110(a)(1)-(2); 42 U.S.C. § 7410(a)(1)-(2).

²⁶ CAA § 7410(a)(2)(D).

²⁷ CAA § 110(a)(2); 42 U.S.C. § 7410(a)(2).

²⁸ CAA § 110(k)(5); 42 U.S.C. § 7410(k)(5). Besides Section 110(a)(2)(D), the CAA also addresses interstate pollution through Section 126, 42 U.S.C. § 7426. Section 126(b) allows a state or political subdivision to petition EPA to make a “finding that any major source or group of stationary sources emits or would emit any air pollutant in violation of the prohibition of section 110(a)(2)(D)(ii).” If EPA makes the finding, the source or sources in question cannot be constructed or can no longer operate, except under emission limitations and a compliance schedule prescribed by EPA.

Supplementing these provisions, CAA Section 115 creates a mechanism for dealing with emissions in the United States that might endanger health or welfare in a foreign country. 42 U.S.C. § 7415.

²⁹ See Basic Information, at <http://www.epa.gov/airtrends/sixpoll.html>.

³⁰ See, e.g., *North Carolina v. EPA* and *Michigan v. EPA* decisions discussed in immediately following paragraphs.

³¹ 213 F.3d 663 (D.C. Cir. 2000).

applying the provision.³² So EPA had acted lawfully when it determined that a state would no longer be contributing “significantly” to a downwind state’s NAAQS nonattainment if it cut back the relevant emissions by the amount that could be eliminated by what EPA termed “highly cost-effective controls” (those that eliminate a ton of the relevant pollutant for less than \$2,000 per ton).³³ And, the court said, EPA may apply this standard uniformly to all the covered states, no matter the amount of each state’s contribution.³⁴

*North Carolina v. EPA*³⁵ involved a challenge to EPA’s Clean Air Interstate Rule (CAIR), issued in 2005.³⁶ CAIR sought to reduce SO₂ and NO_x precursor emissions in 28 states in order to reduce nonattainment of the NAAQSs for fine particulate matter and ozone in downwind states. The D.C. Circuit, however, found CAIR to be flawed.³⁷ Most important to the court, its emissions trading program, though aimed at reducing emission-control costs as approved in *Michigan*, did not assure some “measurable” emission reduction in *each* upwind state.³⁸ Emissions reduction by the upwind states *collectively* was not enough to satisfy Section 110(a)(2)(D).³⁹ Second, the court said, EPA must give independent effect to the “interfere with maintenance” prohibition in Section 110(a)(2)(D)—not, as CAIR did, as a prohibition triggered only after the “contribute significantly” prohibition was triggered.⁴⁰

EPA’s effort to remedy the CAIR deficiencies identified in *North Carolina* led it to issue the Cross-State Air Pollution Rule, also known as the Transport Rule, in 2011.⁴¹ The new rule addresses the same pollutants and the same states. Under it, an upwind state is deemed to “contribute significantly” to downwind nonattainment to the extent its pollution produces more than 1% of the NAAQS concentration in at least one downwind state and could be eliminated cost-effectively. Through modelling, EPA set the total amount of pollution an upwind state could produce in a given year. This second EPA effort also was found by the D.C. Circuit to be inconsistent with Section 110(a)(2)(D),⁴² but this time it was reversed by the Supreme Court—in *EPA v. EME Homer City Generation, L.P.*, the High Court upheld the Transport Rule.⁴³ First, the Court found no fault with the fact that EPA, having found the relevant SIPs to be inadequate, had along with the Transport Rule promulgated federal implementation plans allocating each state’s total allowed emission amount among sources of that pollutant within the state. The CAA, held the Court, does not require that states be given a second opportunity to file a SIP after EPA has quantified the state’s emissions budget.⁴⁴ Second, the Court held that nothing in the Good Neighbor Provision compelled the “cost-blind” interpretation of the D.C. Circuit.⁴⁵ Rather, it

³² *Id.* at 679.

³³ *Id.* at 680.

³⁴ *Id.* at 679-680.

³⁵ 531 F.3d 896 (D.C. Cir. 2008).

³⁶ 70 Fed. Reg. 25162 (2005).

³⁷ Though initially vacating the CAIR rule, the D.C. Circuit changed its mind some months later, leaving CAIR in effect “until it is replaced by a rule consistent with our opinion.” *North Carolina v. EPA*, 550 F.3d 1176, 1178 (D.C. Cir. 2008).

³⁸ 531 F.3d at 908.

³⁹ *Id.*

⁴⁰ *Id.* at 910.

⁴¹ 76 Fed. Reg. 48208 (2011).

⁴² 696 F.3d 7 (D.C. Cir. 2012).

⁴³ 134 S. Ct. 1584 (2014).

⁴⁴ *Id.* at 1600-1602.

⁴⁵ *Id.* at 1583.

concluded, EPA's allocation of emission reductions among upwind states based on cost-effectiveness is a permissible, workable, and equitable reading of the Provision.⁴⁶

New Source Performance Standards

CAA Section 111⁴⁷ directs EPA to develop federal “standards of performance” for new and modified stationary sources of air pollution—called **New Source Performance Standards** (NSPSs). NSPSs are nationally uniform, lessening the incentive for companies to “shop” for locations with less stringent requirements. “Standards of performance” are defined as emission standards reflecting the amount of emission reduction “achievable” through the use of the “best system of emission reduction” that is “adequately demonstrated,” “taking into account” cost and nonair quality impacts.⁴⁸

Most of the phrases just quoted have been litigated, beginning in the CAA's early years. And they may be relitigated soon: currently proposed EPA regulations limiting CO₂ emissions from new coal-fuel-fired power plants are based on the agency's controversial view that carbon capture and sequestration is an “adequately demonstrated” control technology for such plants.⁴⁹ Case law holds that “adequately demonstrated” does not necessarily imply that any existing source of the type proposed for an NSPS is able to meet the NSPS. Rather, *Portland Cement Ass'n v. Ruckelshaus* says that Section 111 “looks toward what may fairly be projected for the regulated future, rather than the state of the art at present”⁵⁰ Still, *Lignite Energy Council v. EPA* cautions that “EPA may not base its determination that a technology is adequately demonstrated or that a standard is achievable on mere speculation or conjecture”⁵¹ The agency may compensate for the absence of emissions data in a new source category by, for example, “extrapolation of a technology's performance in other industries.”⁵² Where EPA is able to show that existing sources of the type proposed for an NSPS can meet the NSPS, *National Lime Ass'n v. EPA* instructs that those existing sources must be representative of the industry as a whole.⁵³ Finally, courts have noted that Section 111 is silent as to the weight to be given the cost and nonair quality impacts of a control technology, the section saying only that they shall be “taken into account.”⁵⁴ Given that silence, *Lignite Energy Council* and other D.C. Circuit decisions have granted EPA much discretion: “EPA's choice [of best adequately demonstrated technology] will be sustained unless the environmental or economic costs of using the technology are exorbitant.”⁵⁵

As to what standards are “achievable,” *Essex Chemical Corp. v. Ruckelshaus* describes an achievable standard as “within the realm of the adequately demonstrated system's efficiency and which, while not at a level that is purely theoretical or experimental, need not necessarily be routinely achieved within the industry prior to its adoption.”⁵⁶

⁴⁶ *Id.* at 1603-1609.

⁴⁷ 42 U.S.C. § 7411.

⁴⁸ CAA § 111(a)(1); 42 U.S.C. § 7411(a)(1).

⁴⁹ 79 Fed. Reg. 1430 (January 8, 2014).

⁵⁰ 486 F.2d 375, 391 (D.C. Cir. 1973).

⁵¹ 198 F.3d 930, 934 (D.C. Cir. 1999).

⁵² *Id.*

⁵³ 627 F.2d 416, 432-433 (D.C. Cir. 1980).

⁵⁴ *See, e.g.,* *New York v. Reilly*, 969 F.2d 1147, 1150 (D.C. Cir. 1992).

⁵⁵ *Lignite Energy Council*, 198 F.3d at 933.

⁵⁶ 486 F.2d 427, 433-434 (D.C. Cir. 1973).

New Source Review

The CAA seeks not only attainment of NAAQSs in dirty-air areas; it also aims to limit air quality deterioration in areas cleaner than the NAAQSs require. To achieve the latter goal, the Act's **Prevention of Significant Deterioration** (PSD) program imposes requirements in addition to those in Section 111 for new and newly modified stationary emission sources in areas classified as attainment or unclassifiable as to a NAAQS.⁵⁷ For new major emitting facilities and new major modifications, this program requires **new source review**—in particular, preconstruction permits conditioned on installation of the **best available control technology** (BACT).⁵⁸

BACT is determined by the states, with review by EPA, and thus may vary somewhat from state to state. However, BACT must be at least as stringent as the NSPS and Section 112 (hazardous air pollutant) standards for the pollutant,⁵⁹ and the PSD new source review program uses the same definitions as to what constitutes a major source, what is a modification, etc., as the NSPS program.⁶⁰ Because states can impose more stringent requirements than NSPS, and may need to do so for nonattainment areas to demonstrate attainment, there may be states or areas with less stringent and more stringent emission requirements. However, by imposing NSPS and hazardous air pollutant standards as a floor in all states, this disparity is minimized.

The early D.C. Circuit decision in *Alabama Power Co. v. Costle* remains the fullest judicial exposition of new source review in PSD areas.⁶¹ Among other things, the decision held that new source review is required only for sources to be constructed *in* PSD areas, not in other areas based on a source's projected adverse impacts in a PSD area in another state.⁶² *Alabama Power* also held that the PSD sections of the CAA impose no requirement for *post*-construction monitoring of emissions.⁶³ Finally, the decision approved EPA's use of the "bubble concept" to define which changes in a stationary source constitute a "modification." (See later section on "Bubble Concept.")

The Supreme Court has weighed in on the federal-state relationship in determining BACT. In *Alaska Dep't of Environmental Conservation v. EPA*,⁶⁴ the high court said that the CAA authorizes EPA to block construction in a PSD area of a major emitting facility, despite the state's issuance of a PSD permit, when EPA finds that the state's determination of BACT for that facility is inconsistent with the CAA definition of BACT.⁶⁵ The state had argued that the Act limits EPA to reviewing whether the state's permit contained a BACT determination.⁶⁶

⁵⁷ CAA §§ 165-169; 42 U.S.C. §§ 7475-7479.

⁵⁸ CAA § 165(a)(4); 42 U.S.C. § 7475(a)(4).

⁵⁹ CAA § 169(3); 42 U.S.C. § 7479(3).

⁶⁰ A caution is appropriate here. As the text states, the CAA uses the same definition of "modification" in the PSD and NSPS sections of the statute: Section 169(2)(C) states that "modification" in the PSD section shall be construed "as defined in" the NSPS section. In *Environmental Defense v. Duke Energy Corp.*, 549 U.S. 561, 576 (2007), however, the Supreme Court held that this common *statutory* definition does not remove EPA discretion to define the term differently in *regulations* under the two sections of the statute, if context so requires.

⁶¹ 636 F.2d 323 (D.C. Cir. 1979).

⁶² *Id.* at 364-366.

⁶³ *Id.* at 373.

⁶⁴ 540 U.S. 461 (2004).

⁶⁵ *Id.* at 492-493. The CAA definition of BACT is in Section 169(3), 42 U.S.C. § 7479(3).

⁶⁶ 540 U.S. at 488.

Whether PSD new source review applies in the special case of *greenhouse gas* (GHG) emissions has been a vexing issue. EPA had long argued that once its regulations limiting GHG emissions from new motor vehicles⁶⁷ took effect in 2011, it was required to apply PSD new source review to GHG emissions from stationary sources as well. Its argument had some force: the PSD portion of the Act defines the new sources to which it applies as those emitting more than a certain amount of “any *air pollutant*”⁶⁸ and requires BACT for “each *air pollutant* subject to regulation under this act.”⁶⁹ In 2007, the Supreme Court had squarely held that GHGs are indeed “air pollutants” under the CAA.⁷⁰ The problem with this argument, however, was administrative unwieldiness. EPA’s view concededly meant that tens of thousands of new and modified stationary sources would now require PSD permits, owing to the low amounts of pollution that trigger those permitting requirements and the huge number of sources that emit above-threshold quantities of CO₂, the primary GHG. Moreover, millions of existing stationary sources—office buildings, large apartment buildings, hospitals, etc.— would require Title V operating permits,⁷¹ for the same reason. But EPA proposed to take care of this problem with its “Tailoring Rule,”⁷² under which PSD and Title V permitting would be gradually phased in, starting with the largest emitters.

Notwithstanding EPA’s syllogistic argument for eventual full coverage of GHGs under PSD and Title V, the Supreme Court took a different tack in *Utility Air Regulatory Group v. EPA*.⁷³ As the Court explained, just because “air pollutant” as used in the CAA generally covers GHGs does not mean it includes GHGs every place it is used—especially since EPA has historically adopted narrow readings of “air pollutant” in specialized CAA contexts.⁷⁴ Moreover, the administrative unwieldiness of demanding PSD and Title V permits for so many sources argued strongly, in the Court’s view, against a GHG-inclusive reading of those programs.⁷⁵ Nor did the Court allow EPA, through its Tailoring Rule, to phase in the low statutory emission thresholds in an effort to ease the daunting administrative workload, since the Act states the thresholds in absolute numerical terms.⁷⁶

Yet the Court softened its ruling by holding that when new source review, with its BACT requirement, is required because a new or modified source emits a *conventional* pollutant, then such review can be demanded for GHG emissions from that source as well.⁷⁷ According to the Solicitor General’s numbers submitted in the case, such “anyway” sources, so called because they are covered independently of their GHG emissions, account for roughly 83% of American stationary source GHG emissions. Had EPA’s Tailoring Rule survived, EPA would have reached only 3% more of those emissions. So on the primary *UARG* holding, EPA was largely victorious, even though its Tailoring Rule was rejected.

⁶⁷ 75 Fed. Reg. 25323 (2010).

⁶⁸ CAA § 169(1); 42 U.S.C. § 7479(1) (definition of “major emitting facility”). Emphasis added.

⁶⁹ CAA § 165(a)(4); 42 U.S.C. § 7475(a)(4). Emphasis added.

⁷⁰ *Massachusetts v. EPA*, 549 U.S. 497 (2007).

⁷¹ CAA § 502; 42 U.S.C. § 7661a.

⁷² 75 Fed. Reg. 31514 (2010).

⁷³ 134 S. Ct. 2427 (2014).

⁷⁴ *Id.* at 2439-2442.

⁷⁵ *Id.* at 2442-2444. Said the Court: “the PSD program and Title V are designed to apply to, and cannot be extended beyond, a relative handful of large sources capable of shouldering heavy substantive and procedural burdens.” *Id.* at 2443.

⁷⁶ *Id.* at 2444-2446.

⁷⁷ *Id.* at 2444-2449.

“Routine Maintenance”

As mentioned, NSPSs and new source review in PSD areas apply not just to new sources, but also to existing sources that undergo modifications (NSPS) or major modifications (PSD).⁷⁸ The CAA defines “modification” as “any” physical or operational change in a stationary source “that increases the emissions of any air pollutant or results in the emission of any air pollutant not previously emitted.”⁷⁹ A modification is subject to the same requirements as a new source.

The CAA definition of “modification” has been interpreted by EPA and state pollution control agencies. Most importantly, EPA since 1974 has construed the term not to include “**routine maintenance, repair, and replacement**” (RMRR) at a stationary source⁸⁰—despite the CAA’s inclusion of “any” physical or operational change that increases emissions in its definition of modification.⁸¹ Courts have long accepted this agency-created exemption as reasonable.⁸² Given the powerful financial incentives for a source to avoid application of stringent NSPSs, utilities have argued for an expansive reading of the RMRR exemption, extending even to major renovations.⁸³

The seminal RMRR judicial pronouncement remains *Wisconsin Elec. Power Co. v. Reilly*,⁸⁴ referred to as the *WEPCO* decision. *WEPCO*, decided in 1990, was the first time a court held that an electric power plant renovation was not RMRR and thus triggered NSPS and PSD new source review.⁸⁵ The legacy of the decision is in its establishing that whether the RMRR exemption applies to an existing-source renovation depends on a case-by-case weighing of four factors: the resulting increase in a plant’s life expectancy, and the project’s cost, nature, and magnitude.⁸⁶ These factors are routinely cited by courts even today.⁸⁷

The other major RMRR decision is *New York v. EPA*,⁸⁸ rejecting a 2003 EPA effort to expand the exception. In its Equipment Replacement Rule of that year, the agency stated that the replacement of a plant’s components is categorically within the RMRR exception if the new equipment does not exceed 20% of the replacement value of the process unit and does not change its basic design parameters.⁸⁹ The court found this rule overbroad—inconsistent with the CAA definition of “modification” as including “any” physical change that increases emissions.⁹⁰ Phrased another

⁷⁸ In the parlance of the CAA, “new source” is defined to include both new and modified existing sources. CAA § 111(a)(2); 42 U.S.C. § 7411(a)(2).

⁷⁹ CAA § 111(a)(4), 42 U.S.C. § 7411(a)(4), defines “modification” for purposes of the NSPS section of the CAA. CAA § 169(2)(C), 42 U.S.C. § 7479(2)(C), specifies that that definition applies as well within the PSD portion of the statute.

⁸⁰ 40 C.F.R. § 60.14(e) (as to applicability of NSPS); 40 C.F.R. § 52.21(b)(2)(iii)(a) (as to applicability of PSD program).

⁸¹ CAA § 111(a)(2); 42 U.S.C. § 7411(a)(2).

⁸² *See, e.g., Wisconsin Elec. Power Co. v. Reilly*, 893 F.2d 901,906 (7th Cir. 1990).

⁸³ *See, e.g., United States v. Ohio Edison Co.*, 276 F. Supp. 2d 829, 840-849 (S.D. Ohio 2003).

⁸⁴ 893 F.2d 901 (7th Cir. 1990).

⁸⁵ *Id.* at 912.

⁸⁶ *Id.* at 910-911.

⁸⁷ *See, e.g., United States v. Duke Energy Corp.*, 2014 Westlaw 1028238 (M.D.N.C. March 17, 2014).

⁸⁸ 443 F.3d 880 (D.C. Cir. 2006).

⁸⁹ 68 Fed. Reg. 61,248, 61,270 (2003). *See also* 70 Fed. Reg. 33,838 (2005).

⁹⁰ 443 F.3d at 890.

way, the court found the rule too broad to fit within the *de minimis* rationale for the RMRR exception.

In *Environmental Defense v. Duke Energy Corp.*,⁹¹ the Supreme Court took on the question of what constitutes a “modification,” a threshold issue for application of the RMRR exception under either NSPS or PSD new source review. The Court held that even though the CAA defines “modification” in its PSD portion to mean the same as the NSPS definition of the term,⁹² EPA did not have to define the term the same in each CAA program, owing to the different statutory contexts.⁹³ EPA, the Court held, can define the definitional phrase “any change in the method of operation of a stationary source”⁹⁴ by different measures of the amount of pollutant emitted. To this day EPA defines the emissions increase required by the definition of “modification” differently in the NSPS and PSD contexts: in terms of emissions amount per hour for NSPS,⁹⁵ in terms of emissions amount per year for PSD.⁹⁶

Bubble Concept

In three different CAA programs—NSPS, PSD, and nonattainment areas—the Act attaches regulatory consequences to modifications at an emissions source that increase the amount of an emitted pollutant.⁹⁷ In the CAA’s early years, the question raged whether the determination as to whether an emissions increase occurred focused on each individual unit at a plant, or instead the net aggregate effect of contemporaneous changes within the same source.⁹⁸ The latter view was dubbed the **bubble concept** since it imagines a huge dome—that is, a bubble—placed over a facility, with a single emissions point at the top. Because the amount of emissions at the top of the dome is unaffected by emission increases at individual plant units that are offset by emissions decreases elsewhere in the plant, the bubble image was used to support measuring emission amounts on an aggregate plantwide basis. The bubble concept is preferred by industry because it allows a plant to avoid stringent CAA regulation triggered by emission increases by finding offsetting emission decreases.

By regulation, EPA adopted the bubble concept in each of the three programs listed above, and on each occasion was challenged. In *ASARCO v. EPA*, the D.C. Circuit in 1978 found the CAA barred the bubble concept for determining when a “modification” to an existing stationary source occurred for purposes of triggering application of NSPSs.⁹⁹ (As noted earlier, a modification to an existing source triggers NSPSs the same as construction of a new source.) The court saw EPA’s

⁹¹ 549 U.S. 561 (2007).

⁹² The NSPS definition is at CAA § 169(2)(B); 42 U.S.C. § 7479(2)(B).

⁹³ 549 U.S. at 574.

⁹⁴ *Id.* at 578-579.

⁹⁵ 40 C.F.R. § 60.14(b).

⁹⁶ 40 CFR §§ 52.21(b)(2)(i), 52.21(b)(23)(i).

⁹⁷ As noted in the preceding section of this report, applicability of NSPSs is triggered by, among other things, “modifications” of existing stationary sources. “Modification” is defined for NSPS purposes as a physical or operational change in an existing stationary source that “increases” the amount of emissions therefrom. Both the PSD and nonattainment portions of the CAA are also triggered by modifications of existing stationary sources, and both incorporate the NSPS definition of the term. CAA § 168(2)(C), 42 U.S.C. § 7479(2)(C) (PSD); CAA § 171(4), 42 U.S.C. § 7501(4) (nonattainment).

⁹⁸ For a summary of the rulemaking proceedings, see *ASARCO v. EPA*, 578 F.2d 319, 322-325 (D.C. Cir. 1978).

⁹⁹ *Id.* at 326.

bubble regulations, which defined “stationary source” to include any “combination of ... facilities,”¹⁰⁰ to be irreconcilable with the CAA definition of “stationary source” as “any building, structure, facility, or installation.”¹⁰¹ Nor was the court moved by EPA’s argument that the flexibility afforded by the bubble concept was needed because the cost of bringing modified existing facilities into compliance with NSPSs was, EPA claimed, much greater than the cost of bringing new facilities into compliance.¹⁰²

The following year, the D.C. Circuit took the opposite tack. In *Alabama Power Co. v. Costle*, the same court that found the bubble concept unacceptable for determining whether NSPSs apply held that the bubble concept is required in PSD areas.¹⁰³ The alternate view, based on individual units within a plant, was, in the court’s view, “unreasonable and contrary to the expressed purposes of the PSD provisions of the Act” and “extremely burdensome.”¹⁰⁴ The court distinguished its earlier holding, in *ASARCO*, by pointing out differences in EPA’s NSPS and PSD bubble regulations and noting the differing statutory purposes of the two programs.¹⁰⁵

Finally, in 1984, the Supreme Court found EPA’s use of the bubble concept in areas not attaining a NAAQS to be grounded on a permissible reading of the CAA. In *Chevron, U.S.A. v. NRDC*,¹⁰⁶ the Court found the Act’s language and legislative history to be sufficiently vague as to use of the bubble concept in nonattainment areas as to warrant deference to EPA’s interpretation. The only relevant definition, said the Court, is the general CAA definition of “major stationary source,” which equates “major stationary source” with “major emitting facility.”¹⁰⁷ The Court found it within “common English usage to take a reference to a major facility or a major source to connote an entire plant as opposed to its constituent parts.”¹⁰⁸

National Emission Standards for Hazardous Air Pollutants

Loosely speaking, “hazardous air pollutants” under the CAA are those that are more toxic than the pollutants addressed by NAAQSs.¹⁰⁹ For this reason, they are regulated separately in Section 112 of the Act, which directs EPA to set National Emission Standards for Hazardous Air Pollutants (NESHAPs). Section 112 is among the most litigated sections of the CAA.¹¹⁰ In the 1970s and 1980s, EPA was slow to implement the section, largely because it found its requirements to be unworkable.¹¹¹ By 1990, the agency had set standards for only seven hazardous air pollutants (and not all sources of even these seven), despite informal

¹⁰⁰ *Id.* at 324 (emphasis added).

¹⁰¹ CAA § 111(a)(3); 42 U.S.C. § 7411(a)(3).

¹⁰² 578 F.2d at 328.

¹⁰³ 636 F.2d 323, 400-403 (D.C. Cir. 1979).

¹⁰⁴ *Id.* at 401.

¹⁰⁵ *Id.* at 397.

¹⁰⁶ 467 U.S. 837 (1984).

¹⁰⁷ CAA § 302(j); 42 U.S.C. § 7602(j).

¹⁰⁸ 467 U.S. at 860.

¹⁰⁹ A more formal definition of hazardous air pollutants is at CAA Section 112(d)(2), 42 U.S.C. § 7412(d)(2).

¹¹⁰ 42 U.S.C. § 7412.

¹¹¹ *See generally* Hearing Before the Subcomm. on Oversight and Investigations, House Comm. on Energy and Commerce, 98th Cong., 2d Sess. 21 (1984) (statement of William D. Ruckelshaus, Administrator, EPA).

acknowledgement that hundreds of substances might merit emission controls.¹¹² It was challenged frequently in court for its failure to act.¹¹³

As enacted in 1970, Section 112 said EPA was to issue NESHAPs that protected public health with an “adequate margin of safety.” In the minds of several EPA Administrators, under both Democratic and Republican Presidents, this language posed a dilemma.¹¹⁴ Many of the substances that might merit regulation under Section 112 were possible or probable human carcinogens.¹¹⁵ As there is no known exposure level at which exposure to a carcinogen is considered safe, this implied that emissions of such substances should be completely eliminated (though the D.C. Circuit rejected this view).¹¹⁶

This and other issues raised in litigation during the 1980s led to a complete rewrite of Section 112 in the 1990 CAA amendments.¹¹⁷ First, instead of requiring the Administrator to identify hazardous air pollutants one by one as before the 1990 amendments, the amendments insert in the statute itself a list of 187 pollutants to be controlled by EPA—a list EPA may then revise.¹¹⁸ Second, instead of initially requiring protection of public health with an adequate margin of safety as before the amendments, the new version requires the Administrator, as a first step, to impose *technology-based* emission standards, called “floors,” for both new and existing sources. For “major sources,” these standards must require use of “maximum achievable control technology,”¹¹⁹ for other sources, termed “area sources” by the Act, EPA may elect to impose more lenient standards.¹²⁰ In the second, *risk-based* stage of regulation, EPA must review any residual health risks not eliminated by the foregoing standards, and report them to Congress.¹²¹ If Congress does not act, EPA must impose standards providing an ample margin of safety to protect public health, or a stricter standard if needed (considering costs) to prevent adverse environmental effects.¹²² These are called “beyond the floor” standards.

Ambiguities in the CAA definition of “major source” led to the D.C. Circuit decision in *National Mining Ass’n v. EPA*.¹²³ Most importantly, the court held that EPA may determine if a facility is a major source by aggregating all sources in a contiguous plant site under common control; it is not restricted to aggregating only sources within a single source category or under the same Standard Industrial Classification Code.¹²⁴ Elsewhere, the court spoke to the CAA directive that EPA, in determining what facilities are major sources, calculate whether a facility’s “potential to emit”

¹¹² See S. Rep. No. 101-228, at 3 (1989).

¹¹³ See, e.g., *Sierra Club v. Gorsuch*, 551 F. Supp. 785 (N.D. Cal. 1982) (radionuclides); *New York v. Gorsuch*, 554 F. Supp. 1060 (S.D.N.Y. 1983) (arsenic).

¹¹⁴ See Hearing Before the Subcomm. on Oversight and Investigations, *supra* note 111.

¹¹⁵ *Id.*

¹¹⁶ *NRDC v. U.S. EPA*, 824 F.2d 1146 (D.C. Cir. 1987) (en banc).

¹¹⁷ P.L. 101-549, 104 Stat. 2531 (1990).

¹¹⁸ CAA § 112(b); 42 U.S.C. § 7412(b).

¹¹⁹ CAA § 112(d)(2); 42 U.S.C. § 7412(d)(2). “Major source” is defined in CAA Section 112(a)(1).

¹²⁰ CAA § 112(d)(5); 42 U.S.C. § 7412(d)(5). “Area source” is defined in CAA Section 112(a)(2) as any stationary source of hazardous air pollutants that is not a “major source.”

¹²¹ CAA § 112(f); 42 U.S.C. § 7412(f).

¹²² CAA § 112(f)(2)(A); 42 U.S.C. § 7412(f)(2)(A).

¹²³ 59 F.3d 1351 (D.C. Cir. 1995).

¹²⁴ *Id.* at 1359.

meets the Act's threshold quantities only after "considering controls."¹²⁵ That directive, said the court, does not allow EPA to limit itself to controls that are federally enforceable.¹²⁶

Does Section 112 require EPA to create a NESHAP for a hazardous air pollutant in a source category if no sources in the category use technological controls for that pollutant? Yes, said the D.C. Circuit in *National Lime Ass'n v. EPA*.¹²⁷ Nothing in the statute, the court said, suggests that EPA may set emission levels only for those listed hazardous air pollutants that are currently controlled with technology.¹²⁸ To the contrary, it pointed out, the CAA requires EPA to set emission standards for each category or subcategory of major sources of hazardous air pollutants listed for regulation.¹²⁹

In *NRDC v. EPA*,¹³⁰ the D.C. Circuit wrestled with an ambiguous CAA instruction as to second-stage risk-based standards. The statute says that if the initial, technology-based standard for a source category does not reduce lifetime excess cancer risk to less than 1 in 1 million, EPA "shall promulgate standards ... for such source category."¹³¹ As is evident, this instruction says nothing about the stringency of those standards. Finding this language "deliberately ambiguous,"¹³² the court upheld EPA's reaffirmation of its existing technology-based standard for the source category in question under which no individual would face an excess lifetime cancer risk of greater than 100 in 1 million. The court noted that 100 in 1 million was EPA's interpretation of "ample margin of safety" before the 1990 amendments, and that those amendments expressly disavow any intent to change the agency's pre-1990 interpretation.¹³³ That same disavowal led the court to uphold EPA's consideration of costs in setting the risk-based standards, since the agency had considered costs before 1990.¹³⁴

Greenhouse Gas Emissions

In the absence of congressional action establishing a regulatory regime specifically for greenhouse gas (GHG) emissions, the broad authority to control air pollutants provided by the CAA has become the principal federal tool for addressing GHGs. Under the Act, the term "air pollutant" is defined in sweeping terms to include "any physical, chemical, biological, radioactive ... substance or matter which is emitted into or otherwise enters the ambient air."¹³⁵ In 1999, advocates petitioned EPA to use this authority to identify GHGs as air pollutants that potentially endanger public health and welfare and, as a next step, to control GHG emissions from new motor vehicles under CAA Section 202.¹³⁶ Motor vehicles are the source of about one-fourth of all U.S. GHG emissions.¹³⁷ In 2003, EPA denied the petition, arguing that the CAA did not give it

¹²⁵ CAA § 112(a)(1); 42 U.S.C. § 7412(a)(1).

¹²⁶ 59 F.3d at 1364.

¹²⁷ 233 F.3d 625, 633-634 (D.C. Cir. 2000).

¹²⁸ *Id.* at 633.

¹²⁹ *Id.*

¹³⁰ 529 F.3d 1077 (D.C. Cir. 2008).

¹³¹ CAA § 112(f)(2)(A); 42 U.S.C. § 7412(f)(2)(A).

¹³² 529 F.3d at 1081.

¹³³ *Id.* at 1082. CAA § 112(f)(2)(B); 42 U.S.C. § 7412(f)(2)(B).

¹³⁴ 529 F.3d at 1084.

¹³⁵ CAA § 302(g); 42 U.S.C. § 7602(g).

¹³⁶ *Massachusetts v. EPA*, 549 U.S. 497, 510 (2007).

¹³⁷ *Sources of Greenhouse Emissions*, <http://www.epa.gov/climatechange/ghgemissions/sources.html>.

authority to regulate GHG emissions, and that even if it did, the agency would not do so for policy reasons.¹³⁸

This suit led to the first, and most important, of the Supreme Court's three decisions on GHG emissions. In 2007, the Court in *Massachusetts v. EPA* remanded EPA's 2003 denial of the petition, holding 5-4 that, contrary to EPA's position, "air pollutant" in the CAA is broad enough to include GHGs¹³⁹ and that once EPA finds that GHG emissions potentially endanger public health and welfare it may not decline to regulate them on policy grounds.¹⁴⁰ The *Massachusetts* decision led EPA in 2009 to a pair of "endangerment findings" under Section 202: that GHGs currently in the atmosphere potentially endanger public health and welfare and that new motor vehicle emissions cause or contribute to that pollution.¹⁴¹ Based on those endangerment findings, EPA under Section 202 has issued GHG emission standards for model year 2012-2016 cars and light trucks,¹⁴² for 2014 and later model year medium- and heavy-duty vehicles,¹⁴³ and for 2017-2025 model year cars and light trucks.¹⁴⁴

The Supreme Court's second decision on GHG emissions, *American Electric Power Co. v. Connecticut*, did not chiefly concern EPA's program under the CAA.¹⁴⁵ Rather it held (unanimously) that the authority given EPA to regulate GHGs under the CAA, as through NSPSs under Section 111, means that federal judges no longer retain authority under the federal common law of nuisance to impose their own GHG emission limitations on sources.¹⁴⁶ *American Electric Power* is important for the CAA GHG program, however, in making clear that the inclusion of GHGs under Section 202, announced in *Massachusetts v. EPA*, also extends to NSPSs under Section 111(b).¹⁴⁷ In so clarifying, the Court eliminated that issue from the debate over EPA's proposed Section 111 regulations setting NSPSs for CO₂ from new fossil fuel-fired power plants.¹⁴⁸ And because such NSPSs are a legal prerequisite for EPA's use of Section 111(d) to regulate CO₂ from *existing* fossil fuel-fired power plants,¹⁴⁹ the Court's ruling also eliminated this authority issue from the debate over EPA's proposal restricting GHGs from those sources.¹⁵⁰

The Supreme Court's third decision on GHG emissions, *Utility Air Regulatory Group v. EPA*, was discussed in the "New Source Review" section. Briefly, that decision rejected EPA's argument that its regulation of new-motor-vehicle GHG emissions (this section, above) required it as a legal matter to apply two CAA permitting programs for stationary sources to GHG emissions from those sources. The Court did allow, however, that EPA *could* impose one of these programs, requiring installation of Best Available Control Technology on new and modified stationary

¹³⁸ 68 Fed. Reg. 52922 (2003).

¹³⁹ 549 U.S. 497, 532 (2007).

¹⁴⁰ *Id.* at 534.

¹⁴¹ 74 Fed. Reg. 66496 (2009).

¹⁴² 75 Fed. Reg. 25323 (2010).

¹⁴³ 76 Fed. Reg. 57106 (2011).

¹⁴⁴ 77 Fed. Reg. 62624 (2012).

¹⁴⁵ 131 S. Ct. 2527 (2011).

¹⁴⁶ *Id.* at 2535-2540.

¹⁴⁷ *Id.* at 2537-2538.

¹⁴⁸ 79 Fed. Reg. 1430 (2014).

¹⁴⁹ This linkage between CAA Sections 111(b) and 111(d) is evident from the fact that Section 111(d) applies only to emissions of air pollutants "to which a standard of performance under [section 111] would apply if such existing source were a new source." CAA § 111(d)(1); 42 U.S.C. § 7411(d)(1).

¹⁵⁰ 79 Fed. Reg. 34830 (2014)

sources in PSD areas, to GHG emissions from certain stationary sources: those that emit conventional pollutants in amounts sufficient to come under the program independently. See the “New Source Review” section for further details.

Enforcement

In *TVA v. Whitman*, a frequently used EPA enforcement tool, the administrative compliance order (ACO), was successfully challenged.¹⁵¹ Under the CAA, EPA has four enforcement options when it believes a violation of the statute has occurred: ask the Department of Justice to file a court action for civil penalties, ask the department to do the same for criminal penalties, conduct an EPA adjudication and impose civil penalties, and finally, issue an ACO.¹⁵² All of these options, save ACOs, give the accused party the right to challenge EPA’s understanding of the law or the facts in court before penalties can be imposed. By contrast, noncompliance with an ACO allows EPA to seek potentially severe civil penalties, even criminal penalties, for that noncompliance, despite the fact that the ACO is issued based on “any information available” to EPA and without an adjudication. Such penalties are in addition to penalties for violations of the Act itself. In reviewing the ACO noncompliance case, a court is limited to the question of whether the ACO was complied with.

In *TVA*, the U.S. Court of Appeals for the Eleventh Circuit struck down this scheme as “repugnant to the Due Process Clause of the Fifth Amendment.”¹⁵³ Pre-enforcement review by a court, it held, must be made available to the recipient of the order.¹⁵⁴ Nor can EPA “save” the statute by conducting a voluntary adjudication, as before its internal Environmental Appeals Board.¹⁵⁵ In the Circuit’s view, that would relegate Article III district courts to insignificant tribunals serving merely as forums for EPA to conduct show-cause hearings simply on whether the ACO was complied with.¹⁵⁶ Parenthetically, the Supreme Court later rendered an identical ruling—that ACOs are subject to pre-enforcement court review—but in connection with the Clean Water Act and solely on statutory, rather than constitutional, grounds.¹⁵⁷

EPA received a boost to its enforcement efforts, however, in *Dow Chemical Co. v. United States*.¹⁵⁸ There, the Supreme Court held that CAA Section 114¹⁵⁹ authorizes EPA to use aerial photography in checking on emission sources.¹⁶⁰ Moreover, the Court rejected the necessity under the Fourth Amendment for a warrant for such surveillance, on the theory that expectations of privacy outside an industrial plant do not come up to those surrounding a residential home.¹⁶¹

¹⁵¹ 336 F.3d 1236 (11th Cir. 2003).

¹⁵² CAA § 113(a); 42 U.S.C. § 7413(a).

¹⁵³ 336 F.3d at 1258.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.* at 1259.

¹⁵⁶ *Id.*

¹⁵⁷ *Sackett v. EPA*, 132 S. Ct. 1367 (2012) (holding that Clean Water Act ACOs are “final agency actions” for which pre-enforcement review is available under the Administrative Procedure Act).

¹⁵⁸ 476 U.S. 227 (1986).

¹⁵⁹ 42 U.S.C. § 7414.

¹⁶⁰ 476 U.S. at 239.

¹⁶¹ *Id.* at 238-239.

Postscript: Clean Air Act Court Decisions Superseded by Later Amendments

The CAA contains many provisions adopted by amendments that responded to court decisions interpreting the Act. These provisions either codified the court decision, if Congress agreed with it, or repudiated the decision, if Congress did not. Such superseded decisions were important in their day as prods to congressional action, but are of little interest today and so are noted only briefly here.

Probably the foremost example is the 1972 decision discerning in the CAA an implicit prohibition against allowing air quality better than required by national standards to deteriorate down to those standards—the so-called “prevention of significant deterioration” (PSD) policy.¹⁶² Four years later, Congress turned implicit to explicit: it provided a statutory charter for the “PSD program” EPA developed in response to the 1972 decision, in the form of CAA Title I, Part C.¹⁶³

Another superseded court decision construed the CAA phrase “will endanger” in 1976 to allow EPA to regulate gasoline additives on the basis of suspected, but less than certain, adverse effects¹⁶⁴—critically important to EPA given that total certainty as to the effects of any pollutant is rare, particularly at low concentrations. To ensure the permanence of this “precautionary principle” in the CAA, Congress codified it in 1977 by using the phrase “may reasonably be anticipated to endanger” instead of “will endanger” throughout the CAA as the threshold for agency action.¹⁶⁵

Still other superseded court decisions: (1) construed the CAA as banning the use of tall stacks and intermittent controls as a means to achieve national air quality standards,¹⁶⁶ a ban made explicit in the 1977 CAA amendments;¹⁶⁷ (2) interpreted the CAA standard for hazardous air pollutant emissions as not requiring zero emissions when a no-risk threshold does not exist for a pollutant,¹⁶⁸ an interpretation made moot when the standard was transformed into a technology-based standard by the 1990 amendments;¹⁶⁹ and (3) ruled that the CAA subjects federal facilities only to substantive state air pollution standards, not procedural ones,¹⁷⁰ repudiated when the 1977 amendments stated that both applied.¹⁷¹

¹⁶² *Sierra Club v. Ruckelshaus*, 344 F. Supp. 253 (D.D.C. 1972) (CAA goal in Section 101 “to protect and enhance the quality of the Nation’s air” imposes duty on EPA to reject state implementation plans that do not include provisions against significant deterioration of air quality currently cleaner than national standards), *aff’d* (D.C. Cir. 1972) (unpublished), *aff’d by equally divided vote sub nom. Fri v. Sierra Club*, 412 U.S. 541 (1973).

¹⁶³ P.L. 95-95 (CAA Amendments of 1977) § 127.

¹⁶⁴ *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976) (en banc) (construing “will endanger” in CAA Section 211).

¹⁶⁵ See CAA Sections 108 (national ambient air quality standards), 202 (emission standards for new motor vehicles), 211 (controls on fuel additives), 213 (emission standards for new nonroad vehicles), and 231 (emission standards for aircraft engines).

¹⁶⁶ See, e.g., *Bunker Hill Co. v. EPA*, 572 F.2d 1286 (9th Cir. 1977).

¹⁶⁷ P.L. 95-95 (CAA Amendments of 1977) § 121, adding a new Section 123 to the Act.

¹⁶⁸ *NRDC v. U.S. EPA*, 824 F.2d 1146 (D.C. Cir. 1987) (en banc).

¹⁶⁹ P.L. 101-549.

¹⁷⁰ *Hancock v. Train*, 426 U.S. 167 (1976).

¹⁷¹ P.L. 95-95 (CAA Amendments of 1977) § 116, amending CAA Section 118.

Glossary of Acronyms

ACO: administrative compliance order
BACT: best available control technology
CAA: Clean Air Act
CAIR: Clean Air Interstate Rule
CO₂: carbon dioxide
EPA: Environmental Protection Agency
GHG: greenhouse gas
NAAQS: national ambient air quality standard
NESHAP: national emission standard for hazardous air pollutant
NO_x: nitrogen oxides
NEPA: National Environmental Policy Act
NSPS: new source performance standard
PSD: prevention of significant deterioration
RMRR: routine maintenance, repair, and replacement
SIP: state implementation plan
SO₂: sulfur dioxide

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