

Old West Justice: Federalism and Clean Air Regulation 1970-1998

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I. INTRODUCTION

Knowledge of long-range ozone transport has existed since the early 1970s. Nevertheless, until recently, the Environmental Protection Agency (EPA or the Agency) has failed to translate its awareness of pollution transport into control requirements for upwind sources. Instead, adhering to the principle of local responsibility, the agency has allowed pollution to freely cross state borders. This longstanding EPA policy has resulted in allowing sources in some states to pollute freely while requiring sources in other states to reduce pollution they did not emit. In essence, pollution, like the bad guy in an old western, has succeeded in escaping the law merely by crossing a state line.

But there appears to be a new sheriff in town. Polluters seeking to evade justice by exploiting notions of federalism and scientific uncertainty should beware. After three decades during which the EPA turned a blind eye to long-range ozone transport, the Agency has recently proposed regulations that, if promulgated, will force upwind states to bear responsibility for their own pollution.

Under Section 110 of the Clean Air Act (CAA or the Act), the EPA has proposed to require twenty-two states¹ and the District of Columbia to substantially reduce emissions of nitrogen oxides² (NOx) because these emissions “significantly contribute” to ozone nonattainment in a downwind state.³ The EPA has asserted its intention to coordinate this action with a host of petitions filed under Section 126 of the Act seeking similar reductions from upwind pollution sources. This Article will explore the EPA’s historic unwillingness to address ozone transport and then assess the potential success of recent EPA and state actions under Section 110 and Section 126. Particular attention is given to the recent revisions to the National Ambient Air Quality Standards (NAAQS),

1. Alabama, Connecticut, Delaware, Georgia, Illinois, Indiana, Kentucky, Massachusetts, Maryland, Michigan, Missouri, North Carolina, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin. See Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. 60,318 (1997) [hereinafter Ozone Transport Rulemaking].

2. NOx pollution is the primary cause of ozone smog which poses a significant threat to public health and the environment across much of the United States. NOx emissions also contribute to a host of other air quality problems including acid deposition, fine particle formation, regional haze, and nitrification of sensitive coastal water bodies.

3. See Ozone Transport Rulemaking, *supra* note 1, at 60,318.

accomplishments of the Ozone Transport Assessment Group (OTAG), and the restructuring of the electric power industry.

The backdrop to this Article is the longstanding regional conflict between the northeast and the midwest over long-range ozone transport. Due to prevailing weather patterns, topography, and the concentration of pollution sources east of the Continental Divide, pollution transport has a greater impact on air quality in the East than the West. The northeast states are most severely burdened with flows of ozone and NO_x pollution from both up the coast and from the heavily industrialized Ohio River Valley though the Midwest, the Southeast and Gulf Coast states are also affected by pollution transport. As a consequence of these natural phenomena, the Northeast has provided the impetus for the EPA's recent proposals to force upwind states to reduce their ozone emissions.

Poised on the verge of a constructive change in air pollution policy, it is useful to question why it has taken so long for regulatory policy to respond to scientific knowledge of ozone transport. The EPA's failure to act until now is, in many ways, as noteworthy as the Agency's recent proposal. Before discussing this proposal and its chances of success, this Article will examine the interactions between science, politics, and law that have perpetuated the paradigm of local control. While the science affecting interactions of chemicals in the disorderly laboratory of nature is complex, scientific uncertainty is only part of the answer. Equally responsible is a political history deeply rooted in notions of states' rights and fearful of vesting too much power in the federal government. Also responsible is a judicial system that is ill-equipped to provide meaningful oversight of highly technical Agency decisions and tort-based burdens of proof ill-suited to the complexities of interstate pollution spillovers. This Article will return to an examination of the causes of Agency inaction with respect to long-range ozone transport after first reviewing basic facts about ozone smog and atmospheric transport.

II. SCIENCE OF OZONE FORMATION AND THE CASE FOR OZONE TRANSPORT

Ozone is a secondary pollutant.⁴ Unlike carbon monoxide which is directly emitted from vehicle tailpipes, ozone forms in the air when NO_x reacts with hydrocarbons in the presence of sunlight. Ozone is only

4. For a fuller description of the science of ozone formation, see generally NATIONAL RESEARCH COUNCIL, *RETHINKING THE OZONE PROBLEM IN THE URBAN AND REGIONAL AIR POLLUTION* 98-107 (1991) [hereinafter NATIONAL RESEARCH COUNCIL]; Paul Miller, *Cutting Through the Smog: The 1990 Clean Air Act Amendments and a New Direction Towards Reducing Ozone Pollution*, 12 STAN. ENVTL. L.J. 124, 158-63 (1993); W.L. Chameides et al., *Ozone Precursor Relationships in the Ambient Atmosphere*, 97 J. GEOPHYSICAL RES. 6037 (1992).

produced during daylight and is destroyed when it contacts the surface of things. As a consequence, at ground level ozone concentrations rise during the daytime hours and fall during the night-time when new production ceases. Because there is little downward mixing of the atmosphere at night, elevated ozone may be trapped aloft. Protected from destructive contact with the ground, ozone aloft may be transported hundreds of miles downwind in a single day.

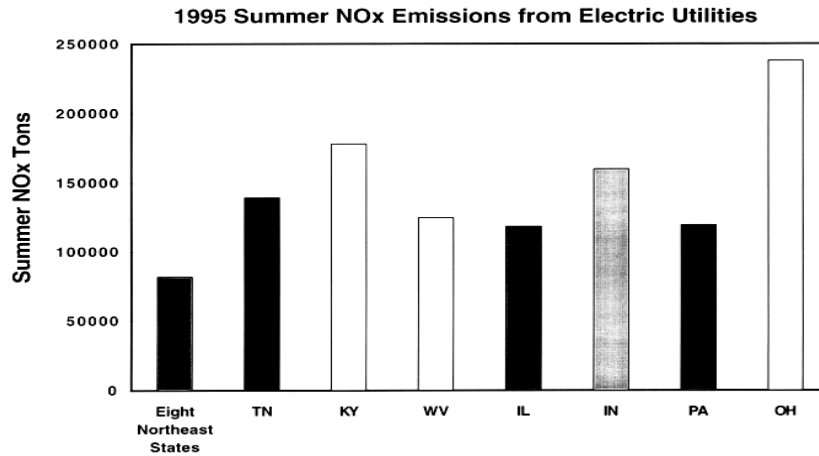
Hydrocarbons, also referred to as volatile organic compounds (VOCs), are emitted from a wide range of industrial activities. Principle sources of VOCs are manufacturing processes that use solvents, and the storage, transportation, distribution, and use of gasoline. VOCs are also released into the atmosphere from vegetation. In rural areas, the amount of natural or "biogenic" VOCs saturate the ozone formation process rendering anthropogenic VOC control strategies of little value. In urban areas, with relatively less naturally occurring VOCs, reductions in man-made VOCs may have a positive effect in lowering peak ozone concentrations. Overall, man-made VOCs can play a substantial role in peak urban ozone formation, but have little impact on the regional ozone problem.

NO_x is a combustion by-product and is emitted whenever and wherever fossil fuels are burned. Virtually all NO_x emissions that are important in ozone formation result from human activity. Nationally, roughly one third of NO_x emissions come from electric utilities, one third come from automobiles, and one third come from the diesel engines that power trucks, buses, construction, agricultural, and other off-road equipment. Regionally, the relative contribution of these sectors differs from national figures due in large part to the wide variation in electric utility emissions among regions.

Table I demonstrates the wide disparity in NO_x emissions between the Northeast and Midwest states.⁵

5. See EPA, OFFICE OF AIR & RADIATION ACID RAIN PROGRAM (visited May 26, 1998) <<http://www.epa.gov/acidrain/NOx/maps/index.htm>>.

Table I



The bar on the far left depicts the cumulative NOx emissions from electric utilities in the eight Northeast states during the summer months.⁶ The additional bars depict the electric utility NOx emissions from each named state during the identical time period. This dramatic disparity is based in part on the fact that the midwest utilities are more reliant upon coal than northeast utilities and in part on the fact that many midwest coal utilities continue to operate with minimal NOx controls and therefore emit far more NOx pollution per kilowatt generated than their Northeast counterparts.

Los Angeles was the first city to recognize an ozone problem when, in 1943, the *Los Angeles Times* described a series of “gas attacks” that differed in nature from the smoke and soot typically experienced in other cities.⁷ By the 1960s, Los Angeles began implementing the nation’s first and most aggressive program to deal with urban ozone pollution. When Congress moved to adopt the CAA in 1970, much of what we knew about ozone came from the topographical and meteorological oddity we call Los Angeles. L.A. is essentially a geological tupperware bowl filled with tail-pipes. Its high emissions, near constant sun, and surrounding mountains which trap pollutant emissions in a stagnant air mass, conspire to cause its infamous smog problems. Due to these and other conditions

6. The states included are Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, and New Jersey. The “summer months” refer to the months of May through September when the northern half of the country is prone to elevated ozone levels. Southern cities like L.A. and Houston experience year round ozone violations.

7. See Jane Hall et al., Institute for Economic and Environmental Studies, California State University, Fullerton, *The Automobile, Air Pollution Regulation and the Economy of Southern California 1965-1990* (1995).

such as an ocean to its west, the Los Angeles air basin is largely devoid of transport dynamics; its ozone problem is of its own making. With Los Angeles as its prototype, it is understandable that pollution transport did not figure prominently in Congress's deliberations concerning the CAA.

In the November 7, 1997, Federal Register Notice announcing the EPA's proposed action under Section 110, the Agency writes:

The 1990 [CAA] Amendments reflect general awareness by Congress that ozone is a regional, and not merely a local problem. . . . [O]zone and its precursors may be transported long distances across State lines to combine with ozone and precursors downwind. . . . *In the case of ozone, this transport phenomenon was not generally recognized until relatively recently.*⁸

The last sentence of this quote is artfully vague. If, "generally recognized" means recognized in popular culture or "relatively recently" includes the Nixon Administration, the EPA's statement is accurate. If however, the reader is left with the impression that the scientific and regulatory community were unaware of ozone transport until 1990, and then only in a general way, she has been misled.

Not long after passage of the 1970 Act, the scientific community began to question the premise that ozone smog could be controlled solely through local efforts. A 1973 study assessing the air pollution strategies available to several cities in New York State concluded:

local urban photochemical generation of ozone is not the dominant mechanism for ozone production . . . the high urban concentrations of ozone are principally the result of transport and mixing of ozone-rich air into the city from the surrounding air mass.⁹

This and other studies were supported by empirical field measurements confirming the existence of transport. In the late 1970s, scientists used aircraft to track the formation and transport of ozone in pollution plumes downwind of major urban areas and large power plants.¹⁰ Additional evidence was provided by measured violations of the ozone standard at remote sites in the eastern United States. Field measurements at Acadia National Park in Maine, Shenandoah National Park in Virginia, and Great Smoky Mountains National Park located on the North Carolina/Tennessee border have all recorded substantially

8. Ozone Transport Rulemaking, *supra* note 1, at 60,322 (emphasis added).

9. Peter Coffey & William Stasiuk, *Evidence of Atmospheric Transport of Ozone into Urban Areas*, 9 ENVTL. SCI. & TECH. 1, 59 (1975).

10. See W.H. White et al., *Formation and Transport of Secondary Air Pollutants: Ozone and Aerosols in the St. Louis Urban Plume*, 194 SCIENCE 187-89 (1976); W.H. White, *NOx & O₃ Photochemistry in Power Plant Plumes: Comparison of Theory with Observation*, 11 ENVT'L SCI. & TECH. 995-1000 (1977).

elevated ozone levels.¹¹ Most telling is that these high ozone levels usually occur during the night or early morning hours. Since sunlight is required for ozone formation, the presence of elevated ozone at these remote sites and times can only result from transported pollution.

Knowledge of the significance of pollution transport was by no means confined to the U.S. during the 1970s. In 1976, the EPA and the Organization for Economic Cooperation and Development (OECD) hosted the International Conference on Oxidant Problems. The Summary Review from the Conference offers the following conclusions:

- elevated oxidant/O₃ concentrations can originate from upwind sources as far away as 1000 kilometers (km) or more; and
- regional (multistate) control programs are needed, rather than on a state-by-state basis.¹²

Moreover, knowledge of long-range transport was not confined to the scientific community. In 1984, the Office of Technology Assessment reported to Congress its findings that airborne pollutants may be carried to destinations hundreds of miles from their points of origin.¹³ In 1991 the National Academy of Sciences (NAS) published a seminal analyses based upon hundreds of studies conducted during the last twenty years. The NAS study, *Rethinking the Ozone Problem in Urban and Regional Air Pollution*, described a persistent blanket of high ozone in the eastern United States, on scales of over 1000 km that can last for several days.¹⁴

The inescapable conclusion of these studies is that the phenomenon of long-range ozone transport is and has been evident for many years. Nevertheless, this empirical physical truth has to date had remarkably little impact on the design of our pollution control efforts.

III. FEDERALISM: THE ROOTS OF LOCAL CONTROL

The reluctance of the federal government to impose regional strategies depicts a resistance to federal control that runs deep in our system of government. At the Virginia Ratification Convention in 1787, William Grayson questioned the coherence of a system of dual federal/state sovereignty:

11. NORTHEAST STATES FOR COORDINATED AIR USE MANAGEMENT (NESCAUM), REGIONAL OZONE CONCENTRATIONS IN THE NORTHEASTERN UNITED STATES (1992) (on file with author).

12. B. Dimitriadis & A.P. Altshuller, *International Conference on Oxidant Problems: Analysis of the Evidence/Viewpoints Presented, Part II. Evidence/Viewpoints on Key Issues*, 28 J. AIR POLLUTION CONTROL ASS'N 207 (1978).

13. OFFICE OF TECHNOLOGY ASSESSMENT, ACID RAIN AND TRANSPORTED AIR POLLUTANTS: IMPLICATIONS FOR PUBLIC POLICY 3 (1984).

14. NATIONAL RESEARCH COUNCIL, *supra* note 4, at 98.

How are two legislatures to coincide, with powers transcendent, supreme, and omnipotent? . . . I never heard of two supreme coordinate powers in one and the same country before. . . . It surpasses everything that I have read of concerning governments, or that I can conceive of by the utmost exertion of my faculties.¹⁵

The history of government involvement in cleaning the air portrays the uncomfortable tension between federal and state sovereignty Grayson alluded to over two hundred years ago. Richard Stewart, in his exploration of federalism in environmental policy, notes that a host of “utilitarian” and “nonutilitarian” factors have led us to favor state and local governance on issues relating to the environment.¹⁶ He writes, “In our nation, the factors favoring noncentralized decisionmaking have been powerfully reinforced by geography, history, and the structure of our politics.”¹⁷

Nevertheless, the physical transport of environmental pollution between states, what Stewart refers to as “spillover effects,”¹⁸ contradicts the presumption and logic of local control. As Stewart argues, a state’s claim to autonomy should be heeded only to the extent that it does not disable the autonomy of a neighboring state.¹⁹

The progression of air pollution statutes since the 1950s reflects that both deference to local control and the resort to federal intervention to address interstate pollution transport. Fear of subverting local controls helps explain the absence of federal authority in early clean air legislation and why it took until 1990 for Congress to provide the EPA with adequate authority to confront interstate pollution. Similarly, Congress’s seeming reluctance to override state prerogative helps explain the EPA’s failure to exercise the considerable authority it was granted in the 1977 CAA Amendments and the Agency’s timidity to exercise its current authority between 1990 and 1997.

15. THE DEBATES IN THE SEVERAL STATE CONVENTIONS ON THE ADOPTION OF THE FEDERAL CONSTITUTION, in Dale D. Goble, *The Compact Clause and Transboundary Problems: A Federal Remedy for the Disease Most Incident to a Federal Government*, 17 ENVTL. LAW 785, 798-99 n.50 (1987).

16. Richard Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196, 1210 (1977).

17. *Id.* at 1211. Stewart asserts that the presumption for “noncentralized decisionmaking,” is rooted in the utilitarian advantages local governments have addressing the variability of environmental concerns, the disparity between geographic preferences and valuation, and the social benefit accruing from local experimentation. *Id.* at 1210. Stewart identifies nonutilitarian values of self-determination, personal betterment through involvement in democratic decisionmaking, and the moral virtue of diversity in our interaction with the natural environment to further support the presumption for local control. *Id.* at 1211.

18. *Id.* at 1226-27.

19. *Id.* at 1227.

Consistent with the traditional pattern of ceding police, public health, and nuisance powers to the states, the first federal statutes devoted to improving air quality provided states with complete control over regulatory decisions. The Air Pollution Control Act of 1955²⁰ limited the federal government's role to providing funding, technical support, and conducting research. In 1963, Congress passed the first Clean Air Act.²¹ The 1963 Act continued the basic framework of state deference with one exception. It empowered the federal government to supersede state sovereignty when pollution sources in one state endangered the health or welfare of persons in another state. While providing a theoretical basis for federal engagement, the 1963 Act did not provide effective mechanisms for federal action or set forth any specific state requirements. Dissatisfied with the lack of state progress, Congress acted again in 1967. The Air Quality Act of 1967²² authorized the Secretary of Health Education and Welfare to establish Air Quality Control Regions (the predecessor to nonattainment areas) and to establish criteria for ambient standards. Still, no specific actions or reduction obligations were imposed upon the states.

The modern era of U.S. air pollution control was initiated with the adoption of the 1970 CAA.²³ Congress required the EPA to set National Ambient Air Quality Standards (NAAQS) adequate to protect public health.²⁴ State governments, for the first time, were required to adopt and implement pollution reduction measures.²⁵ Based in part on our understanding of ozone formation and in part on a continuation of deference to state authority, the magnitude of a state's pollution control obligation was based solely upon the ambient air quality measured within its borders.²⁶ In establishing these reduction obligations, no concern was given for where the pollution was initially emitted. The CAA reads, "Each State shall have primary responsibility for assuring air quality within the entire geographic area comprising such State. . . ."²⁷ The only

20. Pub. L. 84-159, 69 Stat. 322 (1955) (current version codified as amended at 42 U.S.C. §§ 7401-7642 (1994)).

21. Clean Air Act of 1963, Pub. L. 88-206, 77 Stat. 392 (1963) (current version codified as amended at 42 U.S.C. §§ 7401-7642 (1994)).

22. Pub. L. 90-148, 81 Stat. 485 (1967) (current version codified as amended at 42 U.S.C. §§ 7401-7642 (1994)).

23. Pub. L. 91-604, 84 Stat. 1676 (current version codified as amended at 42 U.S.C. §§ 7401-7671 (1994)). Many argue that adoption of the 1970 CAA effected far more than just air pollution. As the first major environmental statute, the 1970 CAA is often credited as initiating the modern era of government involvement in environmental protection.

24. See CAA § 109(a), (b), 42 U.S.C. § 7409(a), (b).

25. See CAA § 107(a), 42 U.S.C. § 7407(a).

26. See CAA § 107(d), 42 U.S.C. § 7407(d).

27. CAA § 107(a), 42 U.S.C. § 7407(a).

formal recognition of transport was a general requirement for “intergovernmental cooperation” between the states.²⁸

In the broadest sense, the 1970 Act created a three step process premised upon local responsibility. This three-step process, described below, was maintained in the subsequent 1977 and 1990 CAA reauthorizations. First, a state is designated to be achieving or violating the NAAQS for ozone. These designations are officially provided by the Governor and must be made in accordance with federal guidelines.²⁹ Second, states in violation of an air quality standard must adopt a State Implementation Plan (SIP) setting forth regulations that, once implemented, will result in attainment.³⁰ Each SIP must contain pollution modeling simulations demonstrating that the measures are adequate to reach the standard. Third, states must implement the measures and make up any short fall in projected reductions through additional controls.³¹ Failure on the part of a state to adopt and implement pollution control strategies adequate to comply with the NAAQS by the statutory deadlines is by law supposed to result in the imposition by the EPA of severe sanctions.³² At present, these sanctions include the revocation of National Highway funding and restrictions on the ability of new industry to locate in the affected area.³³ The Act was significantly amended in 1977 and

28. CAA § 102, 42 U.S.C. § 7402.

29. See CAA § 107(d)(4), 42 U.S.C. § 7407(d)(4). The previous ozone standard was set at 120 parts of ozone per billion parts air (ppb). Measurements are averaged over one hour periods. A state was deemed in violation of the standard if pollution monitors anywhere in the state recorded ambient ozone levels exceeding the standard more than four times over a three year period. Thus, if the average ozone levels measured at a single monitor exceeds 120 ppb for an hour on four or more occasions in three years that area must be designated to be in nonattainment of the ozone standard. The recent revisions maintain the one hour standard and added an additional standard of 80 ppb that is measured over an eight-hour period. The attainment/nonattainment distinction is determined by averaging the fourth highest eight hour reading measured each year for three years. If that rolling three year average is over the 80 ppb standard then an area is in nonattainment. Both the 80 ppb and 120 ppb standards are not actually violated until levels reach 85 ppb and 125 ppb due to “rounding conventions.”

30. See CAA § 110, 42 U.S.C. § 7410.

31. See *id.*

32. See CAA § 110(m), 42 U.S.C. § 7410(m).

33. See CAA § 179(b), 42 U.S.C. § 7509(b). These restrictions are accomplished through pollution offset requirements. All sources locating in nonattainment areas must offset their new emissions by reducing pollution at another local facility owned by the same company or purchasing pollution credits created when other sources cease to operate or by other pollution reduction activities that exceed federal and state requirements. Dependent upon the severity of the nonattainment problem, offset ratios range from 1:1 to 1.3:1. See CAA § 182(a)(4), (b)(5), (c)(10), (d)(2), (e)(1), 42 U.S.C. § 7511a(a)(4), (b)(5), (c)(10), (d)(2), (e)(1). When applied as a sanction, new facilities must reduce two times the pollution they will emit before receiving a permit to operate in the affected area. While not an absolute ban on new industry, this requirement creates a substantial additional cost that can discourage companies from bringing highly valued jobs and tax revenue to a state. See CAA § 179(b)(2), 42 U.S.C. § 7509.

1990.³⁴ During both revisions, provisions were added authorizing the EPA to employ discretionary authority to control interstate transport. By refusing to employ this authority, the EPA has until now perpetuated the paradigm of local responsibility set forth in the 1970 Act.

IV. CONTROLLING UPWIND SOURCES: THE ROAD NOT TAKEN 1970-1997

One may well wonder why the EPA has not taken a more aggressive stance against upwind pollution sources. The answer cannot be attributed to a lack of adequate opportunity or authority.

A. *Overview of Clean Air Act Sections 110 and 126*

Sections 110 and 126 are the two principle provisions of the CAA designed to address interstate air pollution. While the scope and remedy provisions of these two sections differ, both seek to prevent upwind sources from significantly contributing to nonattainment problems or interfering with the maintenance of the air quality standards in downwind states. Under Section 110(k)(5), the EPA has an affirmative duty to disapprove any state's SIP that fails to adequately control interstate transport.³⁵ Section 110 also requires the EPA to prohibit upwind emissions from interfering with measures required to prevent significant deterioration (PSD) of air quality or to protect visibility in another state.³⁶ Prior to November 1997, the EPA never employed its affirmative duty under Section 110 to require a state to adopt additional controls to diminish transport.

The Act also makes provision for state initiation of federal action to address out of state transport. Pursuant to Section 126, a state may petition the EPA Administrator for a finding that a major source or group of stationary sources emits an air pollutant in violation of the prohibition in Section 110(a)(2)(D).³⁷ Within sixty days after she receives the petition, and after a public hearing, the Administrator must make the

34. In 1977, many in Congress perceived the 1970 Clean Air Act as "an inadequate answer to the problem of interstate air pollution." S. Rep. No. 127, at 41-42 (1977). The 1977 Amendments strengthened § 110's prohibitions against interstate air pollution, and added § 126 as an enforcement provision for these prohibitions. *See Interstate Pollution Abatement; Proposed Determination*, 49 Fed. Reg. 34,851, 34,852-53 (1984). The 1990 Amendments significantly strengthened the provisions in § 110 and § 126 by lowering the burden of causation and broadening the EPA's assessment from the impacts of a single source to the cumulative impacts of a group of sources. *See id.*

35. CAA § 110(k)(5), 42 U.S.C. § 7410(k)(5).

36. CAA § 110(a)(2)(D), 42 U.S.C. § 7410(a)(2)(D).

37. CAA § 126(b), 42 U.S.C. § 7426(b).

requested finding or deny the petition.³⁸ If the Administrator finds that the source or group of stationary sources is emitting a pollutant in violation of the standard defined in Section 110, the source must cease its operation within three months unless the Administrator permits it to operate under a plan bringing it into compliance "as expeditiously as practicable," but no later than three years.³⁹ The burden under Sections 110 and 126 is identical as the two sections cross-reference each other.⁴⁰ To date, the EPA has rejected all petitions brought under Section 126.⁴¹

Though limited to just stationary sources, Section 126 requires a prompt remedy once a positive finding is made.⁴² Moreover, the Act provides that the EPA may directly impose the remedy on the offending sources without involving the upwind state.⁴³ The EPA's authority with respect to other states under Section 126 lies in stark contrast to the EPA's authority with respect to states generally under the Act. This anomaly can be explained by the origin of Section 126. Unlike Section 110 which is an extension of the planning requirements of the Act, Section 126 originated in the government's obligation to prevent public nuisance and other tortious behavior.⁴⁴ Prior to the 1990 CAA Amendments, Section 126 required the EPA to find individual stationary sources responsible for preventing downwind attainment. The aggressive timing and substantive requirements found in Section 126 reflect in part Congress's greater comfort sending federal regulators against a polluting source rather than state regulators.

In comparison, Section 110 is designed to be more comprehensive, more deferential, and less expedient. When making a determination under Section 110(k)(5), the EPA must consider the cumulative impact of all sources of pollution in an upwind state. Though broader in reach, Section

38. *See id.*

39. *See* CAA § 126(c)(2), 42 U.S.C. § 7426(c)(2).

40. *See id.* Unfortunately, a drafting error in the 1990 Amendments created a circular cross-reference. At present, § 126 incorrectly refers to a subsection in § 110(a)(2)(D)(ii), which refers directly back to § 126. Prior to the 1990 Amendments, § 126 referred to the requirement in § 110 that state implementation plans contain adequate provisions addressing interstate air pollution. This drafting error, if read literally, eliminates the standard from § 126 rendering it meaningless. In such cases, courts generally interpret the statute consistent with congressional intent.

41. In the 1980s a host of petitions were brought seeking relief from both sulfur dioxide and ozone causing emissions. All were denied. *See, e.g.*, Interstate Pollution Abatement; Proposed Determination, 49 Fed. Reg. 34,851 (1984); Interstate Pollution Abatement; Final Determination, 47 Fed. Reg. 6624 (1982).

42. CAA § 126(b), (c), 42 U.S.C. § 7426(b), (c).

43. *See* CAA § 126(c), 42 U.S.C. § 7426(c).

44. In adopting § 126, Congress sought to prevent states from the time honored tradition of citing large stationary sources on their downwind borders. *See* S. Rep. No. 127, at 41-42 (1977).

110 provides no specific time frame for conducting the inquiry or making the determination. Section 110 also fails to set forth an absolute deadline for curing a problem once it is acknowledged. In addition, Section 110 requires more deference on the part of the EPA in designing and implementing a remedy. Far from the direct federal imposition of controls required by Section 126, the remedy under Section 110 is the EPA's disapproval of the state SIP with the weak threat of sanctions and a federal implementation plan (FIP) if the problem is not remedied within a two-year time period. While the EPA can make suggestions and has ultimate responsibility to judge the adequacy of a state's revised SIP, Section 110 perpetuates the basic model of state discretion.⁴⁵

The logic of continued deference under Section 110 to offending states is problematic. It is not as if upwind states are unaware that their pollution affects others. They simply lack any incentive to control pollution that affects only their neighbors and not their own residents. Congress recognized this lack of incentive when it adopted Section 126 in 1977. The House Report accompanying the 1977 CAA Amendments reads, "an effective [interstate pollution control] program must not rely on prevention or abatement action by the State in which the source of the pollution is located, but rather by the State . . . which receives the pollution and the harm, and thus has the incentive and need to act."⁴⁶

B. Recent Initiatives under Sections 110 and 126

In mid-August 1997, eight northeastern states filed petitions with the EPA Administrator seeking relief from upwind NO_x emissions.⁴⁷ The front page headline of the *New York Times* reported, *Northeast States Pressuring EPA to Move on Smog, Target: Utilities to the West*.⁴⁸ While all petitions focus on large stationary sources, particularly electric utilities, the petitions vary as to the exact type and geographic location of the sources they identify as causing ozone violations within the petitioning state. Table II summarizes the eight Northeastern states' Section 126

45. See *Virginia v. EPA*, 108 F.3d 1397, 1409-10 (D.C. Cir. 1997) (rejecting the EPA's attempt under § 110 to dictate the control measures a state must adopt and instructing that the Act provides states with the authority to make such determinations leaving the EPA to judge whether the measures in totality are adequate to provide the necessary reductions).

46. H.R. Rep. No. 95-294, at 330 (1977), reprinted in 1977 U.S.C.C.A.N. 1077, 1409.

47. The states filing petitions are: Connecticut, Maine, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island and Vermont. See Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 24,058, 24,071-72 (1998).

48. John H. Cushman, Jr., *Northeast States Pressuring to Move on Smog; Target: Utilities to West*, N.Y. TIMES, Aug. 8, 1997, at A1.

petitions indicating the size of sources identified and the geographical scope of the requested relief.

Table II. Section 126 State Petitions

State	Source size	Geographic scope
Connecticut	All Utilities and Large Industrial Sources	same as New York
Maine	All Utilities and Large Industrial Sources	600 miles upwind of Kittery, ME
Massachusetts	All Utilities and Large Industrial Sources	Sources within 3 counties of Ohio River from western PA border to Louisville, KY
New Hampshire	All sources greater than 10 tons NOx/summer day	OTAG subregions ¹ showing $\geq 5\%$ contribution to NH
New York	All Utilities and Large Industrial Sources	Area extending between NYC and the western boundary of OTAG subregions ¹ 2 & 6 and the southern boundary of subregions 6 & 7
Pennsylvania	All Utilities	Sources located in AL, AR, GA, IL, IN, MO, NC, OH, SC, TN, VA, WV, WI
Rhode Island	Large Utilities	Same as MA
Vermont	All sources greater than 10 tons NOx/summer day	OTAG subregions ¹ showing $\geq 5\%$ contribution to VT

¹OTAG (Ozone Transport Assessment Group) subregions are geographic groupings of parts or all of several states for the purpose of air pollution modeling. The New York Petition, which includes all sources located between New York City and the outer edges of OTAG subregions 2, 6, and 7, includes all sources in Pennsylvania, New Jersey, Virginia, West Virginia, Ohio, Michigan, and the eastern half of Indiana, and Tennessee.

Shortly after receiving the Section 126 petitions, the EPA proposed finding under Section 110 that twenty-two state SIPs are inadequate due to their failure to control the interstate transport of NO_x pollution.⁴⁹ The EPA proposes, under its Section 110 authority, to limit pollution transport by imposing a limit, or “cap,” upon the total NO_x a state can emit during the five month summer ozone season. The pollution caps proposed by the EPA are calculated presuming the same stringent controls on upwind utilities that the northeast states are seeking the EPA to impose via Section 126. Moreover, the schedule for compliance proposed by the EPA is stringent considering the procedural hurdles found in Section 110.

There is no single factor responsible for this stark turn of events. The basic forces supporting state control and resisting federal

49. See Ozone Transport Rulemaking, *supra* note 1, at 60,320.

prescriptions are alive and well. In short, the resistance to federally imposed regional controls has finally been weakened by the effective use of changing politics, improved scientific knowledge among policy makers, the growing competition between electric utilities, and changes in the 1990 CAA Amendments making it appear easier to sustain affirmative findings under Sections 110 and 126.

V. THE CONFOUNDING EFFECTS OF OUR FAILURE TO ADDRESS OZONE TRANSPORT

It is not uncommon for an air mass entering a state to contain ozone levels that exceed the NAAQS.⁵⁰ Moreover, many states have produced computer modeling exercises demonstrating that they could cease all industrial activity and all driving, and they would still violate the ozone standard due to the regional nature of the ozone problem.⁵¹ These simple facts point inescapably to the conclusion that many downwind areas will fail to achieve attainment without additional pollution reductions from their upwind neighbors.

While failing to take actions to control upwind emissions, the EPA has recognized the existence of transport by alleviating downwind states' control obligations due to the impact of upwind emissions. However, this selective acknowledgment of the transport phenomenon also perpetuated its existence since no state, upwind or downwind, has been held responsible for the failure to prevent these emissions. The EPA's choice in this circumstance to diminish the law to accommodate pollution rather than diminish pollution to accommodate the law has broadly impacted enforcement of the CAA. In addition, the selective acknowledgment of ozone transport has impeded the design of effective control strategies and ultimately eroded public trust in our clean air programs. Each of these consequences are described below.

A. *Impact on Enforcement of Clean Air Act Requirements*

When adopting the 1970 CAA, Congress sought to create a regulatory structure that would reward the diligent and punish the

50. During regional ozone episodes states in the northeast regularly record violations of the 120 ppb, one-hour standard on their upwind borders. Moreover, states regularly measure morning levels above 80 ppb at their borders during the summer months. Under the old standard, a reading of 80 ppb is halfway to a violation, since "natural" background ozone exists at roughly 40 ppb and the 1 hour standard is set at 120. Hence an area that would comply by a wide margin with clean background conditions often will violate the NAAQS when its own emissions are added to the already polluted air mass entering the state. Under the new 80 ppb, eight-hour standard, background levels of 80 ppb set a course for nonattainment.

51. See S. TRIVIKRAMA RAO, EPA, OFFICE OF AIR AND RADIATION, APPLICATION OF THE URBAN AIRSHED MODEL TO THE NEW YORK METROPOLITAN AREA iii (1987).

uncooperative and lethargic. The 1970 CAA required all areas to attain the ozone standard by 1975. The 1977 CAA Amendments required ozone attainment by 1982 and 1987, and the 1990 CAA Amendments created a tiered attainment timeframe based upon the degree of violation. "Moderate" nonattainment areas were required to come into attainment by 1996 while "Severe" nonattainment areas were given until 2005 or 2007. In every case, sanctions were required by law to be imposed upon all states failing to adopt and implement measures adequate to attain the standards by the established date.⁵²

In 1995, roughly seventy million people lived in areas that violated the one-hour 120 ppb federal health standard for ozone.⁵³ A substantial majority of areas in the Northeast and the nation originally required to attain by 1975, remain in violation. However, the widespread failure of states to attain the ozone standard has not resulted in widespread sanctions. On rare occasions, the EPA has imposed sanctions for a states refusal to submit plans or adopt regulations, but consistent with the Act's focus on state planning obligations, the Agency has never sought to penalize a state for implementing a plan that fails to achieve clean air. A trite though accurate description of the EPA's approach to sanctions is that states will be sanctioned for failing to try, but not for trying and failing. The EPA's decision to judge the adequacy of states' SIPs based on effort instead of achievement is a consequence of the fact that few states have fully attained the ozone standard.⁵⁴ Political reality and common sense prevent the EPA from revoking the majority of the nation's highway funds, one of the sanctions that the agency could impose upon a noncompliant state. Since nearly all states have worked diligently to satisfy the planning and programmatic requirements in the Act, the policy to sanction states only for failing to try provides a hammer the EPA can lift.

52. For states that dutifully implemented control programs but failed to achieve the expected result, the 1990 Act requires a "bump up" to the next higher category of nonattainment which includes an extension of deadlines and increased control responsibilities. *See generally* CAA § 182, 42 U.S.C. § 7511a. Opinions differ whether the "bump up" provisions constitute a sanction. However, once a state "bumps up" through all the nonattainment categories then, in theory, it is sanctioned through the imposition of monetary pollution fees.

53. EPA, OFFICE OF AIR AND RADIATION, REGULATING SMOG AND PARTICLE POLLUTION: AN INTEGRATED APPROACH (visited Apr. 2, 1998) <<http://www.epa.gov/airprogram/oar/oaqps/regusmog/infozone.html>>.

54. Although failing to reach full compliance with the NAAQS, regulatory efforts on the part of the EPA and the states have substantially lowered ozone levels across the country. These improvements are noteworthy since they have occurred while economic activity and vehicle use have substantially increased. *See* EPA, NATIONAL AIR QUALITY AND EMISSIONS TRENDS REPORT, 1996 (Jan. 1998).

While the EPA's decision not to sanction half the country is prudent, one must remember that a main reason that states have "tried" but not "succeeded" has been the EPA's failure to mitigate upwind emissions. The connection between interstate emissions and enforcement of the statute is displayed in a major EPA rulemaking proposal known as the "Post-87" Policy.⁵⁵ The 1977 CAA Amendments required all areas to demonstrate attainment by 1987 or face sanctions. In 1987, the EPA initiated a rulemaking for the purpose of avoiding pervasive sanctions and providing states with some measure of guidance until Congress reauthorized the statute. In justifying its decision to maintain regulatory efforts without imposing sanctions, the Agency wrote, the "EPA recognizes that the phenomenon of multi-day transport of ozone and its precursors in the Northeastern States significantly complicates efforts of individual States to develop strategies to attain the ozone NAAQS."⁵⁶ In other words, the Agency decided that ozone transport prevented states from attaining the NAAQS and justified the Agency in failing to sanction nonattaining states. Had the Agency taken aggressive action to control upwind emissions, however, the disconnect between a state's efforts and achievements would have been substantially diminished and the Agency would have been able to hold states accountable for their lack of compliance. While states suffer from differing degrees of upwind contribution to their nonattainment problems, the precedent created when the EPA opted to extend deadlines and withhold sanctions for some states generally eroded the EPA's enforcement threat and may have led to excusing some noncompliance wholly unrelated to ozone transport problems.

B. Impact on Air Quality Planning and Control Strategy Design

The SIP planning process is a second area where the selective oblivion to transport undermined regulatory efforts. As discussed above, states are required to adopt measures adequate to provide for attainment and maintenance of the ozone standard. The adequacy of these measures must be demonstrated through photochemical computer modeling exercises using models and methods approved by the EPA.

Due to the problem of ozone transport, many states collaborated with the EPA in the creation and approval of modeling exercises demonstrating attainment on the basis of local controls. This was possible

55. State Implementation Plans; Approval of Post-1987 Ozone and Carbon Monoxide Plan Revisions for Areas Not Attaining the National Ambient Air Quality Standards; Notice, 52 Fed. Reg. 45,044 (1987) [hereinafter "Post-87" Policy].

56. *Id.* at 45,094.

because the models were designed to exclude transported pollution when calculating an area's reduction burden.⁵⁷ In 1982 and 1987, the EPA revised its guidelines to enable states to exclude high ozone readings attributable to upwind sources in determining an area's "design value." An area's design value constitutes the benchmark from which reductions are determined and is usually based upon an area's highest measured ozone reading. The effect of these models was to reduce the levels of reductions required to demonstrate attainment and to make it possible for states to achieve the required reduction through local controls.⁵⁸

Again, the EPA alleviated the political pressure for redressing ozone transport by crafting a set of policies according to which no jurisdiction was responsible for transported pollution. The disparity between regulation and reality required by this exercise became self reinforcing. The purpose of the SIPs, which must be submitted to the EPA by the Governor, is to guide a state's air pollution reduction efforts. Understandably, the submission of publicly available documents guaranteeing the adequacy of local controls undermined states' assertions that regional reductions were necessary to attain the ozone NAAQS. In effect the EPA and the states handicapped their ability to redress the problem of long-range ozone transport by adhering to scientific assumptions that neither believed.

C. *Impact on Political Support for In-State Pollution Controls*

The inability of a state to reduce pollution emitted outside its borders also creates obstacles to a state's efforts to reduce in-state pollution. State legislators and state environmental agency regulators understandably question the efficacy and expense of implementing additional controls upon in-state sources when such controls cannot ensure attainment. In addition, local industries raise equity arguments, arguing that additional

57. See generally OFFICE OF AIR QUALITY PLANNING AND STANDARDS, EPA, GUIDELINE FOR USE OF CITY-SPECIFIC EKMA IN PREPARING OZONE SIPs (1981); EPA, OFFICE OF AIR QUALITY PLANNING AND STANDARDS, GUIDELINE FOR USE OF CITY-SPECIFIC EKMA IN PREPARING POST-1987 OZONE SIPs (1987).

58. See generally OFFICE OF AIR QUALITY PLANNING AND STANDARDS, EPA, GUIDELINE FOR USE OF CITY-SPECIFIC EKMA IN PREPARING OZONE SIPs (1981); OFFICE OF AIR QUALITY PLANNING AND STANDARDS, EPA, GUIDELINE FOR USE OF CITY-SPECIFIC EKMA IN PREPARING POST-1987 OZONE SIPs (1987). The EPA's 1987 guidance instructs states to exclude from the readings determined the "design value" violations that are the result of, "overwhelming transport from upwind areas." OFFICE OF AIR QUALITY PLANNING AND STANDARDS, EPA, GUIDELINE FOR USE OF CITY-SPECIFIC EKMA IN PREPARING POST-1987 OZONE SIPs 14 (1987). The guidance then spells out a set of conditions that states should use to ensure that the violations in question were the product of local emissions. The Guidance then instructs, "Unless all of the preceding three conditions are met, the day should be discarded." *Id.* In order to avoid sanctions, states took full advantage of this screening process to craft SIPs that "demonstrated" attainment.

controls undermine their ability to compete with uncontrolled upwind sources.

By and large the northeast states have succeeded in adopting progressive controls on motor vehicles, large stationary sources, and electric utilities based on the cost-effectiveness of these controls and the belief that leading by example is the only way to secure ultimate attainment. In 1994, the twelve states between Maine and the District of Columbia agreed to reduce NO_x emissions from electric utilities and large stationary sources by up to 75 percent, roughly twice the mandatory reductions required under the Act for sources located in nonattainment areas.⁵⁹

While additional pollution reductions from northeast sources will be necessary to attain the ozone standards, there is no question that the EPA's historic refusal to control upwind sources has undermined the overall economic efficiency of our national attainment efforts. A 1997 Congressional Budget Office (CBO) study compared the cost of available NO_x reductions in Connecticut, Massachusetts, and Rhode Island against the cost of available reductions in Indiana, Ohio, and West Virginia.⁶⁰ Specifically, the study examined the cost of reductions beyond the programs already in place or explicitly required under the CAA. The CBO analysis found that the average cost of additional NO_x reductions from the three midwest states is \$785 per ton, while the average cost of additional reductions from the three northeast states is \$7,900 per ton.⁶¹ The analysis attributes this ten to one cost ratio to the disparity between existing control requirements in the northeast and midwest.⁶²

Although the northeast has successfully implemented the majority of control requirements imposed by the 1990 CAA Amendments, the inequity between regional control obligations has frustrated and delayed northeast states' efforts to implement vehicle inspection and maintenance (I/M) programs. Public opposition to vehicle I/M has been greatly inflamed by articles and editorials questioning why the residents of Maine, New Hampshire, and Vermont must get their car tailpipes tested and repaired when pollution modeling exercises demonstrate that the I/M program will not alter their attainment status. When it is realized that a host of uncontrolled power plants by themselves each emit twice as much

59. Memorandum of Understanding Among the States of the Ozone Transport Commission on Development of a Regional Strategy Concerning the Control of Stationary Source Nitrogen Oxide Emissions (Sept. 27, 1994) (on file with author).

60. CONGRESSIONAL BUDGET OFFICE, *FEDERALISM AND ENVIRONMENTAL PROTECTION: CASE STUDIES FOR DRINKING WATER AND GROUND LEVEL OZONE* (1997) (visited Apr. 24, 1998) <<http://www.cbo.gov/showdoc.cfm?index=250&sequence=0&from=1>>.

61. *Id.* at tbl. 7.

62. *Id.*

NOx per day as do all sources in the State of Vermont combined, it is not hard to understand why some northeast elected officials are reluctant to implement the unpopular stringent I/M programs.⁶³

D. Attainment but for Transport: Reducing the Burden Downwind

In addition to the implicit methods of relieving downwind states of the threat of sanctions and unfair burdens attributable to ozone transport, the EPA created explicit methods to excuse downwind states from the requirement to reduce pollution originating beyond their borders. These measures reflect the EPA’s selective acknowledgment of ozone transport. One particularly glaring example is the EPA’s decision in 1982 to grant the State of Rhode Island the special attainment status, “attainment but for transport.”⁶⁴ At the time Rhode Island was continuing to regularly experience ozone levels above the national standard. However, Rhode Island’s SIP submittal demonstrated that little if any of the ozone affecting Rhode Island originated within the state. The EPA, after considerable internal debate, chose to approve Rhode Island’s SIP, thereby alleviating the state’s obligation to implement several pollution control programs. While the EPA’s creative maneuvering diminished the political inequity of holding Rhode Island responsible for upwind emissions, it failed to similarly diminish the pollution that entered the state. From the standpoint of public health, “attainment but for transport,” is equivalent to “safe but for pollution.”

63. Table III: NOx Emitted by Certain Facilities

Facility/State:	Tons of NOx per Day
Cumberland Facility, Tennessee	452
Paradise Facility, Kentucky	352
Gavin Facility, Ohio	326
Monroe Facility, Michigan	301

Table IV: NOx Emissions in Certain States

State (Emissions for All Facilities Combined)	Tons of NOx per Day
Vermont	157
Rhode Island	201
New Hampshire	481
Maine	533
Connecticut	923
Massachusetts	1,856
New Jersey	3,042
New York	4,227

OFFICE OF AIR QUALITY PLANNING AND STANDARDS, EPA, EMISSION INVENTORY WORKGROUP REPORT, OZONE TRANSPORT ASSESSMENT GROUP (May 3, 1996).

64. Approval and Promulgation of Implementation Plans; Rhode Island; 1982 Ozone Attainment Plan, 48 Fed. Reg. 31,026 (1983).

E. The Overwhelming Transport Policy

The EPA has formalized the special designation Rhode Island received in the 1980s with the creation of the “Overwhelming Transport Policy.”⁶⁵ The memorandum announcing this policy indicates that it may be “difficult or impossible for some areas to demonstrate attainment by the statutory attainment date because they are affected by overwhelming transport of pollutants and precursors from an upwind area. . . .”⁶⁶

In these cases, the EPA has determined that it is appropriate to “temporarily suspend” the area’s attainment date.⁶⁷ In order acquire an overwhelming transport designation and the associated relief from CAA requirements, the area in question must “clearly demonstrate[] through modeling that transport from an area with a later attainment date makes it practicably impossible to attain the standard by its own attainment date.”⁶⁸ In justifying this policy, the EPA correctly notes that Section 110 of the Act requires SIPs to prevent a state’s emissions from having such an impact on a downwind neighbor. However, the EPA acted to suspend attainment without requiring that upwind states impose controls upon upwind sources under their SIPs, as required by Section 110. The Overwhelming Transport Policy memorandum concludes asserting “it would be an odd or even absurd result for downwind areas unable to attain due to transport to be penalized for failure to address a problem that is beyond their ability to control.”⁶⁹

When comparing the EPA’s willingness to acknowledge transport to avoid embarrassing political confrontations with downwind states and its refusal to acknowledge transport to avoid a political confrontation with upwind states, one could conclude that the federal government is simply afraid of the states. The drafters of the 10th Amendment would be proud.

VI. THE POLITICS EMPOWERING THE EPA’S RECENT ACTIVISM

There are many reasons that Section 110(k)(5) laid dormant during the 1980s. One reason was President Ronald Reagan. Upon taking office in 1980, President Reagan clearly stated his position regarding the relationship between state and federal government:

During the past twenty years, what had been a classic division of the functions between the Federal Government and the States and localities has

65. MARY D. NICHOLS, OFFICE OF AIR AND RADIATION, EPA, MEMORANDUM: OZONE ATTAINMENT DATES FOR AREAS AFFECTED BY OVERWHELMING TRANSPORT (Sept. 1, 1997).

66. *Id.* at 1.

67. *Id.* at 2.

68. *Id.*

69. *Id.* Attachment at 6.

become a confused mess. . . . I propose that over the coming years we clean up this mess. I am proposing a major effort to restore American federalism.⁷⁰

Somehow, proposing federal action to usurp the prerogative of the “rust belt” states for the benefit of the then Democratically controlled Northeast was not what the President had in mind. Late in his term, President Reagan sought to lay a more permanent course by promulgating Executive Order 12,612, which specifically instructed agencies to refrain from establishing national standards and programs and, where possible, defer to the states to establish standards.⁷¹ Correspondence between New York State and the EPA early in the Bush Administration placed the transport debate squarely in the sights of Executive Order 12,612. New York State had filed a Section 126 petition seeking relief from ozone transport. The EPA responded, asking New York to “clearly identify the specific major stationary sources against which action under [Section] 126 is sought,” and to provide, “numerical estimates of the contribution of these particular major stationary sources to violations of the ozone standard in New York.”⁷² In his response to the EPA’s letter, Commissioner Jorling of New York expressed the frustration felt by downwind states over the EPA’s approach to Section 126 petitions in the 1980s. After enumerating the EPA’s informational requests, Commissioner Jorling writes, “This, of course, turns federalism in the Clean Air Act on its head, as Congress intends the federal government to address interstate problems and your position abdicates that responsibility and attempts to shift it to New York.”⁷³

The transition from the anemic approach the EPA exhibited toward Section 126 petitions during the 1980s and activism propelling the EPA’s current efforts has been gradual. By and large, the political landscape remains hostile to intrusive federal programs. The Agency’s recent activism has been enabled by the EPA’s ability to design its efforts to be consistent with the apparent will of a majority of states.⁷⁴

70. OFFICE OF MANAGEMENT AND BUDGET, MAJOR THEMES AND ADDITIONAL BUDGET DETAILS M22 (1983), in THOMAS J. ANTON, AMERICAN FEDERALISM AND PUBLIC POLICY: HOW THE SYSTEM WORKS 218 (1989).

71. See Exec. Order No. 12,612, 52 Fed. Reg. 41,685, 41,685-88 (1987).

72. Letter from Thomas C. Jorling, Commissioner, New York Department of Environmental Conservation, to Donald Clay, Acting Assistant Administrator, EPA, Office of Air, Noise, and Radiation 3 (Feb. 21, 1989) (on file with author).

73. *Id.*

74. These states include the 37 states east of the Rocky Mountains. See OZONE TRANSPORT ASSESSMENT GROUP, EPA, EXECUTIVE REPORT at 4 (1997) [hereinafter OTAG EXECUTIVE REPORT].

A. Ozone Transport Assessment Group (OTAG) Devolution Co-Opted

Although the intensity of anti-federal rhetoric that dominated the Executive Branch during the Reagan era has diminished, the mantra of devolution of power to the states continues to resonate loudly in national politics. Rather than fighting against this devolution, the EPA has artfully co-opted it through the creation of the Ozone Transport Assessment Group (OTAG). The genesis of the OTAG was set forth in a March 2, 1995, memorandum from EPA Assistant Administrator Mary Nichols to the states.⁷⁵ The OTAG served two central purposes, one overt and one unofficial. The official purpose of the OTAG was to create a collaborative process among representatives from the thirty-seven eastern states, affected industry, environmental organizations, and the EPA to evaluate the ozone transport problem and develop solutions. The Environmental Council of the States (ECOS), which represents the 50 state environmental commissioners, designed and led an extremely energetic and effective process. The private purpose of the OTAG was to protect the CAA from a potentially hostile Congress by finding yet another means of navigating around states' failure to meet deadlines because of pollution transport. Both purposes were successfully achieved.

One of the most significant provisions of the 1990 CAA Amendments required states to submit SIPs by November 15, 1994,⁷⁶ that demonstrated attainment of the ozone standard by the statutory deadlines (1996-2007 depending upon the severity of the violation). Pursuant to statute, failure to submit an adequate SIP results in sanctions. With few exceptions, states failed to comply with this statutory requirement. Without a safety valve, the EPA would be forced to propose sanctions across much of the nation. The EPA, state officials, and environmental groups all recognized that mass sanctions would not clean the air and would likely result in the passage of legislation that would further weaken the Act. The creation of the OTAG provided a constructive alternative pathway to extend both the 1994 SIP submittal deadlines and the threat of sanctions until mid-1997.⁷⁷ Again it is clear that the failure to mitigate transport substantially undermined states' ability to craft adequate 1994 SIPs. Looking back on the 1994 situation the EPA asserts, "[t]he major

75. MARY D. NICHOLS, EPA, OFFICE OF AIR AND RADIATION, MEMORANDUM: OZONE ATTAINMENT DEMONSTRATIONS (Mar. 2, 1995), available in <http://www.epa.gov/ttn/otag/ozone_mn.txt> [hereinafter Mar. 2, 1995, Memorandum].

76. See CAA § 182(c)(2), 42 U.S.C. § 7511a(c)(2) (1994). This section applies specifically to "Serious Areas."

77. Due to the OTAG effort lasting longer than anticipated, the EPA opted to extend the submittal date from the middle of 1997, until April 1998.

reason for this failure was that States were not able to address or control transport.”⁷⁸

According to the March 2, memorandum, one key aim of the OTAG process was to “give the States and EPA the opportunity to determine appropriate regional strategies to resolve transport issues.”⁷⁹ During the OTAG process, participants favoring and opposing federal action to address transport privately described this same idea in less cautious prose, acknowledging that the purpose of the OTAG was to impose a federal solution on the states and claim it was the states’ idea. By all appearances, the OTAG process represents devolution in its purest form. The EPA has effectively capitalized on this aspect of the process to support its proposal under Section 110. In fact, the title of the EPA’s proposed action reads, “Finding of Significant Contribution and Rulemaking for Certain States in the *Ozone Transport Assessment Group Region* for Purposes of Reducing Regional Transport of Ozone.”⁸⁰ The ability to assert that, “the states made me do it” vastly strengthens the EPA’s ability to defend its Section 110 proposal on the Hill and within the Administration.

During the two-year process, the OTAG participants collaborated to conduct a tremendous amount of air pollution modeling and data analysis. The process confirmed the general body of work establishing the significance of ozone transport. On July 8, 1997, the OTAG published final conclusions and recommendations. Key conclusions regarding transport include the following:

- Regional NO_x reductions are effective in the production of ozone benefits;
- Ozone benefits are greatest where emission reductions are made and diminish with distance;
- Air quality data documents the widespread and pervasive nature of ozone and indicates transport of ozone;
- Air quality analyses also indicate that ozone aloft is carried over and transported from one day to the next; and
- Generally, the transport range is longer in the North than in the South.⁸¹

The importance of these conclusions lies less in what they say than in whose views they represent. While scientists reached similar

78. Ozone Transport Rulemaking, *supra* note 1, at 60,322.

79. Mar. 2, 1995, Memorandum, *supra* note 75.

80. Ozone Transport Rulemaking, *supra* note 1, at 60,318 (emphasis added).

81. See OTAG EXECUTIVE REPORT, *supra* note 74, at 4.

conclusions in the early 1970s, this information had never been made available and understandable to state environmental commissioners prior to the OTAG process. The commissioners' apparent lack of knowledge about ozone transport prior to the OTAG was both innocent and, in some cases, strategic. By and large, most commissioners simply had never been exposed to a detailed and balanced accounting of the science behind ozone transport. One of the most important attributes and achievements of the OTAG process is that state environmental commissioners personally attended two-day meetings month after month for over two years. Rarely, if ever, has a single environmental issue claimed so much attention by top state decisionmakers.⁸² Beyond providing information, the public nature of the information exchange created accountability. In effect, those state officials who had avoided a thorough understanding of transport when formulating their states' own control programs were forced to grapple with this complicated pollution problem.

The most important outcome of the OTAG is the recommendation concerning utility NO_x reductions. Although the OTAG considered a broad array of pollution sources, the OTAG's focus was, from the beginning, on electric utilities, sources which remain largely unregulated in many states.⁸³ At the beginning of the process, many states and most utility participants argued against any additional NO_x controls on the utility sector. They argue that once the mandatory NO_x controls required to reduce acid rain took full effect, they would be adequate to address the ozone problem. Other states, citing the harm caused by pollution transport and the cost-effectiveness of utility controls, argued for maximum achievable reductions from the utility sector.

After two years of detailed analysis and debate the OTAG, by a vote of 32 to 5, adopted the following policy recommendation:

The OTAG Policy Group recommends that the range of utility NO_x controls . . . fall between Clean Air Act controls and the less stringent of 85-percent reduction from the 1990 rate (lb/MMBtu) or .15 lb/MMBtu in

82. On occasion during the OTAG process, utility representatives argued that the process was moving too fast and commissioners simply did not have enough information to render thoughtful decisions. Back in the states, northeast commissioners reminded one another that they had more information to render this decision than any other environmental decision they had ever made.

83. The 1990 Act placed federal emission requirements on utility emissions of sulfur dioxide (SO₂) and modest limits on NO_x emissions at some utilities in an effort to address acid rain. The NO_x requirements under the acid rain program amount to roughly a 35% reduction from affected units and are slated to take effect by the year 2000. At present, many midwest utilities have no NO_x controls in place. See EPA, ACID RAIN EMISSIONS SCORECARD 1996 (visited May 21, 1998) <<http://www.epa.gov/acidrain/score96/es1996.htm>>.

order to mitigate ozone transport and assist states in complying with the existing 120 ppb ozone standard.⁸⁴

On the surface, this recommendation expresses the position of the participants at the outset of the process. By an overwhelming margin, the group endorsed a control level between no additional controls (CAA Controls) and stringent controls (85 percent reduction). The broad range of controls contained in this proposal reflects an important strategic decision negotiated among the EPA and the states.

State commissioners, for the most part, are savvy politicians. Moreover, most state environmental commissioners privately favor tougher environmental requirements than their political hierarchy allows them to support. The utility recommendation was designed to be mindful of these factors. Privately, all commissioners understood that voting for the recommendation would empower the EPA to impose stringent limits on utility NO_x emissions. However, by voting in favor of a broad range, every commissioner was able to return to his or her own state capitol and identify the precise point between nothing and everything that he or she had the political prerogative to publicly support.⁸⁵ While many commissioners went home prepared to defend their vote by pointing to the low end of the control range, the EPA has made certain that every affected party understands that its Section 110 proposal requires utility reductions within the range supported by the OTAG states.

Further empowering the EPA to capitalize on the OTAG process is the fact that many of the states seeking relief under Section 126 and Section 110 are governed by prominent Republicans. Pleas for aggressive federal intervention from Governors Tom Ridge (R-Pennsylvania), George E. Pataki (R-New York), Tommy G. Thompson (R-Wisconsin), William F. Weld (R-Massachusetts), Christine Todd Whitman (R-New Jersey), and others protect the EPA from accusations that its efforts amount to an unwarranted usurpation of traditional state authority.

84. OTAG EXECUTIVE REPORT, *supra* note 74, at 52.

85. Five states voted against the OTAG utility recommendations: Alabama, Kansas, Michigan, Virginia, and West Virginia. They chose to sustain the negative press of voting against their colleagues and the process in order to avoid legitimizing the need of additional controls. Coal-fired utilities also figure prominently in the politics of these states. When the final package of all the recommendations was brought to a vote, Kansas endorsed the package while Kentucky voted no. The other four states that opposed the utility recommendation also opposed the final package. See OZONE TRANSPORT ASSESSMENT GROUP RECOMMENDATIONS, ENVIRONMENTAL COUNCIL OF STATES (June 1997) (on file with author).

B. The EPA Adoption of the New NAAQS

A final political factor propelling the EPA toward aggressive regional regulation of utilities, is the recent adoption, on July 18, 1997, of strengthened NAAQS for fine particulate matter⁸⁶ and ozone.⁸⁷ The NAAQS figure into the equation in several ways. First, the media has devoted a great deal of recent coverage to the harm that air pollution causes public health. Many reports focused on the particular risks faced by children, the elderly, and asthmatics. This backdrop has greatly assisted the EPA's efforts to fend off aggressive challenges to the NAAQS by industry and prominent members of Congress. The afterglow of this recent public concern continues to empower the EPA. Second, the new ozone standard changes the playing field because many Midwestern and Southeastern states that were in attainment under the old standard will be in violation of the ozone NAAQS under the new regime.⁸⁸ Since midwest utilities must reduce their pollution to protect midwest residents, the EPA can now appeal to the American tradition of self interest in justifying its new regulatory proposal. The need to reduce the health risks faced by local residents and voters will dramatically shift the political dynamic in upwind states.

Of final importance are the political arguments the EPA employed to convince the White House and Congress to support the stricter NAAQS. The EPA's greatest vulnerability in the NAAQS debate was the assertion that the proposal would harm the economic climate of cities, towns, and small businesses. The EPA's response was to push for greater controls upon utilities. Due to the cost effectiveness of utility controls, their substantial contribution to regional ozone levels, and their unmistakable status as big businesses, controlling utilities became the widely touted solution that would bring small cities and towns back into compliance with the new ozone standard.

The force of the economic argument against the revised NAAQS is further lessened by the inclusion, in the NAAQS implementation strategy signed by the President,⁸⁹ of a novel status for new nonattainment areas

86. See National Ambient Air Quality Standards for Particulate Matter, 62 Fed. Reg. 38,652, 38,652 (1997) (to be codified at 40 C.F.R. pt. 50).

87. See National Ambient Air Quality Standards for Ozone, 62 Fed. Reg. 38,856 (1997) (to be codified at 40 C.F.R. pt. 50).

88. See *id.* at 38,861 (shifting the focus away from peak one hour concentrations toward longer term exposure to chronically elevated levels. While many net pollution exporting states do not experience the high one hour peak ozone concentrations of nonattainment areas to their east, their citizens are chronically exposed to ozone levels that violate the 8 hour average concentration limits of the new NAAQS).

89. See WHITE HOUSE, MEMORANDUM FOR THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY (July 16, 1997).

called “transitional nonattainment areas.”⁹⁰ In an attempt to lessen the anxiety of certain metropolitan areas about their new nonattainment status, these areas will not be required to implement any local controls until after significant reductions from electric utilities are achieved. The EPA’s rationale for the several year delay in local reduction efforts is based on the expectation that utility controls and federal standards to control emissions from cars and heavy-trucks will reduce regional ozone levels enough to bring these areas into attainment. Areas that remain in violation subsequent to implementation of regional utility controls will then be required to begin the SIP planning process. In a Fact Sheet published during the height of the debate on the NAAQS proposal, the EPA summarizes its substantive and political strategy for supporting the new standards:

FOCUS ON UTILITY EMISSIONS — EPA will work from a regional plan developed by OTAG to address the long-range transport of ozone. This plan focuses on major power plants (which offer the most cost-effective opportunities for reducing pollution) to reduce nitrogen oxide, a key ingredient of smog. These reductions alone should be enough to allow most of the newly non-attainment counties to be able to comply with the new standard.⁹¹

The implementation of regional controls as a predicate to imposing local responsibility is a remarkable departure from past air pollution control strategies. Without question, achieving substantial and timely regional utility NO_x reductions is the key to the Administration’s NAAQS implementation strategy. The EPA could not hope for a better dynamic in attempting to finally impose regional NO_x controls on utilities.

C. *Growing Rift Between Utilities and Other Industries*

High-polluting electric utilities, the initial target of regional NO_x control efforts, are feeling somewhat abandoned by their usual allies. Historically, the utilities have been a formidable force in clean-air politics. While industries such as automobiles, paper, and petroleum are concentrated in certain regions of the country, utilities are ubiquitous. Although regional fuel differences figured heavily in the adoption of acid rain requirements in the 1990 CAA Amendments, the basic commonality of interest among utilities has until now prevented the EPA from using its

90. See *id.* at 4-6.

91. OFFICE OF AIR AND RADIATION, OFFICE OF AIR QUALITY PLANNING AND STANDARDS, EPA, FACT SHEET—ACHIEVING CLEAN AIR IN COMMON SENSE, FLEXIBLE AND AFFORDABLE WAYS (June 25, 1997).

discretionary authority to regulate utility NOx emissions. As a result, upwind utilities stand alone among industries in avoiding NOx controls.⁹²

Pollution control is ultimately a zero-sum game. Reductions not achieved from one industry must eventually be achieved by another. In contrast to utilities, most all other major sources of NOx emissions are already regulated to a high degree of stringency. New automobiles emit over 75 percent less NOx than emitted by vehicles prior to CAA controls. Additional NOx reductions from cars will take effect shortly and are estimated to cost roughly \$3,000 per ton of pollution removed.⁹³ NOx reductions from required reformulated gasoline (RFG) are estimated by the EPA to cost from \$2,600-\$3,500 per ton.⁹⁴ The American Petroleum Institute (API) argues that these controls will cost its members well over \$10,000 per ton.⁹⁵ To avoid these predicted costs, the API petitioned the EPA in December 1995, to eliminate the NOx reduction requirements in the second phase of the federal reformulated gasoline program.⁹⁶ In departure from historic practice, the API's petition is quite bold in asserting that the EPA should achieve the needed NOx reductions from utilities and leave gasoline alone. The API's argument headings read in pertinent part:

III. EPA's RFG NOx Rule is Not A Cost-Effective Strategy for Ozone Control.

* * *

B. The Cost-effectiveness of RFG NOx Reduction is Overstated

92. Incredibly, even upwind utilities located in nonattainment areas have succeeded in avoiding controls through their states' submission of and the EPA approval of waivers under § 182(f) of the Act. These waivers seek to exempt their utilities from the basic NOx controls required of all utilities located in areas that violate the ozone standard. The Act requires the EPA to grant the request if states demonstrate using modeling that reducing NOx would not contribute to local attainment of the ozone standard. That the NOx emissions are effecting the formation of ozone downwind, the EPA has argued, is of no consequence under § 182(f) and must be addressed under other sections of the Act. To date, the EPA has granted waiver requests for over 40 areas. See Dr. Paul Miller, Northeast States for Coordinated Air Use Management, *List of Areas with CAA §§ 182(f), 182(b)(1) NOx Waivers*, Internal NESCAUM Document (Oct. 10, 1996) (on file with author).

93. The costs associated with the National Low Emission Vehicle (NLEV) program are estimated to be \$2,600-\$3,500 if weighed against the NOx benefits alone and \$1,200-\$3,400 if the costs are measured against the combined benefit of NOx and VOC reductions. OZONE TRANSPORT ASSESSMENT GROUP, MOBILE SOURCES COMMITTEE, MOBILE SOURCE ASSESSMENT: NOX AND VOC REDUCTION TECHNOLOGIES FOR APPLICATION BY THE OZONE TRANSPORT ASSESSMENT GROUP 8 (Apr. 11, 1996) [hereinafter OTAG MOBILE SOURCES ASSESSMENT].

94. See Ozone Transport Rulemaking, *supra* note 1, at 60,348. The OTAG Control Technologies & Options Workgroup, Mobile Source Committee provides a higher estimate for gasoline reformulation predicting a cost of \$3,500-\$6,200 as compared to the EPA's estimate of \$3,400. OTAG MOBILE SOURCES ASSESSMENT, *supra* note 93, at 8.

95. See Regulation of Fuel and Fuel Additives; Standards for Reformulated Gasoline, 61 Fed. Reg. 35,960, 35,962 (1996) (codified at 40 C.F.R. pt. 80).

96. See *id.* at 35,961.

C. The Relative Cost-Effectiveness of Major Stationary Source NO_x Control Strategies is Understated.⁹⁷

The API's assertion that the EPA has underestimated the emission control costs for their members is commonplace. Their corollary assertion that the EPA has *underestimated* the control costs for large stationary sources is not. Although the EPA surely appreciated the API's suggestion for stringent utility controls, the Agency nevertheless rejected API's petition, reasserting their own estimate that the NO_x controls in Phase II RFG would cost less than \$5,000 per ton which the Agency deems to be adequately cost effective.⁹⁸

In contrast, substantial NO_x reductions (55 percent) can be achieved from electric utilities for under \$500 per ton and the 85 percent reductions proposed by the EPA can be achieved for under \$1,700 per ton.⁹⁹ These figures are conservative. Many anticipate the actual costs of these controls will be less than \$1,000 per ton, once control technologies are optimized and a regional trading program is implemented. Concerns over their own fiscal "bottom lines" and basic equity has led other industries to break the code of silence and quietly work to support the control of NO_x pollution from utilities. Although denied from the outset, it was commonly understood that the primary goal of the OTAG was to build the case for utility controls. Had all the industrial interests joined together and abandoned the process, the OTAG effort would have been substantially weakened if not scuttled altogether. One of the main reasons other industries stayed in the process was to prevent the utilities from once again escaping regulation.¹⁰⁰ This persistence and the greater cost effectiveness of utility controls seems to have paid off. In the proposed action under Section 110, the EPA proposes to reduce total state NO_x emissions by 35 percent on average. The EPA proposes that states fulfill this cumulative NO_x reduction obligation by achieving on average a 13 percent additional reduction in NO_x emissions from on-highway vehicles, a 14 percent additional reduction from non-road sources (construction and agricultural equipment, trains, lawnmowers, etc.), a 33 percent additional

97. See David Deal, *American Petroleum Institute Petition For Reconsideration and Rulemaking on NO_x Reduction Portion of the Reformulated Gasoline Rule* 59 FR 7716 (February 16, 1994) 40 C.F.R. Part 80 (Dec. 8, 1995).

98. *Id.* at 26.

99. See Ozone Transport Rulemaking, *supra* note 1, at 60,348.

100. On several occasions, the API and individual oil companies threatened to pull out of the process due to fears that it would result in additional regulatory requirements for gasoline. A key argument that kept them involved until the end was that their departure would enable the utilities to do the same.

reduction from non-utility stationary sources, and a 69 percent additional reduction from electric generating utilities.¹⁰¹

D. Competition Between Electric Utilities

Surprisingly, the utility industry itself has been a major force behind the movement toward stricter controls upon electric utilities. This is attributable in large part by the competitive transformation taking place in the utility industry. In an effort to increase efficiency and lower the costs of power production, the Federal Energy Regulatory Commission (FERC) has required that utility systems forego their geographic monopolies by making their power transmission lines accessible to all power producers. Removing the barriers to sell power from one utility system to another is intended to lower the cost of electricity by allowing facilities that produce power less expensively to out-compete their more expensive rivals. One factor affecting the cost of power production is environmental controls. Northeast utilities that have already reduced their NO_x emissions substantially have begun to fear their freely polluting, low-cost competitors far more than their local environmental regulators. As a result, several major northeast utilities have joined with the northeast states and environmentalists in pressing for strict utility controls. The information and credibility these new partners brought to the discussion concerning the feasibility and cost of stringent controls was critical in giving the EPA the confidence to disregard the assertions of impossibility, unbearable costs, and job loss proffered by other utility and coal representatives.

The combination of the EPA's unusual mandate to address regional NO_x emissions and the growing isolation of high polluting utilities suggests that the table is set for the EPA to take affirmative final action under Section 110 and Section 126. The last critical issue to examine is how the Courts are likely to respond when these decisions are challenged.

VII. LEGAL ANALYSIS: LOWER BURDENS AND DEFERENTIAL COURTS

As previously indicated, the 1990 CAA Amendments substantially improved the tools provided to the EPA and the states to address long-range air pollution transport. It is clear from the debate that some in Congress fully understood the inadequacy of local controls and sought to empower the EPA to regulate pollution sources on a regional basis,

101. See Ozone Transport Rulemaking, *supra* note 1, at 60,353 Table III-6, 60,355 Table III-7, 60,358 Table III-8, 60,360-61 Table III-9, 60,361 Table III-10.

regardless of local attainment status.¹⁰² One expression of this understanding was the creation of the Northeast Ozone Transport Region (OTR)¹⁰³ and Ozone Transport Commission (OTC).¹⁰⁴

Under Section 184, Congress joined together the twelve states between Maine and D.C. in an ozone control region.¹⁰⁵ Early congressional efforts to enlarge the region to include Ohio and West Virginia were political non-starters. Within the OTR, the 1990 CAA Amendments impose a set of pollution control measures including basic VOC and NO_x controls on stationary sources, vehicle I/M, and controls on evaporative emissions from refueling at gas stations. Under Section 176A, Congress empowered the lead environmental officials from each of the twelve states and the District of Columbia to petition the EPA by majority vote to impose additional measures throughout the region.¹⁰⁶ The OTC has adopted one formal petition that the EPA approved to impose stricter pollution standards on passenger cars.¹⁰⁷ In addition, the OTC states signed a memorandum of understanding committing to achieve up to a 65 percent reduction in utility NO_x emissions by 1999 and 75 percent by 2003.¹⁰⁸ These efforts have succeeded in substantially reducing the NO_x emissions from the involved states. However, the make-up of the OTC is missing one critical component—the Midwest.

While the 1990 CAA Amendments gives the EPA the discretionary authority to enlarge the northeast OTR or create additional transport regions, the Agency has yet to exercise either of these options. It must be noted that adding recalcitrant states to the procedurally cumbersome Commission could have the unintended effect of interrupting, rather than expanding, the implementation of controls. Moreover, since the OTC model is only effective when a majority of states are committed to

102. The Senate Report on the 1990 Bill reads, “[b]ecause ozone is not a local phenomenon but is formed and transported over hundreds of miles and several days, localized control strategies will not be effective in reducing ozone levels.” It continues, “[t]he transport problem in the northeast, and perhaps other regions as well, is serious enough that additional efforts must be made on an interstate basis to control emissions, including emissions from attainment areas.” S. REP. NO. 228, 101st CONG., 1ST SESS. 31, 111 (1989), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3399, 3434.

103. *See* CAA § 184, 42 U.S.C. § 7511c (1994).

104. *See* CAA §§ 176A, 184, 42 U.S.C. §§ 7506a, 7511c.

105. *See* CAA § 184, 42 U.S.C. § 7511c.

106. *See* CAA § 176, 42 U.S.C. § 7506a.

107. *See* Final Rule on Ozone Transport Commission; Low Emission Vehicle Program for the Northeast Ozone Transport Region, 60 Fed. Reg. 4712, 4713 (1995) (codified at 40 C.F.R. pts. 51, 52, and 85).

108. Memorandum of Understanding Among the States of the Ozone Transport Commission on Development of a Regional Strategy Concerning the Control of Stationary Source Nitrogen Oxide Emissions 2 (Sept. 27, 1994) (on file with author).

additional action, creating a new transport region among a group of upwind states would be of little use.¹⁰⁹

More important to the EPA's ability to control upwind sources are the improvements Congress made to Section 110 and Section 126. In the 1990 CAA Amendments, Congress broadened the scope of Section 110 to include "all sources or emissions activities." Previously, Section 110 only applied to stationary sources. Section 110 was also amended to reduce the showing that must be made in order to empower the EPA to take action against an upwind state. Previously, a party was required to demonstrate that interstate air pollution prevented its attainment or maintenance of a NAAQS. The 1990 CAA Amendments deleted this language in favor of the "significant contribution" standard. However, the ultimate importance of this change is debatable since many courts' rulings on the EPA's past rejection of Section 110 decisions under the old standard, have applied a version of the significant contribution test.¹¹⁰

Section 126 was amended to ease the requirement that an affected state identify the exact major source responsible for the violation of the state's NAAQS. Under the amended language of the Act, a petitioning state must identify a "group of stationary sources," and these sources need to be "major" sources. The relevant changes are presented below:

Section 110

- (a)(2) Each implementation plan submitted by a State shall . . .
- (D) contain adequate provisions—
- (i) prohibiting, *consistent with the provisions of this title, any* [stationary] source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—
- (I) *contribute significantly to nonattainment in, or interfere with maintenance* by, any other State with respect to any such national primary or secondary ambient air quality standard¹¹¹

Section 126

- (b) Any State or political subdivision may petition the Administrator for a finding that any major source emits *or group of stationary sources* . . . would emit any air pollutant in violation of the prohibition of section [110](a)(2)(D)(ii). . . .¹¹²

109. It should be noted that the northern eight states included in the OTC, between Maine and New Jersey, had been working together through a voluntary regional organization for over twenty years before the OTC was created. The presence of this block of regionally pro-active states helped set an active agenda for the OTC.

110. *See, e.g.,* Air Pollution Control District of Jefferson County, Ky. v. EPA, 739 F.2d 1071, 1093 (6th Cir. 1984); New York v. EPA, 852 F.2d 574 (D.C. Cir. 1988).

111. CAA § 110(a)(2)(D)(i)(I), 42 U.S.C. § 7410(a)(2)(D)(i)(I).

112. CAA § 126(b), 42 U.S.C. § 7426(b).

Taken together these revisions alter the burden under Section 126 from a showing that a single smokestack is the “but for cause” of a downwind state’s nonattainment to a showing that a group of sources across several states are cumulatively contributing significantly to a downwind state’s nonattainment problem.

The numerous factors described above suggest that the EPA is likely to finalize a strong regulation under Section 110. In addition, the similarity of purpose, analytical basis and desired remedy in the Section 126 petitions argues that they too will receive an affirmative finding. The petitioning states and the EPA have reached an agreement on the timing of action under Section 126 which will enable the EPA to coordinate the two rulemakings.¹¹³ The ultimate test of these measures’ success will occur in the courts. Sadly, we have no precedent of the EPA ever defending an affirmative determination under Section 110 or Section 126. In addition, neither the EPA or the Courts have ruled on any petitions since Congress revised Section 126 and Section 110 in the 1990 CAA Amendments. Still, prior Section 126 decisions by the EPA and the Courts provide useful guidance.

A. Causation + Equity = Significant Contribution Test

In general, the EPA has eschewed a “bright line” test in favor of an “application of factors” approach. In *Air Pollution Control District of Jefferson County Kentucky v. EPA*,¹¹⁴ the EPA set forth three basic criteria that must be established to approve the state’s petition: (1) the petition must seek relief for nonattainment areas; (2) it must demonstrate that achievement of the NAAQS is being prevented by the named out-of-state sources; and (3) it must indicate that sources within the petitioning state are adequately controlled.¹¹⁵ The first criteria is straightforward.¹¹⁶ The second two criteria, “causation” and “equity,” have been the focus of

113. The parties have agreed to a schedule that requires the EPA to enter a proposed ruling on the petitions in the Federal Register by September 30, 1998. *See Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport*, 63 Fed. Reg. 24,058, 24,076 (1998). Final technical determinations and remedies must be published by April 30, 1999. *See id.* Under all situations, the three year compliance deadline under § 126 will be triggered by May 1, 2000, for all approved petitions. *See id.* This schedule will ensure that all necessary controls are in place by the 2003 ozone season. Under the schedule the EPA has proposed under § 110, states must comply with the reduction requirements and submit a revised SIP by November 30, 1999. *See id.* Here too, all necessary utility controls are proposed to be in place by the 2003 ozone season. The EPA has asserted its intention to harmonize its actions under § 110 and § 126. *See id.* at 24,059.

114. 739 F.2d 1071 (6th Cir 1984).

115. *See id.* at 1078 n.7.

116. Vermont, which presently attains the ozone standard has filed an ozone petition asserting that upwind emissions are interfering with its ability to maintain said standards.

decisions by both the EPA and the courts. Taken together these factors have evolved to form the significant contribution test.

While no friend of petitions between 1977 and 1990, concern over the equitable purpose behind Section 126 led the EPA to stray from a strict interpretation of the “prevent attainment” standard. The Agency argued that:

[T]he legislative history of Section 126 suggests that a strict literal interpretation of the term “prevent” is not intended. Because a state is usually able to set tighter emissions limits on its own sources to offset the effects of interstate air pollution, a literal interpretation of the term “prevent” would rarely allow relief under Section 126.¹¹⁷

While upholding the EPA’s petition denials, courts have generally agreed that a literal interpretation of the prevent standard violates the balance of equities Section 126 is supposed to protect.¹¹⁸ The appropriate rejection of a “but for” causation standard, however, did little to answer the question of how much pollution is too much. The “substantial contribution” standard evolved through a series of cases in response to this question.

In *Connecticut v. EPA*, the Second Circuit ruled that it would not overturn an EPA finding if the EPA concluded that the effect of interstate air pollution on the moving state was “truly minimal.”¹¹⁹ The interstate emissions were shown to contribute less than 1.5 percent to the nonattainment problem.¹²⁰ The court upheld the EPA’s denial. In 1984, the Sixth Circuit upheld the EPA’s denial stating that the agency properly determined a three percent contribution was not a “substantial contribution.”¹²¹ In a subsequent 1984 petition rejection, the EPA reiterated the lack of a bright line test stating, “[t]he size of the out-of-State contribution is important but not necessarily decisive. It is important, however, that the petitioning States make a strong empirical case that the

117. Interstate Pollution Abatement; Final Determination, 47 Fed. Reg. 6624, 6626 (1982) (codified at 40 C.F.R. pt. 52).

118. In *Air Pollution Control Dist. v. EPA*, the Sixth Circuit upheld the EPA’s view that reading “prevent” to translate into a “but for” test would “allow only the most extreme instances of interstate pollution to come under scrutiny.” 739 F.2d at 1090. In *Connecticut v. EPA*, 696 F.2d 147 (2d Cir. 1982), the Second Circuit found that a “literal reading of the word ‘prevent’” would unreasonably require the petitioner to demonstrate that it is “impossible . . . to maintain the standards . . . even by imposing stricter control measures upon its own pollution sources.” *Id.* at 156.

119. 696 F.2d 147, 165 (2d Cir. 1982).

120. *Id.*

121. *Air Pollution Control Dist.*, 739 F.2d at 1093-94. It is worth noting that the court determined that the source in question, the Gallagher power plant, contributed 34.5% to the primary SO₂ standard (24-hour average) and 47% to the secondary SO₂ standard (3-hour concentration) in areas of Kentucky that were in attainment, but both the EPA and the court held these impacts to be outside the scope of § 126. *See id.* at 1078, 1093-94.

amounts in question do inhibit significantly their efforts to meet the standards or increments in question.”¹²²

When seeking to show a court that upwind sources are significantly inhibiting downwind attainment efforts, the petitioning area must demonstrate that it is working effectively to limit its own contribution to its air quality problems. Courts place great weight on this “clean hands” requirement for one basic reason. Judges do not understand the first thing about air pollution, but they do know a lot about fairness. Differences between levels of control are a strong measure of fairness. These relative differences also provide necessary context for a court to assess the significance of the requested relief.¹²³

Though necessary, even gross inequity in the absence of an adequate technical demonstration has been inadequate to achieve desired relief. In *Air Pollution Control District v. EPA*, Kentucky, the plaintiff, demonstrated that it had agreed with Indiana to require sources in two neighboring counties to meet the same sulfur dioxide (SO₂) standard.¹²⁴ The Kentucky facility spent \$138 million to meet the standard.¹²⁵ However, Indiana adopted regulations that exempted the Gallagher facility, thus allowing the facility to avoid any financial outlay for SO₂ controls.¹²⁶ While compelling, this demonstration of clear inequity did not convince the court to overlook the fact that the vast majority of offending emissions from the Gallagher facility were affecting attainment areas in Kentucky, and thus beyond the scope of the requested relief.¹²⁷

While successful demonstration of inequity is of itself not determinative, failure by the petitioning state to portray adequate in-state reductions can be. In *Connecticut v. EPA*, Connecticut’s attempt to prevent New York from relaxing emission standards at a nearby powerplant were significantly undermined because Connecticut too had permitted additional SO₂ emissions through an emissions trading program.¹²⁸

122. Interstate Pollution Abatement; Proposed Determination, 49 Fed. Reg. 34,851, 34,859 (1984) (proposed determination under CAA § 126, Sept. 4, 1984).

123. If sources in a downwind area have achieved an 80% reduction and sources in an upwind area are uncontrolled, a 10% downwind impact will be understood to be more significant than if the upwind areas have themselves achieved a 10% reduction. In the former case, failure to provide relief would require a 90% reduction which could force some facilities to shut down. In the later case, a slight improvement in control equipment may be all that is required.

124. *Air Pollution Control Dist. of Jefferson County, Ky. v. EPA*, 739 F.2d 1071, 1082 (6th Cir. 1984).

125. *See id.* at 1077.

126. *See id.* at 1076.

127. *See id.* at 1093-94.

128. *Connecticut v. EPA*, 696 F.2d 147, 156 (2d Cir. 1982).

In considering the impact of these prior decisions on the petitions presently before the EPA, several distinguishing factors should be kept in mind. First, although these prior decisions introduced the concept of "significant contribution," they were decided before Congress enlarged the duty of upwind states to prevent transport under Section 110 and relaxed the standard downwind states must meet under Section 126.

Second, the prior decisions generally involved petitions seeking relief from SO₂ emissions. Substantial differences exist between the efforts that have been undertaken to reduce ozone and the efforts that had been undertaken at the time of prior petitions to reduce SO₂. Compared to ozone precursors which are emitted by literally millions of sources, the vast majority of SO₂ emissions can be traced to a few hundred coal-burning utilities. The greater difficulty and expense involved in achieving NO_x emissions relative to SO₂ emissions supports setting a lower threshold for significance in the petitions at hand. While a three percent SO₂ contribution from a single power plant in Indiana may have been deemed insignificant to nonattainment in Kentucky, achieving a three percent reduction in overall NO_x emissions in the Northeast requires tremendous effort and expense.

The EPA acknowledged this fact in its approval of a petition from the Ozone Transport Commission requiring all northeast states to adopt tailpipe emission standards based on the standards adopted in California.¹²⁹ To approve the petition the EPA had to determine that the reductions were necessary for attainment in the region. In the early years of implementation, the proposed program was going to achieve less than a one percent reduction in overall ozone precursor emissions. The EPA nevertheless determined that the measure was necessary for attainment, noting that all emission reductions that could be achieved through the application of reasonable and practicable control measures should be considered necessary even though the independent benefits attributable to individual measures could be quite small.¹³⁰

Last, prior petitions suffered from a lack of generally acceptable analytical tools. For example, in *New York v. EPA*, the EPA's decision not to evaluate the impact of emissions beyond fifty kilometers from the plant in question was held not to be arbitrary since the modeling tool used by the Agency was not accurate at greater distances.¹³¹ The EPA was

129. See Supplemental Notice of Proposed Rulemaking on Ozone Transport Commission; Emission Vehicle Program for the Northeast Ozone Transport Region, 59 Fed. Reg. 48,664, 48,682-84 (1994) (codified at 40 C.F.R. pt. 85) (Supplemental Notice of Proposed Rulemaking, Sept. 22, 1994).

130. *Id.*

131. *New York v. EPA*, 710 F.2d 1200,1204 (6th Cir 1983).

similarly excused by the Court from considering the effects of emissions on downwind states in *Connecticut Fund for the Environment, Inc. v. EPA* because it lacked the analytical tools to accurately predict such effects.¹³²

Nevertheless, courts generally welcome the opportunity to reconsider past decisions and precedents on the basis of improved scientific understanding. In 1974, the Fifth Circuit wrote, “[d]ecisions which are not arbitrary and capricious in the light of existing knowledge may become so by the dint of scientific advances. By its use of estimations and sparse data, the EPA creates a continuing responsibility to develop, review and apply updated and more sophisticated information.”¹³³ Through a host of regional pollution assessment initiatives culminating with the OTAG process, the EPA brings a vastly improved arsenal of scientific knowledge to the determinations at hand.

In its Section 110 proposal, the EPA stresses the differences between the action at hand and the past petitions it has denied. The proposal reads, “differences in the key factors between the earlier decisions [under Section 126] and today’s proposal means that those earlier decisions are not determinative for today’s proposed action.”¹³⁴ Specific factors identified by the EPA are differences in pollutants, emission inventories, and the number of emitters in the upwind and downwind areas.

In sum, the lower burdens posed in the 1990 CAA Amendments and improvements in the technical demonstrations of ozone transport bolsters the EPA’s ability to promulgate and enforce affirmative findings under Section 110 and Section 126.

B. Deference to Agency Judgment

The single most important factor in having a court find in favor of a petitioning state is having the EPA on its side. To date, no court has ever overturned an EPA decision under Section 126 or Section 110. Courts are at their “most deferential” when reviewing decisions within an agency’s area of expertise.¹³⁵ Without question, the technical tools, air pollution models, and interpretations of scientific evidence involved in rendering a finding under Section 110 and Section 126 fall within the EPA’s area of expertise.¹³⁶

Upon reviewing the EPA and the courts’ application of the significant contribution test, one commentator writes:

132. *Connecticut Fund for the Env’t., Inc. v. EPA*, 696 F.2d 169, 177 (2d Cir 1982).

133. *Texas v. EPA*, 499 F.2d 289, 301 n.16 (5th Cir. 1974).

134. *Ozone Transport Rulemaking*, *supra* note 1, at 60,326.

135. *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87,103 (1983).

136. *New York v. EPA*, 852 F.2d at 580.

The interpretative status of this threshold standard is so amorphous it reminds one of Justice Stewart's now famous standard for obscenity ["I know it when I see it"]. As a threshold standard, significantly contribute is in effect no standard at all because the EPA can define its own criteria as to what constitutes significant contribution on a case-by-case basis.¹³⁷

For worse, and now for better, the lack of a bright line determination makes the EPA's support the most important factor in achieving a desired outcome under Sections 110 and 126.

VIII. CONCLUSION

For nearly thirty years, federalism and special interest politics have conspired to perpetuate a regulatory structure that was doomed to fail. The EPA's actions to accommodate transport rather than confront it were rendered on the assumption that it lacked the political power to successfully challenge major industries in upwind states. Whether or not justified, the EPA's political judgments undermined the scientific legitimacy of our pollution reduction efforts. The resulting requirements were inequitable, inefficient, ineffective, and at times incoherent—attainment but for transport. Most important, our collective failure to achieve available, cost effective pollution reductions has needlessly subjected millions of Americans to substantial harm.

Against this historic back drop, the EPA's proposed action to aggressively control utility NO_x emissions under Section 110 is all the more impressive. Moreover, the prognosis looks good—the science has matured, the politics have aligned, and the courts seem unlikely to interfere. After thirty years of "Old West Justice," the northeast states stand ready to welcome a regulatory system based on scientifically grounded collective action.

137. Timothy Talkington, Comment, *Interstate Air Pollution Abatement and the Clean Air Act Amendments of 1990: Balancing Interests*, 62 U. COLO. L. REV. 957, 967 (1991).