

TRANSBOUNDARY AIR POLLUTION AND THE CLEAN AIR ACT: AN HISTORICAL PERSPECTIVE*

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* This article is a revised version of a talk presented at the Second Annual Rocky Mountain Mineral Foundation Institute for Law Teachers in Boulder, Colorado on May 25-27, 1983.

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Air pollutants, by their nature, do not respect political boundaries¹

It is a fair and reasonable demand on the part of a sovereign that the air over its territory should not be polluted . . . that the forests on its mountains . . . should not be further destroyed or threatened by the act of persons beyond its control²

I. OVERVIEW

The problem of transboundary air pollution (TAP) is neither new nor unique. The first quote above comes from a 1973 case dealing with the Environmental Protection Agency's nascent efforts to implement the 1970 Clean Air Act Amendments. The second quote is from Justice Holmes, describing the denuding of Georgia forests by a copper smelter operating in Tennessee, its neighbor to the north. Both the courts and the Congress have attempted to deal with the TAP issue for at least half a century and the results have generally proved to be ineffective. TAP problems raise not only the political and jurisdictional issues inherent in a federalist political system, but also involve highly controversial scientific and technical decisions. This added degree of uncertainty regarding the inability of science to come up with the "smoking gun" in most TAP controversies merely heightens the tension inherent in the TAP arena.

TAP problems can arise in many different contexts. The pollution can be from the industrial facility located across the street or the river in a neighboring state. Downwind or receptor states can more easily prove their allegations of pollution from an extra-territorial source. A prime example is the Marietta, Ohio-Parkersburg, West Virginia region, which provided an important rallying point for the supporters of the 1970 Clean Air Act Amendments.³ On the other hand, the pollution can involve long-range transport issues such as those associated with acid rain and the over-all problem of the substantial impact midwestern air pollution has on air quality in the Middle Atlantic and New England areas.⁴

This paper will provide a historical perspective on the TAP problem, omitting the specific TAP issues involved with acid deposition. It will trace the judicial and legislative attempts to deal with the TAP issue, culminating in the recently proposed amendments to the Clean Air Act. These amendments were designed specifically to deal with the TAP problem in a more efficacious manner. The history of this problem, however, illustrates the process of "disjointed incrementalism" or "muddling through," at its best, or worst, depending on perspective. Ideally, we may be able to learn some lessons about legislative attempts to deal with a complex scientific and political issue, which might assist us in better coping with these types of problems in the future. The prognosis for such an

¹ *Natural Resources Defense Council, Inc. v. EPA*, 478 F.2d 875, 880 (1st Cir. 1973).

² *Georgia v. Tennessee Copper Co.*, 206 U.S. 230, 238 (1907), *motion to enter final decree*, 237 U.S. 474, *decree entered*, 237 U.S. 678 (1915), *decree modified*, 240 U.S. 650 (1916).

³ See *infra* text accompanying notes 59-67. See also Note, *Air Pollution in the Marietta-Parkersburg Area—A Case History*, 32 OHIO ST. L.J. 58 (1971).

⁴ See, e.g., the § 126 petitions filed by New York and Pennsylvania. These states alleged substantial interference with their ability to attain or maintain healthful air quality because of excessive suspended particulate and sulfur dioxide emissions from sources in Ohio, West Virginia, Illinois, Indiana, Kentucky, Michigan, and Tennessee. 46 Fed. Reg. 24,602, 45,383 (1981), 47 Fed. Reg. 1304 (1982).

improvement in the condition of TAP, however, is guarded at best.⁵

II. THE COMMON LAW ANTECEDENTS

Analysis of common law reaction to problems of excessive sulfur dioxide emissions in several turn-of-the-century cases⁶ provides an omen of things to come in the TAP area. Many of the same problems arising under the Clean Air Act treatment of the TAP problem were involved in these cases. The difficulties inherent in the TAP field are reflected by how the common law dealt with, or failed to deal with, these issues.

In the late 19th Century, two independently owned copper smelter enterprises were located in Tennessee only two and a half miles from the Georgia border. Intermittently since 1870, the two smelters caused substantial damage to the surrounding forests, crops, and agriculture by their emissions of sulfur dioxide. A series of state court cases set out several important principles that affected this and future common law TAP litigation. In *Swain v. Tennessee Copper Co.*⁷ the court required the plaintiff to affirmatively prove the proportion of injury caused his property by each of the emitting facilities.⁸ In *Madison v. Ducktown Sulphur, Copper, & Iron Co.*,⁹ however, the court held that when the injured parties only seek injunctive relief two independent sources of pollution can be joined in a single action.¹⁰ In both the *Swain* and *Madison* cases the court concluded that the smelters were nuisances based on the quantum of proof showing the gross emissions and subsequent injury to plant life.¹¹

The TAP issue arose shortly after the Tennessee Supreme Court refused to enjoin the smelting activities in the *Madison* case through its use of the "balancing of equities" doctrine.¹² Georgia made several unsuccessful attempts to negotiate with the State of Tennessee and the two companies before it filed an original jurisdiction suit based on nuisance in the United States Supreme Court.¹³ The TAP problem was probably exacerbated by the smelters' attempt to control local emissions by changing from an open roasting technology to a newer enclosed technology in which the smoke was emitted through a smokestack.¹⁴

In a fairly terse opinion by Justice Holmes the Supreme Court held that Geor-

⁵ Congress rejected an attempt to amend the Clean Air Act in 1982. Attempts to deal with both the acid rain and the general TAP problem as well as other issues relating to the Clean Air Act have apparently bogged down in 1983 as well. See, e.g., 13 ENV'T REP. (BNA) 2079-80 (Mar. 18, 1983).

⁶ *Georgia v. Tennessee Copper Co.*, 237 U.S. 474, 475 (1915); *Madison v. Ducktown Sulphur, Copper & Iron Co.*, 113 Tenn. 331, 83 S.W. 658 (1904); *Swain v. Tennessee Copper Co.*, 111 Tenn. 430, 78 S.W. 93 (1903).

⁷ 111 Tenn. 430, 78 S.W. 93 (1903).

⁸ 111 Tenn. —, 78 S.W. at 98-99. The court did state it would look at the proof of individual causation "with a liberal hand." Plaintiffs could shoulder their burdens by showing capacity of the individual plants, tonnage of ores being smelted, length of operations, distance of affected property from each plant, and visual condition of air currents. *Id.* See generally Fischer, *The Availability of Private Remedies for Acid Rain Damage*, 9 ECOLOGY L.Q. 429, 449-70 (1981).

⁹ 113 Tenn. 331, 83 S.W. 658 (1904).

¹⁰ 113 Tenn. at —, 83 S.W. at 662.

¹¹ *Swain*, 111 Tenn. at —, 78 S.W. at 94; *Madison*, 113 Tenn. at —, 83 S.W. at 662.

¹² 113 Tenn. at —, 83 S.W. at 664-65. See generally Fischer, *supra* note 8, at 479-83; Juergensmeyer, *Control of Air Pollution Through the Assertion of Private Rights*, 1967 DUKE L.J. 1126, 1130-37.

¹³ *Georgia v. Tennessee Copper Co.*, 206 U.S. 230 (1907), *motion to enter final decree*, 237 U.S. 474, *decree entered*, 237 U.S. 678 (1915), *decree modified*, 240 U.S. 650 (1916).

¹⁴ 206 U.S. at 239. The change in technology and the state court decisions delayed litigation from 1904 to 1907. *Id.*

gia had proved a nuisance existed by a preponderance of the evidence.¹⁵ It did not deal with the fact that two independent sources of sulfur dioxide were present. It also did not explain why it refused to balance the equities as the Tennessee Supreme Court had done, although at this time federal common law was still flourishing.¹⁶ The Court gave Georgia the unconditional right to an injunction but allowed the defendants a reasonable time to finish the construction of several structures and change their technology to minimize or stop the emissions. This first opinion ignored the technical aspects of the case, including such relevant issues as available methods of emission control, minimum threshold emission levels that would be allowed, and the problem of long-range transport of the sulfur dioxide. Justice Holmes did not even address the likelihood that the best efforts of the entities would still not prevent injury to Georgia property owners.

Eight years after the original decision, the State of Georgia sought a final decree from the Supreme Court enjoining the continued sulfur dioxide emissions from the two facilities.¹⁷ In the interim period both emitters had employed some methods for emission controls at great expense,¹⁸ but it was readily apparent that even after the technological changes were made, emissions would continue at a level that would cause injury to Georgia property owners. One emitter entered a consent agreement with Georgia in which it agreed to annually place a sum of money in a compensation fund for the victims of its discharges. It also agreed to make other changes in its operating procedures in order to minimize the impact of its discharges.¹⁹ The Ducktown smelter operation's refusal to do likewise, however, led to the litigation. The Ducktown Company argued that its controls had minimized the damage suffered by the property owners and that it was utilizing the best available control technology. The Court rejected this defense, noting that Ducktown was emitting in 1913 an average of thirty tons per day of sulfur dioxide. The Court felt the amount was sufficient to show the continuing nature of the nuisance.²⁰

In both the original and the modified decree the Supreme Court required limitations on production levels, including specific emission limitations.²¹ In rendering its modified decree the Supreme Court hinted that the emissions at the reduced levels required by the decree would be sufficient to protect against injury to the Georgia property owners.²² Although the Court appointed an inspector or master who was an expert in the field, the inspector undoubtedly held no extensive hearings on the issue of dose/response levels and relative agricultural impacts of the allowable emission of twenty to forty tons of sulfur dioxide per day.

¹⁵ *Id.* at 238-39; *Compare* Missouri v. Illinois, 200 U.S. 496 (1906) (requiring that the case be "clearly and fully proved").

¹⁶ Swift v. Tyson, 41 U.S. (16 Pet.) 1 (1842) (establishing creation and application of federal general common law) was not overruled until 1938 in Erie Railroad Co. v. Tompkins, 304 U.S. 64 (1938).

¹⁷ 237 U.S. 474, *decree entered*, 237 U.S. 678 (1915).

¹⁸ Ducktown Company spent \$600,000 in constructing an acid plant that effectively reduced the amount of sulfur dioxide emissions by 50%. Instead of emitting 85-1/2% of all sulfur dioxide created, the new system only emitted 41-1/2%. 237 U.S. at 476.

¹⁹ *Id.* at 475-76. One can see the first use of intermittent control systems with the consent decree. Tennessee Copper agreed to minimize the operation of its smelter during the growing season when damages to growing crops would be greater.

²⁰ *Id.* at 476-77.

²¹ Emissions were limited to 20 tons/day during growing season and 40 tons/day the remainder of the year. *Id.* at 478; *decree modified*, 237 U.S. 678, 680 (1915).

²² 237 U.S. at 679.

The result is also somewhat inconsistent with the Court's original findings that a nuisance would exist at the 1913 emission levels of thirty tons per day.²³ Finally, the Court ordered Ducktown to monitor its production level and allow the inspector to review production activities and its books for a period of six months. Ducktown was to bear the expense of the inspection and the monitoring system.²⁴

After the six months observation period was completed, the Supreme Court issued a final decree.²⁵ Although the Court required specific emission limitations and limits on production, it essentially adopted the findings of the inspector and authorized Ducktown to continue operations.²⁶ After nine years of litigation the Supreme Court allowed Ducktown to continue to emit into the atmosphere substantial amounts of sulfur dioxide, albeit at a reduced level from the pre-litigation period. The case, however, shows that the problems inherent in a TAP case are the same today as they were fifty years ago. The Court and the legislature need information to make informed judgments regarding the impact of the emissions. In *Tennessee Copper*, as in the current Clean Air Act,²⁷ the emitter assumed the costs of monitoring its production activities and emissions. An emitter may have to utilize control systems or dispersion enhancement techniques when injury occurs even after it has employed the best available control technology. *Tennessee Copper* also illustrates that certain solutions may have negative externalities that were not predicted by the parties. In this situation, the company's limitation of emissions through the use of an acid plant with a tall smokestack undoubtedly benefitted local property owners. While the company's gross emission cutback also aided those further away from the enterprise, its use of the smokestack exacerbated downwind emission levels to a greater extent than would have occurred with the old open burning technology. Finally, the problem of appellate court review of a highly technical and fact-oriented decision is also reflected in the abbreviated analysis of the scientific and technological questions that are the heart of this and almost any TAP problem.²⁸

III. THE STATUTORY BIRTH OF TAP (HEREIN OF CAESARIAN SECTIONS)

A. Pre-1963 Attempts

Before 1963 the federal effort in the air pollution abatement field was strictly

²³ 237 U.S. at 477-78.

²⁴ 237 U.S. at 679.

²⁵ 240 U.S. 650 (1916).

²⁶ *Id.* at 650-51. The emission limitations were relaxed to allow the emission of 25 tons/day during growing season and 50 tons/day during the remainder of the year. A percentage limit or cap, however, was placed on emissions so that no more than 45% of the sulfur contained in the unrefined ore could be allowed to escape. The limit locked the Ducktown smelter into the existing technological system, which had already achieved that level. The court also required continued monitoring not only of production levels but also of meteorological conditions at the expense of Ducktown. The magnitude of a 50 ton/day limit on sulfur dioxide emissions can be properly placed in perspective by comparing that figure with the estimated one ton/day emission level for the largest uncontrolled coal-fired power plants in the United States. *Acid Rain: Hearing Before the Senate Comm. on Environment and Public Works*, 97th Cong., 1st Sess. 245 (1981) [hereinafter *Senate Acid Rain Hearings*].

²⁷ 42 U.S.C. § 7414 (Supp. V 1981).

²⁸ The Tenth Circuit discussed the inappropriateness of the Supreme Court as a court of original jurisdiction for resolution of general federal common law nuisance problems in *Texas v. Pankey*, 441 F.2d 236 (10th Cir. 1971). The court found that Texas' claim against certain New Mexico farmers for causing injury to a Texas lake by their use of a pesticide could properly be brought in a United States district court rather than in the Supreme Court as in the *Tennessee Copper* case. *Id.* at 239.

research-oriented.²⁹ The initial legislation, the Air Pollution Control Act of 1955,³⁰ provided limited funding for research into the newly-perceived but relatively ancient problem of air pollution. The Act made only an off-hand reference to the problem of TAP and did not lead to any major federal effort in the TAP arena.³¹

Although federal presence was felt more strongly in the nascent efforts to control motor vehicle pollution, early congressional attempts to solve what was labelled as primarily a state and local problem of air pollution showed no concern for the TAP problems associated with automobiles.³² The early efforts were more a product of the growing fear of the deleterious health effects of air pollution. Primary emphasis was on the killer smog problems reflected in the Dorora, Pennsylvania; London, England; and Meuse Valley episodes. Reflecting this concern, the principal supporters of the early legislation were from California and the coal-burning Appalachian region.³³

B. The Clean Air Act of 1963

Early federal efforts produced little in the way of results and in 1961 congressional attention again focused on the need for federal air pollution legislation. After a stormy two-year debate on the issue of whether air pollution control was more properly a federal or state and local problem, the 1963 Clean Air Act³⁴ emerged. The Act, for the first time, actively involved the federal government in the TAP arena. Senator Muskie, speaking in 1967, emphasized that one of the major philosophical bases for the 1963 Act was the proper functioning of the federal government to resolve interstate problems, in this particular case, TAP.³⁵ But the Clean Air Act of 1963 was clearly a compromise between those who desired a stronger federal presence in the air pollution abatement field and those who still felt that air pollution was primarily a state and local problem.³⁶

Congress confined federal presence in the newly created enforcement mechanism to abate air pollution to three specific circumstances.³⁷ In two of these instances the TAP issue was directly involved. The first scenario allowed federal intervention after a receptor state or local government official filed a request that the federal government deal with a TAP problem that was endangering the

²⁹ See generally Kramer, *The 1970 Clean Air Amendments: Federalism in Action or Inaction*, 6 TEX. TECH L. REV. 47, 49-51 (1974) [hereinafter cited as Kramer I]; Muskie, *Role of the Federal Government in Air Pollution Control*, 10 ARIZ. L. REV. 17 (1968); Comment, *A History of Federal Air Pollution Control*, 30 OHIO ST. L.J. 516 (1969).

³⁰ Ch. 360, 69 Stat. 322 (1955) (current version at 42 U.S.C. §§ 7401-7642 (Supp. V 1981)). The first federal efforts in air pollution control came eight years after initial federal efforts in water pollution control. Federal Water Pollution Control Act, ch. 758, 62 Stat. 1155 (1948) (current version at 33 U.S.C. §§ 1251-1376 (1976 & Supp. V 1981)).

³¹ Section 2(b) of the 1955 Act encourages interstate and intrastate cooperative activities by state and local governments. Nothing in the legislative history and congressional debates refers to TAP as an area of congressional concern before enactment of the 1955 Act. *But cf.* D. Stonefield, B. Polkowsky & W. Hamilton, *Implementing Section 126: Controlling Interstate Pollution* (1982) (prepublication draft of EPA publication on file with author) [hereinafter cited as *Interstate Pollution*].

³² Motor Vehicle Exhaust Study Act of 1960, Pub. L. No. 86-493, 74 Stat. 162.

³³ S. REP. NO. 389, 84th Cong., 1st Sess. 1, reprinted in 1955 U.S. CODE CONG. & AD. NEWS 2457.

³⁴ Clean Air Act of 1963, Pub. L. No. 88-206, §§ 1, 5, 77 Stat. 392, 395-98 (current version at 42 U.S.C. §§ 7401-7642 (Supp. V 1981)).

³⁵ Muskie, *supra* note 29, at 18-19.

³⁶ Kramer I, *supra* note 29, at 51.

³⁷ Clean Air Act of 1963, Pub. L. No. 88-106, § 5(c)(1)(A)-(C), 77 Stat. 392, 396-97.

health or welfare of persons in the receptor state.³⁸ The second scenario apparently evinced distrust of the resolve of state and local government officials to protect their own citizenry because it allowed the Secretary of Health, Education, and Welfare to initiate the enforcement mechanism when the Secretary determined that a TAP problem was endangering the health or welfare of persons in the receptor state.³⁹ The Secretary was to consult with officials of the affected state before calling the enforcement conference, but was not obligated to follow their advice regarding the need for federal involvement.

Unfortunately, the mechanism chosen to effectuate the federal involvement in the TAP arena was the old Federal Water Pollution Control Act conference system, which proved to be as ineffective in the air pollution field as it was in the water pollution field.⁴⁰ Until Congress strengthened the federal enforcement effort by repealing the conference method of abatement and replacing it with a more efficacious mechanism, TAP and other air pollution problems remained essentially untouched.

The 1963 Clean Air Act demonstrated in one other major way a congressional concern with the TAP problem. It made state and local air pollution control agencies eligible for federal matching money to develop, establish, or improve their air pollution control programs.⁴¹ The Act, however, afforded special treatment to "intermunicipal or interstate" agencies. It authorized them to receive up to seventy-five percent of the cost of the program from federal funds whereas intrastate agencies were only allowed to recover sixty-six percent of total costs from the federal treasury.⁴² But even this federal encouragement of resolving TAP issues was not universally supported. The original House bill did not provide for preferential funding levels for TAP agencies; the provision was added by the Conference Committee.⁴³

Finally, Congress showed its concern for the TAP problem by endorsing and encouraging cooperative activities between states.⁴⁴ This encouragement took the form of congressional consent for two or more states to enter interstate agreements or compacts dealing with TAP issues.⁴⁵ Congress, however, reserved the right to independently approve all negotiated compacts as required by the Constitution.⁴⁶

C. *The Air Quality Act of 1967*

Federal presence in the field of air pollution control continued, albeit ineffectively, with the enactment of the Air Quality Act of 1967.⁴⁷ Although early at-

³⁸ *Id.* § 5(c)(1)(A), 77 Stat. at 396.

³⁹ *Id.* § 5(c)(1)(C), 77 Stat. at 396.

⁴⁰ Kramer I, *supra* note 29, at 51-53. See also Edelman, *Air Pollution Abatement Procedures Under the Clean Air Act*, 10 ARIZ. L. REV. 30, 33-35 (1968).

⁴¹ Clean Air Act of 1963, Pub. L. No. 88-206, § 4, 77 Stat. 392, 395.

⁴² Pub. L. No. 88-206 at § 4(a).

⁴³ Compare H.R. REP. NO. 508, 88th Cong., 1st Sess., reprinted in 1963 U.S. CODE CONG. & AD. NEWS 1260, 1265 with CONF. REP. NO. 1003, 88th Cong., 1st Sess., reprinted in 1963 U.S. CODE CONG. & AD. NEWS 1279, 1281-82.

⁴⁴ Clean Air Act of 1963, Pub. L. No. 88-206, § 2, 77 Stat. 392, 393.

⁴⁵ *Id.* § 2(c), 77 Stat. at 393.

⁴⁶ U.S. CONST. art. I, § 10, cl. 3.

⁴⁷ Pub. L. No. 90-148, 81 Stat. 485 (current version at 42 U.S.C. §§ 7401-7642 (Supp. V 1981)). See generally Kramer I, *supra* note 29, at 54-58; Martin & Symington, *A Guide to the Air Quality Act of 1967*, 33

tempts were made to delete portions of the 1963 Clean Air Act that encouraged the states to negotiate interstate compacts,⁴⁸ the 1967 Air Quality Act as a whole continued Congress' dalliance with the TAP problem. In addition, the preferential treatment for federal funding of interstate agencies continued intact.⁴⁹

The 1967 Act directly addressed the TAP issue through a new regulatory program based on state establishment of ambient air quality standards.⁵⁰ State standards were set based on the designation of air quality control regions (AQCR's) by the Secretary of Health, Education, and Welfare. In creating these AQCR's the Secretary considered factors such as jurisdictional boundaries, atmospheric areas, and urban-industrial concentrations.⁵¹ The Act specifically authorized the Secretary to create interstate AQCR's and to fund their costs at one hundred percent of the program costs.⁵² To deal with TAP problems bogging down the standard setting process, Congress delegated authority to the Secretary to designate air quality planning commissions to recommend regulatory schemes and appropriate standards for interstate areas.⁵³ These federally designated interstate agencies were back-up devices for interstate AQCR's where competing states might not have sufficient political clout to develop effective regulatory schemes.⁵⁴

In addition, Congress beefed up federal presence in the TAP enforcement area. Along with the TAP triggers for the conference system of abatement, the 1967 Act specifically authorized the Secretary to request that the United States Attorney General bring an enforcement action when a TAP problem endangered the health or welfare of individuals in the receptor state.⁵⁵ This federal involvement was predicated on prior notice to the interested parties. States were given 180 days to remedy the health-endangering air pollution. Again, Congress was concerned with the political problems raised by TAP and the inability of the federalist political system to adequately remedy TAP.

Congress might have considered the common law solution the Court imposed in the *Tennessee Copper* case before it set up the complex enforcement machinery in the 1963 and 1967 Acts. These mechanisms proved to be ineffective in dealing with the TAP problems that went through the regulatory morass. Fifty years after *Tennessee Copper* the legislative solutions did little but add a bureaucratic

LAW & CONTEMP. PROBS. 239 (1968); Middleton, *Summary of the Air Quality Act of 1967*, 10 ARIZ. L. REV. 25 (1968); Muskie, *supra* note 29.

⁴⁸ The House of Representatives was willing to delete as unnecessary the provisions relating to compacts. Senate members of the Conference Committee, however, persuaded the House to retain the language because of the need for regional solutions to air pollution problems. Compare H.R. REP. NO. 728, 90th Cong., 1st Sess., reprinted in 1967 U.S. CODE CONG. & AD. NEWS 1938, 1965 with CONF. REP. NO. 916, 90th Cong., 1st Sess., reprinted in 1967 U.S. CODE CONG. & AD. NEWS 1938, 1989.

⁴⁹ Air Quality Act of 1967, Pub. L. No. 90-148, § 105(a)(1), 81 Stat. 485, 489 (current version at 42 U.S.C. § 7405(a)(1) (Supp. V 1981)).

⁵⁰ *Id.* §§ 107-108, 81 Stat. at 490-97 (current version at 42 U.S.C. § 7407-7409 (Supp. V 1981)).

⁵¹ *Id.* § 107(a)(2), 81 Stat. at 490-91 (current version at 42 U.S.C. § 7407 (Supp. V 1981)).

⁵² *Id.* § 106(a), 81 Stat. at 490 (current version at 42 U.S.C. § 7406 (Supp. V 1981)).

⁵³ *Id.* § 107(b), 81 Stat. at 491, repealed by Clean Air Amendments of 1970, Pub. L. No. 91-604, § 3, 84 Stat. 1676, 1677-78.

⁵⁴ See generally H.R. REP. NO. 728, 90th Cong., 1st Sess., reprinted in 1967 U.S. CODE CONG. & AD. NEWS 1938, 1961.

⁵⁵ Air Quality Act of 1967, Pub. L. No. 90-148, § 108(c)(4)(i), 81 Stat. 485, 493, as amended by Pub. L. No. 91-604, § 4, 84 Stat. 1676, 1678, 1684 (1970). This federal enforcement presence developed in response to concern that state and local inactivity or political expediency might threaten the public health through TAP intrastate pollution. See, e.g., H.R. REP. NO. 728, 90th Cong., 1st Sess., reprinted in 1967 U.S. CODE CONG. & AD. NEWS 1938, 1954-55.

nightmare to the already complex and difficult TAP problem. It is to that morass that we now turn, however, because to a large degree, the 1970 Clean Air Amendments were a product of the earlier Act's inability to resolve TAP disputes.

IV. THE 1970 CLEAN AIR ACT AMENDMENTS—TAP REACHES THE POTTY-TRAINING STAGE

A. Parkersburg, W. Va.—Marietta, Ohio Conference

One of the strongest and most outspoken House supporters of the 1970 Clean Air Act Amendments (hereinafter 1970 Amendments) was Representative Hechler of West Virginia.⁵⁶ His interest in the 1970 Amendments was the product of his continual frustration at the inability of the federal and state governments to resolve the TAP problem involving allegedly health-endangering emissions from a Union Carbide facility in Ohio. This facility degraded the air over Parkersburg, West Virginia, in Representative Hechler's district.⁵⁷ The Marietta-Parkersburg conference was only one of nine ineffective conferences. Eight of these involved TAP problems, illustrating the basic weaknesses of the 1967 Air Quality Act.⁵⁸ The intractable political, technological, and economic questions raised in the Marietta scenario are in many ways no different than the problems raised in the *Tennessee Copper* case. In *Tennessee Copper* the Supreme Court took seven years to finally deal with the problem, even though it glossed over many of the important and unresolved issues regarding the smelter's continuing emissions. In Marietta, six years of federal involvement in a similar TAP problem illustrated the need for more stringent regulatory controls over health-endangering emissions causing potential injury not only in the emitting state but in receptor states as well.⁵⁹

The Marietta situation, like the *Tennessee Copper* case, involved a major re-

⁵⁶ See, e.g., *Air Pollution: Hearings on S. 3229, S. 3466 and 3546 Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works*, 91st Cong., 2d Sess. 1245-72 (1970) (statement of Rep. Hechler) [hereinafter cited as 1970 Senate Hearings]; *Air Pollution Control and Solid Waste Recycling: Hearings Before the Subcomm. on Public Health and Welfare of the House Comm. on Interstate and Foreign Commerce*, 91st Cong., 1st & 2d Sess. 3, 414-40 (1970) (statement of Rep. Hechler) [hereinafter cited as 1970 House Hearings].

⁵⁷ See generally Comment, *Air Pollution in the Marietta-Parkersburg Area—A Case History*, 32 OHIO ST. L.J. 58 (1971).

⁵⁸ Interstate Pollution, *supra* note 31. See also S. DOC. NO. 11, 91st Cong., 1st Sess. 31-32 (1969); S. DOC. NO. 92, 90th Cong., 2d Sess. 36-38 (1968). The flowery view of the Secretary of Health, Education, and Welfare in the 1968 report on the effectiveness of the TAP conference abatement system is noteworthy. *Id.* at 38. Less than two years later the conference system in general and the TAP problem specifically were strongly condemned as ineffective and in need of substantial change. See material cited in note 56 *supra*. See also Kramer I, *supra* note 29, at 56-67.

⁵⁹ The Secretary was apparently informed about the problem created by the Union Carbide plant in 1965. Comment, *supra* note 57, at 62-64. Two years later, in early 1967, a conference was held. *Id.* at 63. HEW engaged in data gathering and air quality monitoring during the interim period and made the information available to the conference participants. The participants, representing various public and private entities, were in disagreement over recommendations and instead called for a new conference to resolve the problems. *Id.* at 64-67. The 1969-70 conference on the TAP problem merely repeated much of what went on earlier except with a slightly expanded data base. Union Carbide, alleged to be the principal cause of the pollution, refused to cooperate with the federal or state officials regarding the nature, quantity, and quality of its emissions. *Id.* at 69-73. Even the presence of Rep. Hechler did not cause substantial movement in the affected parties. To a large extent the final recommendations of the 1970 conference were no different than the recommendations of the 1967 conference. *Id.* at 100-07. Both sets of recommendations called for the creation of a formalized interstate air pollution control agency and a specified level of control of emissions, principally involving sulfur dioxide and particulate matter.

gional employer emitting sulfur dioxide and particulate matter that crossed over a state line. The causation problem was somewhat exacerbated in Marietta because at least fifteen to twenty other sources of air pollution were in the region while in *Tennessee Copper* only two sources were present. In both instances state officials in the emitting state were hesitant or reluctant to impose substantial additional costs on a facility operating within state boundaries when the principal source of the pressure for those controls was from out-of-state receptors. Data gathering was also a difficult and time-consuming task. In the Marietta case it was rendered even more difficult by the emitter's refusal to disclose information regarding the quality and quantity of its emissions.⁶⁰ Furthermore, officials recognized that delivery of information from the source would only be forthcoming under threat of penalty. In Marietta the threat was civil penalties under the Air Quality Act for refusal to provide necessary and requested information to the Department of Health, Education, and Welfare.⁶¹ In *Tennessee Copper* a judicial order required the emitter to allow a master to gather data.

The Marietta situation demonstrated that the tortuous process created by Congress to resolve a health-endangering TAP issue was in many ways similar to the judicially mandated solution of *Tennessee Copper*. It also shows a high degree of similarity in the ineffectiveness of the eventual result. In the *Tennessee Copper* case the Supreme Court took seven years to decide to allow the smelter to continue to pour between 20,000 and 30,000 pounds of sulfur dioxide into the air on a daily basis.⁶² In Marietta the emitter was allegedly spewing into the airshed each day 61,000 pounds of particulates and 246,000 pounds of sulfur dioxide.⁶³ Even with the two conferences and the six year federal involvement the final recommendation of the 1970 conference did not set a limit for the amount of sulfur dioxide emissions that would be allowed because the emitter had still not given the regulatory authorities sufficient information to set a numerical emission limit.⁶⁴ In result, the legislatively mandated regulatory program was as primitive and ineffective as the common law TAP remedy of the *Tennessee Copper* case. The TAP child was clearly growing up in a neglected and abused climate. Congress, therefore, had the onus in 1970 of providing some attention to the TAP child by attempting to rationalize and streamline the process by which receptor states could receive equitable treatment.

B. Statutory Provisions Relating to TAP

Although Congress was aware of the neglected status of the TAP child, it continued to hide its concern under the bedcovers.⁶⁵ While it could not avoid dealing with the TAP problem entirely, its 1970 Amendments did not provide much comfort to the TAP toddler who was trying to potty-train himself. The 1970 Amendments, however, increased the financial incentives for the development of interstate AQCR's and interstate air quality control commissions by authorizing

⁶⁰ Comment, *supra* note 57, at 69-73.

⁶¹ *Id.* at 69.

⁶² See *supra* notes 23 & 26.

⁶³ Comment, *supra* note 57, at 69.

⁶⁴ *Id.* at 103-105. Particulate emissions were to be lowered to a preset limit pursuant to an existing regulation of the West Virginia Air Pollution Control Commission. All fuel-burning sources were required to limit the sulfur-in-coal content of their fuel to 2% to minimize sulfur dioxide emissions.

⁶⁵ See generally *Kramer I*, *supra* note 29, at 58-75.

one hundred percent funding for program and planning costs. The federal government would provide that level of funding if the interstate entities had the power to recommend to their respective governors aspects of the now-required State Implementation Plans (SIP's) for the airshed over the interstate region. The one hundred percent funding level was to last for two years and then be reduced to seventy-five percent, which was still above the sixty-six percent funding level given for non-interstate AQCR planning and program grants.⁶⁶

The key addition to the stationary source regulatory program was the SIP process.⁶⁷ In dealing with the TAP issue, the 1970 Amendments virtually ignored the political and economic realities of regulating major point sources when the negative externalities of their activities are foisted upon non-residents. The original House version of the 1970 Amendments would have required that all SIP's contain adequate provisions for intergovernmental cooperation, but added that when an interstate AQCR existed there must, in addition, be "appropriate provision(s) for dealing with interstate air pollution problems."⁶⁸ The original Senate versions did not mention any need or requirement of intergovernmental cooperation in the SIP process. Later Senate versions of the 1970 Amendments, however, included a general requirement without any explicit references to the interstate or TAP problem.⁶⁹

The comprehensive final version combined the language of both the Senate and House bills, including the explicit reference to TAP. The revised section 110(a)(2)(E), as enacted in 1970, provided that the Administrator shall approve an SIP if:

it contains adequate provisions for intergovernmental cooperation, including measures necessary to insure that emissions of air pollutants from sources located in any air quality control region will not interfere with the attainment or maintenance of such primary or secondary standard in any portion of such region outside of such State or in any other air quality control region.⁷⁰

The Conference Committee report did not mention the inclusion of the TAP reference although it discussed the general provisions relating to intergovernmental cooperation.⁷¹

While recognizing that a TAP problem existed in many areas throughout the country, the 1970 Amendments did not reflect a lesson learned from the Marietta and *Tennessee Copper* scenarios. Congress still presumed that the difficult political, economic, and technological problems inherent in the TAP situation could be resolved on a case-by-case basis between the emitting and receptor states. Notwithstanding the information provided the respective House and Senate

⁶⁶ Clean Air Amendments of 1970, Pub. L. No. 91-604, § 3(c), 84 Stat. 1676, 1677-78 (current version at 42 U.S.C. § 7406 (Supp. V 1981)).

⁶⁷ 42 U.S.C. § 7410 (Supp. V 1981).

⁶⁸ H.R. 17255, 91st Cong., 2d Sess. 30 (1970), *reprinted in* 2 A LEGISLATIVE HISTORY OF THE CLEAN AIR AMENDMENTS OF 1970, at 915 (1974) [hereinafter cited as LEGISLATIVE HISTORY].

⁶⁹ 2 LEGISLATIVE HISTORY, *supra* note 68 at 915. *Compare* S. 3546, 91st Cong., 2d Sess. § 4 at 4-5 (1970), *reprinted in* 2 LEGISLATIVE HISTORY, *supra* note 68, at 1454-55 with S. 4538 91st Cong., 2d Sess. § 6 at 15 (1970), *reprinted in* 1 LEGISLATIVE HISTORY, *supra* note 68, at 545.

⁷⁰ Clean Air Amendments of 1970, Pub. L. No. 91-604, § 4, 84 Stat. 1676, 1681 (current version at 42 U.S.C. § 7410(a)(2)(E) (Supp. V 1981)) (*original reprinted in* 1 LEGISLATIVE HISTORY, *supra* note 68, at 156).

⁷¹ H.R. REP. NO. 1783, 91st Cong., 2d Sess. 45 (1970), *reprinted in* 1 LEGISLATIVE HISTORY, *supra* note 68, at 195.

Committees by Representative Hechler, among others, on the intractability of the TAP problem, the drafters of the 1970 Amendments did not take this opportunity to search for a more effective way to resolve TAP situations. In light of Congress' strong movement towards federalization of the air pollution abatement program this was surprising. After all, it was the TAP problem that provided the initial impetus for congressional involvement in the clean air discussion.

Essentially, Congress was telling the states that they should abide by the Golden Rule: Do unto others as you would have others do unto you. Given the common law and pre-1970 experiences with TAP, this was a most unrealistic fairy tale. In air pollution jargon, Congress was informing the states that if they got their houses in order and achieved the goal of attaining and maintaining the national standard within the specified time-frame, Congress would not allow neighboring emitter states to frustrate receptor states' efforts to protect their citizens from health-endangering ambient air quality.⁷² This promise to the states and the TAP child was a promise without support since section 110(a)(2)(E) was as ineffective as earlier common law and statutory attempts to deal with the now unruly TAP child.

C. Some Tentative First Steps—The Administrative and Judicial Reaction to the TAP Provisions in the 1970 Amendments

In promulgating regulations to clarify the SIP requirement of adequate provisions for intergovernmental cooperation, the Administrator of the Environmental Protection Agency did little to add meat to the bones of the newly-imposed statutory criteria.⁷³ The Administrator required that states exchange information regarding TAP problems. Unfortunately, he refused to go along with requests of environmental organizations to require binding enforcement or other agreements whereby stationary sources located in one state would not be allowed to begin or continue operations if they would prevent the attainment or maintenance of the national standards in another state.

This position regarding the need for binding enforcement agreements under section 110(a)(2)(E) moved from the halls of bureaucracy to the halls of justice. In two actions, the Natural Resources Defense Council (NRDC) sought to have the administrator's approval of several SIP's invalidated for failure to include binding TAP agreements.⁷⁴ The Eighth Circuit opinion continued the naivete inherent in the passage of the 1970 Amendments and its predecessors. It optimistically viewed the "ease" with which TAP problems could be resolved once they were identified by the communication required by the EPA Administrator.⁷⁵ The court was bound by the language of section 110(a)(2)(E), which only required cooperation, not binding agreements. The court added that once the information about potential or existing TAP problems was communicated from the emitter state to the receptor state the problem could be resolved through the

⁷² S. REP. NO. 1196, 91st Cong., 2d Sess. 12-13 (1970), reprinted in 1 LEGISLATIVE HISTORY, *supra* note 68, at 412-413.

⁷³ 40 C.F.R. § 51.21(c) (1977), revoked by 44 Fed. Reg. 35179 (1979). See generally Silverstein, *Interstate Air Pollution: Unresolved Issues*, 3 HARV. ENVTL. L. REV. 291, 292 (1979).

⁷⁴ *Natural Resources Defense Council, Inc. v. EPA*, 494 F.2d 519, 526 (2d Cir. 1974); *Natural Resources Defense Council Inc. v. EPA*, 483 F.2d 690, 692 (8th Cir. 1973).

⁷⁵ 483 F.2d 690, 692 (8th Cir. 1973).

cooperation of the states and the Administrator. In this manner, the TAP problems would not impede attainment and maintenance of the national standards.⁷⁶ As with the earlier TAP solutions, the congressional and judicial view of the ease with which TAP problems could be solved grossly overestimated the resolve of the affected parties to voluntarily negotiate a complex political, economic, and technological decision.

Little was done under the rubric of section 110(a)(2)(E) during its seven-year run.⁷⁷ This continued nonfeasance in raising the TAP child led to substantial political pressures to again amend the Clean Air Act's TAP regulatory scheme. Congress seemingly abandoned the naivete that governed the judicial, legislative, and administrative treatment of TAP when it took up the task of making a "midcourse correction" in the development of the Clean Air Act's TAP toddler in 1976.

V. THE 1977 CLEAN AIR ACT—THE TAP CHILD LEANS TO WALK BUT NOT RUN

The 1970 amendments were subject to numerous oversight hearings and other congressional hearings. Fine-tuning of the newly created regulatory mechanisms and mid-course corrections were needed as reality began to overtake the optimistic view that our nation's air pollution problems could be solved in a five year period.⁷⁸ Although the TAP issue was not necessarily in the forefront of the debate over the direction of mid-course corrections, Congress was certainly aware of the inadequacies of the 1970 Amendments relating to TAP. As a result, in early versions of the proposed Clean Air Act Amendments, both the House and the Senate tried to more effectively treat the TAP problem through different regulatory strategies.⁷⁹

The impetus for a more effective TAP regulatory process came from the House of Representatives. In the original congressional mark-ups in 1976 the House was a strong supporter of changes in the language of section 110(a)(2)(E).⁸⁰ It also supported the addition of a new administrative enforcement mechanism to replace the communication system of the 1970 Amendments.⁸¹

⁷⁶ *Id.*

⁷⁷ R. STEWART & J. KRIER, ENVIRONMENTAL LAW AND POLICY 498 (2d ed. 1978).

⁷⁸ See, e.g., *Implementation of the Clean Air Act, 1975: Hearings Before the Subcomm. on Environmental Pollution of the Senate Comm. on Public Works*, 94th Cong., 1st Sess. (1975); *Implementation of Transportation Controls, 1973-74: Hearings Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works*, 93d Cong., 1st and 2d Sess. (1973-74); *The Administration's Proposal for Relaxation of Air Pollution Standards, 1973: Hearings Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works*, 93d Cong., 1st Sess. (1973); *Clean Air Act Oversight, 1974: Hearings Before the Subcomm. on Environmental Pollution of the Senate Comm. on Public Works*, 93d Cong., 2d Sess. (1974).

⁷⁹ See, e.g., S. REP. NO. 127, 95th Cong., 1st Sess. 41-42 (1977); H.R. REP. NO. 294, 95th Cong., 1st Sess. 329-30 (1977). *But cf.* S. REP. NO. 717, 94th Cong., 2d Sess. 44 (1976). The Senate Committee, commenting on the proposed 1976 Clean Air Act Amendments, lauded the SIP approach to TAP as eminently more successful than the previous conference approach. Given the sad history of the conference approach, almost anything would have been considered successful, but the Committee was not prepared to change the part of the SIP process that affected TAP problems. *Id.* at 152.

⁸⁰ 42 U.S.C. § 7410(a)(2)(E) (Supp. V 1981).

⁸¹ Congress attempted to revise the Clean Air Act in 1976, but never enacted the Conference Committee bill. Many of the provisions in the 1976 bill (H.R. 10498, 94th Cong., 2d Sess. (1976), reprinted in 7 LEGISLATIVE HISTORY, *supra* note 68, at 5737-6078), however, were included in the 1977 Clean Air Act. The House report criticized the existing TAP resolution mechanism as inadequate to deal with the problem of TAP. It listed five reasons why the section needed to be changed. These were: (1) information without enforcement authority is insufficient; (2) effective TAP programs must not only prevent new

The 1976 effort by the House, which went for nought in the Ninety-Fourth Congress, would have required SIP's to include provisions preventing any new or existing stationary source from emitting air pollution that would prevent the attainment or maintenance of the national standards or would interfere with programs preventing significant deterioration in any receptor state.⁸² This contrasts with the congressional approach in the 1970 Amendments. The 1970 Amendments merely required the SIP to set up an information network regarding potential problems. They did not face the hard problems created by the reluctance of states and emitting sources to impose and accept expensive air pollution control requirements designed to benefit receptors in another state. In addition, the amended version of section 110(a)(2)(E) would have required the SIP to comply with the newly created section 126 mechanism for dealing with actual TAP disputes.⁸³

The 1976 House bill would have created a very strong enforcement mechanism to resolve TAP disputes.⁸⁴ The substantive standard that would trigger the application of the proposed TAP regulatory mechanism was whether a source of air pollution was "significantly contributing" to air pollution in any receptor state.⁸⁵ The bill required the Administrator of the EPA to respond to TAP petitions within sixty days. It further required that a public hearing precede the Administrator's decision. The language used in the House bill survived the Conference amendment process⁸⁶ but, because of the Senate's failure to vote on the Conference Report before adjournment, died with the rest of the bill.⁸⁷

When Congress took up the teetering toddler again in 1977 both the Senate and House bills incorporated measures relating to the TAP problem.⁸⁸ This contrasts with the earlier Senate position that the TAP problems were being satisfactorily resolved with the extant SIP mechanism.⁸⁹ The Senate Report in 1977 reflected a changed mood regarding the TAP toddler. It manifested a growing feeling that TAP problems could not be satisfactorily resolved through informal information exchanges and hoped for cooperation between emitter and receptor states.⁹⁰ The Senate was particularly concerned with the perceived problems caused by states not adopting SIP's within the original time frames and by the

sources from causing violations of national ambient air quality standards, but must regulate existing sources as well; (3) a TAP strategy must include prevention of significant deterioration considerations; (4) no program can be effective without giving receptor states the right to initiate action; and (5) because of the sensitive and difficult political implications presented by TAP problems, federal presence is required when mere cooperation and negotiation are fruitless. H.R. REP. NO. 1175, 94th Cong., 2d Sess. 268-69 (1976).

⁸² See H.R. REP. NO. 1175, 94th Cong., 2d Sess. 304 (1976).

⁸³ *Id.*

⁸⁴ H.R. 10498, 94th Cong., 2d Sess. § 309(b) (1976), reprinted in 7 LEGISLATIVE HISTORY, *supra* note 68, at 6064-66.

⁸⁵ *Id.*

⁸⁶ H.R. REP. NO. 1742, 94th Cong., 2d Sess. 32-33, 98 (1976) reprinted in 5 LEGISLATIVE HISTORY, *supra* note 68, at 4318-19, 4383.

⁸⁷ The Senate and the House did not vote on the Conference Committee report before termination of the 94th Congress. 5 LEGISLATIVE HISTORY, *supra* note 68, at 4285.

⁸⁸ S. REP. NO. 127, 95th Cong., 1st Sess. 41-42 (1977); H.R. REP. NO. 294, 95th Cong., 1st Sess. 329-30 (1977).

⁸⁹ See 8 LEGISLATIVE HISTORY, *supra* note 68, at 7175. A comparison of House and Senate bills shows no Senate counterpart to the House section on TAP. See also H.R. REP. NO. 1742, 94th Cong., 2d Sess. 98 (1976), reprinted in 5 LEGISLATIVE HISTORY, *supra* note 68, at 4383.

⁹⁰ S. REP. NO. 127, 95th Cong., 1st Sess. 41-42 (1977).

imminent conversion of electrical generating facilities to coal.⁹¹ While the Senate version would have expanded TAP coverage to include non-criteria pollutants, it also added to the "significantly contributing" standard the phrase "in excess of the national ambient air quality standards." This increased the burden of receptor states who wished to trigger the TAP regulatory mechanism.⁹² The early House version of the 1977 Amendments essentially mirrored the 1976 House bill.⁹³ It retained the general standard of significantly contributing to air pollution for guiding the Administrator's resolution of TAP issues raised through the new regulatory process.

The final version of the 1977 Amendments resulted from a compromise between the House and Senate on the TAP problem.⁹⁴ The version significantly altered the SIP requirements. Under section 110(a)(2)(E) as amended, SIP's had to contain provisions prohibiting any stationary source within the state from emitting air pollutants that would prevent any receptor state from attaining or maintaining national ambient air quality standards or would otherwise interfere with the receptor state's programs preventing significant deterioration of air quality and protecting visibility.⁹⁵ Thus, the 1977 Amendments created a dual standard: prevention of interference with ambient standard attainment or maintenance and interference with the prevention of significant deterioration of air quality and visibility standards. The 1977 Amendments also required that the SIP's provide assurance that the operating and procedural requirements of the newly adopted section 126⁹⁶ were met so that receptor states would be aware of potential TAP problems. In addition, the 1977 Amendments instituted a new procedural mechanism to resolve those problems.

Congress provided a regulatory mechanism to implement the TAP standard in section 126.⁹⁷ Although the Senate included the regulatory mechanism in the SIP process as part of its bill, it moved section 126 out of the SIP provisions as part of the compromise within the House, which had always utilized an independent regulatory mechanism for the resolution of TAP problems.⁹⁸

The Conference Report, however, reflects a possible legislative mistake in car-

⁹¹ *Id.*

⁹² S. 252, 95th Cong., 1st Sess. § 8 (1976), reprinted in 3 LEGISLATIVE HISTORY, *supra* note 68, at 610.

⁹³ H.R. 6161, 95th Cong., 1st Sess. § 309 (1976), reprinted in 4 LEGISLATIVE HISTORY, *supra* note 68, at 2447-48.

⁹⁴ Clean Air Act Amendments of 1977, Pub. L. No. 95-95, §§ 108, 123, 91 Stat. 685, 693, 724-25.

⁹⁵ 42 U.S.C. § 7410(a)(2)(E) (Supp. V 1981). See *infra* note 97.

⁹⁶ 42 U.S.C. § 7426. The Conference Report adopted the Senate versions of §§ 110(a)(2)(E) and 126 with significant changes. Section 110 was amended to prevent states from inhibiting the visibility protection program. This program was to be instituted as part of the overall regulatory mechanism preventing significant deterioration. H.R. REP. NO. 564, 95th Cong., 1st Sess. — (1977), reprinted in 3 LEGISLATIVE HISTORY, *supra* note 68, at 526.

⁹⁷ 42 U.S.C. § 7426 (Supp. V 1981). The imbroglio involving acid rain led to a substantial amount of academic literature on the subject of TAP in general and § 126 specifically. See, e.g., Gallogly, *Acid Precipitation: Can the Clean Air Act Handle It?*, 9 B.C. ENVTL. AFF. L. REV. 687 (1981); Hartman, *Alternatives for Regulatory Control of Acid Rain in the Northeastern United States*, 11 FORDHAM URB. L.J. 455 (1983); Hirsch & Abramovitz, *Clearing the Air: Some Legal Aspects of Interstate Air Pollution Problems*, 18 DUQ. L. REV. 53, 74 (1979); Lee, *Interstate Sulfate Pollution: Proposed Amendments to the Clean Air Act*, 5 HARV. ENVTL. L. REV. 71, 78 (1981); Lutz, *Managing a Boundless Resource: U.S. Approaches to Transboundary Air Quality Control*, 11 ENVTL. L. 321 (1980); Ostrov, *Interboundary Stationary Source Pollution—Clean Air Act Section 126 and Beyond*, 8 COLUM. J. ENVTL. L. 37 (1982); Note, *Interstate Air Pollution: Unresolved Issues*, 3 HARV. ENVTL. L. REV. 291 (1979).

⁹⁸ Compare 42 U.S.C. § 7426 (Supp. V 1981) with S. 252, 95th Cong., 1st Sess. § 8 (1977), reprinted in S. REP. NO. 127, 95th Cong., 1st Sess. 35-36 (1977) and reprinted in 3 LEGISLATIVE HISTORY, *supra* note 68, at 609-610. The regulatory mechanism of the SIP framework, however, has itself created several problems. See *infra* text accompanying notes 145-162.

rying out the intent of the House managers, who acceded to the Senate version. The Report states that the triggering standard for the section 126 mechanism should be pollution that "significantly contributes" to air pollution.⁹⁹ Unfortunately, the Conference Report retained the language in the original Senate bill so that the triggering standard was pollution that "may significantly contribute to air pollution levels *in excess of* the national ambient air quality standards."¹⁰⁰

In addition, because the conferees moved section 126 out of the SIP section, the provisions relating to TAP in section 126 do not mesh exactly with the section 110(a)(2)(E) SIP requirements relating to TAP.¹⁰¹ While the SIP must contain adequate provisions controlling a stationary source so that it does not prevent the attainment or maintenance of any ambient air quality standard or interfere with the significant deterioration standard, the corresponding language in section 126 related only to major stationary sources.¹⁰² Therefore, a state's SIP must regulate all stationary sources that might have TAP impacts, but it need notify a receptor state only about major stationary sources, new or existing, that might have TAP impacts.

While section 126(a) sets a standard potentially differing from the section 110(a)(2)(E) standard, section 126(b) creates the procedures by which the TAP problem can be resolved.¹⁰³ Section 126(b) uses the section 110(a)(2)(E) dual standard of preventing maintenance and attainment of any national ambient air

⁹⁹ H.R. REP. NO. 564, 95th Cong., 1st Sess. 126 (1977), *reprinted in* 3 LEGISLATIVE HISTORY, *supra* note 68, at 526.

¹⁰⁰ H.R. REP. NO. 564, 95th Cong., 1st Sess. — (1977), *reprinted in* 3 LEGISLATIVE HISTORY, *supra* note 68, at 423 (emphasis added). *Compare* H.R. 6161, 95th Cong., 1st Sess. § 309(d) (1977), *reprinted in* 4 LEGISLATIVE HISTORY, *supra* note 68, at 2446-47, *with* H.R. 6161, 95th Cong., 1st Sess. § 123 (1977), *as reported in* H.R. REP. NO. 564, 95th Cong., 1st Sess. — (1977), *reprinted in* 3 LEGISLATIVE HISTORY *supra* note 68, at 423.

¹⁰¹ *Compare* 42 U.S.C. § 7410(a)(2)(E) (Supp. V 1981) *with id.* § 7426(a). The statutes provide:

§ 7410(a) . . .

(2) The Administrator shall, within four months after the date required for submission of a plan under paragraph (1), approve or disapprove such plan, or any portion thereof. The Administrator shall approve such plan, or any portion thereof, if he determines that it was adopted after reasonable notice and hearing and that—

(E) it contains adequate provisions (i) prohibiting any stationary source within the State from emitting any air pollutant in amounts which will (I) prevent attainment or maintenance of any other State of any such national primary or secondary ambient air quality standard, or (II) interfere with measures required to be included in the applicable implementation plan for any other State under part C to prevent significant deterioration of air quality or to protect visibility, and (ii) insuring compliance with the requirements of section 7426 of this title, relating to interstate pollution abatement

§ 7426

(a) Each applicable implementation plan shall—

(1) require each major purposes new (or modified) source—

(A) subject to part C (relating to significant deterioration of air quality) or

(B) which may significantly contribute to levels of air pollution in excess of

the national ambient air quality standards in any air quality control region outside the State in which such source intends to locate (or make such modification),

to provide written notice of all nearby States the air pollution levels of which may be affected by such source at least sixty days prior to the date on which commencement of construction is to be permitted by the State providing notice, and

(2) identify all major existing stationary sources which may have the impact described in paragraph (1) with respect to new or modified sources and provide notice to all nearby States of the identity of such sources not later than three months after August 7, 1977.

¹⁰² *Compare* 42 U.S.C. § 7410(a)(2)(E) *with* 42 U.S.C. § 7426(a). A "major stationary source" is defined by the Act as: "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant"

¹⁰³ 42 U.S.C. § 7426(b).

quality standards and interference with preventing significant deterioration (PSD) of visibility standards as the governing principle in deciding section 126 petitions. Thus, the notice provisions of section 126(a) are only triggered by major stationary sources that significantly contribute to air pollution in excess of national ambient air quality standards. The actual dispute resolution process, however, can be utilized if a major source violates the presumably less rigorous standards contained in section 110(a)(2)(E).¹⁰⁴ After holding a public hearing and within sixty days of the filing of the petition the Administrator can either make a finding of TAP or deny the petition.

If the Administrator determines that a TAP violation has occurred under the terms of the Act then the SIP is deemed violated.¹⁰⁵ In cases involving new or modified sources the Act precludes the sources from beginning operations. In cases involving major existing sources the Act does not allow the facility to operate in excess of three months, subject to a specified exception.¹⁰⁶

The 1977 Act left several gaping loopholes in the TAP dispute resolution and notification processes. The first lacuna occurs because Congress failed to include non-major stationary sources within the notification process required by section 126(a).¹⁰⁷ Congress also did not specify how an emitter state is to make its initial determination of whether a major stationary source creates a section 110(a)(2)(E) or section 126 TAP problem. Must the source or the state engage in the necessary air quality modeling to show a TAP effect? In addition, the 1977 Act did not allocate the burden of proof in the section 126 petition process. Is it the petitioning party who must prove all elements of the TAP process? Must the receptor state engage in the modeling efforts needed to show that a TAP problem is being caused by emissions from a major stationary source located in another state? Finally, the Act makes no reference to the use of air quality models, which in reality is the only method presently existing to transfer individual stack emissions into ambient air quality standard impacts. Thus, unlike the specific congressional recognition of the importance of modeling in the prevention of significant deterioration process, the Clean Air Act is totally silent on the need for modeling in the TAP dispute resolution process.¹⁰⁸

VI. AIR QUALITY MODELING—THE POSSIBLE KEY TO THE COOKIE JAR

Implicit in the TAP provisions of the 1977 Clean Air Act is the need for a technological system by which receptor states and the Administrator can evaluate the impact of emissions from stationary and mobile sources outside receptor state boundaries. Since the receptor states and the Administrator must quantify the effects of emissions to show either interference with PSD or visibility standards or prevention of the attainment or maintenance of national ambient air

¹⁰⁴ *Id.* Note, however, that § 126(b) allows petitions to be filed regarding only emissions from major sources that would violate the § 110(a)(2)(E) standard, although § 110(a)(2)(E) does not restrict its application to major sources. *See supra* note 100 for a comparison of the texts of both sections.

¹⁰⁵ 42 U.S.C. § 7426(c) (Supp. V 1981).

¹⁰⁶ *Id.* The exception allows the Administrator to permit continued operations beyond the three-month period if the source agrees to a compliance schedule. Compliance with the § 110(a)(2)(E) standard must occur as expeditiously as possible and no later than three years after it is instituted.

¹⁰⁷ *Id.* § 7426(a).

¹⁰⁸ *Compare* 42 U.S.C. § 7426 with 42 U.S.C. 7475(e)(3)(D).

quality standards, they must utilize air quality models.¹⁰⁹

Air quality modeling has become an essential part of the general SIP process. It has also received statutory recognition as an important part of the PSD process.¹¹⁰ Both the EPA and the courts have had to struggle with the difficult job of predicting impacts on ambient air quality from increases or reductions in smokestack emissions to make the SIP and PSD processes work effectively. After keeping modeling in the back room for years, with the 1977 Act Congress formally recognized the need for accurate and fair models in the regulatory system. The Act, therefore, mandated that the EPA develop guidelines for using air quality models to achieve uniformity and equal treatment.¹¹¹ As a result, the EPA published its *Guidelines on Air Quality Models*, which is unfortunately limited to models that cover short-range, not long-range transport of pollutants.¹¹² In fact, the *Guidelines* admitted in 1978 that attempts by long-range transport models to predict ambient air quality impacts further than fifty kilometers from stationary sources were highly uncertain and risky propositions at best.¹¹³

Although substantial amounts of research monies are being expended, developments since then have not improved the reliability or accuracy of long-range transport models.¹¹⁴ Availability of accurate and reliable short- and long-range transport models is especially critical in the section 126 proceeding. For the Administrator to grant the petition of the receptor state, he must determine whether the emissions from the source or sources prevent attainment or maintenance of any national ambient air quality standard or otherwise interfere with the receptor state's PSD and visibility programs.¹¹⁵ As late as 1981, air quality modeling professionals were in serious disagreement on the availability of long-range transport models. Even the most optimistic modeler, however, would concede that the state of the art for models predicting air quality impacts greater than fifty kilometers from the emissions' source were inadequate to deal with the regulatory demands of the Clean Air Act.¹¹⁶

Although modeling uncertainty heightens the importance of placing the burden of proof in TAP proceedings, the lack of scientifically proven models should not operate to prevent relief to receptor states that claim TAP injury. The history of air quality models illustrates an ongoing scenario of modeling uncertainty with continued judicial deference to the use of uncertain but available models to

¹⁰⁹ Air quality models are "mathematical equations relating the release of effluents into the atmosphere to expected concentrations in ambient air." AMERICAN METEOROLOGICAL SOCIETY, AIR QUALITY MODELING AND THE CLEAN AIR ACT 1 (1981) [hereinafter AMS STUDY]. See also Kramer, *Air Quality Modeling: Judicial, Legislative and Administrative Reactions*, 5 COL. J. ENVTL. L. 236 (1979) [hereinafter cited as Kramer II]. The EPA Guidelines on Air Quality Models define a model as a "quantitative or mathematical representation or simulation which attempts to describe the characteristics or relationships of physical events." UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, GUIDELINES ON AIR QUALITY MODELS 48 (1978) [hereinafter cited as GUIDELINES]. Summaries of recommended air quality models are presented at GUIDELINES, A1-A34.

¹¹⁰ 42 U.S.C. § 7475(e)(3)(D) (Supp. V 1981). See generally Kramer II, *supra* note 109, at 256-63.

¹¹¹ 42 U.S.C. § 7620 (Supp. V 1981).

¹¹² GUIDELINES at 24-26, *supra* note 109.

¹¹³ *Id.*

¹¹⁴ See, e.g., 46 Fed. Reg. 8481, 8488 (1981) (statement of EPA relating to accuracy of long-range models in the context of a pending § 126 petition). See also AMS STUDY, *supra* note 109, at 29-30, 136-58.

¹¹⁵ 42 U.S.C. § 7426(b) (Supp. V 1981) referring to the standards contained in 42 U.S.C. § 7410(a)(2)(E).

¹¹⁶ Bass, *Modeling Long Range Transport and Diffusion*, in AMS STUDY, *supra* note 109, at 136-58.

resolve difficult regulatory problems.¹¹⁷ While modeling development may make TAP issues less technologically complex in the future, in the short-term, modeling uncertainty will continue to add to the difficult nature of most TAP decisions.

VII. THE SECTION 126 PROCEEDINGS—TAP REACHES PUBERTY

Within two years of the enactment of the 1977 Act receptor states were filing petitions under section 126.¹¹⁸ The EPA did not initiate generic rule-making proceedings to set the procedural or substantive parameters of section 126. Given the imprecise nature of the substantive standards and the lack of procedural guidelines contained in the statute itself, one would think the EPA might have tried to formalize the standards and the decision-making process on a generic rather than an ad hoc basis.

The problem faced by an ad hoc method of decision making can be best illustrated by looking at an early and relatively easy section 126 petition, which to date is the only one that has terminated with an Administrator's decision.¹¹⁹ The Gallagher petition complained about the emissions of an out-of-state power plant. Under Indiana's SIP the plant was allowed to emit sulfur dioxide at a rate of 6.0 lbs/MBTU.¹²⁰ Ten months after the petition was filed the EPA filed notice of a public hearing, which was required under section 126.¹²¹

In addition to the issue presented by the delay in holding the public hearing, the Gallagher petition also involved an apparent change in the substantive standards for judging the petition. In the 1980 notice of the public hearing the EPA stated that the section 126 process was not merely designed to protect against violations of national ambient air quality standards, but also to protect against unreasonable interference with maintenance programs or margins for growth in the SIP.¹²² The EPA even hinted that interstate equity considerations will be important. These would be relevant in the Gallagher petition since the affected

¹¹⁷ See generally Kramer II, *supra* note 109. The general problem with the use of models in environmental decisionmaking is discussed in Case, *Problems in Judicial Review Arising From the Use of Computer Models and Other Quantitative Methodologies in Environmental Decisionmaking*, 10 B.C. ENVTL. L. REV. 251 (1982). The cases almost uniformly defer to the expertise of the Administrator in utilizing models. This deference is present even when monitored data shows the potential inaccuracy of the model and when serious questions develop about the use of alternative models that reach different results. See, e.g., *Republic Steel Corp. v. Costle*, 621 F.2d 797 (6th Cir. 1980); *Cincinnati Gas & Elec. Co. v. EPA*, 578 F.2d 660 (6th Cir. 1978), *cert. denied sub nom.* *Shell Oil Co. v. EPA*, 439 U.S. 1114 (1979); *Cleveland Elec. Illuminating Co. v. EPA*, 572 F.2d 1150 (6th Cir.), *cert. denied sub. nom.* *Timken Co. v. EPA*, 439 U.S. 910 (1978), *aff'd on rehearing sub. nom.* *Cincinnati Gas & Elec. Co. v. EPA*, 578 F.2d 666 (6th Cir. 1978); *Texas v. EPA*, 499 F.2d 289 (5th Cir. 1974), *cert. denied sub. nom.* *Exxon Corp. v. EPA*, 427 U.S. 905 (1976). *But cf.* *Alabama Power Co. v. Costle*, 636 F.2d 323, 371-72 (D.C. Cir. 1980).

¹¹⁸ Kentucky filed a § 126 petition complaining about emissions from the Clifty Creek, Indiana, power plant. 44 Fed. Reg. 29,495 (1979). In addition, West Virginia filed a § 126 petition against the Sammis, Ohio, power plant. The TAP dispute, however, was apparently settled without a hearing. Ostrov, *supra* note 97, at 38 n.4.

¹¹⁹ The petition was filed on March 14, 1979 by the Air Pollution Control District of Jefferson County, Kentucky. It concerned emissions from the Gallagher Station power plant located in Indiana and operated by Public Service Indiana, Inc., 45 Fed. Reg. 17,048 (1980).

¹²⁰ 45 Fed. Reg. 17,048, 17,049 (1980). The relevant provisions of the Kentucky SIP limited all major electrical generating facilities in Kentucky to sulfur dioxide emissions of 1.2 lbs/MBTU (Million British Thermal Units).

¹²¹ *Id.* During the 10 month delay the United States EPA funded some modeling studies of the area. The Clean Air Act requires the Administrator to make his decision within 60 days of the receipt of the petition. 42 U.S.C. § 7426(b) (Supp. V 1981).

¹²² 45 Fed. Reg. 17,048, 17,049 (1980).

Indiana facility was uncontrolled for several years and, at the time of the petition, was under an SIP limit of 6.0 lbs/MBTU of sulfur dioxide. On the other hand, Kentucky emitters at the time of the petition were subject to an SIP limit of 1.2 lbs/MBTU of sulfur dioxide.¹²³

Although the modeling was completed using existing short-range *Guideline*-approved models, no final decision was rendered on the Gallagher petition until July 30, 1981.¹²⁴ Before giving its decision on the Gallagher petition the EPA took a new position on the essential elements of a section 126 petition. Instead of requiring a general inquiry into interstate equity issues and problems relating to margins of safety, the EPA reduced the section 126 process to three criteria that the petitioner had the burden of showing:¹²⁵

- (1) a demonstration establishing the existence and geographic boundaries of the nonattainment or PSD area which is the subject of the petition;
- (2) a demonstration that achievement of ambient air quality standards or of measures necessary to prevent significant deterioration or to protect visibility, is prevented by the named out-of-state sources; and (3) an indication that sources within the petitioning state(s) which impact on PSD and nonattainment areas have been adequately controlled.¹²⁶

In rendering her decision the Administrator looked at the modeling results, which showed that the total impact of the Gallagher Station emissions would not under any scenario cause a violation of either the annual or short-term national ambient air quality standards for sulfur dioxide. The emissions of the Gallagher Station would at most account for four percent of existing sulfur dioxide in the air over Kentucky. They would not cause a violation of section 126 under the Administrator's new criteria.¹²⁷

Apparently, under the Administrator's three criteria, the only violation of section 126 occurs when the existing air quality in the receptor states is so close to the standard that the emissions from a single source would drive the air quality over the threshold from attainment to non-attainment.¹²⁸ One must also remember that the Gallagher petition involved a borderline power plant whose emission impacts can be predicted with relatively accurate and reliable data from existing models. Even with existing modeling available, the section 126 proceeding took nearly thirty-four months. Congress, however, had limited the entire proceeding to two months.¹²⁹

At least the Administrator decided the petition. One summary of section 126 petitions conducted by the EPA shows that between December 1977 and March

¹²³ *Id.* at 17,048.

¹²⁴ 46 Fed. Reg. 38,937, 38,939 (1981). In the interim, Anne Gorsuch had been appointed Administrator by President Reagan.

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ *Id.* The July 1981 proposed denial of the Kentucky petition was finalized on February 16, 1982. 47 Fed. Reg. 6624 (1982).

¹²⁸ 46 Fed. Reg. 38,937, 38,939 (1981). Issues of interstate equity were not considered since the overall impact of the Gallagher station emissions were considered de minimis. Nonetheless, the emissions would clearly utilize the air-shed over Kentucky to the detriment of future Kentucky sources.

¹²⁹ According to the EPA study the time was primarily spent investigating the issues and analyzing data. The petitioner, Jefferson County, used most of the time to prepare the material. Estimates show the § 126 petition could be divided into quarters for purposes of analyzing the delay. One-fourth of the time was spent in collecting and analyzing data, one-fourth for public review and comment, one-fourth for evaluation of data, and one-fourth for administrative review. Interstate Pollution, *supra* note 31, at 7.

1982, nine section 126 petitions were filed and only one decided, although several others were being resolved through alternative procedures.¹³⁰ Of these other petitions, several pose much more complex problems involving long-range transport, multiple pollutants, and multiple sources. In addition, in these problems no existing modeling is available to measure the impacts of the emissions on the receptor state.¹³¹ Although the Administrator proposed application of the same three criteria used in the Gallagher Station decision to these petitions, to date the Administrator has rendered no decision on these complex problems.¹³² Thus, the section 126 procedure created in 1977 has not lived up to its expectations in resolving TAP problems.

VIII. THE NEW YORK METROPOLITAN AIRSHIELD PROBLEM—A CHILD'S LESSON FROM THE SCHOOL OF HARD KNOCKS

TAP problems relating to both long- and short-range transport of pollutants exist in the greater New York metropolitan area. This area was one of the first designated interstate AQCR's developed under the 1970 Amendments.¹³³ The airshed presents a paradigm of how the present statutory mechanisms for TAP fall short of congressional goals of streamlining and increasing the effectiveness of the TAP dispute-resolution machinery. In addition, the failure of administrative and judicial attempts to clean the air over the most populated region in the United States reflects the unintentional complexity resulting from combining or interphasing the section 110 and section 126 regulatory mechanisms. The section 110 SIP process and the section 126 TAP procedure have laid bare the ineffectiveness of the present Clean Air Act in dealing with TAP problems. The current system's failure to resolve or even deal with the essential problem of interstate equity in emissions is also exposed because of the inartfully and vaguely drawn language used in both sections 110(a)(2)(E) and 126.¹³⁴

The problems with the New York airshed predated the enactment of the 1977 Act.¹³⁵ EPA approval of a New York variance allowing Long Island Lighting

¹³⁰ Interstate Pollution, *supra* note 31, at 5. One of the alternate decision-making processes that could be utilized is the regular SIP revision and approval procedure. 42 U.S.C. § 7410 (Supp. V 1981). *See generally infra* text accompanying notes 149-67. If a new source seeks a permit or an existing source seeks to modify existing SIP emission limitations the state must file with the Administrator a request to revise the SIP. 42 U.S.C. § 7410(a)(3) (Supp. V 1981). In approving the revision request the Administrator must consider whether the TAP standards contained in § 110(a)(2)(E) (42 U.S.C. § 7410(a)(2)(E) (Supp. V 1981)) have been observed. If TAP will result from the SIP revision the Administrator is obligated to reject the request. *Union Elec. Co. v. EPA*, 427 U.S. 246 (1976). For example, in approving relaxation of a sulfur dioxide emission limitation for an Indiana electrical generating facility, the Administrator specifically looked at the interstate impact of the revision using the § 110(a)(2)(E) standards. 48 Fed. Reg. 11,092 (1983). Short-range transport modeling was used because the only other state considered was Illinois, which was within 50 km. of the generating facility. Therefore, difficult modeling and impact issues were avoided.

¹³¹ *See, e.g.*, petitions of New York and Pennsylvania claiming that emissions from approximately 58 different sources located in the Ohio Valley were interfering with their attainment and maintenance of national ambient air quality standards for sulfur dioxide. 46 Fed. Reg. 24,602, 24,603 (1981).

¹³² 46 Fed. Reg. 45,383 (1981).

¹³³ 40 C.F.R. § 81.13 (1982).

¹³⁴ 42 U.S.C. §§ 7410(a)(2)(E), 7426 (Supp. V 1981).

¹³⁵ *New England Legal Found. v. Costle*, 475 F. Supp. 425 (D. Conn. 1979), *aff'd in part*, 632 F.2d 936 (2d Cir. 1980), *aff'd in part*, 666 F.2d 20 (2d Cir. 1981). Connecticut also objected to the failure of New York and New Jersey to revise their SIP's pursuant to an EPA notice of inadequacy of their controls on sulfur dioxide emissions. 475 F. Supp. at 429-30. The objection was rendered moot by the enactment of the 1977 Amendments, which changed the SIP procedure for non-attainment areas. *Id.* at 430-32; 42 U.S.C. §§ 7501-7508 (Supp. V 1981).

Company's (LILC) electrical generating facility to burn a fuel with a higher content of sulfur than would otherwise be permitted by the New York SIP caused part of the initial litigation.¹³⁶ Plaintiffs could not directly attack the SIP approval because, under section 307, appeal of an Administrator's approval of an SIP revision lies directly with the court of appeals.¹³⁷ The plaintiffs instead alleged that the 1977 Act charged the Administrator with a mandatory duty to reevaluate all current SIP's for conformance with the newly created standards relating to TAP.¹³⁸ The court agreed, but held that the suit was premature because the transition provisions of the 1977 Act¹³⁹ gave both New York and the Administrator further time to amend and review the SIP.¹⁴⁰

In dealing with the Connecticut petition the EPA sought to dismiss the TAP cause of action. The EPA claimed Connecticut had not exhausted its administrative remedies because it had not filed a section 126 petition.¹⁴¹ Although not required to dispose of the issue, in a footnote the district court dismissed the claim that a state had to file a section 126 petition before claiming a TAP injury.¹⁴² The Second Circuit eventually approved this position in a decision also relating to the TAP problems in the New York metropolitan area.¹⁴³

Finally, the plaintiffs alleged that the emissions from the facilities would violate the federal common law of nuisance, harkening back to the halcyon days of *Tennessee Copper*.¹⁴⁴ The plaintiffs did not file this action against the state but directly against the emitter. The district court did not reach the merits on the issue of whether a federal common law nuisance action would lie in those circumstances, but it stated that since the emitter was operating with both state and federal governmental approval the availability of an equitable remedy would not be appropriate.¹⁴⁵ While this litigation was pending final disposition on appeal to the Second Circuit, the United States Supreme Court decided *City of Milwaukee v. Illinois*.¹⁴⁶ The Second Circuit nonetheless refused to conclude that *Milwaukee* would totally preempt the federal common law of nuisance as it applies to air

¹³⁶ *New England Legal Foundation v. Costle*, 475 F. Supp. 425 (D. Conn. 1979), *aff'd in part, reserved in part*, 632 F.2d 936 (2d Cir. 1980), *aff'd in part*, 666 F.2d 30 (2d Cir. 1981). EPA is required to approve all revisions of existing SIP's before they become effective. 42 U.S.C. § 7410(a)(3)(A) (Supp. V 1981); *Union Electric Co. v. EPA*, 427 U.S. 246 (1976); *Train v. Natural Resources Defense Council, Inc.*, 421 U.S. 167 (1976). In the case of LILC, the sulfur-in-fuel content limit was raised from 1% to 2.8%. 475 F. Supp. at 425.

¹³⁷ 42 U.S.C. § 7607(b) (Supp. V 1981).

¹³⁸ 475 F. Supp. at 429. Nonconformance would allow the petitioners to file a citizen's suit in the district court. 42 U.S.C. § 7604(a)(2) (Supp. V 1981).

¹³⁹ Clean Air Act Amendments of 1977, Pub. L. No. 95-95, § 406(d), 91 Stat. 685, 796.

¹⁴⁰ 475 F. Supp. at 435-36. The district court's dismissal of the claims against the Administrator was affirmed by the Second Circuit. *New England Legal Foundation v. Costle*, 632 F.2d 936, 938 (2d Cir. 1980).

¹⁴¹ 475 F. Supp. at 436 n.12.

¹⁴² *Id.* The court cited the legislative history of § 126 to support its position and noted that the § 126 procedure is only available to governmental bodies. Any citizen is entitled to bring an action under § 307 to review a decision of the Administrator in approving an SIP. 42 U.S.C. § 7607 (Supp. V 1981). A procedure that requires governmental bodies to utilize § 126 but allows immediate appeals by individuals would be useless.

¹⁴³ See *infra* text accompanying notes 154-57.

¹⁴⁴ 475 F. Supp. at 440.

¹⁴⁵ *Id.* at 440-42. The EPA gave its approval by virtue of its decision to approve the revised New York SIP. *Id.* at 441 n.20.

¹⁴⁶ 451 U.S. 304 (1981). In *City of Milwaukee* the plaintiffs alleged that the effluence being discharged from Milwaukee's sewer system was a nuisance because of its impact on the interstate waters of Lake Michigan. The Supreme Court concluded that the enactment of the Federal Water Pollution Control Act Amendment of 1972, P.L. 92-500, 86 Stat. 816, preempted the application of a federal common law nui-

pollution.¹⁴⁷ Instead, it decided to affirm the trial court's holding that on the facts the application of the federal common law of nuisance would be inappropriate in light of the available legal remedies provided by the Clean Air Act.¹⁴⁸

Thus, the court gave some preliminary answers to the questions posed by the TAP provisions of the 1977 Amendments. In addition, the litigation showed that the EPA response to the newly-provided TAP enforcement mechanism was less than satisfactory since it could deal with TAP problems utilizing the normal SIP procedure. It was also apparent by this time that the section 126 mechanism was not proceeding in a timely fashion. When the Second Circuit decided this case on appeal, two years after the initial filing in the district court, no section 126 decision had been rendered regarding the allegations of TAP.¹⁴⁹

Another sulfur-in-fuel content variance was the next focal point for the TAP adolescent. Consolidated Edison wanted to burn fuel oil with a sulfur content of 1.5 percent instead of the SIP allowable level of 0.3 percent in three boilers. The burn was intended to amass the data necessary to predict emissions following a conversion to coal as the burner fuel.¹⁵⁰ Consolidated Edison filed the application with the New York Department of Environmental Conservation, which approved it on a one-year basis. New York then sent the State revision to the EPA for approval and the EPA published a notice of the proposed change in the SIP.¹⁵¹ In response to the notice both Connecticut and New Jersey filed comments on the TAP effects of the variance and, pending the approval, both filed a section 126 petition attacking the New York action.¹⁵²

The timing of the hearings and the filings again illustrates the unintentional complexity that Congress wrote into the TAP process when it set up an independent section 126 mechanism.¹⁵³ In this case, the New York emitter filed for variances. New York state officials approved the variances and then forwarded them to the EPA for approval. One presumes, although the record is unclear, that New York was bound under section 126(a) to send to the potential receptor

sance action. The comprehensive statutory mechanisms relating to water pollution control evinced a clear congressional intent to eliminate any potential federal common law remedy. 451 U.S. at 317-19.

¹⁴⁷ *New England Legal Foundation v. Costle*, 666 F.2d at 32 & n.2.

¹⁴⁸ *Id.* at 32-33.

¹⁴⁹ An interesting admission was made by the Regional Administrator of Region II during this litigation. He apparently conceded that when states are covered by an interstate AQCR, the adequacy of their SIP provisions relating to nonattainment areas (42 U.S.C. §§ 7501-7508 (Supp. V 1981)) are judged by the worst case of nonattainment within the region. *New England Legal Found. v. Costle*, 475 F. Supp. at 429. Therefore, all the states had to contribute to cleaning the dirtiest air on an equitable basis, regardless of the modeling of monitoring data that was developed. This application of an interstate equity argument, however, did not carry over into the § 126 proceedings. Instead, equity was apparently achieved on the basis of informal agreements and negotiations between the states and the EPA.

¹⁵⁰ *Connecticut v. EPA*, 656 F.2d 902, 904 (2d Cir. 1981).

¹⁵¹ EPA approval was required under 42 U.S.C. § 7410(a)(3)(A) (Supp. V 1981). *Connecticut v. EPA*, 656 F.2d 902.

¹⁵² 656 F.2d at 904. The petitions covered not only the Con Ed test burn but the Long Island Lighting Co. variance that was the subject of *New England Legal Foundation* litigation. *See supra* text accompanying notes 134-48.

¹⁵³ The timetable is assembled from dates given in the following sources: *Connecticut v. EPA*, 656 F.2d 902, 903-05 (2d Cir. 1981); 45 Fed. Reg. 72,702, 72,703-06 (1980); *Connecticut v. EPA*, 696 F.2d 147 (2d Cir. 1982). The issues were further garbled by the renewal in 1980 of the original LILCO variance to burn 2.8 percent sulfur content oil. The original variance for LILCO was approved by the Second Circuit in *New England Legal Found.*, 632 F.2d at 937. An application for renewal of the petition clearly came under the §§ 110(a)(2)(E) and 126 provisions of the 1977 Act. Therefore, the LILCO variance renewal was added to the § 126 petition process and also subjected to further litigation. *Connecticut v. EPA*, 696 F.2d at 151.

states a notice of the application for the variance. In the case of the Con Ed variance the EPA held a notice and comment rulemaking hearing, and during the pendency of the proceeding, Connecticut and New Jersey filed their section 126 petition. The EPA then approved the SIP revisions allowing both Con Ed and LILCO variances and took no action on the section 126 petition. Thereafter, the Con Ed variance was challenged in a properly filed section 307 petition to the Second Circuit Court of Appeals.¹⁵⁴ Notice of a public hearing on the section 126 petition followed the petition. The public hearing which followed has not to date led to a final determination on the merits by the Administrator.

Initially, the Second Circuit approved of the footnote dictum in *New England Legal Foundation*.¹⁵⁵ It concluded that filing a section 126 petition is not a prerequisite to the maintenance of an action reviewing an Administrator's decision to revise an SIP that may have deleterious TAP effects.¹⁵⁶ The interphase of the section 110 SIP process, directly incorporating the substantive TAP standards contained in section 110(a)(2)(E) and the section 126(b) procedural mechanism, remained the key issue. Since the section 126(b) mechanism incorporates as its substantive standard the same standard contained in section 110, the court faced the problem of dealing with potentially duplicative administrative proceedings.¹⁵⁷ Connecticut contended that once it filed its section 126 petition the EPA could not approve an SIP revision until it decided the section 126 petition. If the EPA allowed the SIP revision process to continue, then the petition 126 machinery would be substantially moot. The Administrator was under a mandatory duty to approve all SIP revisions that did not prevent the attainment or maintenance of a national standard in a receptor state or otherwise interfere with a PSD or visibility requirement in a receptor state. Once the EPA approved the revision it would have no choice but to deny the section 126 petition, since it had effectively determined that the activity would not violate the substantive standard incorporated in section 126.¹⁵⁸

Because Congress does not normally create administrative machinery that serves no useful purpose, the court faced the problem of interpreting the 1977 Act to give meaning to the section 126 TAP procedure. The court refused to agree with Connecticut's contention that resolution of the section 126 petition was a prerequisite to the EPA's approval of an SIP revision that had arguable interstate impacts.¹⁵⁹ The Second Circuit concluded that the language in section 110, which required the SIP to insure compliance with section 126, referred only to the notice requirements for major sources contained in section 126(a).¹⁶⁰ The decision-making machinery created in section 126(b) would not be part of the already extant and well-operating SIP revision process.¹⁶¹

¹⁵⁴ *Connecticut v. EPA*, 656 F.2d 902 (2d Cir. 1981).

¹⁵⁵ See *supra* text accompanying notes 141-42.

¹⁵⁶ 656 F.2d at 905. The court noted that the § 307(b) review procedure provides a quick judicial review of final agency action. Delay of the review until an administrative proceeding was completed would be "grossly inappropriate" given the plain meaning and purpose of § 307. *Id.*; 42 U.S.C. § 7607(b) (Supp. V 1981).

¹⁵⁷ See *supra* note 101.

¹⁵⁸ 656 F.2d at 906-07.

¹⁵⁹ *Id.* at 907.

¹⁶⁰ *Id.*; see 42 U.S.C. §§ 7410(a)(2)(E), 7426(a) (Supp. V 1981).

¹⁶¹ 656 F.2d at 907; 42 U.S.C. §§ 7410(a)(3), 7426(b) (Supp. V 1981). The court reasoned that the states are the primary role-players in the air pollution control field once the SIP is approved. 656 F.2d at 907

Thus, the Administrator was free to independently approve the SIP revision or decide the section 126 petition in whatever order he or she deemed appropriate. In a moment of candor the court did admit that the substantive inquiry in either decision (SIP approval or 126 petition) was the same.¹⁶² It therefore "suggested" that it might be more efficient for the EPA to consolidate the proceedings to avoid duplication of effort when the same substantive issue was involved.¹⁶³ After all, if the Administrator makes a "correct"¹⁶⁴ decision on either the SIP or section 126 request he probably cannot reverse himself when responding to the later-decided petition.

When reviewing a substantive decision the Second Circuit takes a deferential view of its role in determining whether the variance will violate the section 110(a)(2)(E) standards. Connecticut attempted to broaden the inquiry into TAP effects by asserting that the EPA failed to consider the long-term impacts of continued emissions at the high levels.¹⁶⁵ In looking to the individual source impact the court was unwilling to disturb EPA findings that the TAP impact of the one-year variance would not violate either substantive standard contained in section 110(a)(2)(E).¹⁶⁶

While noting that the interpretation of sections 126 and 110 might render the section 126 process ineffectual, the Second Circuit reviewed the legislative history for a purpose for section 126 that would not be thwarted by the court's decision. The court determined that Congress probably did not consider the section 126 machinery a true alternative to, or substitute for, the section 110 SIP review process. A revision request triggers the section 110 process, but when existing sources create TAP effects section 110 does not encompass a TAP review.¹⁶⁷ The recep-

(citing *Train v. N.R.D.C.*, 421 U.S. 60 (1975)). Replacement of the state's decision-making authority over SIP revisions with federal administrative proceedings would be an unwarranted extension of congressional intent for the TAP section. 656 F.2d at 907-08 n.4.

¹⁶² 656 F.2d at 907.

¹⁶³ The court noted with some disdain the Administrator's failure to meet the 60-day deadline for § 126 decisions. It concluded that if the deadline had been met the two procedures could have been easily consolidated for unified treatment. *Id.* at 908 n.5.

¹⁶⁴ I use the term "correct" to connote only that the decision would meet the *Overton Park* standard of not being arbitrary, capricious, or an abuse of discretion and therefore not a candidate for reversal. *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402 (1971); 42 U.S.C. § 7607(d)(9) (Supp. V 1981).

¹⁶⁵ 656 F.2d at 908. In a recent case the Sixth Circuit agreed with the rationale of the Second Circuit. In SIP revision cases the EPA need only take into account the impact of the individual revision or decision and not the aggregate impact of all of the emissions from plants within the emitter state. *New York v. EPA*, — F.2d —, 19 E.R.C. 1367 (6th Cir. 1983). In the *New York* case the EPA approved a revision to the Tennessee SIP that increased the emission rate for sulfur dioxide from 1.2 to 2.8 lbs/MBTU for a single plant. New York wanted the EPA to consider the increased emissions from the plant in conjunction with the aggregate of sulfur dioxide emissions from the Midwest that was being transported to New York. *Id.* at 1370-72. The Sixth Circuit concluded that the § 126 process of joining all potential emitters in a single proceeding was the best way to handle the problem of aggregate long distance impact of pollutants that may degrade the air in a receptor state.

¹⁶⁶ 656 F.2d at 908-09. In *New York*, — F.2d —, 19 E.R.C. 1367 (6th Cir. 1983), the Sixth Circuit faced the argument that Tennessee had presented absolutely no evidence to support its SIP revision petition that purported to show it could not cause TAP problems. The court responded by stating that modeling done by Tennessee on the short-range impacts showed a substantial dispersment of the sulfur dioxide within five kilometers of the source. In result, the supportable inference that New York would suffer little if any degradation in air quality 750 kilometers from the source could be utilized by the Administrator in approving the petition. The court also noted that New York failed to respond within the comment period with its own evidence on the nature of the TAP effects from the proposed increase in emissions of sulfur dioxide. 19 E.R.C. at 1370. Arguably, the emitting state must meet its initial burden of producing evidence showing no violation of the § 110(a)(2)(E) substantive standards.

¹⁶⁷ 656 F.2d at 907. The pre-1977 SIP's might have included emission limitations on major stationary sources without considering their TAP impacts. See *supra* Section IV.

tor states would be aware of existing sources as a result of the notice requirements contained in section 126(a). These sources were now required to be reported if their continued operations would prevent the attainment or maintenance of a national ambient air quality standard. Thus, section 126(b) could serve as the mechanism to apply the new TAP standard for existing plants whose emission limitations may have been set without due consideration of their TAP impacts.¹⁶⁸ Clearly, Congress could have limited section 126 proceedings to non-SIP revisions. It did not, even though courts use some questionable legislative history to support a limiting purpose in attempting to rationalize section 126 as a concurrent means of deciding some issues. Logically, the SIP process should handle the TAP impacts of existing stationary sources. But neither section 126 nor section 110(a)(2)(E) was drafted in a way that would allow it to be an autonomous procedure used solely in different factual situations.

Connecticut sought to raise an interstate equity issue when it argued that the New York variance failed to consider the more stringent sulfur dioxide emission standards contained in the Connecticut and New Jersey SIP's.¹⁶⁹ In interpreting the language of section 110(a)(2)(E) the court was struck by the explicit reference to national ambient standards and standards required by the PSD program. It therefore concluded that states were free to prepare or revise SIP's that might interfere with the attainment or maintenance of either more stringent state emission standards or ambient air quality standards as long as the states did not deleteriously affect a receptor state's ability to meet the federally mandated ambient air quality or PSD standards.¹⁷⁰ This conclusion is consistent with the Administrator's change in position on establishing decision criteria for section 126 petitions that were submitted in 1980 and 1981.¹⁷¹

A second revision to the New York SIP, also dealing with increased sulfur-in-fuel content limits on power plants, led to a second round of litigation over the TAP problem in the New York metropolitan area. In *Connecticut v. EPA*,¹⁷² (hereinafter *Conn. I*) the petitioners challenged the grant of a three-year variance to the Long Island Lighting Co. (LILCO) to burn 2.8 percent and 2.5 percent sulfur

¹⁶⁸ *Id.* at 907-08. The only legislative history that supports such a view is a reference in the House Report that states the purpose of the § 126 procedure is expedition and not delay in the resolution of TAP problems. *Id.* at 908 n.4 (citing H.R. Rep. No. 294, 95th Cong., 1st Sess. 331 (1977), reprinted in 4 LEGISLATIVE HISTORY, *supra* note 68, at 2798). That legislative history, however, proposes providing an entirely alternative method. An alternative method implies a choice from two or more non-exclusive methods. The court's interpretation creates two independent and exclusive mechanisms to be utilized under different factual circumstances.

¹⁶⁹ 656 F.2d at 909. Section 116 of the Clean Air Act authorizes states to adopt emission or ambient air quality standards more stringent than those otherwise required by the Clean Air Act (42 U.S.C. § 7416 (Supp. V 1981)). Whether the receptor states had more stringent emissions standards on their sulfur dioxide emitters, as did the Gallagher Station § 126 petition, *supra* notes 120-21, or had a more stringent ambient air quality standard for sulfur dioxide is unclear. It appears that a true issue of interstate equity was involved because only the emission standards were more stringent in the receptor states. 656 F.2d at 909.

¹⁷⁰ 656 F.2d at 909-10. The court said that the language was "carefully drafted" and unambiguous and therefore no need existed for resort to the legislative history. *Id.* As noted earlier, some earlier language, particularly in the House bills, lends credence to the concept that §§ 126 and 110(a)(2)(E) were drafted to deal with the interstate equity issue. See *supra* note 81. The court did not have to resolve some sticky issues relating to interstate equity that were raised by the legislative history and some inconsistent statements in the conference report. The court concluded that the plain meaning of the statute had to be followed regardless of undesirable public policy ramifications. 656 F.2d at 910.

¹⁷¹ See *supra* note 124.

¹⁷² 696 F.2d 147 (2d Cir. 1982).

content fuel at two of their electrical generating facilities. The New York SIP had a general sulfur-in-fuel requirement of 1 percent.¹⁷³

Again Connecticut objected by filing comments to the New York revision request and, in a separate action, filed another section 126 petition. The EPA responded to the comments by lengthening the time in which it would decide the section 110 issue. The EPA eventually approved the revision.¹⁷⁴ While the section 110 process was ongoing the section 126 proceeding was going nowhere. The Administrator conducted public hearings in December 1980 on Connecticut's section 126 petition but to date has not rendered a decision on the complaint about TAP.¹⁷⁵

The LILCO variance request with its ensuing SIP revision spawned not only this section 307 proceeding but two other law-suits that again reflect the complexity of the statutory mechanisms designed to deal with TAP issues.¹⁷⁶ All three cases raise complex statutory and technical issues even though the modeling problems are far less complex than those in the long-range transport cases. For example, in *Conn. I* the petitioners not only argued that the increased sulfur dioxide emissions would raise ambient levels of sulfur dioxide, they also argued that total suspended particulates (TSP), including sulfates, would be increased as well in the receptor state.¹⁷⁷ This approach was particularly important since Connecticut was an attainment area for sulfur dioxide, but had several non-attainment areas for the national secondary ambient air quality standards for TSP.¹⁷⁸ In addition, no national ambient air quality standard presently exists specifically for measuring sulfates.¹⁷⁹

¹⁷³ The three year variance was a renewal of the earlier variance given LILCO, which was the subject of the *New England Legal Foundation* litigation. See *supra* notes 134-48 and accompanying text. In addition to this § 307 action challenging the Administrator's approval of the SIP revision, Connecticut also brought a district court action under § 304 claiming that LILCO was liable for damages or penalties for operating with the higher sulfur content fuel before receiving EPA approval. *Connecticut v. Long Island Lighting Co.*, 535 F. Supp. 546 (E.D. N.Y. 1982). The district court, while noting that LILCO was operating for an extended period of time in violation of the then-existing SIP, refused to award damages or penalties since EPA had eventually granted LILCO permission to burn the higher sulfur-content fuel. *Id.* at 550. The court could find no implied statutory right to impose damages in a § 304 proceeding and refused to allow a common law nuisance action to be brought on grounds similar to the earlier *New England Legal Foundation* decision. See *supra* note 135. The facts, however, are different here. The three year variance involved a period of admitted non-compliance while the initial variance included total compliance with both state and federal laws. 535 F. Supp. at 551. The court nonetheless held that with EPA approval of the variance the legal remedies provided the plaintiffs in §§ 307 and 126 were sufficient for a court of equity to refuse relief on nuisance grounds.

¹⁷⁴ 692 F.2d at 154. The New York Department of Environmental Conservation held a public hearing in which neither the State of Connecticut nor the public interest group that was also litigating the revision took part. The nature of the EPA's further inquiry involved more modeling and other technical tests to confirm its earlier view that the increased emissions would not interfere with the maintenance or attainment of the national ambient air quality standards in Connecticut.

¹⁷⁵ *Id.* at 153.

¹⁷⁶ *Connecticut Fund for the Environment v. EPA*, 696 F.2d 169 (2d Cir. 1982) (*CFE I*); *Connecticut Fund for the Environment v. EPA*, 696 F.2d 179 (2d Cir. 1982) (*CFE II*).

¹⁷⁷ The EPA has promulgated national ambient air quality standards for TSP generally, but not for sulfate particulates specifically. 40 C.F.R. § 50.7 (1982).

¹⁷⁸ Section 110(a)(2)(E) of the 1977 Act provides two different standards to measure TAP that prevents the maintenance of attainment of national ambient air quality standards by another state, or interferes with measures required to be adopted by another state under the PSD or visibility programs. 42 U.S.C. § 7410(a)(2)(E) (Supp. V 1981). See *supra* note 101.

¹⁷⁹ See *supra* note 177. Sulfates are not ordinarily primary emissions but occur in receptor areas because of the sulfur dioxide emitted from plant stacks reacting with other elements in the atmosphere to form various suspended sulfates. See *Cleveland Elec. Illum. Co. v. EPA*, 572 F.2d 1150, 1155 (6th Cir. 1978) citing T. Lewis, M. Andur, M. Fritzhand, & K. Campbell, *Toxicology of Atmosphere Sulfur Dioxide Decay Products* 17 (1972). Sulfates adversely effect human health. 572 F.2d at 1154, 1155.

The great deference given to the Administrator's technical decisions and to his interpretation of the Clean Air Act, specifically section 110(a)(2)(E), is common to the three decisions.¹⁸⁰ In approving the variance for LILCO the Administrator had to conclude that the increased sulfur dioxide emissions would not prevent the attainment or maintenance of the sulfur dioxide national ambient air quality standard or interfere with Connecticut's PSD program.¹⁸¹ Connecticut tried to broaden the statutory language so that no state could emit pollutants that would have a substantial impact on a receptor state.¹⁸² New York, on the other hand, argued for a literal interpretation of the same language. New York would require that a revision be disapproved on TAP grounds only when the additional emissions would render it impossible for the emitter state to achieve the national standards, even if the receptor state must impose further sulfur dioxide emission limitations on its own sources. The EPA's position was in the middle. It required a showing that the additional emissions would cause an actual violation of the national ambient standards. The receptor state, however, would be under no further obligation to limit its own state's emissions if it already had an approved SIP.¹⁸³ Utilizing its reasonableness standard the Second Circuit found that Connecticut failed to meet its burden of showing unreasonableness and therefore upheld the EPA's interpretation of section 110(a)(2)(E).¹⁸⁴

In dealing with the merits of the case the Second Circuit jumped into a modeling controversy. LILCO, New York, and the EPA relied on modeling data generated from the so-called CRSTER model.¹⁸⁵ CRSTER was one of the EPA-approved models specifically designed to deal with emissions from a single source. Connecticut argued that the model was inappropriate to use because of complexities inherent in transport over water and because data fed into the model were inaccurate.¹⁸⁶ The Second Circuit followed the lead of earlier modeling decisions in deferring to the expertise of the EPA on highly technical issues.¹⁸⁷ While admitting some internal inconsistencies in using a model that did not deal well with complex terrain, the EPA did not abuse its discretion by utilizing it under these circumstances.¹⁸⁸ Although the petitioners proffered alterna-

¹⁸⁰ In *Conn. I*, Judge Kaufman refers to the Clean Air Act as a "Labyrinth" that presents as many complex problems for the courts to resolve as any federal statute. 696 F.2d at 150. The Second Circuit justifies its deference to administrative findings on the basis that these findings can be overturned only if the court determines that they are arbitrary, capricious, or an abuse of discretion. *Friends of the Earth v. EPA*, 499 F.2d 1118, 1123 (2d Cir. 1974). It also relies on its own recent decisions, and those of the Supreme Court, giving the EPA Administrator broad discretion. *EPA v. National Crushed Stone Assoc.*, 449 U.S. 64, 83 (1980).

¹⁸¹ 42 U.S.C. § 7410(a)(2)(E) (Supp. V 1981).

¹⁸² 696 F.2d at 156-57.

¹⁸³ *Id.*

¹⁸⁴ The court approved the EPA's interpretation. It used language, however, that seemingly shows that Congress wanted to adopt an interstate equity approach and not allow one state "to foist its pollution on another state." *Id.* at 156. Nonetheless, it concluded that the language of section 110(a)(2)(E) was carefully drafted so as not to involve interstate equity or substantial impact matters, but only matters affecting national ambient air quality standards and PSD program requirements.

¹⁸⁵ CRSTER is a Guideline-approved model designed for simulating emissions from a single source using Gaussian plume principles that can be applied in both rural and urban areas and in complex terrain. GUIDELINES at A-21, *supra* note 109.

¹⁸⁶ 696 F.2d at 157-58.

¹⁸⁷ See *supra* cases cited in note 117.

¹⁸⁸ Several similarities, however, exist between this case and *Cincinnati Gas & Elec. Co. v. EPA*, 578 F.2d 660 (6th Cir. 1980). In *Cincinnati Gas* the court struck down the use of a coefficient that increased the predicted impact of the modeled emissions because both EPA and private studies questioned the accuracy or validity of the coefficient. *Id.* at 663-64. In the present case the Guidelines themselves question CR-

tive models, the EPA's duty did not extend to selecting the best model; all section 110 required was EPA selection of a model that was not unreasonable under the circumstances.¹⁸⁹

The complexities and the lack of coordination between the Clean Air Act sections are highlighted by the court's discussion of the stack height assumptions used in the model. The LILCO plant for which the variance was sought had a stack 600 feet tall. Calculations under section 123 of the Clean Air Act,¹⁹⁰ however, resulted in a hypothetical stack height of 486 feet. The purpose of section 123 was to discourage the use of tall stacks to disperse pollutants without controlling them. Tall stacks cause a wider diffusion of emissions over a greater area. The lower stack height data that is modeled increases near-stack ambient air quality figures. Thus, the model will predict higher concentration levels than occur in reality since the emissions are coming from a higher stack than the model has computed. But in a TAP situation the use of modeled hypothetical stack heights that are lower than the real stack height leads to lower predicted ambient air quality concentrations than will actually occur in down-wind receptor states. The higher the stack the greater the diffusion over a longer distance. Therefore, had the EPA used the 486 foot stack height rather than the actual 600 foot stack height it would have underestimated the impact of the emissions in Connecticut. The EPA, however, ran supplementary tests of its models at the actual stack height level. The tests still showed no violation of the national ambient air quality standards for sulfur dioxide.¹⁹¹ In its opinion the court noted that the EPA could not utilize the section 123 stack height assumptions in its modeling data when it was dealing with TAP problems of moderate or long-range transport since that would be contrary to the purposes of both section 123 and section 110(a)(2)(E).¹⁹² Because of the supplementary modeling tests the court found that the EPA did not abuse its discretion in deciding whether maintenance or attainment of the national ambient air quality standards for sulfur dioxide was prevented.

Connecticut also alleged that the increased emissions from the LILCO plants would interfere with its ability to attain the national secondary ambient air quality standards for TSP in several localities.¹⁹³ In this case the EPA conducted

STER's ability to accurately model over complex terrain in circumstances in which the receptor stations are at a higher elevation than the emitter. 696 F.2d at 158.

¹⁸⁹ The court was impressed by the fact that the EPA made several adjustments to the model to compensate for its generally weak performance over complex terrain. It applauded the ad hoc approach taken by EPA to deal with this complex and difficult modeling decision. 696 F.2d at 159. The court also found no arbitrary behavior in the selection of meteorological data that was put into the model, although Connecticut argued that the EPA had used data from a station that was not appropriate to the particular circumstances. The court rejected Connecticut's argument and concluded that the choice of data and monitoring stations was within the "considered judgment" of the agency and met the standard of reasonableness under the circumstances. *Id.* at 159-60.

¹⁹⁰ 42 U.S.C. § 7423 (Supp. V 1981). The purpose of § 123 of the 1977 Act was to discourage construction of tall stacks that would show lower levels of pollutants at ground level but would continue to emit a high level of pollutants through the stack. *See, e.g.*, H.R. REP. NO. 294, 95th Cong., 1st Sess. 81-94, (1977), reprinted in 4 LEGISLATIVE HISTORY, *supra* note 68, at 2548-61. *See also* Alabama Power Co. v. Costle, 636 F.2d 323, 388-94 (D.C. Cir. 1979).

¹⁹¹ 696 F.2d at 160-61. The New York modeling analysis showed that the second highest maximum 24-hour average impact on sulfur dioxide levels in Connecticut would be 87 micrograms/cubic meter. The court then added the average to the background Connecticut levels, which would still leave Connecticut's air quality below the national ambient air quality figures. *Id.* at 160 n.29.

¹⁹² 42 U.S.C. §§ 7423, 7410(a)(2)(E) (Supp. V 1981).

¹⁹³ 696 F.2d at 162-63. Connecticut alleged that the higher sulfur content in the fuel would increase the

several modeling studies to predict the impact of the TSP emissions from the LILCO facilities of Connecticut's air quality. The results showed a de minimis impact. Therefore, the EPA's decision that the variance would not prevent the attainment of the TSP national standard was clearly reasonable.¹⁹⁴ In reaching that conclusion, however, the court was hesitant to approve the EPA's position that only emissions that significantly contribute to continued nonattainment need be addressed by the Administrator. Instead, the court held that on the facts the minimal contribution of New York to Connecticut's nonattainment status would support the Administrator's decision to approve the New York SIP revision.¹⁹⁵ The court interpreted section 110(a)(2)(E) as not forbidding SIP revisions or new facilities construction in cases in which nearby receptor states were classified as nonattainment for an emitted pollutant. Thus, the standard for rejection of an SIP revision that affects a nonattainment receptor lies somewhere between a significant contribution and a de minimis impact.

The *Conn. I* court also concluded that the Administrator need not consider the impact of emissions on sulfate concentrations in the receptor state.¹⁹⁶ Connecticut argued that even if the TSP emissions would not increase substantially, the secondary formation of sulfates would cause injuries to the health and welfare of Connecticut. The EPA rejected the argument that it had to consider sulfate formation issues on two grounds. The first basis for rejection was practical: no approved or otherwise available air quality model had been developed to predict the impact of downwind emissions on sulfate formations.¹⁹⁷ The second ground was more basic. Since no national ambient air quality standard for sulfate had been set, the Administrator had no section 110(a)(2)(E) duty to consider the impact of sulfate concentrations, even if they were a potential threat to the public health.

Finally, Connecticut alleged that the increase in sulfur dioxide emissions would interfere with its PSD program for that pollutant. Again, the court discovered a lacuna in the coverage of section 110(a)(2)(E) that rendered the section even more ineffective than previously thought. Before this litigation, no major source had sought a PSD permit in Connecticut. Because no PSD permit had been filed, the state was unable to set a baseline concentration against which the PSD increment could be added.¹⁹⁸ In essence, Connecticut had no active PSD program although SIP provisions relating to PSD had been approved by the

TSP emissions as well as the sulfur dioxide emissions. This was not refuted by the EPA, which took the position that states are free to control emissions on a pollutant-by-pollutant basis. In *CFE I*, 696 F.2d 169 (2d Cir. 1982), the court held that the EPA is free to approve revisions with only intrastate effects on a pollutant-by-pollutant basis.

¹⁹⁴ 696 F.2d at 163-64. The maximum estimated impact was 0.10 micrograms/cubic meter on an annual basis and 2.06 micrograms/cubic meter on a 24-hour basis. This compares with the national primary ambient air quality standard of 75 micrograms/cubic meter on an annual basis and a standard of 260 micrograms/cubic meter on a 24-hour basis.

¹⁹⁵ *Id.* at 164. The court noted that interstate equity considerations might be involved in the prevention standard. It specifically noted that Connecticut had imposed on its own sources a .14 lbs/MBTU limit while New York's standard for TSP emissions was .1 lbs/MBTU. Therefore, New York was controlling its emissions to a greater extent than Connecticut. *Id.* at 164 n.37.

¹⁹⁶ *Id.* at 165.

¹⁹⁷ *Id.* Because sulfates are formed through the interaction of several different elements and compounds, the chemical and atmospheric complexities involved are so difficult that no model had yet been created that could accurately or reliably measure downwind impact. *Id.*

¹⁹⁸ *Alabama Power Co. v. Costle*, 636 F.2d 323, 374-76 (D.C. Cir. 1979).

EPA.¹⁹⁹ The EPA's position was that without a baseline concentration determination a PSD plan that could be interfered with under the section 110(a)(2)(E) standard could not exist. The EPA would therefore not have to consider the TAP impact of an SIP revision on attainment areas.²⁰⁰ The court, however, refused to accede to the EPA view. Such an approach was antithetical to congressional intent that out-of-state sources not use up the allowable increment.²⁰¹ If out-of-state sources raised the baseline or background levels so that the maximum increment could not be utilized, the purpose of section 110(a)(2)(E) might be frustrated. The court thus concluded that states could take measures other than those specifically required in the PSD section to control sulfur dioxide emissions. Since Connecticut had not engaged in specific measures in this case and because modeling did not show that the attainment status would be threatened by the increased emissions, the Administrator was not unreasonable in his approval of the LILCO variance.²⁰²

The New York metropolitan airshed paradigm reflects the weakness of the current TAP mechanism. The mechanism deals with modeling uncertainty through a very deferential review of the Administrator's decision to use or not use a particular model. The burden of proof it places on a receptor state is difficult enough, without requiring that it overcome the presumption of validity that attaches to the EPA's and the emitter state's modeling studies. After all, no emitting state will go to the EPA for approval of an SIP revision for new or existing sources unless its modeling data shows that its emissions will not prevent the attainment or maintenance of the national ambient air quality standards in a receptor state.

The section 126 procedural mechanism has been relegated to situations in which existing sources are threatening the air quality in a receptor state. Since the EPA is otherwise free to use the section 110 SIP review process to answer the same substantive TAP questions, the section 126 mechanism has been reduced to the long-range transport, multiple source problems for which modeling and science have yet to come up with answers. The section 126 mechanism apparently cannot operate within the rigid time frames set by Congress. If that is the case, is it a useful mechanism with which to resolve disputes? A return to *Tennessee Copper* might at least eliminate another bureaucratic maze from the TAP arena. One thing, however, remains clear. After several attempts, Congress has not effectively dealt with the TAP issue.

¹⁹⁹ 696 F.2d at 166-67.

²⁰⁰ In *CFE II*, 696 F.2d 179 (2d Cir. 1982), the Second Circuit concluded that the SIP need provide for a PSD program only if and when a baseline is created. Therefore, the state would be free not to have an active PSD program for instate sources while a PSD permit is sought.

²⁰¹ 696 F.2d at 167. Technically, the increment would not be used up until the baseline was closer to the national ambient air quality standard. This would prevent complete use of the available increment. 42 U.S.C. § 7473 (Supp. V 1981). For example, if an attainment area for sulfur dioxide was within 91 micrograms/cubic meter of the national standard, the state would only be allowed to permit emissions to reach that national standard. It could not authorize new sources to emit up to the otherwise applicable 91 micrograms/cubic meter increment allowed in Class II areas on a 24-hour scale for sulfur dioxide. *Id.* at 7473.

²⁰² 696 F.2d at 167.

IX. THE 1982-1983 CLEAN AIR AMENDMENTS—WILL ACNE OINTMENT CLEAN THE PIMPLES?

Even before the section 126 procedure was utilized attempts were made to amend it. Although much has been written about, and many congressional hearings and bills have dealt with, the problem of acid rain,²⁰³ Senators Dodd and Durenberger have advanced their own TAP bill designed to amend the section 110(a)(2)(E) and 126 procedures.²⁰⁴ The Dodd/Durenberger bill was eventually incorporated in a bill that was presented to the Senate.²⁰⁵ The Senate bill would lessen the standard for TAP impacts from prevention of attainment and maintenance to interference with attainment and maintenance of national ambient air quality standards. The Clean Air Act would include the interstate equity issue for the first time. It would prohibit SIP's from allowing emissions that "may reasonably be anticipated to cause or contribute to an adverse effect on public health or welfare of the environment."²⁰⁶ This approach seemingly returns to a nuisance-type standard as developed in *Tennessee Copper*. The bill would further amend section 126 to lessen the standard upon which the Administrator could deny a proposed new source and operating permit or require the shutdown of an existing source within three months of the section 126 determination.²⁰⁷ Finally, the Administrator would be given the authority to impose reasonably available control technology (RACT) on any existing source that violates the lessened TAP standard.

As 1983 concludes, the proposed revisions are seemingly going nowhere, lost in the general discussion of the need to deal with the acid rain problem.²⁰⁸ Thus, sections 110(a)(2)(E) and 126 will continue to operate in a most ineffective way, leaving the TAP child to fend for himself in a hostile environment.

X. EPILOGUE—OUTLOOK FOR FURTHER NORMAL DEVELOPMENT OF THE TAP CHILD

The history of congressional, administrative, and judicial treatment of the TAP child may be grounds for removal of the child from the home for reason of neglect. The TAP situation clearly presents difficult political, economic, and scientific questions, but not to an impossible degree. The child has been dealt with in a manner typical of the theory of disjointed incrementalism or muddling through. As new problems appear, attempts are made to superficially deal with

²⁰³ See, e.g., *Acid Rain: Hearings Before the Senate Comm. on Environment and Public Works*, 97th Cong., 1st Sess. (1981) [hereinafter *Senate Acid Rain Hearings*]; *Acid Rain: Hearings Before the Subcomm. on Natural Resources, Agriculture Research and Environment of the House Comm. on Science and Technology*, 97th Cong., 1st Sess. (1981); *Acid Precipitation Hearings Before the Subcomm. on Health and the Environment of the House Comm. on Energy and Commerce*, 97th Cong., 1st Sess. pts. 1-2 (1981).

²⁰⁴ S. 1718, 97th Cong., 1st Sess. (1981), reprinted in *Senate Acid Rain Hearings*, supra note 197, at 783-87.

²⁰⁵ S. 3041, 97th Cong., 2d Sess. (1982).

²⁰⁶ S. 3041, 97th Cong., 2d Sess. (1982), reprinted in S. Rep. No. 666, 97th Cong., 2d Sess. 74 (1982). While not expressly adopting an interstate equity approach, it allows the Administrator to inquire about issues of interstate equity and gives him broader discretion to consider more than numbers regurgitated by the modeling system.

²⁰⁷ *Id.*

²⁰⁸ S. 3041 was reported by the Committee to the floor of the Senate by a 15-1 vote, 13 ENV'T REP. (BNA) 547 (1982) but because of Administration opposition and an expected floor battle, *id.* at 1056, 1279, Senate leadership did not bring the bill to floor debate during the lame duck session. *Id.* at 1279, 2079. S. 3041 was reintroduced by Senator Stafford in 1983 as S. 768 but it has not progressed since its introduction. 13 ENV'T REP. (BNA) 2079-80 (1983).

them until the crisis passes. As new crises appear, new bandaids are placed on the sores and the next issue is addressed. In the fifty years that have passed since the *Tennessee Copper* case little has been learned about rearing the TAP child. New and varied layers of bureaucratic decision-making have supplied additional band-aids. The tough questions, however, have yet to be answered. No one has faced the general TAP issue of interstate equity. Should a state be able to pollute the air of another state that has made the determination that it wants clean air and backs it up with more stringent emissions or ambient air quality standards? The Dodd/Durenberger TAP provisions come closest to allowing these considerations to be weighed. Another issue that has yet to be resolved is whether the receptor state should bear the burden of showing a violation of the TAP standard, whatever that standard may be. In situations in which science has yet to devise a reliable system for predicting impacts at over fifty kilometers distance, must a receptor state shoulder the entire burden of showing a violation? Should the emitting state, since it is the one causing the externalities, shoulder the burden of showing no injury? Finally, no matter what is done about the substantive standard, little improvement has occurred in the expeditious handling of TAP problems. The six to seven year period in *Tennessee Copper* is now being approached by the several section 126 petitions that are entering their third year without disposition. If the administrative machinery cannot be improved perhaps it should be left to the courts to deal with TAP problems using traditional notions of nuisance and injury to the public health. Possibly, if we started over again, we might discover that the *Tennessee Copper* approach, while being far from perfect, is the best we can use at this moment.