The Interstate Ozone Pollution Negotiations: OTAG, EPA, and a Novel Approach to Negotiated Rulemaking

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In August 1997, eight states from the Northeast filed petitions with the United States Environmental Protection Agency (EPA).[1] The petitions cited the interstate movement of various chemicals from the Midwest and South as contributing factors to persistent ground-level ozone problems in these states.[2] The states sought an EPA ruling recognizing Midwest pollution as a significant factor in their ozone noncompliance.[3] Further, if the EPA made such a ruling, the Northeast states desired EPA promulgation of regulations imposing strict emission limits on Midwest power plants, industrial sources, and other large emitters of ozone-related chemicals.[4]

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[1] The eight states filing petitions and the dates the EPA received these petitions are as follows: Connecticut (August 15, 1997), Maine (August 15, 1997), Massachusetts (August 14, 1997), New Hampshire (August 15, 1997), New York (August 15, 1997), Pennsylvania (August 15, 1997), Rhode Island (August 14, 1997), Vermont (August 15, 1997). *See* Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. 54,769, 54,769–54,770 (1997) (to be codified at 40 C.F.R. pt. 52). *See generally* Jim Nichols, *Pennsylvania Files Pollution Complaint*, PLAIN DEALER (Cleveland), Aug. 15, 1997, at 1-B; *Northeast v. Midwest at EPA*, CHI. SUN-TIMES, Aug. 15, 1997, at 4; *Northeast States Join Move Aimed at Midwest Smog*, CIN. POST, Aug. 9, 1997, at 7A.

[2] Specifically, the petitions requested that the EPA determine that major sources of NO_X in Eastern and Southern states, ranging from Minnesota to Louisiana to Georgia, significantly contribute to ozone nonattainment status in the Northeast. *See* Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. at 54,770; *see also Northeast v. Midwest at EPA*, *supra* note 1, at 4. The petitions were filed pursuant to section 126 of the Clean Air Act. *See* Clean Air Act Amendments of 1990 § 126, 42 U.S.C. § 7426 (1994).

[3] *See* Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. at 54,770.

[4] *See* Nichols, *supra* note 1, at 1-B. If the EPA were to determine that the sources identified in the section 126 petitions did significantly contribute to Northeast ozone nonattainment, then those sources would be required to shut down in three months or adopt emission compliance schedules required by the EPA "as expeditiously as practicable, but in no case later than three years after" the EPA makes its determination. 42 U.S.C. § 7426(c); *see also* Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. at 54,770.

In fact, the EPA has proposed to find that some of the sources in the section 126 petitions significantly contribute to the ozone noncompliance in Northeastern petitioning

Unfortunately, this action frustrated two years of research,

states. *See* Findings of Significant Contribution and Rulemakings on Section 126 Petitions and Federal Implementation Plans for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 52,213, 52,213 (1998) (to be codified at 40 C.F.R. pts. 52, 97, 98) (proposed Sept. 30, 1998) ("[The] EPA is proposing to find that portions of certain petitions are technically meritorious under the test applicable under section 126."); *see also* Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 24,058, 24,058 (1998) (to be codified at 40 C.F.R. pt. 52). In addition, the EPA announced its intention to issue final rules by April 30, 1999 that establish specific baseline emission standards for pollutants at the targeted stationary sources. *See* Correction and Clarification to the Finding of Significant Contribution and Rulemaking for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 71,220, 71,221 (1998) (to be codified at 40 C.F.R. pts. 51, 96) (providing that "the budgets for the section 126 final rulemaking . . . must be finalized by April 30, 1999").

However, the EPA may wait to issue the final rule establishing that specific sources in upwind states significantly contribute to the ozone nonattainment problems in downwind, petitioning states. *See* Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 56,292, 56,294–56,295 (1998) (to be codified at 40 C.F.R. pts. 52, 97) (proposed Oct. 21, 1998). The EPA intends to withhold a decision on whether the petitions are "granted or denied . . . pending certain actions by States and [the] EPA regarding implementation plans required in response to" a recently adopted call for revised State Implementation Plans (SIPs). *Id.* at 56,295. This call for revised SIPs is an attempt by the EPA to adopt the Ozone Transport Assessment Group's recommendations for control of interstate ozone migration. *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356, 57,356 (1998) (to be codified at 40 C.F.R. pts. 51, 72, 75, 96).

> [The final rule is] to require 22 States and the District of Columbia to submit State [I]mplementation [P]lan . . . revisions to prohibit specified amounts of emissions of oxides of nitrogen (NO_X)—one of the precursors to ozone (smog) pollution—for the purpose of reducing NO_X and ozone transport across State boundaries in the eastern half of the United States.

Id.; *see also infra* notes 81–83 and accompanying text (describing the Ozone Transport Assessment Group and its efforts to research, understand, and remedy the interstate ozone transport problem). However, it appears that the EPA may be deviating from its schedule for SIP revisions due to technical difficulties in obtaining complete comments from all concerned and affected parties. *See* Reopening of Emissions Inventory Comment Periods for the Findings of Significant Contribution and Rulemakings on Section 126 Petitions and Federal Implementation Plans for Purposes of Reducing Interstate Transport of Ozone, 64 Fed. Reg. 2416, 2416 (1999) (to be codified at 40 C.F.R. pts. 52, 97, 98) (reopening the comment period on certain emission inventory databases due to difficulties States had in accessing these databases). It is unclear how this delay may affect the EPA's issuance of final rules for the section 126 petitions.

investigation, and negotiation between the thirty-seven easternmost states regarding persistent ozone pollution problems.[5] This Note will attempt to explain the following: (1) the interstate ozone pollution problem in the United States, (2) the stakes and positions of Northeastern and Midwestern interests, and (3) the results of two years of negotiations and the likely ramifications of proposed EPA regulations. Finally, recommendations will be made for dealing with future interstate pollution problems and potential negotiations between states regarding those problems.

I. INTERSTATE OZONE POLLUTION

A. *What Is Interstate Ozone Pollution and Why Is It a Problem?*

The long-range, interstate movement of pollutants through media such as water and air is known as transboundary pollution.[6] Numerous interstate pollutants exist, and many national and international efforts have been made to deal with sources and problems associated with them.[7] Interstate pollutants pose special problems for regulators because they involve multiple jurisdictions. Successfully addressing and mitigating the effects of interstate pollutants requires negotiating coordinated efforts between

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[5] *See* Nichols, *supra* note 1, at 1-B. The thirty-seven easternmost states and the District of Columbia had been engaged in a collaborative process seeking to understand the interstate ozone problem and to make regulatory recommendations to the EPA regarding this problem. The states formed the Ozone Transport Assessment Group (OTAG) in carrying out this process. *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. 60,318, 60,323 (1997) (to be codified at 40 C.F.R. pt. 52) (proposed Nov. 7, 1997). The thirty-seven states involved are identified *infra* note 80.

[6] *See* Thomas W. Merrill, *Golden Rules for Transboundary Pollution*, 46 DUKE L.J. 931, 932 (1997) (noting that pollution can cross political boundaries and is thus a "transboundary phenomenon"). In this Note, the Author has chosen to use the term "interstate pollution" as a substitute for "transboundary pollution," as the political boundaries involved in ozone transport are those between the states.

[7] *See* Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570, 601-602 (1996) (noting that transboundary pollution effects were one of the driving forces behind enactment of many of the environmental laws in the United States). *But see* Merrill, *supra* note 6, at 933-934 (arguing that the development of transboundary pollution controls in the United States has been hindered by wavering Supreme Court decisions and a failure of the major environmental statutes to adequately address pollution migration).

pollution-generating states ("upwind states") and pollution-recipient states ("downwind states").[8]

1. *Scientific Factors*

Ozone has long been recognized as one of the EPA's criteria pollutants.[9] Ozone causes a variety of human health problems as well as deleterious agricultural and forest impacts.[10] In fact, recent research indicates human health effects may be particularly severe.[11] Efforts to

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[8] *See* Merrill, *supra* note 6, at 932 (explaining the conflicting interests of the source and recipient states and suggesting the need for centralized control in interstate pollution).

[9] *See* Geoffrey L. Wilcox, *New England and the Challenge of Interstate Ozone Pollution Under the Clean Air Act of 1990*, 24 B.C. ENVTL. AFF. L. REV. 1, 2 (1996). Criteria pollutants are those for which the EPA establishes permissible levels of exposure and those that the EPA requires State Implementation Plans to control. *See* Clean Air Act Amendments of 1990 § 107, 42 U.S.C. § 7407(a) (1994).

[10] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356, 57,359 (1998) (to be codified at 40 C.F.R. pts. 51, 72, 75, 96) (noting the adverse health effects of ozone and that ozone "is also responsible for significant agricultural crop yield losses" as well as causing "noticeable foliar damage in many crops [and] trees"); WOLFGANG SACHS ET AL., GREENING THE NORTH: A POST-INDUSTRIAL BLUEPRINT FOR ECOLOGY AND EQUITY 34 (1998) (noting that "high ozone concentrations . . . directly harm[] plants, animals, and human beings" and may be "responsible for 90% of the harm done to plants by airborne pollutants"); David C. Christiani, *Urban and Transboundary Air Pollution: Human Health Consequences*, *in* CRITICAL CONDITION: HUMAN HEALTH AND THE ENVIRONMENT: A REPORT BY PHYSICIANS FOR SOCIAL RESPONSIBILITY 13, 15 (Eric Chivian et al. eds., 1993) (noting that ozone causes a variety of changes in respiratory mechanics, including nasal inflammation, bronchoconstriction, and, at extremely high levels, pulmonary edema); David T. Tingey et al., *Effects of Ozone on Crops*, *in* TROPOSPHERIC OZONE: HUMAN HEALTH AND AGRICULTURAL IMPACTS 175, 176–180 (David J. McKee ed., 1994) (identifying some of the effects on agricultural crop plants including leaf necrosis, yield reductions, and fruit quality reductions); *see also* COUNCIL ON ENVTL. QUALITY, ENVIRONMENTAL QUALITY: THE TWENTY-THIRD ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY TOGETHER WITH THE PRESIDENT'S MESSAGE TO CONGRESS 9 (Dale Curtis & Barry Walden Walsh eds., 1993).

[11] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. at 57,356. The EPA notes that:

> Ground-level ozone has long been recognized, in both clinical and epidemiological research, to affect public health. There is a wide range of ozone-

control and mitigate ozone have focused on the pollutant's primary precursors.[12] Because ozone, unlike other criteria pollutants, is not readily emitted from identifiable sources, it has proven difficult to regulate effectively.[13]

Ozone is one of a class of pollutants known as photochemical oxidants.[14] These gases form in the atmosphere as a result of reactions between precursor chemicals and a sunlight catalyst.[15] The ozone

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> induced health effects, including decreased lung function (primarily in children active outdoors), increased respiratory symptoms (particularly in highly sensitive individuals), increased hospital admissions and emergency room visits for respiratory causes (among children and adults with pre-existing respiratory disease such as asthma), increased inflammation of the lung, and possible long-term damage to the lungs.

Id. In addition, ozone exposure limits an individual's maximum athletic performance level, decreases lung function, and increases lung permeability. *See* David V. Bates, *The Effects of Photochemical Air Pollution on People*, *in* TROPOSPHERIC OZONE: HUMAN HEALTH AND AGRICULTURAL IMPACTS, *supra* note 10, at 225, 226–227 (noting that recent research indicates that the human effects of ozone exposure include reductions in the maximum respiration an individual is capable of; further noting that it is not airway constriction but most likely a spinal reflex due to ozone exposure that causes this reduction in respiration capacity).

[12] *See* G.T. Helms et al., *The Clean Air Act Amendments—The USEPA's Role in Abating Ozone Air Pollution*, *in* TROPOSPHERIC OZONE: HUMAN HEALTH AND AGRICULTURAL IMPACTS, *supra* note 10, at 209, 209–210. The EPA's efforts to control ground-level ozone and interstate transport of ozone have identified and focused on the precursors to ozone. *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. at 57,359.

[13] Effective regulation of ozone relies on control of ozone precursors. The most significant of these precursors, volatile organic compounds (VOCs), are primarily emitted by transportation sources such as automobiles, aircraft, and railroads. Because these sources are highly mobile and occur in large numbers, it is difficult to identify which sources are the worst emitters. *See* Helms et al., *supra* note 12, at 210–211. Other pollutants, such as sulfur dioxide, are emitted from a discrete number of clearly identifiable, stationary sources. These pollutants have proven easier to regulate because pollution control measures can be adopted at the source, can be readily modeled to predict future costs, and can be compared to existing inventories of known emission levels absent pollution control. *See* Paul R. Portney, *Economics and the Clean Air Act*, J. ECON. PERSP., Fall 1990, at 173, 174–175.

[14] *See* Christiani, *supra* note 10, at 20.

[15] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. at 57,359 ("Ground-level ozone . . . is produced in

photochemical reaction is largely driven by the presence of nitrogen oxides (NO_X), oxygen (O_2), and hydrocarbons (specifically, volatile organic compounds (VOCs)).[16] While studies have attributed the atmospheric presence of these chemicals to various sources, they are largely the byproduct of fossil fuel combustion.[17] Consequently, ozone tends to form in areas with high concentrations of fossil fuel use. In most of the United States, these are the large urban and metropolitan centers.[18]

In addition to locally produced NO_X and VOCs, ozone precursors have been shown by recent studies to have the ability to migrate.[19] According to these studies, downwind localities would face an ozone problem caused by their own locally generated chemical precursors, as well as those "imported" from an upwind region.[20] This phenomenon accounts for the interstate ozone pollution problem.

Studies modelling the migration of ozone precursors in the United States tend to indicate that what movement there is occurs in conjunction with prevailing winds.[21] These winds tend to move from west to east in

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complex chemical reactions when its precursors, volatile organic compounds . . . and NO_X, react in the presence of sunlight.").

[16] Specifically, a series of reactions between these precursor chemicals occurs. These reactions are the following:

1. NO_2 + (near-ultraviolet solar radiation) → NO + O (photodissociation of NO_2)
2. O + O_2 + (molecule which removes excess energy) → O_3 + (molecule)
3. NO + O_3 → NO_2 + O_2 (rapid atmospheric reaction removing ozone)

When chemical reaction 3 is inhibited by the presence of chemicals such as VOCs which can convert NO to NO_2 without destroying ozone (O_3), ozone levels accumulate in the atmosphere. *See* David J. McKee, *Introduction* to TROPOSPHERIC OZONE: HUMAN HEALTH AND AGRICULTURAL IMPACTS, *supra* note 10, at 3, 3–4.

[17] *See id.* at 5.

[18] *See id.* In addition, the EPA notes that areas with concentrations of ozone high enough to result in noncompliance with national ambient air quality standards (NAAQS) include "many of the major urban centers in the eastern half of the Nation." Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. at 57,359. The EPA estimates that the total population living in areas that violate the 1-hour or 8-hour NAAQS includes approximately 73 million people living in 23 different states. *See id.*

[19] Ozone Transport Assessment Group, *Technical Support Document, Final Report* (visited Mar. 23, 1999) <http://www.epa.gov/ttnotag1/finalrpt/chp1/chap1.htm>.

[20] *See id.*

[21] *See OTAG Recommends Ozone Controls Tailored to Pollution Transport*, 31 ENVTL. SCI. & TECH. 352A, 352A (1997).

North America, and some migration from the Midwest industrial centers toward the Northeast has been documented.[22]

2. *Economic Factors*

The cost of controlling ozone pollution has proven considerable in the past several decades. Efforts to reduce NO_X and VOCs in the atmosphere have focused on both stationary sources and mobile sources.[23] Northeastern states, which face persistent ozone pollution problems, have negotiated a compact that reduces NO_X emissions from major stationary sources. The compact allots each Northeastern state an extremely limited quantity of permissible NO_X emissions and provides for gradual reductions in that quantity over time.[24] In addition, for mobile sources, the EPA requires that most states in the Northeast conduct rigorous automobile emission monitoring and offer reformulated gasolines for sale during certain months of the year.[25]

However, many of the states in the Midwest and South have not faced as elaborate an ozone control program. These states have not been required to institute the stricter NO_X stationary source emission limits.[26] Nor have

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[22] *See id.*

[23] *See* Helms et al., *supra* note 12, at 210–211. Stationary sources are those fixed at a single point, such as factories and electric generating power plants. The Clean Air Act defines stationary source as "any building, structure, facility, or installation which emits or may emit any air pollutant." Clean Air Act Amendments of 1990 § 111(a)(3), 42 U.S.C. § 7411(a)(3) (1994). Mobile sources are those that move about and cannot be fixed to a single point, such as automobiles, airplanes, and more generally, transportation sources. *See* Helms et al., *supra* note 12, at 211.

[24] *See* George Lobsenz, *New York IOUs, IPPs Settle NO_X Allocation Spat*, ENERGY DAILY, Jan. 6, 1998, *available in* 1998 WL 8791767. The severity of the reductions is extreme. New York alone must reduce its NO_X emissions 44% by 1999 and 62% by 2003. *See id.*

[25] *See* Wilcox, *supra* note 9, at 46 & n.257, 47 (noting the political unpopularity of automobile emissions testing and reformulated gasolines) (citing Scott Allen, *Maine Drivers Shun Emissions Testing: Voluntary Inspections Run Up Against Hostility*, BOSTON GLOBE, Mar. 12, 1995, at 29).

[26] Most areas in the Midwest and South comply with the EPA's pollutant standards and are thus in "attainment." *See* Helms et al., *supra* note 12, at 213 fig.1. When an area is in attainment, the EPA cannot require that the state's SIP adopt stricter emission control measures than are already in place. *See* Clean Air Act Amendments of 1990 § 107(a), 42 U.S.C. § 7407(a) (1994) (providing that the SIP "will specify the manner in which . . . ambient air quality standards will be . . . maintained within each air quality control region in [the] State").

many adopted widespread automobile emission monitoring or reformulated gasoline programs; only in the worst ozone pollution areas have these mobile source controls been required.[27]

Efforts to control interstate ozone precursor migration have been largely thwarted because of economic externalities.[28] When pollution precursors migrate out of an upwind region, that upwind region does not suffer local pollution problems attributable to these "exported" pollution precursors.[29] Without experiencing the full impact of ozone pollution caused by the region's entire complement of generated ozone precursors, the region does not act at a socially optimal level to reduce the production of ozone precursors.[30] Instead, those precursors migrate downwind and impose a social cost on the downwind region in the form of increased ozone pollution. It is this imposed social cost—not accounted for in the producing region's production decisions—that represents the externality.[31] Efforts to eliminate ozone precursors generated by the downwind region cannot completely eliminate the downwind region's ozone problem because imported precursors are not controlled and continue to migrate into the downwind region. Only control of the imported precursors at their source—the upwind region—can mitigate the downwind region's ozone pollution problem.

Due to this externality, efforts to control an interstate ozone pollution problem could take one of three forms. First, the externality could be internalized by forcing the upwind region to realize (or suffer, through a tax) the social costs imposed on the downwind region. The upwind region would then account for these costs in setting the socially optimal level of

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[27] *See* Nichols, *supra* note 1, at 1-B. Some of the Midwestern and Southern metropolitan areas that have achieved at least a "severe" nonattainment classification under the Clean Air Act include Atlanta, Chicago, Houston, Milwaukee, and New Orleans. Some of the cities with at least a "moderate" nonattainment classification include Cleveland, Cincinnati, Dallas, Detroit, Miami, Nashville, and St. Louis. *See* Helms et al., *supra* note 12, at 213 fig.1.

[28] *See* Merrill, *supra* note 6, at 968 (noting that transboundary pollution causes a physical externality or spillover effect between jurisdictions); *see also* Emilson C.D. Silva, *Decentralized and Efficient Control of Transboundary Pollution in Federal Systems*, 32 J. ENVTL. ECON. & MGMT. 95, 95-96 (1997) (discussing the externalities in all transboundary pollution situations).

[29] *See* Silva, *supra* note 28, at 96.

[30] *Cf. id.* at 96-97 (discussing interstate water pollution, rather than interstate air pollution).

[31] *Cf. id.* at 96.

ozone precursor generation.[32] Production of these chemicals would drop to a level significant enough to cure not only local ozone pollution problems, but those caused downwind by migrating chemicals.

Second, the upwind region could make an income transfer to the downwind region equal to the social cost imposed by the migrating ozone precursors.[33] This effort would internalize the externality by transferring income sufficient to compensate the downwind residents for the harm imposed by upwind ozone precursor generation.[34] Downwind residents could then use this income to further abate locally generated precursors or pay for the health and environmental damages associated with ozone pollution.

Finally, the externality could be internalized by imposing an emissions cap on the upwind region.[35] This emissions cap for the upwind region would be set at the socially optimal level of ozone precursor generation. The cost incurred by the upwind region in complying with the emissions cap shifts the burden of curing downwind ozone pollution problems to the upwind region. Further, by limiting the total quantity of ozone precursors produced by the upwind region to a sufficient level, regulators could cure local ozone pollution problems in the upwind region as well as ozone levels caused downwind by the migrating precursors.

3. *Political Factors*

One of the significant impediments to achieving consensus in addressing interstate ozone problems is the role of politics.[36] Regional

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[32] *Cf. id.*

[33] *Cf. id.*

[34] *Cf. id.*

[35] This appears to be the approach favored by the EPA in addressing the interstate movement of ozone precursors. The EPA is establishing stricter limits on ozone precursor generation for the Midwest and South, even though large parts of these areas are in compliance with ozone standards. *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356, 57,359 (1998) (to be codified at 40 C.F.R. pts. 51, 72, 75, 96). The goal of such stricter limits is to "reduce transported NO_x and ozone." *Id.*

[36] *See* Merrill, *supra* note 6, at 934–935 (noting that of the structural features common to interstate pollution disputes, "the sharply conflicting nature of the interests of the disputing parties" are "[o]f particular significance" and that a state may have "no incentive to participate in a regime of centralized regulation").

representatives must remain true to the interests of their constituents. However, the interests of constituents in the upwind and downwind regions do not coincide.[37]

Assuming that each region's economy is relatively insulated, the costs of addressing ozone precursor reductions must be incurred by the region making the reduction. This assumption is borne out in the United States where most NO_X and VOC production occurs as a result of fossil fuel power plants and automobile operation.[38] Because electric power generation is still largely regional[39] and local operators bear automobile operating costs, any efforts to reduce ozone precursor emissions will likely result in increased power rates and increased automobile operating costs in the region making a reduction.[40]

Making the further assumption that the costs and effects of ozone pollution are imposed on the region where that ozone occurs, a political

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[37] *See id.* at 976–979 (concluding that in the interstate pollution context, the interests of individual states are in conflict).

[38] *See* McKee, *supra* note 16, at 5; Terry F. Yosie et al., *Ozone Policy from a Petroleum Industry Perspective: Lessons Learned, Future Directions*, *in* TROPOSPHERIC OZONE: HUMAN HEALTH AND AGRICULTURAL IMPACTS, *supra* note 10, at 301, 314.

[39] *See* David E. Wojick, *Regional Power Markets: Roadblock to Choice?*, PUB. UTIL. FORTNIGHTLY, Oct. 1, 1997, at 28, 29 (noting that the ability of adjoining electric power generation regions to transmit electricity is typically less than five percent of the region's generating capacity and that the regional structure of the electric power industry "tends to isolate . . . suppliers from their potential low-cost competitors"); *see also* David Haarmeyer et al., *The New England Auction: Regional Strategy for Competitive Generation*, PUB. UTIL. FORTNIGHTLY, Feb. 15, 1998, at 34, 35 (noting that the New England power market is "a regional power market" and "tends to be isolated and high-priced"). However, with the advent of power industry deregulation, it is very likely that the electric power generation market will become more national, and less regional, in the near future. *See* Alexander Cavalli & Jane K. Winn, *Internet Security in the Electric Utility Industry*, 38 JURIMETRICS J. 459, 461–462 (1998) (describing a gradual progression, starting in the 1970s, of the electric power industry from regional power markets to a national electric power market and noting that despite congressional enactments in 1992 meant to facilitate this progression "markets for the generation, long-distance transmission, and local distribution of electric power are not yet fully competitive"). This Author does not attempt to explain how deregulation will impact the physical or legal issues of interstate ozone transport.

[40] *See* Yosie et al., *supra* note 38, at 315–317, 316 tbl.2 (noting that states where reductions are sought may have to adopt "Maximum Achievable Control Technology" requirements for fuel combustion facilities, the use of low NO_X burners for boilers and diesel engines, advanced vehicle emissions tests, and gasoline vapor recovery systems for automobiles). Measures such as these will increase the costs of day-to-day industrial and automobile operation.

stalemate results between upwind and downwind regions. Upwind representatives present the interests of constituents facing increased costs of power and transportation without a corresponding health or environmental benefit. Downwind representatives call for controls that their constituents will benefit from but will not pay for.

This theoretical scenario is not without precedent. In August 1997, when states from the Northeast filed their petitions, Midwestern interests characterized the effort as an attempt to "foist off [the Northeast's ozone] problem on someone else."[41] Similarly, one Northeastern attorney general said of Midwest states that "[i]t is only right that these sources of our air pollution . . . do their share to clean up the air."[42]

4. *Legal Factors*

Interstate effects of pollution have been identified as one of the compelling reasons for federal intervention in the environmental arena.[43] In fact, many of our nation's most important environmental statutes were passed in direct response to the perceived inability of states to deal with interstate pollution.[44] However, efforts to deal with interstate pollutants have largely occurred on a piecemeal basis.[45]

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[41] *Northeast States Join Move Aimed at Midwest Smog*, *supra* note 1, at 7A.

[42] *Electric Shorts*, FOSTER ELECTRIC REP., Aug. 27, 1997, *available in* 1997 WL 10339846 (quoting William Sorrell, Attorney General of Vermont).

[43] *See* Esty, *supra* note 7, at 601–602 (noting that one of the three broad reasons for federal centralization of environmental regulation was the "spill overs of pollution"); Andrew Jackson Heimert, *Keeping Pigs Out of Parlors: Using Nuisance Law to Affect the Location of Pollution*, 27 ENVTL. L. 403, 457 (1997) (noting that "federal efforts at statutory pollution control grew out of a desire to control interstate pollution"); Rena I. Steinzor, *Unfunded Environmental Mandates and the "New (New) Federalism": Devolution, Revolution, or Reform?*, 81 MINN. L. REV. 97, 167 (1996) (asserting that if "the impetus to regulate is thwarted by the state's opportunity to export pollution, then the rationale for federal intervention is compelling").

[44] *See* Esty, *supra* note 7, at 600–602 (arguing that early "federal efforts to support and prod state-level environmental regulation produced unsatisfactory results" and further arguing that because of these state failings, Congress acted to pass the Clean Air Act of 1970 and the Clean Water Act of 1972 which "shifted the center of gravity for environmental regulation from the states to the federal government").

[45] *See* Merrill, *supra* note 6, at 932. One commentator notes that while "widespread invocation of transboundary pollution as a justification for [the] trend" toward "centralized regulatory authority" occurs, "little meaningful regulation of transboundary pollution actually exists." *Id.* at 932–933. In fact, this commentator

Until the most recent amendments to the Clean Air Act,[46] no effective legal framework existed within which downwind states could request federal intervention forcing upwind states to control ozone precursor chemical emissions.[47] Some commentators have proposed that interstate pollutants might be adequately addressed through state nuisance law, but the difficulty of proving causation and harm might account for the relative lack of cases brought to stop ozone transport on this front.[48] Historically, the only means of preventing the migration of ozone precursors was to either request that upwind states address the problem or lobby for congressional action to address the problem.

B. *Environmental Legislation Dealing with Interstate Ozone Pollution*

The 1990 Clean Air Act Amendments (CAAA)[49] provided Congress's clearest message yet regarding the role of the EPA in addressing interstate pollution problems. Although Congress did not provide explicit directives for the EPA, the 1990 CAAA strengthened the EPA's scope of review for State Implementation Plans.[50] This gives the EPA a stronger hand in

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characterizes the federal environmental statutes as having "largely failed to regulate transboundary pollution." *Id.*

[46] *See* Clean Air Act Amendments of 1990, 42 U.S.C. §§ 7401-7671 (1994).

[47] The 1977 Clean Air Act Amendments did provide a mechanism for aggrieved states to petition the EPA if they felt an upwind state was significantly contributing to downwind nonattainment. *See* Wilcox, *supra* note 9, at 22-23. However, no state ever successfully petitioned the EPA for such a finding. *See id.* at 24. Further, the mechanism "applied only to 'major stationary sources of emissions.'" *Id.* at 23 (quoting the Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (1977)). A "major source" under the 1977 Amendments only included facilities that emitted at least 100 tons of a pollutant per year. *Id.* at 23 n.127 (citing the Clean Air Act Amendments of 1977, 91 Stat. at 685).

[48] *See generally* Heimert, *supra* note 43.

[49] *See* 42 U.S.C. §§ 7401-7671.

[50] *See* Wilcox, *supra* note 9, at 31-32. The two major changes in the 1990 CAAA that expand the EPA's scope of review are first, a change in language that allows the EPA to reject a SIP if it does not adequately address the interstate transport of pollutants coming from any "source or other type of emissions activity" within the state. 42 U.S.C. § 7410(a)(2)(D)(i). The former language only included pollutants coming from any "sources." This means that the EPA can consider a group of sources or a group of mobile sources when determining that a SIP does not address interstate transport adequately. *See* Wilcox, *supra* note 9, at 31. Second, the EPA is granted permission to

requiring upwind states to reduce generation of ozone precursors. An examination of past legislation addressing interstate pollution problems is useful in this context.[51]

1. *The 1970 Act*

In 1970, Congress passed the first Clean Air Act (CAA).[52] Seen largely as a federal response to state inaction under earlier legislation, the 1970 CAA required that a state "take the necessary measures to 'insure' against the effects" of interstate air pollution.[53] The EPA interpreted this congressional directive as more persuasive than mandatory.[54] Consequently, states were required only to exchange information regarding interstate pollution problems. Little effort was made to reduce the generation or migration of interstate pollutants.[55]

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consider interstate transport that will "contribute significantly" to a downwind state's nonattainment. 42 U.S.C. § 7410(a)(2)(D)(i)(I). Formerly, the EPA could only consider interstate transport that would "prevent nonattainment." This change in language relaxes the standard and makes it easier for the EPA to reject a SIP for inadequate interstate transport provisions. *See* Wilcox, *supra* note 9, at 31–32.

[51] This examination draws much of its form and some of its substance from Wilcox, *supra* note 9. Any misstatement of information gleaned from Wilcox's article is solely this Author's error and should not be attributed to Wilcox.

[52] Clean Air Act Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676 (codified as amended in scattered sections of 42 U.S.C.). Technically, this law is not the first Clean Air Act. Congress had made a number of earlier attempts in the 1950s and 1960s to deal with the growing air pollution problem through legislation dubbed "Clean Air Act." However, most commentators refer to the 1970 Act as the first comprehensive federal environmental statute, while regarding the earlier attempts as less effective. These earlier attempts are nicely summarized in *Train v. Natural Resources Defense Council, Inc.*, 421 U.S. 60, 63–67 (1975).

[53] Wilcox, *supra* note 9, at 15.

[54] *See id.*

[55] *See* Kenneth L. Hirsch & Steven Abramovitz, *Clearing the Air: Some Legal Aspects of Interstate Air Pollution Problems*, 18 DUQ. L. REV. 53, 68–69 (1979); Wilcox, *supra* note 9, at 15. In fact, the EPA promulgated regulations that only required upwind states to inform downwind states of any actions that might significantly affect the downwind state's air quality. *See* 40 C.F.R. § 51.21(c) (1977). These regulations were challenged and upheld as an acceptable interpretation of the 1970 CAA. *See* Natural Resources Defense Council v. EPA, 483 F.2d 690, 691, 695 (8th Cir. 1973).

2. *The 1977 Amendments*

The EPA interpretation of the 1970 CAA led to a change in the statute's language in the 1977 CAAA.[56] Congress required that when submitting a SIP for approval, a state must have addressed the potential for interstate pollutant migration and, further, must have enacted provisions to deal with this problem.[57] In addition, Congress added a new section in the 1977 CAAA that provided a means for petitioning the EPA when a state believed its noncompliance problems stemmed from pollution generated in another state.[58] Upon "a finding that a major source in another state emitted . . . a[n] [interstate] air pollutant," the EPA could act to enjoin or control the emissions in the source state.[59]

These improvements over the 1970 law, however, proved to be insufficient to control interstate ozone problems.[60] One author has identified four major limitations on the EPA's ability to proactively address an interstate air pollution problem under the 1977 CAAA.[61] First, the EPA was given no statutory standard or guideline as to the quantity of emissions from an upwind state that would establish a violation of the law.[62] Second, the law only permitted the EPA to act regarding emissions from stationary sources.[63] Third, once a SIP was approved, the EPA had no means to re-review SIP interstate pollution control measures if it determined that the source state was violating the

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[56] *See* Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (codified as amended in scattered sections of 42 U.S.C.).

[57] *See* Wilcox, *supra* note 9, at 18 & n.95.

[58] *See id.* at 18-19.

[59] *Id.* This petition mechanism was provided for in section 126 of the 1977 CAAA. *See* 91 Stat. at 724.

[60] *See* Wilcox, *supra* note 9, at 23-24 (noting that downwind states attempting to petition the EPA for a finding that an upwind source emitted an interstate air pollutant that impacted on the downwind states' attainment status all experienced failure because of the scientific difficulty of proving that an individual source actually significantly contributed to the downwind states' nonattainment).

[61] *See id.* at 18-24.

[62] *See id.* at 19 (citing Air Pollution Control Dist. v. EPA, 739 F.2d 1071, 1076 (6th Cir. 1984)).

[63] *See id.* at 20 (citing RICHARD B. STEWART & JAMES E. KRIER, ENVIRONMENTAL LAW AND POLICY 498 (2d ed. 1978)). This limitation left the EPA powerless as to ozone precursors generated by mobile sources. *See id.*

law.[64] Finally, the EPA could not act against sources in a state unless it found that those sources "'significantly contribute[d]' to nonattainment in a given area."[65] These problems left the CAA relatively benign in its ability to address interstate pollution. The door was open for Congress to reform and strengthen the CAA in its next amendments.

3. *The 1990 Amendments*

Congress reacted in the 1990 CAAA to the stubborn ozone pollution problems of many metropolitan areas by strengthening existing ozone control provisions and adding new measures directed to deal with interstate pollution.[66] Specifically, the 1990 Act created the Northeast Ozone Transport Region (NOTR) to address interstate ozone pollution problems in the Northeast.[67] The NOTR is governed by the Northeast Ozone Transport Commission (NOTC), which can petition the EPA upon a vote of a majority of states to require ozone reduction measures universally in all NOTR member states.[68] This unique organization reflects Congress's recognition that the ozone pollution problems of the Northeast can only be addressed through interregional cooperation.

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[64] *See id.* (citing Timothy Talkington, *Interstate Air Pollution Abatement and the Clean Air Act Amendments of 1990: Balancing Interests*, 62 U. COLO. L. REV. 957, 964–967 (1991)).

[65] *Id.* at 24. The EPA had "interpreted the term ['significantly contribute'] so restrictively that," the "EPA effectively . . . eliminated the use of Section 126 to halt interstate transport [of ozone] unless a state had a very high level of a pollutant from another jurisdiction." *Id.* at 24, 26. The EPA's rulings on the exact level of a pollutant necessary for a finding of significant contribution demonstrated that "as little as three percent or as much as twenty percent contribution [from the upwind state] to nonattainment for a given pollutant was not sufficient to constitute significant contribution." *Id.* at 26 (citing *Air Pollution Control Dist.*, 739 F.2d at 1077, 1093; New York v. EPA, 852 F.2d 574, 580 (D.C. Cir. 1988), *cert. denied* 489 U.S. 1065 (1989)).

[66] *See* Clean Air Act Amendments of 1990, 42 U.S.C. §§ 7401–7671 (1994).

[67] *See* 42 U.S.C. § 7511c(a) (mandating the formation of a "single transport region for ozone . . . comprised of the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the . . . District of Columbia").

[68] *See* 42 U.S.C. § 7511c(c)(1); *see also* Wilcox, *supra* note 9, at 28–30.

In addition, the EPA was given authority to reject a SIP if its provisions did not address interstate ozone pollution.[69] Although this authority was originally granted in the 1977 CAAA, the 1990 amendments expanded the scope of emissions from those emitted by "sources" to those emitted by any "other type of emissions activity."[70] This change in language expanded the EPA's authority to require that a state's SIP address interstate ozone precursors.[71] The 1977 CAAA—through its definition of "stationary sources"[72]—only required a SIP to address emissions from large stationary sources; the 1990 amendments require that a SIP also address emissions from small stationary sources and mobile sources. Finally, Congress left largely unchanged the process by which an affected state may petition the EPA for control of sources in another state.[73] However, the 1990 CAAA process does allow the affected state to petition based on the impact of "a group of major sources," rather than on the 1977 CAAA's more narrow impact of "a single major source."[74]

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[69] The EPA has indicated that it will use section 110(a)(2)(D) and section 110(k)(5) of the 1990 CAAA, *see* 42 U.S.C. §§ 7410(a)(2)(D), 7410(k)(5), to "find that a SIP is substantially inadequate to . . . mitigate interstate transport" of ozone if the upwind state fails to address the problem with appropriate vigor in its SIP. Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. 60,318, 60,322 (1997) (to be codified at 40 C.F.R. pt. 52) (proposed Nov. 7, 1997).

[70] 42 U.S.C. § 7410(a)(2)(D)(i); *see also* Wilcox, *supra* note 9, at 31.

[71] *See* Wilcox, *supra* note 9, at 31.

[72] *See* Clean Air Act Amendments of 1977 § 111(a)(3), Pub. L. No. 95-95, 91 Stat. 685, 770 (current version at 42 U.S.C. § 7411(a)(3) (1994)). The 1977 CAAA did not change the definition of stationary sources, so that the relevant definition of stationary sources remained limited to "any building, structure, facility, or installation." Clean Air Act of 1970 § 111(a)(3), Pub. L. No. 91-604, 84 Stat. 1676, 1683 (current version at 42 U.S.C. § 7411(a)(3) (1994)).

[73] *See* Wilcox, *supra* note 9, at 33. The petition process is outlined in section 126 of the 1990 CAAA. *See* 42 U.S.C. § 7426(b) (1994). It should be noted, however, that this process had never been used successfully in the earlier CAAAs to limit any upwind ozone precursor generation. *See* Wilcox, *supra* note 9, at 24 (citing Talkington, *supra* note 64, at 957).

[74] Wilcox, *supra* note 9, at 33.

II. THE STAKES AND POSITIONS IN INTERSTATE OZONE POLLUTION

A. *The Start of Talks*

In 1995, continued nonattainment of ozone National Ambient Air Quality Standards (NAAQS),[75] the sluggish adoption of required ozone control measures, and difficulties in modelling ozone behavior in Northeast states led the EPA to issue a memorandum directed at states with significant ozone problems.[76] This document represented the EPA's compromise between the difficulties Northeast states were having with implementation of 1990 CAAA control measures and the growing perception among NOTR members that the source of their ozone nonattainment problems lay in upwind states.[77]

In the memorandum, the EPA directed states that significantly affect interstate ozone migration to collaborate in developing strategies and approaches designed to mitigate the interstate ozone pollution problem.[78] The EPA further directed that if states failed to adopt reasonable methods for controlling the interstate ozone problem within two years, then the EPA would act under its statutory authority to require measures for ozone control in state SIPs.[79] Shortly thereafter, thirty-seven states and the

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[75] The EPA was required by the 1970 CAA to promulgate NAAQS for each "air pollutant—emissions of which . . . cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7408(a)(1) (1994); *see also* 42 U.S.C. § 7409(a) (1994).

[76] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356, 57,361 (1998) (to be codified at 40 C.F.R. pts. 51, 72, 75, 96). The memorandum was dated March 3, 1995 and targeted Northeastern states that still failed to attain NAAQS in major metropolitan areas. However, the memorandum was also sent to those states that might significantly contribute to ozone nonattainment in the Northeast, directing those states to participate in the OTAG process. *See* Final Rule Making Findings of Failure to Submit Required State Implementation Plans for Nonattainment Areas for Ozone, 61 Fed. Reg. 36,292, 36,293 (1996) (to be codified at 40 C.F.R. pt. 52). *But see* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. at 57,361 (placing the date of the memorandum at March 2, 1995).

[77] *See* Wilcox, *supra* note 9, at 70–71.

[78] *See id.*

[79] *See id.*

District of Columbia joined with the EPA to form the Ozone Transport Assessment Group (OTAG).[80]

B. *The Goals of Negotiations*

OTAG included state administrators, EPA officials, environmental groups, and industry representatives.[81] The group sought to research and understand the ozone and ozone precursor migration problem, identify potential solutions to the problem, and agree upon voluntary compliance schemes.[82] OTAG did—during its two years of existence—develop a greater understanding of the interstate ozone pollution problem and achieved agreed-upon, voluntary ozone control measures meant to alleviate the Northeast ozone pollution problem.[83]

However, one month after OTAG submitted its final report recommending certain control measures, eight Northeast states petitioned the EPA under section 126 of the CAA.[84] The Northeast states sought an

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[80] The first OTAG meeting was on May 18, 1995. *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. 60,318, 60,330 (1997) (to be codified at 40 C.F.R. pt. 52) (proposed Nov. 7, 1997). The thirty-seven states comprising OTAG include Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia, Wisconsin, and the District of Columbia. *See id.* at 60,320. The combined areas of these states together comprise the OTAG region and were formed upon recommendation of the Environmental Council of the States as an effort to explore and propose solutions to interstate ozone problems. *See id.* at 60,318, 60,323.

[81] *See* Wilcox, *supra* note 9, at 70; *see also* Ozone Transport Assessment Group, *Technical Support Document, Final Report* (visited Mar. 23, 1999) <http://www.epa.gov/ttnotag1/finalrpt/preface/preface.htm>.

[82] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,330; Wilcox, *supra* note 9, at 70; *see also* Ozone Transport Assessment Group, *supra* note 19.

[83] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,330.

[84] The eight states petitioning the EPA are listed *supra*, note 1. The petitions were filed pursuant to section 126 of the 1990 CAAA and sought a finding by the EPA that

EPA ruling that certain Midwest states were contributors to Northeastern ozone problems.[85] Further, the states requested that the EPA adopt regulatory controls for the Midwest states.[86]

The filing of the section 126 petitions signals a failure in the OTAG negotiations to reach consensus among all parties. Without such consensus, states that sought more stringent control measures or a wider scope of controlled sources would abandon voluntary measures and petition the EPA to exercise rulemaking authority under the 1990 CAAA. To understand why OTAG efforts at voluntary, consensual ozone control measures failed, it is necessary to examine the interests of the involved parties, the issues upon which agreement was reached, the issues still in dispute, and the important factors that led the eight Northeast states to petition the EPA for intervention.

C. *The Interests of the Parties*

The most significant parties to the OTAG negotiations included the EPA, the Northeast Ozone Transport Region member states, and other states from the Midwest and South.[87] These parties presented both conflicting and agreed-upon interests. Most important among the agreed-upon interests, and one underlying the entire subsequent discussion, was the desire to solve unresolved factual, scientific, and legal questions regarding interstate ozone pollution.

OTAG addressed this interest through a strong commitment to research and modelling aimed at understanding the degree to which ozone and ozone precursors migrate across the eastern United States.[88] In addition, OTAG commissioned considerable research into various economic and

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major sources of NO_x emissions in Midwestern and Southern states significantly contribute to ozone nonattainment in the Northeast. *See* Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. 54,769, 54,770 (1997) (to be codified at 40 C.F.R. pt. 52). If the EPA were to so find, those major stationary sources would be required to cease emissions or adhere to compliance schedules adopted by the EPA. *See* 42 U.S.C. § 7426(c) (1994).

[85] *See* Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. at 54,770.

[86] *See id.*

[87] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,318.

[88] *See id.* at 60,330; *see also* Ozone Transport Assessment Group, *supra* note 19.

technological control measures that might be adopted in dealing with the ozone transport problem.[89] Although states did not agree upon which models and which policies were best suited to interstate ozone, the efforts and resources directed at researching the science and exploring control mechanisms underscores the commitment of all states to attempting to solve ozone problems through a voluntary, consensus-building approach.[90]

1. *EPA Interests*

The EPA initiated the OTAG negotiations through its 1995 memorandum.[91] The EPA recognized the difficulties Northeast states had in implementing ozone control measures, the persistent ozone noncompliance in these states, and the growing scientific evidence pointing to upwind ozone precursor contribution.[92] These factors pointed to the need for control measures in upwind states. However, implementation of such controls could only be achieved through SIP modification.[93] The work of reviewing the SIPs of all upwind states presented a daunting task for the EPA. Consequently, the EPA turned to the states involved for a solution addressing interstate ozone problems.

In addition to the potential burden of widespread SIP revision, the EPA faced the difficult task of finding means for ozone compliance in Northeast states. Difficulties in modelling ozone behavior in the Northeast and looming deadlines for ozone control measures mandated by the 1990 CAAA left the EPA without an effective tool for controlling this persistent

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[89] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,330; *see also* Ozone Transport Assessment Group, *supra* note 19.

[90] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,330.

[91] *See id.* at 60,323, 60,330; *see also* discussion *supra* notes 76–79 and accompanying text (discussing the 1995 memorandum, its directives, and its implications).

[92] *See* Wilcox, *supra* note 9, at 68–70 (noting that the EPA modified CAA deadlines for Northeast states in "response to modeling delays and other complications caused in part by ozone transport").

[93] *See id.* at 69.

problem.[94] One of the few control measures still available lay in turning to sources of ozone precursors outside the Northeast.

However, the unilateral imposition of ozone controls on states in the Midwest was bound to lead to protracted litigation over the EPA's authority to so act.[95] Such a delay could further limit the EPA's ability to effectively deal with the Northeast ozone problems. Therefore, in 1995, the EPA viewed the consensual negotiation process afforded by OTAG as preferable to mandated controls. OTAG negotiations and any voluntary compliance derived therefrom would protect the following EPA interests: (1)

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[94] *See id.* at 68-69.

[95] *See id.* at 73-74 (noting that parties on both sides found the EPA's extension of compliance demonstration deadlines and assertion that the EPA could statutorily require Midwest SIPs to account for interstate transport of ozone unfavorable and legally challengeable). However, it should be noted that the EPA since initiated rulemaking designed to impose ozone controls on states in the Midwest and South. *See generally* Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 56,292 (1998) (to be codified at 40 C.F.R. pts. 52, 97) (proposed Oct. 21, 1998). This rulemaking was completed on October 27, 1998. *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356, 57,356 (1998) (to be codified at 40 C.F.R. pts. 51, 72, 75, 96).

This rulemaking activity is independent and separate from the ongoing EPA rulemaking regarding the section 126 petitions. First, the rulemaking meant to adopt OTAG's recommendations requires that states amend their SIPs so that no state will exceed certain baseline ozone precursor emission levels. *See id.* at 57,450. Second, the separate rulemaking regarding the section 126 petitions is meant to determine whether the stationary sources identified in the petitions significantly contributes to ozone nonattainment problems in the petitioning states. *See id.* at 57,361.

This second rulemaking—on the section 126 petitions—while also designed to limit production of upwind ozone precursors, is not without the potential for protracted litigation. There is a cloud on the EPA's alleged authority to act under section 126 of the CAAA. Many of the states that would be subject to stricter emission limits and controls have challenged the EPA's interpretation of section 126. *See* Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 24,058, 24,075-24,076 (1998) (to be codified at 40 C.F.R. pt. 52). Further—and more puzzling to this Author's understanding of a federal agency's statutory interpretation authority—the EPA's interpretation of section 126 is that the language of the statute be "considered to be a typographical error." *Id.* at 24,076. The EPA proposes curing this "typographical error" by reading section 126 as referencing a wholly different subsection of section 110 of the CAAA than was referenced by the statute as enacted. *See id.* It is most interesting that Congress—the body that enacted the 1990 CAAA—has not seen fit to cure this "typographical error" in the nine years since its passage.

conserving administrative resources by avoiding widespread SIP review and (2) speedily eliminating the persistent Northeast ozone pollution problem through resolution outside of the courtroom.

2. *Northeast States' Interests*

In 1995, the Northeast states faced severe ozone precursor control measures due to continued NAAQS nonattainment.[96] Many of these states adopted rigorous abatement procedures in their last SIP revisions and further efforts to control ozone precursor generation would entail costly vehicle emissions control programs, reformulated gasolines, and further reduction measures for stationary sources.[97] In response to pressure from the EPA to submit SIPs adopting these additional controls and in response to looming deadlines for meeting previously approved staged emissions reductions,[98] the Northeast states began to press the EPA for action on the interstate ozone problem.[99]

Without adequately addressing interstate ozone transport, Northeast states faced the possibility of continued NAAQS noncompliance regardless of the emission control measures adopted within their states.[100] Given the economic costs of emission control measures,[101] a continued economic lag

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[96] These states faced EPA mandates that SIPs contain rate of progress (ROP) reductions. These ROPs entail strict percentage reductions in ozone precursor emissions each year, regardless of the method chosen to achieve the reductions. *See* Final Rule Making Findings of Failure to Submit Required State Implementation Plans for Nonattainment Areas for Ozone, 61 Fed. Reg. 36,292, 36,293 (1996) (to be codified at 40 C.F.R. pt. 52).

[97] *See* Wilcox, *supra* note 9, at 46 & n.257, 47 (noting the political unpopularity of automobile emissions testing programs and the required use of reformulated gasolines); Lobsenz, *supra* note 24 (indicating that an NO_X compact between the Northeastern states was already extreme in its forced NO_X reductions—further reductions would have been difficult to achieve).

[98] *See supra* note 24 and accompanying text (discussing the NO_X emission reduction compact negotiated among the NOTR states through the NOTC).

[99] Specifically, "Massachusetts alleged that the EPA policy merely allowed upwind states to 'shirk responsibility' for the effects of transport on downwind jurisdictions." Wilcox, *supra* note 9, at 68 (quoting *State Cooperative Effort to Investigate Ozone Transport Solutions*, INSIDE EPA, May 17, 1995).

[100] *See* Wilcox, *supra* note 9, at 70 (noting that much of the reason why Northeast states could not achieve the CAA ozone attainment deadlines, regardless of the control measures adopted, was that the interstate transport problem persisted).

[101] *See supra* notes 25, 40 and accompanying text (describing the costly emission

in the Northeast,[102] and severe localized ozone pollution problems in various cities,[103] one of the few options left for the Northeast states lay in considering petitions under section 126 to force EPA adjudication of the interstate ozone migration issue.[104]

Although these states recognized the potential for protracted litigation on such a petition, the alternatives were bleak. NO_X levels had already been capped in the NOTR,[105] the 1990 CAAA forced adoption of mandatory ozone control measures,[106] and the EPA's proposal for further reductions drew considerable criticism from Northeast industry representatives.[107]

The EPA's proposal to form OTAG represented a compromise the Northeast states could live with. On the one hand, the interstate ozone problem would be addressed, albeit informally, by the EPA and those states viewed as the sources of interstate ozone precursors. The Northeast states could participate in the process and have an opportunity to air concerns and influence the outcome. On the other hand, OTAG might take up to two years to reach conclusions and adopt recommended control measures.

This balance was tipped in OTAG's favor by an additional element of the EPA's proposal. In return for Northeast participation in OTAG, the EPA would indirectly extend the deadline for demonstration of attainment

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control measures that the EPA required Northeast states to adopt and their ensuing unpopularity with the public).

[102] *See* KATHLEEN O'LEARY MORGAN ET AL., STATE RANKINGS 1998: A STATISTICAL VIEW OF THE 50 UNITED STATES 97 (1998) (reporting that between 1987 and 1994, the nine states of the Northeast—Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont—all showed growth rates in average annual gross state product below the national average).

[103] *See* Helms et al., *supra* note 12, at 213 fig.1.

[104] The EPA had already accepted an "80% Rule" whereby the EPA would conditionally accept a noncompliant state's SIP if it demonstrated that control measures to achieve at least 80% of the reduction necessary for attainment had been adopted. *See* Wilcox, *supra* note 9, at 65. If a state was unable to show adoption of these 80% measures, the only alternative available for immediate action to dissipate interstate ozone migration was through the section 126 petition process. *See* 42 U.S.C. § 7426 (1994).

[105] *See* Lobsenz, *supra* note 24.

[106] *See* Wilcox, *supra* note 9, at 46 (noting that "the severity of ozone" problems in the Northeast coupled with the "numerous obligations upon" Northeast states under the 1990 CAAA have driven some Northeast states to look to more stringent California emissions standards and California new vehicle emissions requirements as possible ameliorating measures).

[107] *See id.* at 68.

with ozone NAAQS.[108] Thus, the OTAG negotiations and the voluntary control measures that might be adopted from them protected the following Northeast interests: (1) ensuring that interstate ozone migration is reduced through control measures in upwind states, (2) reducing ozone levels in the Northeast so that complete NAAQS attainment would be achieved, and (3) mitigating the economic impact of extreme ozone control measures.

3. *Upwind States' Interests*

Prior to the 1990 CAAA, states with limited, localized ozone pollution problems had only been required to adopt ozone control measures necessary to achieve NAAQS where local nonattainment occurred.[109] However, in the early 1990s, the repeated calls for control of ozone and ozone precursors generated in the states of the Midwest and South led to a perception that the EPA might act against states upwind of the Northeast. Consequently, many of the Midwest states voiced objection to potential regulation.[110] Most cited questionable scientific proof that ozone precursors generated in the Midwest might have an impact on Northeastern ozone problems.[111]

Another important element of the upwind states' objection lay in economic conditions. Both the South and the Midwest enjoyed significant economic and population growth in the early 1990s.[112] These two factors

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[108] Although the EPA did not actually extend the deadline for attainment in these states, it did adopt a policy which "provides additional time for submission of complete attainment demonstrations." *Id.* at 69. This means that the Northeast states will have additional time to submit plans to achieve attainment, but the deadlines for achieving attainment will remain the same as statutorily dictated. However, states are given certain time allotments for implementing the plans once submitted, so that, in effect, the enforceable attainment deadline was delayed. *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. 60,318, 60,318–60,323 (1997) (to be codified at 40 C.F.R. pt. 52) (proposed Nov. 7, 1997).

[109] *See* Nichols, *supra* note 1, at 1-B; *see also* Helms, *supra* note 12, at 213.

[110] *See* Jim Nichols, *Findings Cloud Pollution Theories: Midwest Smog May Not Drift to the Northeast*, PLAIN DEALER (Cleveland), Sept. 2, 1996, at 1-A.

[111] *See* Wilcox, *supra* note 9, at 73 n.423 (citing mixed results from modelling studies of interstate ozone movement); Nichols, *supra* note 110. *See generally* Tom Arrandale, *The Ozone Experiment*, GOVERNING, Nov. 1996, at 84.

[112] *See* 1 THOMAS G. EXTER, REGIONAL MARKETS: THE DEMOGRAPHICS OF GROWTH AND DECLINE 9 (1999) (reporting that predicted population growth between 1990 and 2000 for the Northeast is merely 2.1%, whereas in the Midwest population

led to increased industrial output and increased vehicular operation in these areas.[113] As noted earlier, fossil fuel based industrial activity, power generation, and automobile operation are the most significant sources of ozone precursors.[114] Consequently, efforts to control emissions of ozone precursors could have a significant impact on the economies of upwind states, effectively stifling the economic expansion these regions enjoyed.[115]

The final element influencing upwind objection to potential control measures lay in the mechanism by which the EPA could be petitioned to act against the interstate ozone precursors generated in upwind states. Namely, while section 126 afforded a means for Northeast states to petition for EPA intervention, no section 126 petition had ever successfully resulted in reduction of an upwind state's pollution to benefit a downwind receiver state.[116]

However, the 1990 CAAA changed the standard under which the EPA can disapprove a SIP due to insufficient control measures addressing the downwind impact of interstate pollution.[117] Consequently, some question remained as to whether the EPA could now act against upwind states under

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will grow 6.1% and, even more significantly, in the South will grow 14.6%); MORGAN ET AL., *supra* note 102, at 97. Of the twelve states in the Midwest—Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin—half reported average annual growth rates in gross state product above the national average for the period of 1987 to 1994. *See id.* Collectively, the twelve states of the Midwest showed an average growth rate equal to the national average. *See id.* Of the sixteen states in the South—Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia—eleven reported average annual growth in gross state product above the national average for the period of 1987 to 1994. *See id.* Collectively, the sixteen states showed a growth rate above the national average. *See id.*

[113] *See* Craig N. Oren, *Getting Commuters Out of Their Cars: What Went Wrong?*, 17 STAN. ENVTL. L.J. 141, 167 (1998) (noting that as populations shift from the Northeast to the Midwest and Sun Belt due to economic growth in those regions, a corresponding increase in automobile activity has ensued).

[114] *See supra* notes 16–18, 38 and accompanying text.

[115] *See supra* note 112 and accompanying text.

[116] *See* Wilcox, *supra* note 9, at 23 (noting that all section 126 petitions in the past have failed due to the relative difficulty in proving with scientific accuracy that an individual source of ozone precursors actually significantly contributed to the downwind state's nonattainment status).

[117] *See id.* at 31.

the 1990 CAAA.[118] Nevertheless, the potential for protracted litigation and adverse results were significant elements driving the upwind states' objection to Northeast calls for action regarding interstate ozone pollution.

The EPA memorandum that established OTAG[119] acted persuasively to involve states from the Midwest and South. If these states refused to participate in OTAG, then the EPA proposed acting under the 1990 CAAA to disapprove SIPs until the SIPs adequately addressed the interstate impacts of pollution generated in the Midwestern and Southern states.[120]

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[118] *See id.* at 31–32. However, the EPA has indicated that it finds no ambiguity in the statutory language and believes that it has full authority under 42 U.S.C. §§ 7410(a)(2)(D), 7410(k)(5) to act against a SIP found "substantially inadequate to . . . mitigate interstate transport" of ozone to downwind states. Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. 60,318, 60,318, 60,322 (1997) (to be codified at 40 C.F.R. pt. 52) (proposed Nov. 7, 1997).

It is less clear what the EPA's authority is in regards to the remedy granted to a state petitioning under section 126 of the CAA. The EPA has identified two possible readings of section 126. *See* Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 24,058, 24,075–24,076 (1998) (to be codified at 40 C.F.R. pt. 52). First, the language of section 126 could be read as enacted by Congress so that states "may petition EPA for a finding that specified sources in other States emit air pollutants 'in violation of the prohibition of section [7410(a)(2)(D)(ii)] of this title or this section.'" *Id.* at 24,075 (quoting 42 U.S.C. § 7426(b) (1994)). This reading of section 126 would permit "a State to file a petition with EPA only to force other States to meet the requirements of section 126 itself, (i.e., the requirement in section 126(a) that SIPs include provisions to require new and modified major stationary sources to give preconstruction notification to nearby States under certain circumstances)." *Id.* at 24,076. Second, the language of section 126 could "instead . . . be considered to be a typographical error that should be read to refer to section 110(a)(2)(D)(i)." *Id.* The effect of this reading would be to allow states to petition the EPA to find that another state's SIP was inadequate to control pollutants that may be contributing significantly to nonattainment problems in the petitioning state. *See id.* The EPA appears to favor this second reading. *See id.* This Author finds it very strange that the EPA would find typographical errors in the statute as passed by Congress when the enacted language would clearly provide some remedy for petitioning states.

[119] *See supra* notes 76–79 and accompanying text (discussing and describing the EPA's 1995 memorandum).

[120] *See* Wilcox, *supra* note 9, at 70–73; *see also* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,322, 60,323.

Therefore, participation in OTAG protected the following interests of the Midwest and South: (1) establishing sound scientific proof for the extent and basis of interstate ozone pollution through OTAG's research efforts, (2) consideration of the economic and growth factors facing these states through a multistate participatory and consensual research process, and (3) avoiding litigation expenses and potential adverse rulings under a section 126 petition to the EPA.

D. *The Parties' BATNAs*[121]

In addition to the parties' interests in the interstate ozone problem, an essential element to understanding why OTAG's recommendations were not adopted lies in the best alternative to a negotiated agreement (the BATNA) faced by each adverse party. In the Northeast, states faced imposition of difficult and costly pollution abatement procedures if ozone NAAQS nonattainment continued.[122] Most states in the Northeast viewed interstate ozone as, at the least, a contributing factor in NAAQS nonattainment. In fact, there was some question in the Northeast whether the costly abatement procedures could achieve NAAQS attainment without some effort to control interstate ozone sources.[123] Therefore, the Northeast states anticipated that control of interstate sources would alleviate at least some, if not most, of their continued ozone nonattainment problems.

Framing the issue in this context, the Northeast viewed control of interstate ozone, whether by agreement or by EPA regulation, as the ultimate goal. Hence, these states saw a section 126 petition to the EPA and the possible litigation ensuing therefrom as their BATNA on interstate ozone pollution. If a section 126 petition failed to produce significant EPA control measures addressing interstate ozone migration, the Northeast states faced an extremely costly pollution control burden.

In the Midwest and South, on the other hand, the alternatives to successful OTAG negotiations were less clear. Although a section 126 petition had never successfully limited a state's SIP procedures,[124] the cost

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[121] BATNA is an acronym for "Best Alternative To a Negotiated Agreement." *See* ROY J. LEWICKI ET AL., NEGOTIATION 29 (2d ed. 1994) (citing FISHER ET AL., GETTING TO YES: NEGOTIATING AGREEMENT WITHOUT GIVING IN 105 (Bruce Patton ed., 2d ed. 1991)).

[122] *See* Wilcox, *supra* note 9, at 41, 46 & n.257, 47.

[123] *See id.* at 68 (noting that some states felt their compliance depended on control of upwind ozone precursor sources).

[124] *See id.* at 23.

of litigation and the potential for EPA regulations that did not account for economic or growth conditions were a significant impetus for seeking a negotiated agreement. Consequently, the Midwest and South BATNA may be characterized as long and costly litigation with an uncertain outcome.

Comparison of the two adverse BATNAs provides substantial explanation for why the Northeast states initiated the section 126 petitions in the face of OTAG's final recommendations. It appears that the Northeast states viewed section 126 petition and litigation that *might* result in *substantial* interstate ozone reductions as preferable to OTAG negotiated control measures that *would* result in *minimal* interstate ozone reductions. Thus, if OTAG recommendations were viewed as insufficient to reduce Northeast ozone problems in an amount that would offset some of the costly ozone abatement measures Northeast states faced, then Northeast states would most likely abandon OTAG efforts and petition the EPA under section 126 for relief.

Similarly, states in the Midwest and South appear to have viewed *certain* OTAG negotiated control measures that *would* account for economic and growth conditions in the Midwest and South as preferable to *possible* section 126 petitions and ensuing EPA regulation that *would not* account for economic and growth conditions. Consequently, these states would attempt to stand behind OTAG efforts and play a greater role in establishing control measures, even if those control measures were viewed as somewhat more stringent than absolutely necessary to mitigate interstate ozone problems.

III. NEGOTIATIONS BETWEEN UPWIND AND DOWNWIND STATES

A. *OTAG Achievements*

OTAG first met in May 1995 and organized itself into six workgroups designed to understand the science behind interstate ozone transport, to determine the degree to which ozone transport occurs in the eastern United States, and to develop recommendations that member states could adopt to remedy interstate ozone problems.[125] The OTAG Policy Group voted on all recommendations made to the EPA regarding those measures that should be

[125] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,330; Ozone Transport Assessment Group, *supra* note 19; *OTAG's Organizational Chart* (visited Mar. 23, 1999) <http://www.epa.gov/ttnotag1/finalrpt/chp1/graphics/orgchart.htm>.

adopted to control interstate ozone problems. Final recommendations were made with each state having one vote, and environmental commissioners from each state, or their proxies, made that vote.[126]

OTAG completed its work in June 1997 and submitted final recommendations to the EPA on July 8, 1997.[127] These recommendations represent those areas of the interstate ozone problem upon which the Policy Group agreed. Most significant among the final recommendations are the following scientific findings and policy suggestions:

- Regional NO_X reductions have a positive impact on reducing ozone throughout the region.
- Ozone reductions are greatest in the locality where emissions are reduced and ozone reductions decrease as the distance from the emission reduction increases.
- All types of NO_X reductions are effective at reducing ozone.
- Ozone itself is transported, and ozone generated on one day persists and migrates on subsequent days.
- Ozone is transported over a longer range in the North than in the South.
- Utilities and nonutilities should reduce NO_X emissions to specified control levels.
- The EPA should continue to require use of reformulated gasoline in specified areas.
- The EPA should establish an NO_X emission trading market to reduce compliance costs.
- The EPA should continue to require automobile emissions inspections and maintenance programs in specified areas.[128]

These recommendations achieve some of the parties' interests identified above. Namely, for the Northeast states, the OTAG recommendations establish a causal relationship between control measures in upwind states and the reduction of ozone in downwind states, and the recommendations

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[126] *See* Ozone Transport Assessment Group, *supra* note 19.

[127] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,323.

[128] *See* Ozone Transport Assessment Group, *supra* note 19; *see also* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,320, 60,376-60,379.

propose adoption of additional NO_X controls in upwind states. Less directly, by supporting ozone controls in upwind states, the OTAG recommendations move closer to the Northeast states' interest in reducing Northeast ozone levels so that NAAQS attainment is possible. However, the OTAG recommendations do not address a means for mitigating the economic impact of the Northeast's extreme ozone control measures.

With regard to the interests of the Midwest and South, the OTAG negotiations established clear scientific proof of a link between ozone precursors generated in upwind regions and the ozone pollution problems of the Northeast. In addition, OTAG recommended specific control measures for certain pollutants. Based on the participation of the Midwest and South, OTAG's recommendations should reflect, at least in part, economic and growth factors these regions find important. Finally, the OTAG recommendations represent a viable alternative to the costly litigation and potentially adverse results inherent in section 126 petitions.

B. *Section 126 Petitions*

The section 126 petitions filed by eight Northeast states seek an EPA finding that the stationary sources identified in the petitions "contribute significantly to a downwind nonattainment."[129] If the EPA does make such a finding, then the EPA, not the state environmental agency usually regulating the stationary source, will issue direct control measures for the source.[130] To date, the EPA has not made a final finding regarding the eight petitions. The EPA's initial actions included three extensions of the deadline for taking final action on the petitions.[131] The EPA then announced, in a notice of proposed rulemaking, an intention to find that some of the upwind stationary sources identified in the eight section 126

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[129] Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,329.

[130] *See* Clean Air Act Amendments of 1990 § 126, 42 U.S.C. § 7426 (1994); *see also* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,329.

[131] *See* Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. 54,769, 54,769 (1997) (to be codified at C.F.R. pt. 52); Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. 61,914, 61,914 (1997) (to be codified at C.F.R. pt. 52); Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 63 Fed. Reg. 26, 26 (1998) (to be codified at C.F.R. pt. 52).

petitions were significantly contributing to ozone noncompliance in the downwind petitioning states.[132] A final ruling is currently scheduled for April 30, 1999,[133] but the EPA has indicated that other factors may postpone final action to an even later date.[134]

Two important limitations exist in a section 126 petition procedure. The first limitation is the necessity of a finding that a stationary source in an upwind state "contributes significantly" to ozone problems in a downwind state.[135] It is particularly difficult to verify that ozone precursors produced

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[132] *See* Findings of Significant Contribution and Rulemakings on Section 126 Petitions and Federal Implementation Plans for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 52,213, 52,213 (1998) (to be codified at 40 C.F.R. pts. 52, 97, 98) (proposed Sept. 30, 1998) ("[The] EPA is proposing to find that portions of certain petitions are technically meritorious under . . . section 126."); *see also* Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 24,058, 24,058 (1998) (to be codified at 40 C.F.R. pt. 52).

[133] *See* Correction and Clarification to the Finding of Significant Contribution and Rulemaking for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 71,220, 71,221 (1998) (to be codified at 40 C.F.R. pts. 51, 96) (establishing that "the [pollutant emission] budgets for the section 126 final rulemaking . . . must be finalized by April 30, 1999").

[134] *See* Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 56,292, 56,294–56,295 (1998) (to be codified at 40 C.F.R. pts. 52, 97) (proposed Oct. 21, 1998). The primary factor postponing this decision is an ongoing rulemaking through which the EPA is adopting the OTAG recommendations for ozone precursor emission controls. *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356, 57,356 (1998) (to be codified at 40 C.F.R. pts. 51, 72, 75, 96). Once these OTAG recommendations are adopted in an EPA rule, the states in the OTAG region will be required to amend their SIPs to account for these new rules and, thus, to amend their SIPs to provide additional controls on ozone precursor emissions from all sources—both stationary and mobile—within the state. *See id.* at 57,358. Before the EPA issues a final rule on the section 126 petitions, the EPA would like to review the amended SIPs and determine what impact the amended SIPs might have on controlling ozone precursor generation from the stationary sources targeted by the section 126 petitions. *See* Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. at 56,294–56,295.

[135] 42 U.S.C. § 7426; *see also* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,329; Wilcox, *supra* note 9, at 24 (citing such a finding as "perhaps the most crucial limitation of Section 126").

by a particular source contribute to a downwind state's ozone nonattainment.[136] Second, section 126 petitions only permit the EPA to control emissions from "any major source or group of stationary sources."[137] This severely limits the EPA's ability to deal with ozone, because the sources of ozone precursors include mobile sources, such as automobiles and smaller fossil fuel burning industries.[138]

In light of the parties' interests, discussed above, there were incentives for filing these petitions. One of the Northeast states' interests lies in seeking upwind control measures significant enough to substantially reduce ozone nonattainment problems in the Northeast. Although the EPA is unable under section 126 to control emissions from mobile sources and smaller stationary sources, it may impose significant control measures on major stationary sources through the section 126 petition process.[139] These significant control measures could, in turn, serve as a benchmark standard for later SIP revisions by upwind states.[140] Thus, the EPA would set a high standard for stationary sources that could influence the states' treatment of smaller stationary sources and mobile sources at a later date.

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[136] Prior to the current section 126 petitions, no state has successfully passed this hurdle. It is extremely difficult to scientifically prove that the ozone precursors emitted by a single upwind stationary source actually contribute in some way to a downwind state's nonattainment. *See* Wilcox, *supra* note 9, at 24.

[137] 42 U.S.C. § 7426(b); *see also* Wilcox, *supra* note 9, at 32.

[138] *See* McKEE, *supra* note 16, at 5; Helms et al., *supra* note 12, at 211. Although this statutory language expands on the 1977 CAAA, which only permitted action against any major source, the impact of including groups of stationary sources may have limited effect because a definition incorporating the "groups of stationary sources" language had already been adopted by the EPA in its interpretation of section 126, and no state had successfully maintained an action under that definition. *See* Wilcox, *supra* note 9, at 33.

[139] When the EPA finds that an upwind major stationary source significantly contributes to a downwind ozone nonattainment problem, then the EPA, not the upwind state, either shuts the source down or adopts a compliance schedule for the major stationary source. *See* 42 U.S.C. § 7426(c). The EPA has indicated that if the section 126 petitions are granted, "selection and imposition of controls directly on" the targeted stationary sources would result. Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,329.

[140] The EPA hopes that "[t]hese controls could provide a template for the SIP provisions the States must include in their" response to the EPA's adoption of OTAG proposals. Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,329.

Consequently, the Northeast states would achieve through petition what was not achieved through a consensual, voluntary negotiation process. However, this strategy could fail on a number of counts. First, it is entirely possible that the EPA could find that, given available modelling techniques, the stationary sources identified in the petitions do not contribute significantly to ozone noncompliance in downwind states.[141] Second, an EPA finding of significant contribution might be challenged by the upwind state or the stationary source.[142] Substantial delay and litigation costs might ensue. Finally, even if the EPA does mandate substantial control measures on stationary sources in upwind states, there is no guarantee that these control measures will serve as a template for later SIP revisions in the upwind state. SIPs are designed to give a state maximum flexibility in achieving CAA standards.[143] If the state can demonstrate that less substantial control measures for small stationary and mobile sources will meet CAA standards, the state will be free to implement the less substantial control measures.[144]

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[141] After all, no state has successfully maintained an action under section 126. *See* Wilcox, *supra* note 9, at 33. Further, the EPA has, in the past, adopted a very restricted definition of "significantly contributes." *See* Air Pollution Control Dist. v. EPA, 739 F.2d 1071, 1071 (6th Cir. 1984).

[142] The basis for such litigation could be twofold. First an aggrieved state subject to ozone precursor control measures might—as states have done in the past—challenge the EPA's definition of what constitutes a significant contribution. *See generally Air Pollution Control Dist.*, 739 F.2d 1071. Second, the CAA appears to only authorize the EPA to, upon a finding of significant contribution, "force [upwind] States to meet the requirements of Section 126 itself, (i.e., the requirement in section 126(a) that SIPs include provisions to require new and modified major stationary sources to give preconstruction notification to nearby States under certain circumstances)." Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 24,058, 24,076 (1998) (to be codified at 40 C.F.R. pt. 52). Even given this statutory limitation, the EPA appears to view its authority more broadly as an authorization to take specific emission control actions against the stationary sources found to significantly contribute to downwind ozone nonattainment. *See id.*

[143] *See* Clean Air Act Amendments of 1990 § 110(a), 42 U.S.C. § 7410(a) (1994) (granting to the state the power to determine how to achieve "implementation, maintenance, and enforcement of" NAAQS "within such State").

[144] States are free to adopt those measures that they reasonably believe will lead to NAAQS attainment. The EPA provides only "minimal guidance" to states in this process. Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,329.

The approach taken by the Northeast states—petitioning the EPA under section 126 rather than waiting for implementation of OTAG recommendations—might, therefore, have little impact. However, the section 126 petition approach imposes little risk when its likelihood of success is balanced against the potential cost savings associated with NAAQS attainment. If the Northeast states can achieve NAAQS attainment through upwind ozone precursor reductions imposed by the EPA under section 126, the economic costs and burdens of extreme ozone control measures, identified above,[145] might be avoided immediately, rather than sometime in the future when SIPs are revised.

Therefore, although the thirty-seven states involved in the OTAG negotiations developed an agreed-upon course of action, it is easy to see why the Northeast states rejected that course and acted to petition the EPA under section 126. They chose the immediacy of the petition process, pursuant to their BATNA,[146] because the EPA began the lengthy rulemaking process necessary to adopt OTAG recommendations.[147] Thus, even if the section 126 petitions failed to result in timely action against upwind stationary sources, upwind states would eventually be forced to comply with EPA regulations in their next scheduled SIP revisions. The Northeast states had nothing to lose—and significant time advantages to gain—in filing the section 126 petitions.

C. *EPA Action in Response to OTAG Recommendations*

Although the EPA has not yet ruled on the section 126 petitions,[148] it has instituted proposed regulations meant to address the interstate transport of ozone.[149] These regulations are based upon the OTAG final

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[145] *See supra* notes 25, 40 and accompanying text (describing the costly emission control measures that the EPA required Northeast states to adopt and the ensuing unpopularity of these control measures with the public).

[146] *See supra* Part II.D (describing the parties' BATNAs).

[147] *See infra* notes 148–155 and accompanying text (describing the EPA's rulemaking and SIP revisions attendant to the rulemaking process necessary to adopt OTAG's recommendations).

[148] *See* discussion *supra* note 4 (describing the current status of the EPA's rulemaking procedure).

[149] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,318; Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for

recommendations, but they deviate from the OTAG final recommendations when the EPA felt an alternative regulatory course would better achieve statutory compliance.[150] The regulations outline a series of ozone precursor control measures to be adopted by twenty-two OTAG states and the District of Columbia.[151]

These measures will be implemented over the next several years. The notice of proposed rulemaking was first published on November 7, 1997, and the final rules were scheduled for adoption twelve months later.[152] The EPA adopted the final rules on October 27, 1998.[153] States have been given

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Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356, 57,356 (1998) (to be codified at 40 C.F.R. pts. 51, 72, 75, 96).

> [The final rulemaking will] require 22 States and the District of Columbia to submit State implementation plan . . . revisions to prohibit specified amounts of emissions of oxides of nitrogen (NO_X)—one of the precursors to ozone (smog) pollution—for the purposes of reducing NO_X and ozone transport across State boundaries in the eastern half of the United States.

Id. Additional information about the proposed regulations can be found in Reopening of Emissions Inventory Comment Periods for the Findings of Significant Contribution and Rulemakings on Section 126 Petitions and Federal Implementation Plans for Purposes of Reducing Interstate Transport of Ozone, 64 Fed. Reg. 2416, 2416 (1999) (to be codified at 40 C.F.R. pts. 52, 97, 98) (establishing an extension of the comment period for parts of the rulemaking due to technical difficulties with computer databases).

[150] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,342. Usually, the EPA failed to follow OTAG recommendations only when "[m]issing data in the OTAG emissions inventories . . . preclude [the] EPA from precisely following the recommended" course of action. *Id.*

[151] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. at 57,356. These states include Alabama, Connecticut, Delaware, Georgia, Illinois, Indiana, Kentucky, Massachusetts, Maryland, Michigan, Missouri, North Carolina, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin. *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,320.

[152] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. at 60,318 (noting that the "EPA is committed to promulgate final action . . . within 12 months").

[153] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. at 57,356.

twelve months to adopt these final rules into their SIPs[154] and, thus, have been given twelve months to submit their "plans for meeting statewide emission budgets" established under the final rule.[155] The EPA opted for the twelve month period for SIP revision, although it is statutorily authorized to provide a state with eighteen months in which to revise its SIP.[156] EPA approval of the revised SIPs occurs within six months of a revised SIP's submittal.[157] Therefore, the proposed control measures will not be fully adopted until sometime in 2000.[158] To further extend the date when the Northeast states might actually see ozone transport relief, the EPA will not require that states subject to ozone precursor emission controls "achieve reductions in NO_x emissions [until] May 1, 2003."[159] Consequently, effective interstate ozone control measures may, through rulemaking, be many years away.

Given this lengthy period of rulemaking, another reason for the filing of section 126 petitions by the Northeast states may have been to accelerate the adoption of interstate ozone controls. Once a section 126 petition is filed with the EPA, the agency has six months to take a final action.[160] This

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[154] *See id.* at 57,451.

[155] *Id.* at 57,450.

[156] *See* Clean Air Act Amendments of 1990 § 110(k)(5), 42 U.S.C. § 7410(k)(5) (1994). The EPA has established in its final rule that states would have only 12 months to submit revised SIPs. *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. at 57,451.

[157] *See* 42 U.S.C. § 7410(k)(1)(B).

[158] The 2000 date arises from a combination of the following implementation stages: (1) notice of proposed rulemaking on November 7, 1997; (2) final rules adopted on October 27, 1998; (3) adoption of final rules in state SIPs within 12 months, which pushes the date to October 27, 1999; and (4) EPA approval of state SIPs within six months, which places the final date on April 27, 2000. *See supra* notes 152–157 and accompanying text.

[159] Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. at 57,451.

[160] The statute provides that the EPA is required to respond within 60 days to a section 126 petition. *See* 42 U.S.C. § 7426(b) (1994). However, under different provisions of the CAA, the EPA is given the discretion to extend any section 126 petition determination to six months. *See* 42 U.S.C. § 7607(d)(1)(N), (d)(10) (1994). Although, it should be noted that the EPA exceeded its six month allotment. It did not take final action proposing a determination that the stationary sources identified in the section 126 petitions did significantly contribute to downwind ozone nonattainment problems until September 30, 1998—a full thirteen months after the section 126

final action involves the following: (1) a determination that certain major stationary sources in upwind states contribute significantly to downwind ozone NAAQS nonattainment and (2) adoption of a schedule of proposed EPA rulemaking for control measures that must be adopted at these stationary sources.[161]

The rulemaking process would then go through required proposal, notice and comment, and final rule adoption stages before control measures were implemented at the targeted upwind stationary sources.[162] Consequently, if the EPA had acted quickly to determine whether the stationary sources contribute significantly to downwind nonattainment and these targeted stationary sources did not challenge a ruling, final EPA control measures could have been implemented in as little as three to six months.[163] This is substantially quicker than the three-year rulemaking process required to adopt OTAG recommendations, as outlined above.[164]

By using the section 126 petition process to ensure more timely adoption of ozone precursor controls in upwind states, the Northeastern states could have achieved all three of their primary interests identified above. There would be a reduction in the interstate ozone pollution problem, which would bring the Northeast states closer to NAAQS attainment. Furthermore, if attainment could be achieved, the most costly and burdensome of local ozone control measures might have been avoided.

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petitions were initially filed. *See* Findings of Significant Contribution and Rulemakings on Section 126 Petitions and Federal Implementation Plans for Purposes of Reducing Interstate Ozone Transport, 63 Fed. Reg. 52,213, 52,213 (1998) (to be codified at 40 C.F.R. pts. 52, 97, 98) (proposed Sept. 30, 1998).

[161] *See* 42 U.S.C. § 7426(c).

[162] *See* 42 U.S.C. § 7607(d)(3). The final rule is due to be announced on April 30, 1999. *See* Correction and Clarification to the Finding of Significant Contribution and Rulemaking for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 71,220, 71,221 (1998) (to be codified at 40 C.F.R. pts. 51, 96).

[163] However, if the EPA had used the full six months at its discretion, under 42 U.S.C. §§ 7607(d)(1)(N) and 7607(d)(10), in determining whether there was significant contribution, the process could have taken closer to twelve months. In actual practice, the process will not be complete until the EPA issues its final rule on April 30, 1999—approximately 20 months after the section 126 petitions were first filed. *See* Correction and Clarification to the Finding of Significant Contribution and Rulemaking for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. at 71,221.

[164] *See supra* notes 152–159 and accompanying text.

D. *Potential Results of the Section 126 Petitions*

To date, no state has ever successfully petitioned the EPA to institute controls against an upwind, out-of-state polluter under section 126.[165] The EPA has, in the past, interpreted the meaning of "significantly contributes"[166] very restrictively,[167] and the technical constraints of modelling have limited the ability of aggrieved states to demonstrate a significant contribution.[168] Consequently, the historical precedent established under section 126 does not bode well for the petitions filed by the Northeast states.

However, the EPA may be willing to interpret the statutory language of section 126 more broadly in light of the severe ozone nonattainment problems experienced by Northeast states.[169] In its memorandum directing states to form OTAG, the EPA indicated that "if states [were] unable to agree upon [control measures for interstate ozone] by the end of 1997, [the] EPA [would] use its authority under Sections 126 and 110 to motivate states to meet their attainment obligations."[170] If the EPA believes that section 126 would provide statutory authority to motivate states into control of interstate ozone precursors, then presumably the EPA's section 126 definition of "significantly contributes"[171] has become broad enough to sustain an aggrieved state's petition.[172]

Indications from the EPA regarding the current status of the section 126 petitions conforms with this reasoning. The EPA has published three

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[165] *See* Wilcox, *supra* note 9, at 24. As the EPA has yet to issue its final rule on the section 126 petitions, there has still not been a successful use of section 126 of the CAA by any aggrieved state.

[166] 42 U.S.C. § 7426(a)(1)(B).

[167] *See supra* note 141.

[168] *See* Wilcox, *supra* note 9, at 22–27.

[169] *See id.* at 70.

[170] *Id.* (discussing the 1995 memorandum discussed, *supra* note 76) (citing Memorandum Regarding Ozone Attainment Demonstrations from Mary D. Nichols, Assistant Administrator for Air and Radiation to Regional Administrators, Regions I–X, at 3 (Mar. 2, 1995)).

[171] 42 U.S.C. § 7426(a)(1)(B).

[172] Because, as discussed *supra*, the EPA's historically restrictive interpretation of "significantly contributes" has been one of the important factors in former section 126 petition rulings, *see* Wilcox, *supra* note 9, at 22–27, none of those section 126 petitions has ever succeeded in moving the EPA to implement controls against an upwind, out-of-state polluter. *See id.* at 24.

time extensions for announcing a final action regarding whether the major upwind stationary sources identified in the section 126 petitions significantly contribute to downwind ozone nonattainment.[173] Each of these publications have cited a need to develop "an appropriate schedule for rulemaking on the section 126 petitions" as an important factor in the EPA's decision to extend deadlines for announcing a final action.[174] Thus, it appears that the EPA, by developing a rulemaking schedule, intends to engage in at least some rulemaking regarding the § 126 petitions. If the EPA does engage in rulemaking, then at least some of the upwind states will have to control emissions of ozone precursors from major stationary sources found to significantly contribute to downwind ozone nonattainment.[175]

IV. ALTERNATIVE DISPUTE RESOLUTION AND THE FUTURE OF INTERSTATE AIR POLLUTION CONTROL

A. *The Precedent of OTAG*

The EPA views OTAG's negotiations and final recommendations as an extremely successful model for state and federal cooperation in dealing with interstate pollutants.[176] The EPA characterizes OTAG as "fundamentally different from previous efforts . . . to assess and solve air pollution problems. . . . [T]he multistate, multistakeholder OTAG process

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[173] *See* Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. 54,769, 54,769 (1997) (to be codified at 40 C.F.R. pt. 52); Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. 61,914, 61,914 (1997) (to be codified at 40 C.F.R. pt. 52); Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 63 Fed. Reg. 26, 26 (1998) (to be codified at 40 C.F.R. pt. 52).

[174] Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. at 54,770; Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 62 Fed. Reg. at 61,915; Final Determination to Extend Deadline for Promulgation of Action on Section 126 Petitions, 63 Fed. Reg. at 26.

[175] The targeted upwind major stationary sources would be required to either cease operations within three months or adhere to a "compliance schedule" adopted by the EPA. 42 U.S.C. § 7426(c).

[176] *See* Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 Fed. Reg. 60,318, 60,330 (1997) (to be codified at 40 C.F.R. pt. 52) (proposed Nov. 7, 1997).

[engaged] the Federal Government [in looking] to the States involved to provide the necessary technical information to aid in determining an outcome which has local, regional and national implications."[177] In recognition of this important role, the EPA has based its proposed ozone transport regulations on OTAG's final recommendations.[178]

Because OTAG conducted "the most comprehensive analysis of ozone transport ever conducted," much of the scientific basis for the EPA's proposed regulations relies on data collected and modelling conducted in the OTAG process.[179] Based on this success, it is entirely conceivable, and indeed, highly likely, that the EPA may adopt a multistate and multistakeholder collaborative process in dealing with future interstate pollution problems.

B. *Improvements on the OTAG Model*

Although OTAG has set a precedent for multiparty negotiated processes in the interstate pollution arena, it did encounter problems. First, some states became concerned with the development of final recommendations.[180] These states theorized that votes by their representatives in support of certain control measures might bind them to unrealistic, inflexible mandatory regulations.[181] Such a concern could be addressed before negotiations are initiated through a memorandum of understanding or similar document signed by all parties. This document would establish the goals and objectives of negotiations[182] as well as the weights assigned to findings and recommendations from the negotiations.[183]

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[177] *Id.*

[178] *See id.*

[179] *Id.*

[180] *See* Wilcox, *supra* note 9, at 73.

[181] *See* Tom Arrandale, *Ozone Study Group Ready to Set NO_x Goal*, GOVERNING, June 1997, at 44 (noting that many of the OTAG "parties that have taken part in the process would be happy to see it drag on for several more years, thereby putting off some painful decisions"); *see also* Wilcox, *supra* note 9, at 73 (indicating that some states had attempted to restrict the powers of their representatives to bind the state in any proposals).

[182] *See* HON. EUGENE F. LYNCH ET AL., NEGOTIATION AND SETTLEMENT § 4.4 (1992) ("The range of possible [party] goals and objectives is limitless, but unless you take the time to identify them in each case, the evaluation process will be incomplete.").

[183] This initial stage of agreeing on the "basic rules governing the course of the particular negotiation" is important because there are no "universal rules for

In addition, some OTAG members contemplated withdrawing from the negotiations.[184] Fortunately, the EPA's stated intention to use statutory provisions against any state that failed to participate completely with its OTAG commitments prevented any withdrawals.[185] However, future interstate pollution negotiations could avoid dropouts by ensuring that all stakeholders are involved in the negotiations,[186] that each has an equal voice in any decisionmaking process, and that any stakeholder dropping out of the process will be bound by negotiated terms, agreements, and commitments.[187]

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negotiating[;] the applicable rules [are] whatever the parties agree upon." JEFFREY G. MILLER & THOMAS R. COLOSI, FUNDAMENTALS OF NEGOTIATION: A GUIDE FOR ENVIRONMENTAL PROFESSIONALS 23 (1989).

[184] Nebraska, Kansas, North Dakota, and South Dakota were reported to have considered dropping out of the OTAG process, while Virginia and Illinois placed restrictions on the ability of their representatives to participate in OTAG proposals. *See States Bailing Out of OTAG: Passing Laws to Limit Involvement*, OCTANE WK., June 10, 1996, *available in* 1996 WL 7053143. The Illinois restrictions are particularly interesting in light of the fact that the OTAG Chair, Mary Gade, was an Illinois representative from the Illinois Environmental Protection Agency. *See* Ozone Transport Assessment Group, *supra* note 19.

[185] *See* Wilcox, *supra* note 9, at 71–72.

[186] It has been noted as fundamental to the art of dispute resolution that in preparations for negotiation one must identify the parties involved:

> If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle.

CHARLES B. CRAVER, EFFECTIVE LEGAL NEGOTIATION AND SETTLEMENT 55 (3d ed. 1997) (quoting SUN TZU, THE ART OF WAR 18 (J. Clavell ed., 1983)).

[187] Successful negotiation has been keyed upon the early inclusion of all involved stakeholders. Equally important are a clear statement of the ground rules, process to be followed, and likely ramifications of a negotiated decision presented at the start of the negotiation process. *See* SUSAN L. CARPENTER & W.J.D. KENNEDY, MANAGING PUBLIC DISPUTES: A PRACTICAL GUIDE TO HANDLING CONFLICT AND REACHING AGREEMENTS 112–113 (1988); *see also* LEWICKI ET AL., *supra* note 121, at 133–135.

C. *Alternative Dispute Resolution Techniques in the Interstate Pollution Context*

OTAG made significant inroads in adapting negotiation to the interstate pollution arena. Although negotiation may be the most commonly employed method of dispute resolution in the environmental context,[188] mention of other alternative dispute resolution (ADR) techniques sheds light upon other approaches that might work successfully in this arena.

1. *Dispute Resolution in the Interstate Pollution Context*

Interstate pollution provides a unique problem for federal regulators.[189] Typically pitting the interests of one state or group of states against the interests of another, interstate pollution regulation requires a complete assessment of stakeholder interests and an understanding of the effects proposed remedial actions may have on each stakeholder.[190] Therefore, complete participation by all affected parties is essential.[191] Only by some form of participation in the dispute resolution process are the full complement of interests and influences a party may face completely aired.[192] This is especially true when the underlying statutory authority

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[188] For example, the EPA uses negotiation to establish the parameters of a proposed regulation prior to publication through negotiated rulemaking, many local environmental disputes are negotiated to settlement, and increasingly, national environmental problems are being solved through negotiation. *See* JANE MCCARTHY & ALICE SHORETT, NEGOTIATING SETTLEMENTS: A GUIDE TO ENVIRONMENTAL MEDIATION at ix-xi (1984); MILLER & COLOSI, *supra* note 183, at 1-4.

[189] *See supra* note 8 and accompanying text (discussing the special problems faced by regulators in the interstate pollution context).

[190] *See supra* Parts II.C, II.D (assessing the stakeholder interests in the interstate ozone transport context and analyzing the effects of various outcomes of OTAG's negotiations).

[191] *See* CARPENTER & KENNEDY, *supra* note 187, at 112-113; LEWICKI ET AL., *supra* note 121, at 133-135.

[192] Without identifying all of the parties, the negotiations are likely to have "phantom players" that influence the negotiations indirectly through communication with some participating parties. These phantom players can jeopardize the success of negotiations by releasing information to the public at inopportune junctures or by improperly influencing parties at sensitive moments. The best way to deal with these phantom players is to listen to their views, make it clear that they are not parties to the negotiation, and advise them during the course of the negotiation. *See* MILLER & COLOSI, *supra* note 183, at 30-31. On the other hand, important public interest groups

directs federal regulators to consider a limited number of factors in decisionmaking.[193] If a state places significant weight on factors other than those enumerated in the statute, full participation ensures that all factors are aired and considered in reaching a mutually acceptable solution.[194]

2. *The Role of a Mediator*

Another important addition to the resolution of interstate pollution disputes is inclusion of a mediator.[195] In the OTAG negotiations, the EPA could have played this role through its OTAG representatives. However, it appears that the EPA chose instead to remain a party to the negotiations given its ultimate role as promulgator of any regulations OTAG might

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and concerned citizen groups may not seek to join the negotiation and, instead, plan on articulating their positions after a settlement is reached, thereby attempting to circumvent the negotiation process. Negotiators should assess the presence of these groups and attempt to elicit their views. *See id.* at 31.

[193] For example, in the CAA the EPA accounts only for human and environmental health impacts when setting permissible NAAQS. *See* 42 U.S.C. § 7408(a)(1)(A) (1994). The CAA fails to mandate that economic costs or impacts factor into the equation, leaving many business leaders, politicians, and environmental practitioners to accuse the EPA of adopting overly burdensome standards that do not strike a reasonable balance between costs and benefits. *See* Lucinda Minton Langworthy, *EPA's New Air Quality Standards for Particulate Matter and Ozone: Boon for Health or Threat to the Clean Air Act?*, 28 ENVTL. L. REP. 10,502, 10,506–10,507 (1998) (noting that the predicted costs of new particulate and ozone standards are so high that members of Congress have found, and the American public may find, the costs unacceptable; predicting that these standards might lead to either reinterpretation of the CAA by the EPA or amendments to the CAA by Congress that permit consideration of costs and benefits beyond human and environmental health impacts).

[194] For example, in the OTAG negotiations participation by Midwestern and Southern states ensured that their concerns about economic growth factors were addressed. *See supra* note 112–115 and accompanying text. Under the CAA, economic and growth factors are not among the items the EPA may consider in setting permissible NAAQS. *See* 42 U.S.C. § 7408(a)(1)(A). Participation by the Midwestern and Southern states in OTAG's consensual, nonregulatory process ensured that economic and growth factors might enter into the decisionmaking process prior to the EPA's establishment of regulations. *See supra* notes 112–115 and accompanying text; *see also* Parts II.D, III.A.

[195] Because environmental disputes may involve as many as 15 to 20 parties, the "dynamics of the negotiations" may be fundamentally altered. MCCARTHY & SHORETT, *supra* note 188, at 2. A mediator can help to keep negotiating blocks coherent, manage time effectively, and cohesively organize all the parties in such a large process. *See id.* This may be particularly relevant in situations, like the OTAG process, where the number of participants number as high as 37 states.

recommend. In addition, the EPA's interests in the dispute, identified above,[196] may have compromised its impartiality.

A mediator should be impartial in the dispute and technically qualified to understand and converse on the environmental problems in issue.[197] Impartiality ensures that disputants will trust and confide in the mediator.[198] Because the mediator faces the daunting task of assisting the parties in recognizing common interests and realizing mutually acceptable solutions,[199] disputants must trust and confide in the mediator or the mediator risks failure in accurate assessment of these interests and solutions.[200] Furthermore, technical qualification on the environmental issues in dispute ensures that the parties can accurately communicate with the mediator.[201] Without this technical qualification, the mediator risks

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[196] *See* discussion *supra* notes 91–95 and accompanying text.

[197] *See* MCCARTHY & SHORETT, *supra* note 188, at 31 (noting that the parties may reject a mediator if they perceive bias or ineffective qualifications); 1 NANCY H. ROGERS & CRAIG A. MCEWEN, MEDIATION: LAW, POLICY & PRACTICE § 11:01 (2d ed. 1994) (noting that the standards for mediator qualification "typically require mediators to maintain confidentiality (to the extent permitted by law) [and] neutrality"); 1 *id.* § 12:07 (noting that some commentators believe "the environmental mediator ought to be qualified in the relevant scientific areas as well as in mediation skills"). *But see* 1 *id.* § 11:02 (discussing the "cautious approach" advocated by the Society for Professionals in Dispute Resolution, which warns against requiring mediators to possess advanced degrees and specialized skills because "these have no demonstrated effectiveness").

[198] *See* Joseph B. Stulberg, *The Theory and Practice of Mediation: A Reply to Professor Susskind*, 6 VT. L. REV. 85, 96 (1981) (noting that "[i]f the mediator is neutral . . . then he and his office invite a bond of trust to develop between him and the parties" and that the mediator's "commitment to neutrality ensures confidentiality").

[199] *See* 1 ROGERS & MCEWEN, *supra* note 197, § 3:02 (noting that "a mediator assists parties in . . . clarifying interests, in identifying alternative resolutions, and in accepting compromise").

[200] *See* Stulberg, *supra* note 198, at 96–97 (discussing how a mediator who fails to acquire the trusts and confidences of the parties "could jeopardize or abridge the substantive interests of the respective parties" and providing examples of how such a failure to acquire the parties' trusts and confidences could cause the mediator to inaccurately assess the interests and solutions essential to effective settlement).

[201] *See id.* at 96 (noting that, in the environmental context, "[t]he content knowledge a mediator should have depends on the specific type of dispute . . . and what the parties believe will be the most useful to them" because "[t]he parties at least want the mediator to be intelligent enough to become educated about the matters in dispute as the talks progress"). A mediator must ask himself if the issues are too technical or might require an expert at various stages in the mediation. *See id.* at 34. Furthermore, the mediator should outline his approach to mediating the kind of dispute at hand. This gives the parties full opportunity to assess the value this mediator might add as well as

misunderstandings and miscommunications with the parties which could frustrate consensus on proposed solutions.[202]

In the OTAG negotiations, if the EPA had assumed the role of a mediator, it might have approached the negotiations with too much bias. Because it was the EPA's mandate that brought the states into the OTAG process, it is reasonable that some of the states might have viewed the EPA as biased toward a position that interstate ozone transport occurs and must be controlled.[203] Thus, the EPA would fail to satisfy one of the important qualifications of a mediator—that the mediator be impartial in the dispute.[204]

However, if the EPA had designated another party as mediator, the OTAG process might not have resulted in the filing of section 126 petitions. A mediator in the OTAG process might have offered two advantages over negotiation. First, the mediator might have built provisions for enforcement into the final recommendations. If the mediator had been sanctioned with authority to bind the parties or was a legally recognized authority, then the ability to commit the parties to final recommendations would have been enhanced.[205] This would be true for both the Northeastern states (by ensuring that the section 126 petition process was foreclosed before initiating the OTAG process) and the Midwest and South (by committing the EPA to adoption of the OTAG recommendations without change).

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identify methods they know will lead to tension or stalemate later in the process. *See* CARPENTER & KENNEDY, *supra* note 187, at 195–196.

[202] *See* Stulberg, *supra* note 198, at 96. Stulberg notes that:

> The knowledgeable mediator can ask penetrating questions, be sensitive to when parties are erecting artificial constraints on their conduct, and avoid becoming an obstacle in the discussions of the more subtle nuances of the matters in dispute. The mediator does not possess such knowledge, however, for the purpose of serving as an expert who advises the parties as to the "right answers."

Id.

[203] In fact, it was the EPA that threatened to use its authority under the 1990 CAAA to compel the parties into participation in OTAG. It would not have been unreasonable for the parties to perceive this behavior as a commitment on the EPA's part to the position that interstate ozone transport was a scientifically valid problem that must be regulated. *See* Wilcox, *supra* note 9, at 71–72.

[204] *See* MCCARTHY & SHORETT, *supra* note 188, at 31.

[205] *See id.* at 62–64.

The second advantage a mediator might have offered to the OTAG process would be the advantage of a third party perspective.[206] The mediator is not tied to a loyal constituency.[207] The mediator can view the parties' positions from an unjaundiced eye, readily recognizing a party's weakest and strongest arguments. In this way, the mediator can advocate tradeoffs and bargaining that might not otherwise result.[208] In the OTAG context, the mediator might have helped states recognize the least costly and most effective regulatory processes. In fact, the mediator could have helped the parties use the OTAG forum as an opportunity to adopt novel regulatory schemes such as have been adopted in other environmental contexts.[209] However, as outlined above,[210] the success of a mediator in an interstate pollution context is largely dependent on finding a mediator that is unbiased, trusted by the parties, knowledgeable in technical environmental matters, and granted recognizable authority to legally bind the parties to a settlement.[211]

3. *The Role of an Arbitrator*

The interstate pollution arena is already served by an arbitrator. That arbitrator is the EPA. Just as the EPA will serve as final arbitrator of the section 126 petitions,[212] so too does the EPA settle disputes between states regarding interstate pollution under other federal environmental statutes.[213]

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[206] *See id.* at 40–42; 1 ROGERS & MCEWEN, *supra* note 197, § 1:01 ("Mediators are 'third parties . . . .'").

[207] *See* MCCARTHY & SHORETT, *supra* note 188, at 31 (noting that the parties should reject a mediator if they perceive bias or ineffective qualification).

[208] *See id.* at 46–47.

[209] *See id.* at 50–51.

[210] *See* discussion *supra* notes 197–209 and accompanying text.

[211] *See* MCCARTHY & SHORETT, *supra* note 188, at 31, 62–64.

[212] The EPA will serve as the final arbitrator in a section 126 petition, as the EPA makes the determination that "any major source or group of stationary sources emits or would emit any air pollutant in violation of" SIP provisions addressing interstate pollution abatement. 42 U.S.C. § 7426(b) (1994). However, the EPA's determination is subject to judicial review by the United States Court of Appeals for the appropriate circuit. *See* 42 U.S.C. § 7607(b) (1994).

[213] Under the Clean Water Act (CWA), 33 U.S.C. §§ 1251–1387 (1994), the Supreme Court has held that the EPA should be given deference as the final decisionmaker in a dispute between two states regarding pollutants flowing from an upstream state with less stringent water quality standards into a downstream state with more stringent water quality standards. *See* Arkansas v. Oklahoma, 503 U.S. 91, 111–

For this reason, exploration of the role an arbitrator might have played in the OTAG process is not fully relevant to this Note. If the EPA had chosen to assert its authority as an arbitrator, then the interstate ozone transport dispute would have been resolved in a manner similar to the resolution of other environmental disputes.

V. CONCLUSION

The OTAG negotiations represent the EPA's first attempt at negotiated rulemaking regarding a widespread and persistent interstate pollutant. The process involved more than thirty-seven parties; required two years of research, negotiation, and recommendation; and culminated in the filing of section 126 petitions. The filing of these petitions indicate that the parties did not reach a degree of consensus which Northeast states found compelling. Instead, these states perceived that their interests would best be served by circumventing a consensual negotiated agreement and pursuing a more immediate remedy. This Note has identified the role of the parties' interests in driving this decision, presented alternative dispute resolution techniques that might have been more effective in the OTAG process, and pointed to weaknesses in the process that was used.

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112 (1992). The EPA opted, in the *Arkansas* case, to enforce the more stringent water quality standard, and the Supreme Court held that under the CWA the EPA's choice as to which state's water quality standards to apply should be given deference. *See id.*