

Cleveland State University
EngagedScholarship@CSU



Cleveland-Marshall
College of Law Library

Cleveland State Law Review

Law Journals

1998

Ozone Transport and the Clean Air Act: The Answers Are Blowin' in the Wind

Shari R. DeSalvo

Follow this and additional works at: <https://engagedscholarship.csuohio.edu/clevstrev>

 Part of the [Environmental Law Commons](#), and the [Legislation Commons](#)

How does access to this work benefit you? Let us know!

Recommended Citation

Note, Ozone Transport and the Clean Air Act: The Answers Are Blowin' in the Wind, 46 Clev. St. L. Rev. 355 (1998)

This Note is brought to you for free and open access by the Law Journals at EngagedScholarship@CSU. It has been accepted for inclusion in Cleveland State Law Review by an authorized editor of EngagedScholarship@CSU. For more information, please contact library.es@csuohio.edu.

OZONE TRANSPORT AND THE CLEAN AIR ACT: THE ANSWERS ARE BLOWIN' IN THE WIND

I. INTRODUCTION	355
II. OVERVIEW OF OZONE TRANSPORT REGULATION AND THE CLEAN AIR ACT	356
III. MIDWESTERN AIR POLLUTION IS BLOWING ACROSS STATE LINES, DISRUPTING THE NORTHEASTERN ECONOMY AND COMPLIANCE WITH THE CLEAN AIR ACT	367
A. <i>Southwestern Pennsylvania's Ozone Levels Between 1991 and 1993</i>	367
B. <i>The EPA's Determination Regarding the Commonwealth's Request for Redesignation of Southwestern Pennsylvania as an Attainment Area</i> ..	367
C. <i>The EPA's Failure to Analyze the Impact of Interstate Transport of Ozone Upon Southwestern Pennsylvania</i>	368
D. <i>The EPA's Unlawful Redesignation of the Cleveland-Akron-Lorain Area as an Attainment Area</i>	371
IV. NEW SHIFT IN DECISIONS: THE EPA TOUGHENS ITS STANCE ON SMOG CONTROLS	379
V. CONCLUSION	382

I. INTRODUCTION

Imagine an area of the world with people dying at ages well below normal life expectancy, despite modern technology, due to health defects such as lung disorders. Imagine a region with crops so mutated and contaminated that nobody in the area could harvest, much less eat them. This dilapidated section of the world would not attract even the most uncivilized humans as settlers. Yet, despite presumably well-meaning Congressional intent behind the 1990 Clean Air Act Amendments (the "1990 Amendments"), most Northeastern states are suffering from mild examples of this scenario due to ozone pollution blowing in from Midwestern states.¹

¹*Clean Air Act Standards: Hearing Before the Subcomm. on Health and the Environment of the House Comm. on Energy and Commerce, 101st Cong. 237 (1989).*

The 1990 Amendments reflect a general awareness by Congress that ozone is a regional and not merely a local problem.² Ozone and its precursors may be transported long distances across state lines to combine with ozone and precursors downwind, thereby exacerbating the ozone problem. In the case of ozone, this transport phenomenon was not generally recognized until recently. Ozone transport is a major reason for the persistence of the ozone problem, notwithstanding the imposition of numerous federal and state controls across the country.

This Note addresses the major provisions of the Clean Air Act that deal with the transport of ozone from one state to another. After an overview of the Act and specific sections dealing with ozone transport, the Note discusses the Environmental Protection Agency's (the "EPA") inconsistent interpretation and application of the Act, as exposed through the limited case law addressing this issue to date. Next, using the illustrative cases of Pennsylvania and Ohio, the Note discusses how Northeastern states are suffering economically and physically due to Midwestern pollution that is "blowin' in the wind."³

This Note concludes that it is time for the EPA to stop avoiding the purpose behind the Clean Air Act and start helping *all* states to achieve at least minimum clean air standards. The inevitable result, surely consonant with the Congressional intent behind the 1990 Amendments, as well as the desires of all Americans, would be a healthier and more prosperous United States.

II. OVERVIEW OF OZONE TRANSPORT REGULATION AND THE CLEAN AIR ACT

The goal of the Clean Air Act,⁴ as amended, is to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population."⁵ In order to meet this goal, Congress identified six major pollutants called criteria pollutants for which National Ambient Air Quality Standards ("NAAQS") were to be set. The EPA promulgated national primary and secondary NAAQS for those six criteria pollutants, including ground-level ozone, the primary constituent of smog.⁶

Ozone is different in one important respect from other measured ambient air pollutants. Most ambient air pollutants are physically and chemically identical to the pollutants omitted by synthetic air pollution sources such as industrial smokestacks. Ozone, on the other hand, is formed naturally in the atmosphere as a result of complex photochemical, or light-driven reactions involving the conversion of emitted air pollutants, volatile organic compounds

²42 U.S.C. § 7401(a)(1) (1997).

³BOB DYLAN, *Blowin' in the Wind*, on THE FREEWHEELIN' BOB DYLAN (Columbia Records 1963).

⁴42 U.S.C. § 7401.

⁵42 U.S.C. § 7401(b)(1).

⁶42 U.S.C. § 7409(a).

("VOCs") and nitrogen oxides ("NOx"), in the presence of sunlight. Thus, as the amount and intensity of sunlight increases in the atmosphere, producing hotter temperatures, the formation of ozone intensifies as well.⁷

Ozone pollution is precipitated by large stagnant air masses that allow pollutants to build up on the atmosphere.⁸ The polluted air masses slowly spread downwind.⁹ In the summer, for example, such air masses commonly build up over the urban areas along the East Coast and move into New England.¹⁰ As the air masses move northward, ozone levels often continue to increase.¹¹ This result ensues, at least in part, because the pollutants have more time to react and form ozone.¹² The addition of new pollutants, originating in areas passed along the way, is also an important factor contributing to ozone level increases.¹³

This process can eventually bring high ozone levels to areas hundreds of miles downwind of the urban pollution sources. As a result, ozone pollution can be a serious problem even in very non-industrial areas in the Eastern United States. For example, in the summer of 1988, one of the most pristine areas in the eastern United States Acadia National Park off the northern coast of Maine, recorded ozone levels so high that they would have produced smog alerts if they had occurred in Los Angeles.¹⁴

The two major ozone precursors, VOCs and NOx, come principally from motor vehicles and industry.¹⁵ The Office of Technology Assessment ("OTA") has estimated that the most significant sources of VOC emissions are mobile sources, which release about forty-five percent of national VOC emissions; organic solvent evaporation from stationary sources such as dry cleaners, degreasing plants, and pesticide applicators, which release fifteen percent; and

⁷S. REP. NO. 101-228, at 6 (1990), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3392; EPA, Office of Air Quality Planning and Standards, *Clean Air Act Ozone Design Value Study: Final Report 3-1* (Dec. 1994) (hereinafter *Ozone Study*).

⁸OFFICE OF TECHNOLOGY ASSESSMENT, *CATCHING OUR BREATH: NEXT STEPS FOR REDUCING URBAN OZONE 97-98* (1989) [hereinafter OFFICE OF TECHNOLOGY ASSESSMENT].

⁹*Id.*

¹⁰*Id.*

¹¹*Id.*

¹²*Id.*

¹³OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 8.

¹⁴*Id.* Shenandoah National Park in Virginia also violated the health-based ozone standard in 1988.

¹⁵*Id.* VOCs are emitted from a variety of sources, including automobiles, chemical-manufacturing facilities, dry cleaners, paint shops, and barbecues. NOx is emitted when fuel is burned at high temperatures, such as in automobiles or at stationary sources such as utility power plants and industrial steam boilers.

surface coatings, which account for nine percent.¹⁶ The OTA concludes that the various VOC pollution sources must be controlled if America's cities are to achieve the federal ozone standard.¹⁷

The other major ozone precursor is NO_x, which also contributes to acid rain.¹⁸ NO_x is produced in all fossil fuel combustion reactions. The principal sources of NO_x emissions are mobile sources, which account for about thirty-five percent of the NO_x inventory; utilities burning fossil fuels (thirty-five percent); and industrial fuel combustion (twelve percent).¹⁹

Reduction of VOCs and NO_x emissions will be a difficult task to accomplish, because more than ninety percent of the nation's urban areas violate the Clean Air Act's health standard for ozone.²⁰ The highest ozone levels are found in Los Angeles. New York, Houston, and Chicago also suffer from severe ozone problems.²¹ Several other areas have ozone levels that exceed the standard by more than fifty percent.²² Ozone violations have been especially frequent along the eastern seaboard.²³

The national standard for ozone is a one-hour average concentration of 0.12 parts per million ("ppm").²⁴ Ozone levels are measured at monitoring stations located in various areas around the country.²⁵ In order for a monitoring site to meet the national standard for ozone, the site must have no more than one incident that exceeds the standard per year, over a three-year period (i.e., three or fewer incidents of excess in a three-year period).²⁶ A fourth violation at a monitoring site in a three-year period is considered by the EPA to be in violation

¹⁶*Id.* at 11-13. In many urban areas, transportation sources actually account for a larger percentage of the VOC emissions, over 50%, because of the high concentration of motor vehicles in city centers, and the relative absence of heavy industry.

¹⁷*Id.* at 26.

¹⁸OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 8.

¹⁹*Id.*

²⁰*Clean Air Act Standards: Hearing Before the Subcomm. on Health and the Environment of the House Comm. on Energy and Commerce*, 101st Cong. 30 (1989).

²¹*See* COMMITTEE ON ENERGY AND COMMERCE, CLEAN AIR ACT AMENDMENTS OF 1990, H.R. REP. NO. 490, 101st Cong. 230 (1990).

²²*See id.*

²³*Supra* note 20. This was particularly true in the summer of 1988, when there was a ninety percent increase in the frequency of violations compared to in 1987.

²⁴40 C.F.R. § 50.9(a) (1995); 40 C.F.R. pt. 50, app. H (1995); *see also* Memorandum from Maria A. Pino, Environmental Engineer, EPA Region III, Technical Support Document for the Proposed Disapproval of Pennsylvania's Redesignation Request and Maintenance Plan for the Southwestern Pennsylvania Area 2 (Jan. 17, 1996) (hereinafter TSD).

²⁵*Id.*

²⁶*Id.*

of the NAAQS,²⁷ resulting in "nonattainment" status for the area covered by that monitoring site.²⁸

Under the Clean Air Act, areas are designated as "nonattainment," "attainment," or "unclassifiable," based upon whether they meet the national standards for a particular criteria pollutant.²⁹ Attainment and nonattainment designations are extremely significant: nonattainment areas face higher threshold emissions control standards than similarly situated attainment areas. For example, construction of new manufacturing facilities in nonattainment areas is more difficult than in attainment areas, due to the permitting standards that require facilities to implement the most stringent emission limitations.³⁰ Conversely, those areas that have achieved attainment status must maintain it, but do not have to take additional steps necessary to improve it.³¹ The added costs associated with initially achieving attainment status directly affect economic and business growth in any given area.

Although the EPA promulgated the NAAQS for ozone, the states, with the EPA's help, are responsible for imposing limits on the sources of ozone by means of state implementation plans (SIPs).³² SIPs provide for local implementation, maintenance, and enforcement of the national standards.³³ Among other things, SIPs dictate controls on the level of emissions allowed from sources located within the state (e.g., power plants, factories, cars, trucks, batteries, etc.) and provide for the installation and operation of monitoring equipment.³⁴ SIPs also provide for revisions to the plans as needed to attain and maintain compliance with NAAQS.³⁵ In addition, SIPs must include

²⁷*Id.*

²⁸TSD, *supra* note 24, at 2.

²⁹42 U.S.C. § 7407(d) (1997). Based on the amount by which the ozone standard is exceeded in a nonattainment area, an area is classified as either a Marginal Area (based on a design value of .121 ppb up to .138 ppb), Moderate Area (.138 up to .160), a Serious Area (.160 up to .180), a Severe Area (.180 up to .280) or an Extreme Area (.280 and above). 42 U.S.C. § 7511(a)(1). Design values indicate the amount by which the ozone standard is exceeded in nonattainment areas. If there are three complete years of ozone data, the fourth highest daily maximum during the three-year period is the design value for a particular site. If two complete years of data are available, the third highest is used. If one complete year is available, the second highest is used. A separate design value is developed for each monitoring site that does not meet the NAAQS, and the highest of these design values is the design value for the area. *See also* Memorandum from William G. Laxton, Director, Technical Support Division, Office of Air Quality, Ozone and Carbon Monoxide Design Value Calculations 3-1 (June 18, 1990).

³⁰42 U.S.C. § 7503.

³¹42 U.S.C. § 7470.

³²42 U.S.C. § 7407, 7410.

³³*Id.*

³⁴42 U.S.C. § 7410.

³⁵*Id.*

provisions that prohibit air emissions within the state from contributing significantly to nonattainment in, or interfere with maintenance of NAAQS by, any other state.³⁶

According to the EPA, "[t]he influence of meteorological conditions, particularly temperature, on ozone concentrations has been well established."³⁷ As a result, in interpreting amendments to the 1990 Clean Air Act, one commentator observed, "attainment [for ozone] is sometimes more a function of local weather and topography than a matter of controls on industry."³⁸

In addition to the weather's impact on ozone levels, the transport of pollutants by air from one area to another has a significant impact on ozone levels. As a result, Congress decided that it is crucially important that every jurisdiction, which necessarily can only regulate emissions from within its own boundaries, be protected from airborne contaminants emanating from upwind sources outside its borders.³⁹ The very first factual finding in the Clean Air Act recognizes that metropolitan areas often extend into two or more states.⁴⁰ Accordingly, no part of the Act is "more crucial than the provisions . . . which guarantee that air pollution generated in one state does not disrupt another state's plans for complying with the national standards."⁴¹ Although numerous provisions in the Clean Air Act address interstate transport of pollutants,⁴² section 110(a)(2)(D) specifically provides that SIPs *must* contain provisions prohibiting sources of pollution in one state from emitting pollutants in

³⁶*Id.*

³⁷*Ozone Study*, *supra* note 7, at 7-18.

³⁸S. REP. NO. 101-228, at 423 (1990), *reprinted in* 1990 U.S.C.C.A.N. 3796, 3803 (minority view of Symms).

³⁹Daniel Trinkle, *Cars, Congress, and Clean Air for the Northeast: A Separation of Powers Analysis of the Ozone Transport Commission*, 23 B.C. ENVTL. AFF. L. REV. 169 (1995).

Recognizing the need for regional cooperation to control interstate transport of ozone air pollution, Congress established the Northeast Ozone Transport Region (hereinafter "NOTR") in the 1990 Amendments. The region is made up of states in the Northeast Corridor, including Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont, as well as the Consolidated Metropolitan Statistical Area that includes the District of Columbia.

⁴⁰42 U.S.C. § 7401(a)(1).

⁴¹*Connecticut v. EPA*, 696 F.2d 147, 151 (2d Cir. 1982).

⁴²Provisions of the Clean Air Act addressing the interstate transport issue include 42 U.S.C. § 7511c(a), which establishes an ozone transport region; 42 U.S.C. § 7506(a), providing for the establishment of interstate transport regions and commissions; 42 U.S.C. § 7511a(h), establishing rural transport areas; 42 U.S.C. § 7511a(j), providing for multi-state ozone nonattainment areas; and 42 U.S.C. § 7511(a)(4), which considers transport in classification adjustments.

amounts that will contribute significantly to nonattainment in any other state.⁴³

Unfortunately, neither the Clean Air Act nor its legislative history provides meaningful guidance for interpreting the phrase "contribute significantly."⁴⁴ The simpler part of the analysis concerns the term "contribute." In the EPA's view, if emissions have an impact on downwind nonattainment, those emissions should be considered to contribute to the nonattainment problem.⁴⁵ Whether a contribution from sources in a particular upwind area is "significant" depends on the overall air quality context. The EPA is proposing a "weight of evidence" test under which several factors are considered together, but none of them individually constitutes a bright-line determination.⁴⁶

⁴³42 U.S.C. § 7410(a)(2)(D).

⁴⁴H.R. REP. No. 101-491, 101st Cong. 218 (1990).

⁴⁵*Id.* Generally, because ozone is a secondary pollutant formed as a result of complex chemical reactions, it is not possible to determine downwind impact on a source-by-source basis. However, if air quality modeling shows that the aggregation of emissions from a particular geographic region affect a nonattainment problem, then all of the emissions in that region should be considered as contributors to that nonattainment problem.

⁴⁶*Id.* The EPA is proposing and soliciting comment on two alternative interpretations of section 110(a)(2)(D) of the Clean Air Act. Each of the two interpretations relies on a set of factors to make the determinations required under section 110(a)(2)(D). In addition, each of the two relies on the same factors. However, each relies on different factors in different parts of the analysis.

Under the first interpretation of section 110(a)(2)(D), the weight of evidence test for determining significant contribution focuses on factors concerning amounts of emissions and their ambient impact, including the nature of how the pollutants are formed, the level of emissions and emissions density (defined as amount of emissions per square mile) in the particular upwind area, the level of emissions in other upwind areas, the amount of contribution to ozone in the downwind area from upwind areas, and the distance between the upwind sources and the downwind nonattainment problem. Under this approach, when emissions and ambient impact reach a certain level, as assessed by reference to factors identified above, those emissions would be considered to "contribute significantly" to nonattainment. The EPA would then determine what emissions reductions must be required in order to adequately mitigate these contributions. Evaluation of the costs of available measures for reducing upwind emissions enters into this determination, as well as to the extent known (at least qualitatively), the relative costs of, amounts of emission reductions from, and ambient impact of, measures available in the downwind areas. The EPA proposes to require upwind areas to implement a NO_x budget reflecting cost-effective controls that compare favorably, at least qualitatively, with the costs of controls downwind and that reduces ozone levels downwind.

Under the second interpretation of section 110(a)(2)(D), the weight of evidence test for determining significant contribution includes all of the factors identified immediately above, including the factors that comprise the adequate mitigation test. That is, the relevant factors concern upwind emissions and ambient impact therefrom, as well as the costs of the available measures for reducing upwind emissions and, to the extent known (at least qualitatively), the relative costs of, amounts of emissions reductions from, and ambient impact of measures available in the downwind areas. Thus, under this second interpretation, the cost effectiveness of controlling upwind

If a state believes that an area within its borders has achieved "attainment" status, the state may request that the Administrator of the EPA ("Administrator") revise the designation of the area to officially reflect its new status.⁴⁷ The Administrator is required to approve or deny the redesignation request within 18 months of receipt of a complete redesignation submission and publish notice of areas so redesignated in the Federal Register.⁴⁸ In order for an area to be redesignated an attainment area, the following must occur:⁴⁹

- (i) the Administrator determines that the area has attained the national ambient air quality standard;
- (ii) the Administrator has fully approved the applicable SIP for the area under § 7410(k) of the Clean Air Act;
- (iii) the Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable federal air pollutant control regulations and other permanent and enforceable reductions;
- (iv) the Administrator has fully approved a maintenance plan for the area as meeting the requirements of § 7505(a) of the Clean Air Act; and
- (v) the State containing such an area has met all requirements applicable to the area under § 7410 and part D.⁵⁰

emissions would be an important, but not necessarily a controlling factor in evaluating whether emissions meet the significant contribution test. As a result, the EPA may conclude that a certain amount of the upwind emissions contributes significantly to downwind problems, because, among other things, that amount may be eliminated through controls that are relatively more cost effective. However, the EPA would not conclude that the remaining emissions contribute significantly because the additional available controls that might be implemented are not as cost effective. Under this second interpretation, once the EPA determines what amount of emissions contribute significantly to problems downwind, the remedy would be for the EPA to require the elimination of that amount of upwind emissions, and determine the NO_x budgets accordingly.

Under either the first or second interpretation of section 110(a)(2)(D), the EPA would be considering the relative costs and cost effectiveness of various controls in deciding how much each state would need to reduce its emissions.

⁴⁷42 U.S.C. § 7407(d)(3)(D).

⁴⁸42 U.S.C. § 7407(d)(2)(A).

⁴⁹42 U.S.C. § 7407(d)(3)(E).

⁵⁰See 42 U.S.C. § 7410, 7511a. Section 7410 contains general requirements for the contents of SIPs, including enforceable emission limitations, provisions prohibiting sources from emitting pollutants which will contribute significantly to nonattainment elsewhere, and provisions for adequate funding and authority to carry out the plans. Part D consists of general requirements applicable to nonattainment areas in subpart 1 and more specific requirements applicable to the various ozone nonattainment classifications in subpart 2. Under part D, SIP provisions must provide for the implementation of all reasonably available control measures as expeditiously as

Ozone pollution is a major nonattainment problem facing virtually every region of the United States. In 1988, more than 100 million Americans lived in areas where ozone pollution levels exceeded those acceptable for health protection.⁵¹ High ozone levels can cause lung dysfunction, coughing, wheezing, nausea, respiratory infection, and in some instances, permanent scarring of the lung tissue.⁵²

In addition to health problems, ozone pollution has been shown to damage many types of vegetation extensively.⁵³ The pollution burns the cell membranes of plants by entering through their gas exchange pores.⁵⁴ The EPA estimates indicate that ozone pollution levels common in many areas can significantly reduce crop levels.⁵⁵

Forests and waters can be damaged through the same processes.⁵⁶ Forest damages attributable to ozone pollution, including premature death and

practicable, require a showing of reasonable further progress by sources, and require permits for the construction and operation of new or modified major sources, called New Source Review. Section 7410(k) contains the requirements for EPA action on plan submissions. It addresses completeness, deadlines, full and partial approval, conditional approval and disapproval.

⁵¹136 CONG. REC. 5592-02, 79 (1989).

⁵²136 CONG. REC. H2511-02, 30-31, 147 (1989). Children, and especially asthmatic children, are at a special risk for adverse health effects from the dangers of ozone pollution. Breathing ozone has been compared to getting a sunburn in your lungs. Children playing and exercising outside in the summertime, the season when concentrations of ground-level ozone are the greatest, may suffer from coughing, decreased lung function, and have trouble catching their breath. Asthmatic children and adults are much more likely to have asthma attacks - or have more severe attacks - when ozone levels in the air are high. Medical studies have clearly shown that ozone can aggravate asthma, causing more asthma attacks, increased use of medication, more medical treatment, and more visits to hospital emergency rooms. Ten to twenty percent of all summertime respiratory-related hospital visits in the Northeastern United States are associated with ozone pollution.

Nitrogen dioxide belongs to a family of highly reactive gases called nitrogen oxides (which are also a primary constituent of ozone). Exposure to nitrogen dioxide can irritate the lungs, and lower the body's resistance to respiratory infections such as influenza.

⁵³*Id.* Ground-level ozone also interferes with the ability of plants to produce and store food, making them more susceptible to disease, insect attack, and other pollutants. By weakening sensitive vegetation, ozone makes plants more susceptible to disease, pests, and other environmental stresses. Ground-level ozone has been shown to reduce agricultural yields for many economically important crops (e.g., soybeans, kidney beans, wheat, and cotton).

⁵⁴*Id.*

⁵⁵*Id.*

⁵⁶134 CONG. REC. E127-01, 05-06 (1989). The regional transport and deposit of nitrogen oxides can result in adverse environmental effects such as acidic deposits and eutrophication. This occurs when a body of water suffers an increase in nutrients that reduce the amount of oxygen in the water, producing an environment that is destructive to fish and other animal life.

stunted growth, have been found in the San Bernadino National Forest in Southern California, and along the length of the Sierra Nevada mountains.⁵⁷ Ozone pollution is also a suspected cause of the widespread forest die-back occurring in high altitude forests throughout the east.⁵⁸ Thus, ozone pollution is a serious and pervasive problem affecting all facets of American life.

The 1990 Amendments sought to establish an aggressive new program for control of ozone air pollution.⁵⁹ The program focuses on the two central ozone precursors, VOCs and NOx.⁶⁰ These pollutants combine in the atmosphere in the presence of sunlight to form ozone.⁶¹

Each of the nation's 100 ozone nonattainment areas is placed in one of five categories according to the severity of its ozone pollution.⁶² Control regimes are established for each category; more polluted areas are required to take more and stronger measures to reduce VOC and NOx emissions, and are given more time to attain the standard.⁶³

For example, "marginal" areas, the least polluted of the ozone nonattainment areas, have just three years to attain the ozone standard⁶⁴ and are subject to only two new requirements: (1) an updated permit program and (2) regular reporting of emission inventories.⁶⁵ By contrast, the most polluted areas, termed "extreme" areas, are allotted twenty years to reach attainment status but must implement a long list of control measures.⁶⁶ The control requirements for areas falling between the two extremes include a subset of the requirements

⁵⁷See OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 8, at 44-46.

⁵⁸OFFICE OF TECHNOLOGY ASSESSMENT, *CATCHING OUR BREATH: NEXT STEPS FOR REDUCING URBAN OZONE* 84-85 (1997).

⁵⁹42 U.S.C. § 7512(a)(1) (1997).

⁶⁰*Id.*

⁶¹*Id.*

⁶²*Id.*

⁶³*Id.*

⁶⁴42 U.S.C. § 7512(a)(1).

⁶⁵42 U.S.C. § 7511a(a).

⁶⁶42 U.S.C. § 7512(a)(1). In addition to implementing the marginal area requirements, extreme areas must submit new attainment demonstrations; achieve at least a three percent reduction in VOC emissions annually; regulate as a major source any stationary source with emissions greater than ten tons per year; require greater offsetting of emissions from new or modified sources; mandate that all utility, industrial, and commercial boilers use advanced controls or clean fuels to reduce NOx pollution; require stage II vapor recovery at gasoline service stations to control vehicle refueling emissions; take more aggressive transportation control planning steps; direct large employers to establish ride-sharing programs; adopt enhanced automotive inspection and maintenance programs; require centrally fueled fleets to purchase clean fuel vehicles; require that all gasoline sold in the area be reformulated to reduce emissions; and prohibit use of "netting," a concept that allows modifications of pollution sources to escape additional control requirements.

applying to extreme areas, or in some cases, less rigorous versions of extreme area requirements.⁶⁷ Attainment deadlines for these "moderate," "serious," and "severe" areas fall somewhere between three and twenty years, depending on the level of nonattainment.⁶⁸

Prior to the 1990 Amendments, the Clean Air Act simply mandated that areas make pollution reductions sufficient to achieve "reasonable further progress" toward attainment of the NAAQS.⁶⁹ Again, little in the legislative history provided guidance for interpreting this loosely-worded standard. The new ozone pollution control program, however, establishes very specific minimum levels of emission reductions that each area must achieve.⁷⁰

Under this program all moderate, serious, severe, and extreme nonattainment areas are required to achieve at least a fifteen percent reduction in VOC emissions over the first six years following enactment. After the initial reduction serious, severe, and extreme areas must achieve further VOC emission reductions of three percent per year until the standard is attained.⁷¹ Greater VOC emission reductions are required as needed to attain the standard by the applicable deadline. In addition, reductions in NO_x are mandated if they will help to lower ozone levels.⁷²

⁶⁷*Id.*

⁶⁸42 U.S.C. § 7511(a). The ozone nonattainment categories are marginal, moderate, serious, severe, and extreme. Areas in each of these categories are required to attain as expeditiously as possible, but no later than three, six, nine, 15, and 20 years, respectively.

⁶⁹42 U.S.C. § 7402 (1988), amended by 42 U.S.C. § 7502 (1997). The term "reasonable further progress" was defined in § 171 of the Clean Air Act to mean "annual incremental reductions in emissions" of a particular pollutant, sufficient to provide for attainment of the applicable NAAQS by the deadline set forth in 42 U.S.C. § 7501(1) (1997).

⁷⁰*Id.* Although the Clean Air Act of 1977 brought about significant improvements in our nation's air quality, the urban air pollution problems of ozone (smog), carbon monoxide and particulate matter persist. Currently, over 100 million Americans live in cities that are out of attainment with the public health standards for ozone.

⁷¹42 U.S.C. § 7511a(b)(1) (establishing the 15% reduction requirement); 42 U.S.C. § 7511a(c)(2)(B) (establishing the three percent annual reduction requirement). Serious and severe areas are authorized to reduce by an amount less than the required three percent per year if they can demonstrate that their air quality plan includes each control measure in use in the next most stringent category. Extreme areas are provided no authority to achieve less than three percent per year.

This structure is intended to assure that new emissions control technologies are developed and used throughout the nation. Los Angeles, the nation's one extreme area, must develop new technologies to continue to achieve the required three percent per year reduction in emissions. These technologies, along with other aggressive control steps already in place in Los Angeles, must then be used in any severe area seeking approval for a program that fails to achieve a three percent annual reduction. Control steps adopted in any severe area must, in turn, be adopted in serious areas seeking authorization for achieving less than the three percent reduction. Aggressive control measures adopted in Los Angeles will therefore filter down to be used as needed throughout the nation.

⁷²42 U.S.C. § 7511a(f).

Section 182(g) of the Clean Air Act establishes a milestone system. Under this system, six years after the enactment of the 1990 Amendments, and every third year thereafter, serious, severe, and extreme areas must demonstrate that they are meeting their emission reduction requirements, and are therefore on track toward attaining the standard by the applicable deadline.⁷³ This system ensures that areas falling behind in their efforts to timely achieve the applicable standards take early corrective action. The result is a tremendous improvement over the misguided approach employed prior to the 1990 Amendments, under which areas were not informed of their likely failure to meet deadlines until it was too late for corrective action.⁷⁴

Under the 1990 Amendments, areas that do not meet their milestones are subject to sanctions.⁷⁵ In addition, they must promptly submit plan revisions that make up for the emissions reduction shortfall and put the areas back on track toward meeting the deadline.⁷⁶

Past efforts to achieve the ozone standard focused almost exclusively on the control of VOC pollution, and made little effort to reduce emissions of NO_x, the other major ozone precursor.⁷⁷ It is now apparent, however, that NO_x control is essential to reduction of ozone pollution levels in many parts of the country, including Southeast, Northeast, and Southern California.⁷⁸ Congress therefore abandoned the VOC-only strategy, based on the scientific evidence, and established a presumption that all VOC control requirements apply to emissions of NO_x as well.⁷⁹

Specifically, the Clean Air Act provides that all state plan provisions governing major stationary sources of VOCs under the ozone nonattainment subpart also apply to major stationary sources of NO_x, unless the Administrator determines that (i) NO_x reductions will not contribute to attain-

⁷³42 U.S.C. § 7511a(g)(1).

⁷⁴40 C.F.R. § 51.165(a)(1)(iv)(B), (a)(2) (1990).

⁷⁵42 U.S.C. § 7509.

⁷⁶42 U.S.C. § 7511a(g)(3). Rather than submit a plan, the state can elect to have the area reclassified to the next higher level of nonattainment area, or to adopt an economic incentive program.

⁷⁷40 C.F.R. § 51.165(a)(1)(iv)(B), (a)(2) (1990). For example, the pre-1990 Clean Air Act new source review requirements in ozone nonattainment areas applied only to major sources of VOCs.

⁷⁸101st Cong., 1st Sess. 203-04 (1990). See *Air Quality Standards In Southern California: Hearing Before the Subcomm. On Health and the Environment of the Comm. On Energy and Commerce*, 100th Cong., 1st Sess. 7 (1987) (testimony of James Lents, South Coast Air Quality Management District); see also Chameides, Lindsay, Richardson & Kiang, *The Role of Biogenic Hydrocarbons in Urban Photochemical Smog: Atlanta as a Case Study*, 241 SCIENCE 1743 (1988).

⁷⁹42 U.S.C. § 7511a(f).

ment of the ozone standard, or (ii) the net air quality benefits would be greater in the absence of NO_x control.⁸⁰ As a result, a broad range of requirements established by the 1990 Amendments will apply to major NO_x sources. These new requirements include installation of Reasonably Available Control Technologies ("RACT") at existing sources,⁸¹ as well as regulation applying to specific ozone transport regions.⁸²

Despite the amendments, however, Congress did not foresee the larger regulatory problems inherent in the ozone transport dilemma. A readjusted strategy for monitoring emissions of ozone precursors did little, if anything, to address the problem of subsequent dispersal of ozone and related pollutants. A prime example of this increasingly frequent scenario is the case of Southwestern Pennsylvania.

III. MIDWESTERN AIR POLLUTION IS BLOWING ACROSS STATE LINES, DISRUPTING THE NORTHEASTERN ECONOMY AND COMPLIANCE WITH THE CLEAN AIR ACT

A. Southwestern Pennsylvania's Ozone Levels Between 1991 and 1993

As of 1990, the monitoring site designated "Southwestern Pennsylvania" was classified as a "moderate" nonattainment area based on the ozone design value for the three-year period 1987-89.⁸³ Between 1990 and 1993, however, incidents of excess in the area were eliminated almost entirely, and there were no violations of the NAAQS for ozone.⁸⁴

The EPA has acknowledged that, based upon the monitoring data from 1992 to 1994, Southwestern Pennsylvania had attained the national standard for ozone.⁸⁵ Southwestern Pennsylvania achieved attainment status by, among other things, reducing the point-source emissions of VOCs and carbon monoxide.⁸⁶

B. The EPA's Determination Regarding the Commonwealth's Request for Redesignation of Southwestern Pennsylvania as an Attainment Area

In the summer of 1995, ozone levels in Southwestern Pennsylvania, along with other parts of the country, were elevated by unusually hot weather. The

⁸⁰*Id.*

⁸¹*Id.*

⁸²*Id.*

⁸³Designation of Areas for Air Quality Planning Purposes, 56 Fed. Reg. 56,694 (1991) (codified at 40 C.F.R. pt. 81).

⁸⁴61 Fed. Reg. 19,193, 19,196 (1996).

⁸⁵Determination of Attainment of Ozone Standard in the Pittsburgh-Beaver Valley and Reading Ozone Nonattainment Areas, 60 Fed. Reg. 37,015 (1995) (codified at 40 C.F.R. pt. 52).

⁸⁶*Id.* at 44.

weather, coupled with ozone transported into the Area from out-of-state sources, resulted in seventeen incidents that exceeded the ozone standard at various monitors in the area over the course of seven days.⁸⁷ Of the eleven monitors in Allegheny County, only two recorded violations of the ozone standard (more than three excessive readings).⁸⁸ On July 31, 1995, Pennsylvania's worst day of the year for ozone, only four of the eleven ozone monitors registered an excessive reading.⁸⁹ In short, although there were isolated pockets of elevated ozone, the air quality in almost all of Southwestern Pennsylvania did not even approach the national standard.

On February 7, 1996, based on the summer of 1995 data, the EPA published a notice of proposed rulemaking to disapprove the Commonwealth's redesignation request for 1991-93 and SIP revisions for Southwestern Pennsylvania.⁹⁰ On May 1, 1996, the EPA promulgated its final rule disapproving the redesignation request and maintenance plan. In reaching its decision, the EPA relied primarily upon the violations recorded at the two Allegheny County monitors during the summer of 1995.⁹¹

C. The EPA's Failure to Analyze the Impact of Interstate Transport of Ozone Upon Southwestern Pennsylvania

Throughout the rule-making process the EPA failed to adequately analyze the role of transported ozone and ozone precursors in Southwestern Pennsylvania's 1995 incidents of excess.⁹² The EPA asserted in its final rule that

⁸⁷61 Fed. Reg. at 19,196.

⁸⁸*TSD*, *supra* note 24, at 4.

⁸⁹*Id.*

⁹⁰Redesignation Request and Maintenance Plan for the Pittsburgh Ozone Nonattainment Area, 61 Fed. Reg. 4,598 (1996) (codified at 40 C.F.R. pt. 52).

⁹¹61 Fed. Reg. at 19,193.

⁹²Finding 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. 60,337 (1997). Subregional modeling results were examined in terms of the impact of each subregion on ozone in downwind states outside of a particular subregion. The following results highlight the contributions of each subregion to downwind nonattainment.

Subregion 1 (portions of Illinois, Wisconsin, Indiana, and Iowa): emissions contribute 2 to 5 ppb on numerous occasions to nonattainment in violating counties in four States along the Northeast Corridor having serious or severe nonattainment (i.e., Connecticut, Maryland, New Jersey, and New York); downwind contributions as high as five to 10 ppb are evident near Detroit over Lake St. Clair, as well as over Lakes Erie and Ontario.

Subregion 2 (portions of Michigan, Indiana, and Ohio): emissions in this subregion contribute five to 10 ppb to nonattainment in violating counties in five downwind states; contributions over 10 ppb are evident in seven downwind states.

Subregion 6 (portions of Ohio, Indiana, Kentucky, Tennessee, West Virginia and Virginia): emissions in this subregion contribute over five ppb to violations in eight states (and as far downwind as Massachusetts); contributions over 15 ppb are predicted

the Commonwealth made no demonstration that the excesses in ozone concentrations in the Area were caused by transport from upwind sources, and that Pennsylvania provided no adequate technical demonstration to support any of its claims.⁹³ The EPA made such assertions despite the fact that the data proved that there was a correlation between levels of ozone recorded at the border and farther east; the agency concluded that such data was insufficient to demonstrate that the area's excesses in ozone concentrations were due to transport.⁹⁴

In fact, the technical support document on which the EPA's rulemaking was based failed to address the transport issue altogether.⁹⁵ Comments by the EPA Regional Administrator for Southwestern Pennsylvania, W. Michael McCabe, to Senator Arlen Specter suggest that the EPA acted arbitrarily in ignoring the

in two of the eight states.

⁹³61 Fed. Reg. at 19,194.

⁹⁴*Id.*

⁹⁵*Southwestern Pennsylvania Growth Alliance v. EPA*, 121 F.3d 106, 124 (3d Cir. 1997). Here, the EPA ruled against SPGA for fear that they would misinterpret the Clean Air Act. However, Judge Becker, in a concurring opinion, expressed the need to remedy northeastern states of this transport problem:

[T]here is something amiss, or at least unfair, in the EPA's treatment of regions such as the Pittsburgh-Beaver Valley nonattainment area which, because of the geographical configuration of the jet stream, receives a constant infusion of transported ozone from highly industrialized upwind sources. Although I lack the technical expertise of the agency, my immersion in the record in this case has left the distinct and indelible impression that, while laudably attempting to fulfill its statutory mission of assuring cleaner air, the EPA has paid insufficient attention to: (1) the difficulty that downwind areas such as Southwestern Pennsylvania have in meeting the ozone NAAQS, and (2) more importantly, the imperative of infusing its regulations with equity. The economic consequences to the area as the result of continued nonattainment status are enormous, as this record demonstrates . . . I suspect there are several avenues through which the EPA could afford relief to the Pittsburgh-Beaver Valley region and other similarly situated areas without violating its statutory mandate.

Additionally, the EPA has acknowledged that it has, in the past, excluded ozone data affected by forest fires in evaluating other re-designation requests.

The presence of these exceptions highlights the problem faced by communities such as the Pittsburgh-Beaver Valley area, whose herculean and largely successful efforts to combat air pollution may be derailed due to circumstances (upwind ozone) beyond its control. The tremendous remedial efforts undertaken by those regions seem to have been inadequately considered when contrasted with the aforementioned regulatory modifications. *Id.*

transport issue: "[S]ources upwind of the Pittsburgh area, for example sources outside the Ozone Transport Region, may also contribute to the problem."⁹⁶

The Pennsylvania Department of Environmental Protection ("DEP") noted in the record that every time Southwestern Pennsylvania exceeded the monitoring standard in 1995, the border reading was at least 85 ppb.⁹⁷ Conversely, whenever the border readings were low, the readings in the area also were low.⁹⁸ Monitoring results provided by the DEP for June-August, 1995 (maximum daily one-hour ozone readings) illustrate the strong correlation between the Hookstown and Florence monitoring sites near the West Virginia-Ohio-Pennsylvania border and interior monitoring sites in the seven-county region surrounding Pittsburgh.⁹⁹

Ozone transport is a major problem affecting states such as Pennsylvania.¹⁰⁰ As the legislative history of the 1990 Amendments states, "[o]zone transport is a serious problem for affected nonattainment areas. Peak ozone concentrations occur on successive hot days when ozone forms most rapidly and accumulates over broad regions."¹⁰¹ In a direct final rule approving a request to redesignate counties in Ohio, the EPA asserted that preliminary testing indicated that ozone

⁹⁶Don Hopey, *State Seeks Ozone Relief*, PITTSBURGH POST GAZETTE, Aug. 15, 1997, at A1. "Saying that one-third of its air pollution comes from outside its borders, Pennsylvania is petitioning the federal government to require 19 states to the west and south to significantly reduce utility and industrial emissions." *Id.*

The petition filed by Pennsylvania, "and similar ones filed by seven other eastern states with the U.S. Environmental Protection Agency, say air pollution from upwind states in the Midwest and South contributes to unhealthy ozone levels in Eastern states, and impedes their efforts to reduce those levels." *Id.*

"The petition filed by Pennsylvania calls for the EPA to impose emission reductions on large coal and oil burning utilities and industries in 19 states, ranging north to Minnesota, south to Louisiana and west to Iowa." *Id.*

"The petition asks the EPA to require those states to reduce nitrogen oxide emissions from utilities and industries by 55 to 65 percent—reductions are already under way in Pennsylvania and other Eastern states. . . ." *Id.*

James Seiff, Secretary of State (DEP) said, "ozone is not just a local air pollution problem. We demand today that the EPA implement the recommendations from the OTAG quickly, so that other states also will do their fair share to reduce air pollution." *Id.*

Seiff also pointed out that "recent scientific studies of air flow patterns and the movement of pollutants showed that Pennsylvania could not meet the health-based standard for ozone unless air pollution that drifts in from upwind states is reduced." *Id.*

⁹⁷61 Fed. Reg. 5,360, 5,369-70 (1996).

⁹⁸*Id.*

⁹⁹*Id.*

¹⁰⁰Don Hopey, *States, EPA in Agreement to Clean Up Air Pollution*, PITTSBURGH POST GAZETTE, Feb. 19, 1997, at B1.

Pollution from Midwestern industries and utilities is transported over the Northeast via prevailing winds. Studies indicate as much as one-third of Pennsylvania's ozone is the product of Midwestern pollutants.

¹⁰¹S. REP. NO. 101-228, at 48 (1990), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3434.

precursor emissions from states west of the ozone transport region are to blame for higher ozone concentrations within the ozone transport region.¹⁰²

Furthermore, the legislative history of the 1977 Clean Air Act amendments makes clear that the amendments "were designed to ensure that one state would not be able to foist its pollution on another state and accordingly require that state to tighten its regulations to keep its air clean."¹⁰³ The 1990 Amendments strengthen provisions requiring SIPs to take into account the effect of emissions on other states.¹⁰⁴ As a result, the Clean Air Act requires the EPA to reduce emissions in states that contribute significantly to nonattainment in other states.¹⁰⁵

The Pittsburgh area was not the only nonattainment area affected by the EPA's cavalier application of its own regulations. Northwestern Ohio also experienced the fruits - this time sweet of the agency's misguided rule-making procedure.

D. The EPA's Unlawful Redesignation of the Cleveland-Akron-Lorain Area as an Attainment Area

Pursuant to the Clean Air Act, the EPA published a list of ozone nonattainment areas that included the Cleveland-Akron-Lorain area ("CAL").¹⁰⁶ On July 25, 1984, the EPA proposed to disapprove a request by Ohio to find the area in attainment for ozone and required Ohio to submit an attainment demonstration by 1987.¹⁰⁷ The EPA based its disapproval on monitored violations of the ozone NAAQS in the area in 1983.¹⁰⁸ The EPA's

¹⁰²Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Purposes, 61 Fed. Reg. 3,319, 3,325 (1996) (codified at 40 C.F.R. pts. 52,

¹⁰³Connecticut v. EPA, 696 F.2d 147, 156 (2d Cir. 1982).

¹⁰⁴S. REP. NO. 101-228, at 19 (1990), reprinted in 1990 U.S.C.C.A.N. 3385, 3405. See also Michael J. Meagher, *Eastern States Convene over Ozone Compliance*, THE NAT'L LAW JOURNAL, Oct. 14, 1996, at C8. "Significant advances in computer modeling have dramatically eased the burden of the EPA and downwind states in objecting to significant air quality impacts from upwind emissions. Computer modeling has made significant strides since the 1980s, so it is now much easier to demonstrate downwind impacts." *Id.* Meagher asserted that

[i]t is not likely that, in this age of interstate competitiveness, downwind states will agree voluntarily to implement expensive control measures on sources in their states to account for emissions from upwind states. There is too much economic pressure to preserve and expand jobs for them to implement measures that will be perceived not only as unfair, but also, in many instances, as futile, when the nonattainment in a downwind state is due primarily to emissions from upwind states. *Id.*

¹⁰⁵42 U.S.C. § 7410(a)(2)(D).

¹⁰⁶40 C.F.R. § 81.336 (1995).

¹⁰⁷49 Fed. Reg. 29,973 (1984).

¹⁰⁸*Id.*

rule became final on March 25, 1986.¹⁰⁹ Upon the date of enactment of the 1990 Amendments, the CAL area retained its nonattainment designation and was classified as moderate nonattainment.¹¹⁰

On November 15, 1994, the State of Ohio, through its Environmental Protection Agency, again submitted its request to redesignate the CAL area from moderate nonattainment to attainment for ozone.¹¹¹ The State also submitted its plan for maintaining the NAAQS for a period of 10 years from redesignation. Although Ohio had a SIP, the plan needed several revisions to conform to the 1990 Amendments before the EPA could approve the redesignation request.¹¹²

Despite the lack of a fully-approved SIP, on June 15, 1995, the EPA issued a proposed rule that would approve the redesignation request and maintenance plan for the CAL area.¹¹³ The proposal was contingent on the state receiving final EPA approval of several components of its SIP to comply with the 1990 Amendments.¹¹⁴ The EPA determined that the fifteen percent Rate of Progress Plan and attainment demonstration would not be required if the EPA determined that the CAL area complied with the NAAQS for ozone.¹¹⁵ In a related rulemaking, the EPA promulgated a direct final rule that the Cleveland, Toledo, Dayton, and Cincinnati-Hamilton areas had attained the NAAQS for ozone.¹¹⁶

On July 28, 1995, the Southwestern Pennsylvania Growth Alliance ("SPGA")¹¹⁷ submitted comments to the EPA noting the agency's failure to

¹⁰⁹51 Fed. Reg. 10,198 (1986). The process by which EPA makes a redesignation determination is essentially identical to the rulemaking process. The redesignation is promulgated as a rule that appears in the Federal Register and, ultimately, the Code of Federal Regulations.

¹¹⁰40 C.F.R. § 81.336 (1995).

¹¹¹60 Fed. Reg. 31,433 (1995).

¹¹²*Id.*

¹¹³*Id.*

¹¹⁴60 Fed. Reg. at 31,433. The other portions of the Ohio SIP undergoing review by the EPA included state regulations for controlling volatile organic compounds by requiring the application of reasonably available control technology, the vehicle inspection and maintenance program, the plan for achieving a fifteen percent rate of progress toward meeting the NAAQS, a demonstration of attainment of NAAQS, an inventory of the emissions in the CAL area, and the NO_x waiver for the CAL area.

¹¹⁵60 Fed. Reg. at 31,433, 31,439.

¹¹⁶(Determination of Attainment of the Ozone Standard by the Cleveland, Toledo, Dayton, and Cincinnati-Hamilton Interstate Ozone Nonattainment Areas and Determination Regarding Applicability of Certain Reasonable Further Progress and Attainment Demonstration Requirement: Ohio.) 60 Fed. Reg. 33,781 (1995).

¹¹⁷The SPGA is a partnership of public officials and private business leaders from Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Lawrence, Washington, and Westmoreland counties and the City of Pittsburgh, Pennsylvania. The SPGA's goal is to identify issues critical to the economic growth of the nine-county area and to respond

consider the effects that ozone emissions from sources in the CAL area had on other states' attainment of NAAQS.¹¹⁸ Similarly, the New York Department of Environmental Conservation commented that its November 1994 SIP submittal requested the EPA to assess SIPs of upwind states to determine their contribution to nonattainment in New York.¹¹⁹ New York's submission referred to studies indicating that Ohio was contributing to violations of the ozone NAAQS in New York.¹²⁰

On July 8, 1996, SPGA filed a petition for review, challenging the EPA's May 7, 1996 redesignation of the CAL area as an attainment area and approval of the SIP revision submitted by Ohio.¹²¹ SPGA contended that the EPA failed to adhere to the Clean Air Act requirement that the SIP consider the impact of interstate transport of ozone and its precursors upon areas in other states, including Western Pennsylvania.¹²²

As noted above, the legislative history of the 1990 Amendments clearly indicates that ozone transport is a serious problem for affected nonattainment areas, and that peak ozone concentrations occur on successive hot days when ozone forms most rapidly and accumulates over broad regions.¹²³ The 1990 Amendments provide a new program to deal with the interstate movement of ozone pollution. This program is intended to address large-scale regional ozone pollution problems resulting from combined emissions over a broad area. The most prominent regional ozone problem is in the Northeast and Mid-Atlantic states, where high pollution levels have been monitored fre-

to such issues with support from state and federal officials. See *Southwestern Pennsylvania Growth Alliance v. EPA*, 121 F.3d 106, 111 (3d Cir. 1997); Public Comments from Harold D. Miller, Director, SPGA (July 26, 1995).

¹¹⁸Public Comments from Harold D. Miller, Director, SPGA (July 26, 1995).

¹¹⁹*Id.*

¹²⁰*Id.*

¹²¹Terry Kinney, *EPA is Allowing Ozone from Ohio to Blow into State, U.S. Court Told*, PITTSBURGH POST GAZETTE, Dec. 5, 1997, at D1.

This was heard before the United States Court of Appeals for the Sixth Circuit Court on December 4, 1997. Here, the federal appeals court was told that ozone from Cleveland is hurting business in Pittsburgh. "The SPGA contended that windborne ozone in Southwestern Pennsylvania would not be so thick if the status of the Cleveland area had not been upgraded." *Id.*

The SPGA said, "that because of ozone levels measured in Southwestern Pennsylvania, businesses are subject to stringent and costly emissions controls, while businesses across the state line in Ohio are not." *Id.* Thus, because of ozone from Ohio, Pittsburgh is in a position to be bumped up to 'serious' Nonattainment status." *Id.*

¹²²Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Ohio, 61 Fed. Reg. 20,458 (1996).

¹²³S. REP. NO. 101-228, at 48 (1989), reprinted in 1990 U.S.C.C.A.N. 3385, 3434.

quently over large regions, including rural areas such as Acadia National Park off the coast of Maine.¹²⁴

The 1990 Amendments specifically establish the Northeast Ozone Transport Region, stretching from Washington, D.C. to Maine.¹²⁵ In addition, the 1990 Amendments set forth a mechanism through which other transport regions can be created.¹²⁶

These amendments also establish new control requirements for the Northeast Ozone Transport Region (and any subsequently established ozone transport region), applying to both attainment and nonattainment areas within the region.¹²⁷ Cities with 100,000 or more residents are required to adopt enhanced motor vehicle inspection and maintenance programs and apply RACT to all VOC sources subject to a control technique guideline.¹²⁸ In addition, either stage II vapor recovery, or another control measure capable of achieving comparable emission reductions, must be implemented by each state in the region.¹²⁹

Within the ozone transport region, any stationary source with the potential to emit fifty or more tons of VOCs per year must be regulated in the same manner as a major source in a moderate ozone nonattainment area.¹³⁰ These VOC requirements will apply to major sources of NO_x as well, in the absence of a finding that control of NO_x will not contribute to lower ozone levels or produce a net air quality benefit.¹³¹

By specifically imposing an obligation upon states to consider ozone transport across state lines, Congress acknowledged the difficulty of achieving national air quality standards when pollution from one state traverses into neighboring states. The problem of transported ozone was so prevalent that in

¹²⁴101st Cong., 1st Sess. at 327 (1989).

¹²⁵42 U.S.C. § 7511c(a) (1998). This is the only interstate transport region specifically established in the legislation. *Id.*

¹²⁶42 U.S.C. § 7506a(a). Other transport regions may be established by the EPA on its own motion or upon petition by a state. *Id.*

¹²⁷42 U.S.C. § 7511c(b)(1)-(2).

¹²⁸42 U.S.C. § 7511c(b)(1)(A).

¹²⁹42 U.S.C. § 7511c(b)(2).

¹³⁰*Id.* Requirements for moderate ozone nonattainment areas are provided in 42 U.S.C. § 7511a(b). Other applicable part D requirements are found at 42 U.S.C. § 7502 and 7503. Existing major sources in ozone transport regions are, therefore, required to install RACT. *Id.* § 7502(c)(1), 7511a(b)(2).

¹³¹42 U.S.C. § 7511c(c). An ozone transport region can, on its own motion, propose additional control requirements for the region by a vote of the majority of member states. *Id.* § 7511c(C)(1). The EPA must, within nine months, determine whether to adopt the suggested controls, providing an explanation for any proposal that is not adopted. *Id.* § 7511c(C)(4)(i). The EPA must recommend equal or more effective emission control alternatives to rejected control strategies developed by an ozone transport region. 42 U.S.C. § 7410(a)(2)(D).

1990, Congress added sections to the Clean Air Act specifically authorizing the Administrator to create interstate transport regions and a transport commission to assess the degree of interstate transport of a pollutant or its precursors.¹³² Additionally, by operation of law, Congress established a single ozone transport region for eleven states and the District of Columbia.¹³³ The 1990 Amendments specifically provide that SIPs must contain provisions prohibiting sources of pollution in one state from emitting pollutants in amounts that would contribute significantly to nonattainment in any other state.¹³⁴

The addition of this section clearly illustrates Congressional concern for interstate transport.¹³⁵ As one court astutely observed with regard to Congress's attempt to create dual state-federal regulation: "No aspect of this novel attempt to establish joint state and federal responsibility is more crucial than the provisions which guarantee that air pollution generated in one state does not disrupt another state's plans for complying with the national standards."¹³⁶

Despite the "crucial" importance of interstate ozone transport,¹³⁷ the EPA issued a direct final rule approving Ohio's request to redesignate the CAL area.¹³⁸ In so doing, the EPA apparently ignored preliminary modeling results indicating that ozone precursor emissions from states west of the ozone transport region, for example Ohio, contributed to increases in ozone concentrations within the ozone transport region, for example, Pennsylvania and other Northeastern and Mid-Atlantic states.¹³⁹ The agency also overlooked the fact that Ohio's SIP did not include a provision to address actual or potential ozone transport issues.¹⁴⁰

The Clean Air Act, however, prohibits the Administrator from promulgating a redesignation of a nonattainment area to attainment status unless the state containing such an area has a fully approved implementation plan that has met all requirements applicable to the area.¹⁴¹ The EPA thus failed to satisfy the statutory requirements under the Clean Air Act in redesignating the CAL Area as an attainment area for ozone.

¹³²42 U.S.C. § 7410(a)(2)(D).

¹³³42 U.S.C. § 7511c(a).

¹³⁴42 U.S.C. § 7410 (a)(2)(D)(i)(I).

¹³⁵*Id.*

¹³⁶*Connecticut v. EPA*, 696 F.2d 147, 151 (2d Cir. 1982).

¹³⁷*Id.*

¹³⁸40 C.F.R. pts. 52, 81 (1997).

¹³⁹*Id.*

¹⁴⁰40 C.F.R. § 52.1870-1889 (1997).

¹⁴¹42 U.S.C. § 7502(c)(7) (1998). SIPs for nonattainment areas are also expressly required to meet the applicable provisions of section 110(a)(2) of the Clean Air Act. *Id.*

The Clean Air Act also mandates that states adopt and submit to the EPA a plan providing for "implementation, maintenance, and enforcement" of NAAQS in each air quality region within the state.¹⁴² In addition, the Act dictates that each plan contain fourteen specific provisions addressing emissions limitations, enforcement, fees, and air monitoring.¹⁴³

Part D of the Clean Air Act requires that states include special provisions addressing interstate transport of pollution in the SIP. Section 110(a)(2)(D) specifically requires that each SIP shall contain adequate provisions

prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard . . .¹⁴⁴

Simply stated, a request for redesignation cannot be granted until the state has adopted, and the EPA has fully approved, provisions adequately prohibiting the transport of air pollution to any other state as required under the Act.¹⁴⁵ In its rulemaking process for the CAL area, however, the EPA failed to determine whether the Ohio SIP complied with the Clean Air Act with respect to ozone transport,¹⁴⁶ nor did it require the state to adopt a plan to eliminate the

¹⁴²42 U.S.C. § 7410(a)(1).

¹⁴³42 U.S.C. § 7410(a)(2).

¹⁴⁴42 U.S.C. § 7410 (a)(2)(D).

¹⁴⁵40 C.F.R. pt. 52 (1997). The initial prong under section 110(a)(2)(D) is whether sources "contribute significantly" to "nonattainment in . . . any other State" with respect to the NAAQS. The initial inquiry for this prong is to identify and determine the geographic scope of "nonattainment" downwind. The EPA proposes to interpret this term to refer to air quality and not be limited to currently designated nonattainment areas. Section 110(a)(2)(D) does not refer to "nonattainment areas," which is a phrase that the EPA interprets to refer to areas that are designated nonattainment under section 107 (section 107(d)(1)(A)(I)). Rather, the provision includes only the term "nonattainment" and does not define that term. Under these circumstances, the EPA has discretion to give the term a reasonable definition, and will likely continue for some time to violate, regardless of the designation of those areas.

To determine whether emissions from sources in an upwind area significantly contribute to nonattainment downwind, the EPA proposes to compare NO_x emissions reductions upwind with ozone reductions downwind. For this purpose, the EPA assumes that areas with current air quality indicating nonattainment for the one-hour standard will be required to implement certain controls under the Clean Air Act, through the year 2007, which is the attainment dates for ozone nonattainment areas classified as severe. Accordingly, the EPA proposes to determine, through air quality modeling, which areas with current air quality indicating nonattainment will continue to be in nonattainment in the year 2007, even after implementation of controls specifically required under the Clean Air Act. *Id.*

¹⁴⁶Clean Air Act Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Ohio, 60 Fed. Reg. 31,433,

interstate transport of ozone precursors. Thus, the EPA's determination that Ohio's SIP was satisfactory was incomplete and probably unlawful, at least according to the Act as written.¹⁴⁷

The provisions of the Clean Air Act clearly place the burden on each state to make a determination of the extent to which emissions from that state are contributing significantly to nonattainment in other states, and if some contributions exist, to incorporate adequate remedial provisions in the SIP. Nowhere in Ohio's redesignation application did the state propose remedies for potential interstate ozone transport.¹⁴⁸ Moreover, and more importantly, nowhere in Ohio's SIP was there an indication that the state even addressed the issue of interstate transport.¹⁴⁹ Nonetheless, the EPA summarily concluded that the CAL area SIP was consistent with the requirements of section 110 of the Clean Air Act.¹⁵⁰ Nowhere in the administrative record, however, does the EPA substantiate how the Ohio SIP complies with the requirements of section 110 of the Act insofar as interstate transport of ozone precursors is concerned.

Additionally, the EPA's technical support document, detailing its review of the CAL ozone redesignation application, also summarily stated that the EPA has determined that the CAL area SIP was consistent with the requirements of section 110 of the Act without any indication of how the interstate ozone transport requirements had been fulfilled.¹⁵¹ The only discussion of ozone transport in the technical review conceded that the EPA recognized that precursor omissions from upwind states west of the ozone transport region in the Northeastern United States contributed to increased ozone concentrations in the ozone transport region.¹⁵² Nonetheless, in its preliminary rulemaking, the EPA deferred consideration of interstate ozone transport to future policies to be developed following completion of further studies.¹⁵³ The EPA's deferral highlighted the agency's indifference to the serious impact of ozone transport upon areas adjacent to the CAL area.¹⁵⁴

In its final rule granting Ohio's redesignation application, the EPA dismissed such concerns claiming that "[t]he issue of transported emissions is not relevant

31,437-38 (1995).

¹⁴⁷See 42 U.S.C. § 7410(a)(2)(D).

¹⁴⁸Northeast Ohio Area Wide Coordinating Agency Cleveland-Akron-Lorain Area, Ohio Redesignation Application, Final Draft, Nov. 10, 1994.

¹⁴⁹See *id.*

¹⁵⁰Clean Air Act Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Ohio, 60 Fed. Reg. at 31,437.

¹⁵¹Randy Robinson, Meteorologist, Regulation Development Section, Air Enforcement Branch, EPA Region V, *Review of the Ozone Redesignation Request for the Cleveland, Akron, Lorain Area of Ohio*, May 31, 1995 at 10.

¹⁵²*Id.*

¹⁵³*Id.*

¹⁵⁴*Id.*

to this rulemaking action."¹⁵⁵ Once again, the EPA deferred consideration of this issue, citing an ongoing study by the Ozone Transport Assessment Group (OTAG).¹⁵⁶ Again, the agency apparently flouted Congress's clear instruction to consider the ozone transport issue prior to any final redesignation.¹⁵⁷

The Clean Air Act does not authorize the EPA to defer fulfillment of its statutory mandate simply by stating "further study." Indeed, no section of the Clean Air Act or any other statute allows such action. Section 110 (a)(2)(D) of the Clean Air Act plainly states that state SIPs must *currently* address the issue of the effect of ozone precursors upon the attainment status of downwind states.¹⁵⁸ Ohio did not fulfill this statutory requirement in developing its SIP. More importantly, the EPA did not fulfill its mandated duty in reviewing and approving Ohio's ozone redesignation application.

The EPA's disregard for statutory compliance is inconsistent with other decisions by the agency. In its June 15, 1995 proposed rulemaking, the EPA acknowledged that transport of ozone precursors to downwind areas must be considered in the redesignation process.¹⁵⁹ The EPA subsequently determined that section 110 (a)(2)(D) was inapplicable to Ohio's request for redesignation. In response to comments regarding interstate transport submitted by New York, the EPA again concluded that "[t]he issue of transported emissions is not relevant to this rulemaking action."¹⁶⁰ The EPA also stated that "[t]he issue of transported emissions is dealt with by other provisions of the Act, provisions that are not the subject of this rulemaking action."¹⁶¹

Despite the relevance and applicability of section 110 (a)(2)(D), and despite its earlier acknowledgement to the contrary,¹⁶² the EPA ultimately dismissed

¹⁵⁵Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Purposes, 61 Fed. Reg. 20,458, 20,459 (1996).

¹⁵⁶Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Purposes, 61 Fed. Reg. at 20,459, 20,462. The work group, OTAG, was established to undertake an assessment of the regional transport problem in the eastern half of the United States. The OTAG was a collaborative process conducted by representatives from the affected States, the EPA, and interested members of the public, including environmental groups and industry, to evaluate the ozone transport problem and develop solutions. 40 C.F.R. pt. 52 (1989).

¹⁵⁷See 42 U.S.C. § 7410(a)(2)(D).

¹⁵⁸42 U.S.C. § 7410 (a)(2)(D).

¹⁵⁹Clean Air Act Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Ohio, 60 Fed. Reg. 31,433, 31,439 (1995).

¹⁶⁰Clean Air Act Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Ohio, 61 Fed. Reg. at 20,459.

¹⁶¹*Id.*

¹⁶²See 40 C.F.R. pt. 81 (1997); *see also* Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Michigan, 61 Fed. Reg. at 31841 (1996). (The EPA reviewed wind speeds and wind directions in Grand Rapids, Michigan and Michigan City, Indiana in 1995 to determine excess ozone

the Section as irrelevant and unimportant to Ohio's redesignation. The agency's inconsistent interpretations and applications of this important, indeed essential, section of the Act cannot be ignored. In light of the EPA's toughened stance in other areas, the time has come for it to clamp down on the ozone transport issue.

IV. NEW SHIFT IN DECISIONS: THE EPA TOUGHENS ITS STANCE ON SMOG CONTROLS

Recently, the EPA has imposed emissions limits for upwind states. On October 9, 1997, Pennsylvania DEP Secretary James Seif said, "Pennsylvania intends to sue the EPA unless pollution control efforts are undertaken."¹⁶³ Of particular concern are nineteen large coal-fired electric generating plants in Southern and Midwestern states. Pennsylvania and seven other states want specific emissions limitations and reductions placed on those units.¹⁶⁴ Seif stressed that, "[e]ven with significant steps that Pennsylvania has already taken to reduce our emissions, it is clear that we cannot achieve that national health-based standard for ozone if the issue of dirty air coming into Pennsylvania from other states is not addressed."¹⁶⁵ Additional states that are affected by tainted air are: New York, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine.¹⁶⁶

The EPA's reluctance to enforce the important provisions of the Clean Air Act dealing with interstate transport of ozone is diminishing. On October 11, 1997, the EPA threatened to take away federal highway funds for twenty-two

concentrations downwind.) The EPA has applied inconsistent standards in its evaluation of SIPs pursuant to section 107(d)(3)(E). Unlike the CAL redesignation where the EPA found interstate transport irrelevant, in reclassifying the San Diego area, the EPA took the effects of transport into account when reclassifying the area.

¹⁶³Dennis Barbagello, *Pennsylvania Threatens to Sue EPA*, PITTSBURGH TRIB. REV., Oct. 9, 1997, at A4.

¹⁶⁴Don Hopey, *Pittsburgh Air Quality*, PITTSBURGH POST GAZETTE, Nov. 30, 1997, at A14. The Gen. James M. Gavin power plant in Chesire, Ohio is the beginning part of Pittsburgh's dirty air. The 830-foot tall stack is located 250 miles down the Ohio River from Pittsburgh. Gavin is the largest coal-fired plant in Ohio, but not the only one. There are dozens more up and down the Ohio River Valley and throughout West Virginia, Kentucky, Indiana, and Illinois.

The Gavin power plant, with its two, 1,300 megawatt turbine units, has no controls on its nitrogen oxide emissions, and pumps out between 80,000 and 100,000 tons of NOx a year more than all the coal and oil burning power plants in New York. *Id.*

¹⁶⁵*Id.* Among the steps taken by Pennsylvania are: 1) an October 1 start-up of an enhanced auto emissions testing program in the Greater Pittsburgh and Metropolitan Philadelphia areas; 2) the imposition of new industrial air pollution controls through Reasonable Achievable Control Technology Requirement (the state also capped emissions from large boilers and electric generators throughout the Commonwealth); and 3) becoming a member of the 37-state OTAG. *Id.*

¹⁶⁶Dennis Barbagello, *Pennsylvania Threatens to Sue EPA*, PITTSBURGH TRIB. REV., Oct. 9, 1997, at A4.

states from Massachusetts to Missouri if they failed to reduce their amount of smog-causing pollution.¹⁶⁷ "The tougher air pollution requirements will have the greatest impact on Midwest and Ohio Valley states because they have done less to curtail smog-causing nitrogen oxide releases from coal-burning power plants. Many Northeastern states will have to make only modest improvements because they have already made significant reductions."¹⁶⁸

EPA Administrator Carol Browner said, "the new pollution caps are needed to stem the flow of smog-causing chemicals across state and regional boundaries, and to help communities to meet the more stringent air quality standards announced last summer."¹⁶⁹ Browner added that, "if states don't come up with a timely pollution reduction plan, the EPA could impose a federal program, or the government could withhold federal highway funds."¹⁷⁰

Several Midwestern states, including Ohio and Michigan, are expected to oppose the EPA requirement due to their excessive pollution emissions. "The most severe cuts will be required in states with large coal-powered electric plants in the Midwest and Ohio Valley. Five states must cut emissions forty percent or more: West Virginia, Ohio, Missouri, Indiana, and Kentucky."¹⁷¹ Many Northeastern states from Maryland to Massachusetts have argued that it is impossible for them to improve their air quality because pollution from Ohio Valley coal-burning power plants is blowing into their areas.¹⁷²

Unfortunately, Northeastern states are still suffering from this pollution, creating unequal business opportunities. For example, the LTV Corporation announced plans to close its Hazelwood (Pittsburgh) Coke Works because of expensive clean air standards in Pennsylvania.¹⁷³ As SPGA Director Harold Miller observed, "local manufacturers must spend millions of dollars to comply with federal standards. As a result, environmental regulations are chasing industry out of state. There are lots of other companies that don't even give Southwestern Pennsylvania a second look."¹⁷⁴

¹⁶⁷22 *States Told to Cut Pollution*, PITTSBURGH TRIB. REV., Oct. 11, 1997, at A3. The 22 states affected by the new emission caps, and the percentage of nitrogen oxide reductions demanded are: Alabama, 36%; Connecticut, 21%; Delaware, 28%; Georgia, 35%; Illinois, 38%; Indiana, 42%; Kentucky, 40%; Maryland, 36%; Massachusetts, 32%; Michigan, 32%; Missouri, 43%; New Jersey, 25%; New York, 19%; North Carolina, 34%; Ohio, 43%; Pennsylvania, 32%; Rhode Island, 19%; South Carolina, 31%; Tennessee, 35%; Virginia, 21%; West Virginia, 44%; and Wisconsin, 35%. *Id.*

¹⁶⁸*Id.*

¹⁶⁹*Id.*

¹⁷⁰*Id.*

¹⁷¹*Id.*

¹⁷²PITTSBURGH TRIB. REV., *supra* note 167.

¹⁷³Jonathan Potts, *Officials Cheer EPA Decision on Pollution*, PITTSBURGH TRIB. REV., Dec. 19, 1997, at A3.

¹⁷⁴*Id.*

Recognizing the growing financial cost of ozone transport to affected areas like Southwestern Pennsylvania, the EPA has agreed to a schedule for controlling out-of-state pollution.¹⁷⁵ Pittsburgh City Councilman Bob O'Connor welcomed this measure: "I think we need relief, especially when our neighboring states are causing the pollution."¹⁷⁶

Under this arrangement, "the EPA will announce emission controls and identify troublesome industrial sites by April 30, 1998.¹⁷⁷ The agency will require upwind states to implement ozone emission controls similar to those enacted in Pennsylvania. The agency will begin enforcing the new standards in 1999."¹⁷⁸ Thus, Pennsylvania and other Northeastern states will have to wait, suffering more economic and health-related disadvantages in the interim.¹⁷⁹

The ongoing litigation between Northeastern states and the EPA might have been avoided if the EPA had heeded the plain language of the Clean Air Act. Likewise, the financial burdens forcing LTV to close its Pittsburgh coke plant might have been averted if the agency had followed clear Congressional instructions. The questions of (i) who should bear the costs of ozone transport (Ohio or Pennsylvania, for example), as well as (ii) whether downwind regions not otherwise in violation of the Clean Air Act (such as Southwestern Pennsylvania) deserve attainment status, are beyond the scope of this Note. One thing, however, is as obvious as it is important: The EPA must enforce the Clean Air Act as written.

Section 110 (a)(2)(D) clearly provides one of the most important and effective tools for addressing the problem of ozone transport. This provision, which applies by its terms to all SIPs for each pollutant covered by a NAAQS and for all areas regardless of their attainment designation, provides that a SIP must contain provisions preventing its sources from contributing significantly to

¹⁷⁵*Id.*

¹⁷⁶*Id.*

¹⁷⁷*Id.*

¹⁷⁸Potts, *supra* note 173, at A3.

¹⁷⁹*Southwestern Pennsylvania Growth Alliance v. Browner*, 121 F.3d 106, 124-125. Judge Becker, noting the hardships faced by Southwestern Pennsylvania and other Northeastern states, suggested a change in the EPA's unwarranted decisions.

I would urge Congress to address the burdens faced by the Pittsburgh-Beaver Valley nonattainment region and other areas in the same predicament. Congress has taken into account the problem of transported ozone in the past, excusing certain so-called 'rural transport areas' from certain pollution control requirements. I see no reason to treat metropolitan areas differently, especially where, as here, a region has achieved such significant emissions improvements . . . I would also urge the EPA to address these problems in the regulatory context. If the EPA and Congress satisfactorily address the referenced issues, we may be able to avoid a succession of expensive and burdensome litigations like this one. *Id.* (citations omitted)

nonattainment problems or interfering with maintenance of attainment status in downwind states.

V. CONCLUSION

Several parts of the Clean Air Act directly address the problem of ozone transport. For example, section 110(k)(5) authorizes the EPA to find that a SIP is substantially inadequate to meet any Clean Air Act requirement, as well as to mitigate interstate transport of the type described in section 184 (concerning ozone transport in the northeast) or section 176A (concerning interstate transport in general) and thereby require a state to submit, within a specified period, a SIP revision to correct the inadequacy. Also, section 126(b), which Congress clarified in 1990, authorizes each state to petition the EPA for a finding that emissions from "any major source or group of stationary sources" in an upwind state contribute significantly to nonattainment in, or interfere with maintenance by, the downwind state.¹⁸⁰ If the EPA makes such a finding in support of a section 126 petition, the EPA would impose limits on the affected source or group of sources.

In addition, the 1990 Amendments include other specific provisions focused on interstate transport of ozone. Section 184 delineates a multistate ozone transport region in the Northeast, requires specific additional controls for all areas (not only nonattainment areas) in that region, and establishes the Ozone Transport Commission for the purpose of recommending to EPA region-wide controls affecting all areas in that region.

Unfortunately, despite these provisions in the Clean Air Act that were intended to monitor and, eventually, prevent the transport of ozone across state lines to the detriment of all states' health and economic wellness, the EPA is trying to circumvent the issue in the courts. The provisions of the Clean Air Act must be enforced, however, to avoid another "Tragedy of the Commons,"¹⁸¹ in which each state, placing economic gain ahead of environmental well-being, contributes to the problem of pollution, believing they can simply foist the resulting disaster on neighboring states. Ohio and Pennsylvania, for example, have recently experienced opposite but equally profound effects of such a scenario. In the end, however, all states will suffer, either directly or indirectly,

¹⁸⁰42 U.S.C. § 7410(a)(2)(D) (1997).

¹⁸¹Garrett Harden, *Tragedy of the Commons*, 162 SCIENCE 1243 (1968). This is a scenario in which greed destroys the common ground's natural resources.

from contaminated air. This result can only be hastened by the EPA's hesitance to enforce the plain language of the Clean Air Act.

SHARI R. DESALVO¹⁸²

¹⁸²I am forever grateful to those people I love, who made this paper possible. I would first like to thank my family, whose love, support, and delicious meals guided me through difficult times. Second, I must thank Luke, whose patience, love, humor, insight, and monthly vacations helped me to stay grounded, and keep things in perspective. Third, I owe much of my happiness to my great friend, Jen, whose spontaneity, friendship, and obsession with pop culture, Melrose, and Chianti, enabled me to enjoy my law school experience. Finally, I owe much of my peace and well-being to my beautiful cats, Slinky and Gizmo, who meowed and sat on my research, which gave me time to recollect my thoughts, and appreciate the fuzzy side of life.

