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Air Quality: EPA's Proposed Ozone Transport Rule, OTAG, and Section 126 Petitions — A Hazy Situation?

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ABSTRACT

EPA is currently engaged in a series of regulatory actions to address the transport of ozone pollution in the eastern United States. This report reviews this situation with respect to an EPA-proposed Ozone Transport Rule and other activities. It will be updated as events warrant.

Air Quality: EPA's Proposed Ozone Transport Rule, OTAG, and Section 126 Petitions — A Hazy Situation?

Summary

Interstate transport of air pollutants is not a new problem. The 1990 Clean Air Act Amendments provided the Environmental Protection Agency (EPA) and the states with new tools to address the problem. These tools permitted EPA to establish the Ozone Transport Assessment Group (OTAG) to recommend ways of reducing ozone transport in the northeastern part of the country. From these recommendations, EPA may issue rules requiring states to tighten ozone control measures to prevent ozone transport (commonly known as a SIP call). In addition, individual states may petition EPA to force other states suspected of contributing to their compliance problem to reduce offending emissions.

OTAG sent its final recommendations to EPA in June, 1997. Overall, OTAG sanctioned flexibility, both for the states and for EPA in deciding on how to respond to the ozone transport issue and how to make necessary reductions. Based on the OTAG recommendations, EPA proposed the Ozone Transport Rule in November 1997. Although EPA often took the most stringent interpretation of OTAG's recommendations in its proposed Ozone Transport Rule, it also has attempted to include flexibility for states in implementing proposed nitrogen oxide (NOx — a precursor to ozone) reductions. In particular, the sanctioning and encouragement of a regional NOx cap and trade program for electric utilities and other major stationary sources could substantially reduce the cost of compliance with the rule. However, EPA does not have the authority to make participation in a regional cap and trade program mandatory, unlike the current acid rain SO_2 program. Instead, it is up to the states to decide whether the economic benefits of reducing emissions across the enlarged trading area that the model trading program promises are worth the regulatory conditions EPA would impose.

Implementation may be complicated by a decision by eight northeastern states to submit petitions to EPA to force midwestern states to reduce NOx emissions (called section 126 petitions) in August, 1997. Implementation of controls under section 126 is an EPA-directed affair, in contrast with the state strategies required under an EPA SIP call. In addition, a section 126 action could raise questions with respect to the Regulatory Flexibility Act as the controls imposed would clearly come from EPA and not the states (as is the case with a SIP call). In short, it is unclear whether the petitions under section 126 will expedite NOx control actions by affected states, or merely increase litigation on an already litigious issue.

In April 1998, EPA issued a proposed supplemental rulemaking that outlines the essential components of a model regional NOx trading program, and revised state NOx emission budgets. At the same time, EPA issued an Advanced Notice of Proposed Rulemaking for the section 126 petitions in line with a proposed consent decree that would establish a schedule for EPA action on the petitions. Final EPA action on the proposed Ozone Transport Rule is currently scheduled for September 1998, with state submission of any necessary SIP revisions required one year later.

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Background

Interstate transport of air pollutants is not a new problem. However, the 1990 Clean Air Act Amendments (CAAA) provided the Environmental Protection Agency (EPA) and the states with new tools to address the problem. One of those tools is section 176A, a provision that permits the EPA, either on its own or by petition from any state, to establish a transport region to address regional pollution problems contributing to violations of a primary National Ambient Air Quality Standards (NAAQS). A commission of EPA and state officials is constituted to make recommendations to EPA on appropriate mitigation strategies. Based on the commission's findings and recommendations, EPA is required under section 110(k)(5) to notify affected states of inadequacies in their current SIPs and to establish deadlines (not to exceed 18 months) for submitting necessary revisions (commonly known as a SIP call).

Besides authorizing administratively-created transport regions, the 1990 CAA Amendments statutorily created an Ozone Transport Region (OTR) in the Northeast (section 184). This provision requires specific additional controls for all areas (not only nonattainment areas) in that region, and establishes the Ozone Transport Commission (OTC) for the purpose of recommending to EPA regionwide controls affecting all areas in the region.

In addition, the 1990 CAA Amendments rewrote the provisions of Sec. 126 regarding interstate transport of pollution. Under section 126(b), any state or political subdivision may petition EPA for a finding that any major source or group of stationary sources located in another state are emitting pollutants that "significantly contribute" to the nonattainment of a NAAQS by their state. EPA is to respond to the petition within 60 days. If the petition is granted, the affected sources must cease operations within 3 months unless the sources comply with emission controls and compliance schedules as determined by EPA to bring them into compliance with the section.

The Ozone Transport Assessment Group

In 1995, EPA issued a planning guidance memorandum for ozone nonattainment areas classified serious or above. Among its provisions was a call for a 2-year regional assessment of ozone transport and control strategies. The goal was to reach consensus between EPA and the affected states on necessary additional regional and other emission reductions to achieve attainment in ozone transport areas. Based on

results, states would submit plans by mid-1997 for appropriate local and regional controls to achieve attainment. If no consensus were reached, EPA stated it would use its authority under the Clean Air Act (CAA) to ensure the required reductions are achieved (particularly section 126 and/or section 110).[1]

Following a recommendation of the Environmental Council of the States (ECOS) for a national work group on ozone, EPA, the 37 easternmost states and the District of Columbia, industry representatives, and environmental groups formed an Ozone Transport Assessment Group (OTAG) partnership, which initially met in May, 1995. The policy arm of OTAG consisted of the state environmental commissioners from the 37 states and the District of Columbia and senior EPA officials. It was this Policy Group that voted on the proposals to be included in recommendations to the states and EPA.

To develop the necessary assessment data, OTAG created three subgroups and six workgroups to address modeling and assessment issues, strategies and controls, along with outreach and communications. Each subgroup held open working meetings to receive input from various stakeholders. The recommendations of these subgroups were submitted to the Policy Group via joint sessions of the Strategies and Controls and Modeling and Assessment Subgroups. The final OTAG meeting was June 19, 1997.[2]

OTAG Assessment Results

OTAG analytical work began with the development of an improved emissions inventory from which extensive modeling of ozone transport could be conducted. Based on that modeling, two workgroups reached several conclusions with respect to ozone transport and the anticipated benefits from increased nitrogen oxide (NOx) and volatile organic compound (VOC) control. Among those findings particularly relevant in light of EPA's new 8-hour ozone National Ambient Air Quality Standard (NAAQS)[3] are the following:

- The perceived contribution of ozone transport is strongly dependent on how the ozone "problem" is defined. Local emissions are more important with respect to peak 1-hour concentrations than with respect to lower concentration thresholds and concentrations assessed over longer averaging times (8-hour or seasonal averages), where larger areas and longer distance scales become increasingly important.

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[1]Nichols, Mary D. "Ozone Attainment Demonstration," U.S. EPA: Assistant Administrator for Air and Radiation, March 2, 1995.

[2]Background on OTAG and its final report are available via EPA's web site at [http://www.epa.gov/ttn/otag/]

[3]For a summary of the new ozone NAAQS, see CRS Report 97-721 ENR, *Air Quality Standards: EPA's Final Ozone and Particulate Matter Standards*. For a longer discussion, see CRS Report 97-8 ENR, *Air Quality: EPA's New Ozone and Particulate Matter Standards*.

- The central portion of the [37-State] OTAG domain is unique with respect to ozone and ozone transport. It persistently has elevated ozone levels producing an "ozone pool." Transport in any direction from this region has been implicated with high ozone levels in neighboring areas.

- High ozone levels in the southern portion of the OTAG domain are typically associated with stagnant [pollutant] transport conditions resulting in shorter transport scales than on average. In contrast, high ozone levels in the northern portion of the OTAG domain are more typically associated with higher speed and persistent transport conditions from inside the OTAG domain across state lines.

- The proposed 8-hour ozone standard [now finalized] will result in significantly more closely adjacent nonattainment areas across the OTAG domain. This will make ozone transport more critical with respect to nonattainment than it is under the current [now previous] standard.[4]

OTAG Recommendations[5]

Of the 37 states that constituted OTAG, 32 voted in favor of the final recommendations with Alabama, Kentucky, Michigan, Virginia, and West Virginia voting against. Those recommendations covered numerous areas, ranging from utility controls to increased research.

Size of Transport Region. Which states should comprise the ozone transport region was debated continuously during OTAG deliberations. Particularly, states west of the Mississippi River and some southern states argued that their emissions had little or no effect on ozone transport. OTAG recommended that these "coarse-grid" states be exempt from OTAG-related controls. These states include North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Minnesota, Iowa, Arkansas, Louisiana, Mississippi, and Florida, as well as parts of Maine, New Hampshire, Vermont, New York, Michigan, Wisconsin, Missouri, Alabama, and Georgia.

OTAG did recommend that Iowa work with Wisconsin in developing implementation plans for southwestern Wisconsin; that Kansas work with Missouri on implementation plans for Kansas City; and, that Oklahoma, Texas, Arkansas, and Louisiana share modeling results with Missouri.

Utility NOx Controls. Increasing NOx control on utility plants was one of the most contentious issues within OTAG. The final recommendation reflects this contention by being wide enough to cover all points of view. Specifically, OTAG recommended a range in the 26 "fine grid" states between current Clean Air Act controls (i.e., existing requirements) to the lesser of 85% reduction from 1990 rates

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[4]Air Quality Analysis Workgroup. *OTAG Air Quality Analysis Workgroup Results Summary*. [http://capita.wustl.edu/otag/Reports/ExecSumm/AQASUM3.html]

[5]OTAG's recommendations are attached to EPA's proposed Ozone Transport Rule as Appendix B. 62 *Federal Register* 60376-60379, November 7, 1997.

or a .15 lb/mmBtu performance standard (a significant increase in stringency). It is arguable how such a wide range provided any guidance to EPA on implementing regional controls. Essentially, the range gave EPA a free hand in deciding on appropriate tonnage levels in its proposed Ozone Transport Rule, discussed later.

OTAG did recommend that any statewide tonnage levels proposed by EPA be revised if additional subregional modeling or air quality analyses justified it. Likewise, OTAG recommended that EPA consider any submitted comments and subregional modeling with respect to proposed statewide tonnage levels prior to finalizing SIP calls.

Non-Utility Stationary Source NOx Control. OTAG's recommendations for non-utility stationary sources mirrored those for the utility sources. Dividing non-utility facilities into medium and large sources, OTAG recommended that large sources be controlled in proportion to how much utility sources are controlled. If utility sources are required to reduce 55%, large non-utility sources should be required to reduce 55%. This parallel requirement weakens as the utility reductions increase; for an 85% utility source reduction, OTAG recommends only a 70% reduction for large non-utility sources.

Requirements for medium sources are also based on utility source requirement, but considerably less stringent. For 55%-65% utility reductions, no medium non-utility control is recommended. For 75%-85% utility reduction, OTAG recommends that medium non-utility sources be required to install reasonably available control technology (RACT), a determination made by the states based on EPA guidance. As with the utility control recommendations, OTAG urges flexibility if additional modeling and air analyses warrant it.

Federal Emission Control Measures. In OTAG's view, the federal government has a major role in assisting states achieve compliance, particularly with respect to new stationary source control and mobile source control. OTAG outlines nine specific areas where the federal government should develop, adopt, and implement stringent national NOx and/or VOC control requirements to assist the OTAG region in achieving compliance with the ozone NAAQS. These areas include architectural and industrial maintenance coatings, consumer and commercial products, autobody refinishing, reformulated gasoline, small engines, heavy duty highway engines, heavy duty non-road diesel engines, and locomotive engines.

OTAG also recommended that EPA act on some fuel related items. These recommendations included EPA (1) adopting a rule on an appropriate fuel sulfur standard to improve long-term performance of emission control devices, (2) evaluating emission benefits and other effects of cetane adjustments on current diesel engines and adopting standards as appropriate, and (3) considering and potentially adopting new diesel fuel standards by the year 2004 through existing deliberative processes.

Finally, OTAG supported and encouraged adoption of a National Low Emission Vehicle Program.

Specific State Actions. OTAG also recommended that "fine grid" states consider adopting enhanced inspection and maintenance (I&M) program in urban areas with populations greater than 500,000, the continued use of reformulated gasoline (RFG) in both mandated and opt-in areas, among other provisions.

Trading Program. Part of the controversy over utility source control involved proposed market-based approaches to implementing such controls. OTAG did considerable work on market mechanisms and found several benefits to these implementation approaches, including: (1) lower compliance costs, (2) incentive for early reductions, (3) incentive for over-control of sources, (4) incentive for innovation, and (5) administrative flexibility.

However, OTAG was unable to agree on a basic structure for a market mechanism. Some states, particularly those in the northeast, advocated a "cap and trade" program. A cap and trade program places a total emission limit (i.e., cap), expressed in tons of pollutants, on specific emission sources within an area. The allowable amount of pollution is then allocated to these sources according to an agreed upon formula. Sources that emit less pollution than their allocation may trade the unused portion of their allocation to sources that exceed their allocation, or bank those unused pollution "credits" for use in a future year. A system like this has been successfully implemented to reduce sulfur dioxide emissions under title IV of the CAA and is being implemented in the Ozone Transport Region (OTR) to reduce NOx emissions.

Under a cap and trade system, emissions are not permitted to increase over time. Thus, new emissions from new sources (or expanded production at existing sources) have to be offset with reduced emissions at existing sources. Industry groups have objected to this fixed limit on emissions and argued for an alternative that controls the rate of pollution emitted, but not the total amount emitted (i.e., no cap). Under a "rate only" approach, a source could emit as much of a pollutant as it wished, as long as it did not emit the pollutant at a rate greater than stipulated. If a source emitted at below the stipulated rate, it would receive credits amounting the difference between its actual rate and the stipulated rate times its production for a given year. It could trade or bank the resulting credits. If a source exceeded the rate, it could purchase emission credits for the excess amount (based on its total production for a year) from a source that had accumulated credits. Currently, no trading program is based on this approach.

As was the case with the utility control recommendations, OTAG's final recommendation with respect to a trading program encompasses both views. The cap and trade program, called "Track 1," and the rate only program, called "Track 2," are both identified by OTAG as options for states to adopt in implementing utility (and possibly other) control measures. OTAG acknowledged several uncertainties with respect to this recommendation including (1) the need for further work on rate only approaches to implement them with the same level of confidence and certainty as the cap and trade system; and (2) how any "cross-track" trading could occur between cap and trade states and rate only states. OTAG did note that EPA would have an integral part in overseeing the implementation and integrity of these approaches.

For its part, OTAG recommended a joint state/EPA workgroup address the issues of implementation of Track 1 and Track 2, along with identifying key design features that states could select in developing a NOx trading program. OTAG believed its work in this area provides a sound basis for the workgroup's task. In addition OTAG suggested the workgroup address other concerns with respect to modeling, market systems, and local control requirements.

EPA's Revised NAAQS for Ozone

On July 16, 1997, the Administrator of the Environmental Protection Agency (EPA) finalized a new National Ambient Air Quality Standard (NAAQS) for ozone. Accompanying the NAAQS was a White House memorandum discussing the general approach EPA was to take in implementing the new NAAQS.[6] Recognizing ozone as a regional pollution problem, the memorandum focuses on regional compliance strategies for the new NAAQS. In particular, the memorandum cited the work of OTAG as the basis of this approach. As stated therein:

> For the past 2 years the EPA has been working with the 37 most eastern states through the Ozone Transport Assessment Group (OTAG) in the belief that reducing interstate pollution will help *all* areas in the OTAG region attain the NAAQS.... The OTAG completed its work in June 1997 and forwarded recommendations to the EPA. Based on these recommendations, in September 1997, the EPA will propose a rule [on ozone transport] requiring states in the OTAG region that are significantly contributing to nonattainment or interfering with maintenance of attainment in downwind states to submit SIPs [State Implementation Plans] to reduce their interstate pollution. The EPA will issue the final rule by September 1998.

The revised ozone NAAQS was not the trigger for the Ozone Transport Rule proposed by EPA in November 1997 and discussed in the next section. Existing nonattainment in the Northeast corridor with the previous, less stringent ozone NAAQS was the genesis of the OTAG effort and the resulting proposed rule by EPA. However, EPA drew on the OTAG findings and recommendations as it developed a flexible implementation strategy for attainment of the new ozone NAAQS, and, where EPA considered it appropriate, this strategy is integrated with the proposed requirements of the Ozone Transport Rule.

In particular, the regional NOx control strategy advanced by EPA in the Ozone Transport Rule as a response to ozone transport under section 110(k)(5) is also an integral part of the new ozone NAAQS implementation strategy under section 110(a)(1)). In particular, EPA believes that implementation of a regional NOx control strategy will permit many areas that are (or would be by the year 2000) in attainment with the previous ozone NAAQS but in non-compliance with the new ozone NAAQS, to come into compliance with the new standard with little or no additional new local

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[6]President Clinton. "Implementation of Revised Air Quality Standards for Ozone and Particulate Matter," Memorandum for the Administrator of the Environmental Protection Agency, July 16, 1997.

emission reductions. EPA says that participation by these "transitional areas" in the regional NOx control program would permit EPA to eliminate unnecessary local planning requirements for such areas, and to revise its new source review (NSR) and conformity rules so such transitional areas could comply with only minor revisions to their existing programs.

Proposed Ozone Transport Rule

On November 7, 1997, the EPA proposed its Ozone Transport Rule.[7] The proposal requires 22 eastern states and the District of Columbia to submit state implementation plans (SIPs) to address regional transport of ozone.[8] In particular, the proposal calls for increased controls on NOx, focusing particularly on emissions from electric utilities and large combustion sources. To achieve the necessary reductions, EPA has proposed emission budgets for each of the affected states, with each state free to decide on what controls to use to maintain emissions within those budgets. As discussed in the next section, EPA is also encouraging the formation of a regional cap and trade program to implement the NOx reductions through a model program. On April 29, 1998, EPA proposed a supplemental rulemaking that details a model cap and trade program for states to consider in implementing the Ozone Transport Rule.[9] Among other things, the supplemental rulemaking revises the statewide NOx emission budgets, outlines state reporting requirements, and addresses criteria EPA will use in approving SIP revisions.

Under section 110(k) of the Clean Air Act, EPA is mandated to require SIP revisions for states whose current SIPs are substantially inadequate to mitigate adequately interstate pollutant transport such as that described under section 176A (under which OTAG was established). Adequate provisions are defined by section 110(a)(2)(D) as those that prohibit state emissions "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...." In the proposed rule, EPA used four criteria for determining whether a state significantly contributed to, or interfered with, another state's efforts to achieve the ozone NAAQS: (1) the emissions level of the upwind area; (2) the upwind area's contribution to the downwind nonattainment area; (3) the transport distance between the two areas; and (4) the geographic extent of the contribution downwind.

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[7]Environmental Protection Agency. *Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone.* Notice of proposed rulemaking. 62 *Federal Register* 60317-60421, November 7, 1997.

[8]The 22 states included are: 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, Wisconsin, and West Virginia.

[9]Environmental Protection Agency. *Supplemental Notice for the Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone; Proposed Rule*. 63 *Federal Register* 25902-25994, May 11, 1998.

Based on the "weight of evidence" from the OTAG modeling process and other modeling efforts, EPA found that 22 of OTAG's 37 member states made significant contributions to downwind nonattainment—the 22 plus D.C. that are addressed by the rule. For the nine other states,[10] EPA found that (1) they made at most a relatively small contribution to downwind nonattainment areas; (2) most are relatively distant from many of the downwind nonattainment areas; and (3) most have a relatively low amount of manmade NOx emission and/or NOx emissions density. Thus, these states did not meet EPA's weight of evidence threshold for finding a significant contribution.

As originally proposed, EPA used OTAG and other modeling efforts to determine state complicity with respect to ozone transport, but did not use such modeling to determine its proposed emissions budgets for affected states.[11] Instead, EPA used a cost-effectiveness criterion based on NOx control costs to determine allocations. Budget components were calculated for five sectors: electric utility sources, nonutility stationary sources, area sources, nonroad engines, and highway vehicles.[12] In focusing on cost-effective controls, EPA argued that it was following the recommendations of OTAG. The effect of such an allocation scheme would be to tilt emission reductions toward states with large stationary NOx sources with relatively modest controls, and away from states with relatively higher emissions from other sources. In particular, states with coal-fired electric power plants would generally have higher percentage reductions required on a statewide basis than states without such plants.

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[10] The 9 states not included are: Florida, Kansas, Louisiana, Minnesota, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas.

[11] "The statewide emissions budgets proposed in this rulemaking were not modeled directly to determine their air quality benefits." 62 *Federal Register* 60327. In its April proposed supplemental rulemaking, EPA included a modeling analysis to show how these proposed NOx budgets would improve air quality in the eastern U.S. See 63 *Federal Register* 25953-25967, May 11, 1998.

[12] For utility sources, EPA used a NOx emission rate of 0.15 lb/MMBtu to determine budget allocations. However, EPA used different growth factors than those developed by OTAG in making the necessary 2007 calculations. For area sources, EPA assumed no new controls, in line with OTAG. For nonutility sources, EPA used a 70% reduction requirement for large and RACT controls (generally 25%-50% reduction) for smaller sources. This is approximately what OTAG had recommended. EPA calculated the highway vehicle budget by assuming implementation of existing SIPs, along with the following federal measures: national low emission vehicle standards, 2004 heavy-duty engine standards, and revisions to emissions test procedures. EPA's method of calculating budgets for this sector differs somewhat from OTAG's recommendations. Finally, EPA calculated budgets for nonroad engines assuming implementation of existing SIPs, along with the following federal measures: federal small engine standards (Phase II), federal marine Engine standards (diesels >50 hp), federal locomotive standards, and 1997 proposed nonroad diesel engine standards. EPA used OTAG growth projections in calculating the budgets for this component. See proposed Ozone Transport Rule and Appendix B (OTAG Recommendations), 62 *Federal Register* 60318-60420, November 7, 1997.

These budget allocations were revised by EPA in its April 1998 proposed supplemental rulemaking.[13] Modifications were made in response to errors in source inventories and revised projections of future emissions growth. Specifically, projected emissions of utility plants were revised downward, while emissions from nonutility facilities were revised upward. As a result, the revised recommended budget for allowable utility emissions became a less stringent 563,784 tons (compared with 489,000 tons in November), and the nonutility emission budget became more stringent, allowing 399,416 tons (compared with 466,158 tons last November). In addition, EPA proposed an alternative approach for calculating the electric utility component of state emission budgets. Under the alternative approach, the electric utility component would be allocated among the States according to total electricity generation, not only fossil fuel-fired generation.

The revised proposed emissions budget for each state is provided in table 1. All the states with reduction requirements at 40% or above are from the Midwest. In contrast, states in the Northeast (except Pennsylvania) have budget allocations below the nationwide average of 35%.

[13] See 63 *Federal Register* 25904-25911 (May 11, 1998) for further detail on revisions.

Table 1. Proposed Seasonal NOx Emissions Budget for States Making a Significant Contribution to Downwind Ozone Nonattainment
(Tons of NOx per Ozone Season)

State	2007 Base Emissions	Proposed 2007 Budget	% reduction
Alabama	241,564	155,617	36%
Connecticut	52,014	39,909	23%
Delaware	30,568	21,010	31%
District of Columbia	7,978	7,000	12%
Georgia	246,243	159,013	35%
Illinois	350,154	218,679	38%
Indiana	340,084	200,345	41%
Kentucky	263,855	158,360	40%
Maryland	118,065	73,628	38%
Massachusetts	103,445	73,575	29%
Michigan	283,821	199,238	30%
Missouri	185,104	116,246	37%
New Jersey	132,032	93,464	29%
New York	230,310	185,537	19%
North Carolina	234,300	153,106	35%
Ohio	391,012	236,443	40%
Pennsylvania	328,433	207,250	37%
Rhode Island	12,175	10,132	17%
South Carolina	169,572	109,267	36%
Tennessee	291,225	187,250	36%
Virginia	219,835	162,375	26%
West Virginia	158,240	81,701	48%
Wisconsin	142,759	95,902	33%
TOTAL	4,532,790	2,945,046	35%

SOURCE: 63 *Federal Register* 25910, May 11, 1998

Model NOx Cap and Trade Program

In its proposed Ozone Transport Rule, EPA announced its intention to develop and administer an interstate cap and trade program that could be used to implement the budget limits discussed above. The details of that program are provided in the supplemental notice of proposed rulemaking issued in April 1998.[14]

Following the example set by the acid rain trading program, the EPA model NOx program would be an allowance-based cap and trade program (OTAG's "Track 1" recommendation). One allowance would equal one ton of NOx, with each participating state receiving allowances equal to the emission budgets of those sources participating in the program.[15] Unlike the acid rain program where participation and individual allowance allocations are mandated by federal law, state participation in the NOx program would be voluntary, and the allowance allocations to the individual emissions sources would be determined by the state, not the federal government. The states would also approve monitoring systems based on federal regulations and enforce compliance provisions. Beyond approving and overseeing the SIPs, EPA's role would be primarily administrative in terms of collecting data, allocating allowances as prescribed by states, recording trades, and reconciling emissions and allowance data every year. In particular, EPA would track allowances to facilitate interstate trading and enforcement.

Although EPA's model rule would permit states to determine individual source allowance allocations, it would require certain elements of the individual state programs to be consistent in order for them to participate in interstate transactions. These elements include the timing of allowance allocations, monitoring requirements, and noncompliance penalties. In particular, the program must be a tonnage cap-based program (i.e., no rate-based program -- OTAG's "Track 2" recommendation) to be included in the regional trading system. Indeed, the SIP approvability criteria virtually ensure that, with respect to large combustion sources, states will have to submit a tonnage based program to get the necessary approval from EPA.[16]

Compared with a traditional command and control implementation strategy, EPA originally projected a regional cap and trade program would reduce compliance costs

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[14] See 63 *Federal Register* 25918-25950, May 11, 1998

[15] In the proposed supplemental rulemaking, EPA would initially require that participating sources include existing fossil fuel fired electric generating plants greater than 25 megawatts and other existing boilers and turbines with a heat input greater than 250 mmBtu/hr. These core sources represent 80% of the 2007 baseline emissions inventory, 65% of the 2007 emissions cap inventory, and 90% of the required reductions under the proposed rule. Participation by sources outside these core groups would be determined by the individual states. 63 *Federal Register* 25920, May 11, 1998.

[16] As explained in the proposed notice of supplemental rulemaking, states may choose one of three ways for requiring large combustion sources to meet their limitations under the transport rule: (1) a tonnage limit for each source that adds up to the allowed budget; (2) an emission rate limit that when multiplied by the maximum capacity for each source adds up to the allowed budget; and, (3) using alternative method providing equivalent assurance that the allowed budget will not be exceeded. 63 *Federal Register* 25912, May 11, 1998

to the electric utility industry by about one-fourth — from about $2.1 billion to $1.6 billion annually. In its proposed supplemental rulemaking, EPA revised the cost estimate for electric utilities from $1.6 billion to $1.4 billion annually. In addition, EPA estimated that a regional cap and trade program would reduce compliance costs to non-electric generating sources from $1.2 billion to $456 million annually.[17] Comparative estimates for other sectors were not available.

Section 126 Petitions

In August, 1997, Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Pennsylvania, and Vermont filed section 126 petitions with EPA. The petitions ask EPA to make a finding that utilities and/or major sources of NOx in the Midwest contribute significantly to the ozone nonattainment problem in their states.[18] As noted earlier, if EPA granted the petitions, it would have to establish federal emission limits for the sources affected by the petitions.

The parallel actions of section 126 and the section 110 SIP call presents difficulties for EPA as the two provisions are implemented differently. The Ozone Transport Rule is a proposed SIP call under section 110(k)(5) for revised SIP provisions meeting the requirements of section 110(a)(2)(D) for the statutory 1-hour ozone NAAQS. Because of the new ozone NAAQS, this SIP call is coupled with a proposal under section 110(a)(1) for SIP submissions to meet the requirements of section 110(a)(2)(D) for the new 8-hour ozone NAAQS. If EPA finds, as proposed, that individual states contribute significantly to ozone nonattainment downwind, EPA will require those states to submit SIP provisions to limit NOx emissions to those levels specified by EPA; the specific means and sources affected would be determined by the state. Only if a state did not make the required submission would EPA take enforcement actions, including promulgation of a federal implementation plan (FIP) for the state.

Section 126 does not work this way. Under section 126, if a petition is granted, EPA is responsible for devising and implementing control strategies for the affected sources. Thus, unlike the SIP process where states determine control strategies to achieve mandated reductions, section 126 requires EPA to select and impose appropriate controls on a state's affected emission sources. In effect, section 126 implementation is more like a FIP than a SIP. Also, unlike the SIP process, which can coordinate strategy across all emitting sectors, section 126 only addresses major stationary sources.

To reconcile these differences, EPA and the eight petitioning states entered into a Memorandum of Agreement for EPA action on the section 126 petitions. The December 1997 agreement harmonizes the time frame for EPA action on the section

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[17] 63 *Federal Register* 25911, May 11, 1998. Estimates are in 1990 dollars.

[18] All the petitions targeted the Midwest; however, some included other sources in the South, Southeast, and Northeast. A discussion of the petitions are provided in the proposed Ozone Transport Rule. A copy of the Memorandum of Agreement Concerning Schedule for EPA Action on Section 126 Petitions is available from EPA's web site: [http://www.epa.gov/airlinks/]

126 petitions with EPA's proposed schedule for action on the Ozone Transport Rule. Highlights of that schedule are presented table 2. In line with that schedule, EPA issued an Advance Notice of Proposed Rulemaking for the section 126 petitions concurrently with its proposed notice of supplemental rulemaking in April 1998.[19]

Midwestern states, which would bear the brunt of any reductions imposed if EPA takes action under the section 126 petitions, have objected to the agreement. They claim that the northeastern states have not themselves taken adequate actions to address ozone pollution, that reductions imposed on the Midwest would not solve the petitioning states' problems, and that the costs to the midwestern states in reducing emissions would not be commensurate with benefits. An attempt to block EPA from acting on the petitions was filed by midwestern utilities in the U.S. Court of Appeals for the D.C. Circuit. This lawsuit was dismissed by the court on April 28, 1998, since EPA's actions "do not constitute final appealable orders." (*Midwest Ozone Group v. EPA*, D.C. Cir., No. 97-1627, 4/28/98)

On February 25, 1998, the eight petitioning Northeast states asked a federal court to make the agreement and schedule binding (*Connecticut v. Browner*, D.C. SNY, No 98CIV.1376, 2/25/98). In light of the midwestern states objections to the petitions, additional litigation is a clear possibility before the section 126 process becomes final.

Legislation is also possible. Midwest legislators have introduced legislation to delay implementation of both the Ozone Transport Rule and the section 126 petitions. H.R. 3690, introduced by Representative Wise, would delay promulgation of the final Ozone Transport Rule for at least two years after enactment while additional modeling is performed and examined, and delay the effective date of the final rule until the later of May 1, 2005 or five years after promulgation of the final rule. EPA action on the section 126 petitions would be delayed until 180 days after promulgation of the Ozone Transport Rule.

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[19] Environmental Protection Agency. *Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport.* Advance Notice of Proposed Rulemaking. 63 *Federal Register* 24058-24061

Table 2. Proposed Schedule for Section 126 and Section 110 Actions

Date of Proposed Action	Proposed Action
April 1998	EPA publishes an advance notice of proposed rulemaking with respect to the Sec. 126 petitions
September 1998	(1) EPA publishes a notice of proposed rulemaking with respect to the Sec. 126 petitions; (2) EPA issues final Ozone Transport Rule establishing NOx budgets
April 1999	EPA takes final action on Sec. 126 petitions. Action includes determination of their merit and proposed remedy, but postpones imposition of controls
September 1999	States submit SIP revisions to EPA in response to Ozone Transport Rule
November 1999	If EPA chooses, EPA's April 1999 Sec. 126 action may be automatically imposed on affected states if EPA does not propose to approve those states' SIPs submitted under the Ozone Transport Rule
May 2000	If EPA chooses, EPA's April 1999 Sec. 126 action may be automatically imposed on affected states if EPA does not approve those states' SIPs submitted under the Ozone Transport Rule.
September 2002	States implement SIPs under the Ozone Transport Rule

SOURCE: Memorandum of Agreement, December 18, 1997

Conclusion

Ozone transport is a complex phenomenon; efforts to alleviate the effects of transport on downwind states will result in a mix of winners and losers, both in terms of states having to impose controls and in terms of states complying with ozone NAAQS. With major stakes involved, it is not surprising that some characterize OTAG's final recommendations as vague and ambiguous, where others see needed flexibility. In any event, OTAG's work assessing ozone transport moved the debate along and clarified an issue made more important because of the new 8-hour standard.

Overall, OTAG sanctioned flexibility, both for the states and for EPA in deciding on how to respond to the ozone transport issue and how to make necessary reductions. Although EPA often took the most stringent interpretation of OTAG's

recommendations in its proposed Ozone Transport Rule, it also has attempted to include flexibility for states in implementing proposed NOx reductions. In particular, the sanctioning and encouragement of a regional NOx cap and trade program for electric utilities and other major stationary sources could significantly reduce the cost of compliance with the rule. EPA does not have the authority to make participation in a regional trading program mandatory, unlike the current acid rain SO_2 program. Instead, it is up to the states to decide whether the benefits of reducing emissions across the enlarged trading area that the model trading program promises are worth the requirements EPA has imposed.

Implementation is also complicated by section 126 petitions submitted by eight northeastern states. Implementation of controls under section 126 is an EPA-directed affair, in contrast with the state strategies required under section 110. In addition, a section 126 action could raise questions with respect to the Regulatory Flexibility Act as the controls imposed would clearly come from EPA and not the states (as is the case with section 110). In short, it is unclear whether the petitions under section 126 will expedite NOx control actions by affected states, or merely increase litigation on an already litigious issue.