

Final

**RECOMMENDED
FIVE-YEAR PRIORITIES
FOR THE
OZONE TRANSPORT COMMISSION**



February 26, 2002

RECOMMENDED FIVE-YEAR PRIORITIES FOR THE OZONE TRANSPORT COMMISSION

FINAL

February 26, 2002

EXECUTIVE SUMMARY

The Ozone Transport Commission (OTC) was created by the U.S. Congress in the Clean Air Act Amendments of 1990 to coordinate ground level ozone control planning in the Northeast and Mid-Atlantic States. Twelve States, the District of Columbia, and the U.S. Environmental Protection Agency (EPA) are represented on OTC. For more than ten years, OTC has made significant progress in carrying out its statutory charge. With its member States now projecting attainment of the one-hour ozone National Ambient Air Quality Standard (NAAQS), based on State-specific and OTC regional control measures, the organization must now place emphasis on three overall goals:

- I. Protect public health in the Ozone Transport Region (OTR) by attaining and maintaining the ozone NAAQS.**
- II. Reduce transport of ozone and ozone precursors into and within the OTR.**
- III. Develop innovative control measures that provide multiple environmental benefits.**

These goals reflect much of OTC's work over the last four years. However, a number of changes have occurred over the last eighteen months that could affect OTC's approach to achieving these goals. For example, a new regional haze planning organization in the region, the Mid-Atlantic/Northeast Visibility Union has been formed with many of OTC's members. This offers an opportunity for coordinating between ozone control and regional haze planning. Many Federal proposals have been and are being developed that address multiple pollutant emission reduction programs; several OTC States have either adopted or are developing such programs. OTC has completed significant work in developing regional control measures that facilitate States' completing their one-hour ozone attainment demonstrations. Through partnerships with energy-related organizations, OTC has initiated efforts to ensure that energy production and use is ultimately compatible with attaining and maintaining the ozone NAAQS, while providing concurrent other environmental benefits.

Within this context, the following objectives flow from OTC's goals:

- I. Develop and support implementation of new regional measures for inclusion in State Implementation Plans (SIPs) to address the eight-hour ozone NAAQS and reduce transport of ozone and ozone precursors.**
- II. Encourage linkages with the work of the Mid-Atlantic/Northeast Visibility Union.**
- III. When analyzing and developing regional ozone and haze control measures, evaluate other potential, concurrent environmental benefits (e.g., reductions in other regional air pollutants), particularly PM-fine.**

- IV. For eight-hour and one-hour ozone levels, assess the degree of interstate transport of ozone and ozone precursors into and throughout the Ozone Transport Region (OTR), evaluating other regional air pollutants simultaneously whenever possible.**
- V. Incorporate market-based and other incentives into regional programs such as energy efficiency, pollution prevention, and innovative technologies and approaches.**
- VI. Ensure effective outreach and communication to the regulated community and the public at large.**
- VII. Create and foster partnerships with other organizations to help create pollution reduction opportunities, such as through energy efficiency.**
- VIII. Support implementation of existing control measures within and outside of the OTR.**

This approach is intended to enhance the work performed by OTC over the last ten years, and support efforts to holistically reduce ozone precursors and other pollutants. Reaching this goal will require a renewed commitment on the part of OTC's member States and EPA. This document explores these objectives in more detail, and suggests several specific suggested actions to achieve them.

RECOMMENDED FIVE-YEAR PRIORITIES FOR THE OZONE TRANSPORT COMMISSION

February 26, 2002

This document outlines prospective priorities for the Ozone Transport Commission (OTC). OTC was created by the U.S. Congress through the Clean Air Act Amendments of 1990, and was charged with coordinating ground-level ozone in the Northeast and Mid-Atlantic States. Connecticut, Delaware, the District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, and the U.S. Environmental Protection Agency (EPA) are represented on OTC.

OTC has made great progress towards the ultimate goal of attaining and maintaining the health-related ozone National Ambient Air Quality Standards (NAAQS) within its region, the Ozone Transport Region (OTR). OTC's original approach to ozone control remains the same: assessing the nature and magnitude of the problem, assessing control measures, and making specific recommendations for regional action. However, over the last decade, this approach has become more refined as OTC's understanding of the ozone problem increased. This document describes OTC's goals, progress to date, recent events that have affected how goals may be achieved, new objectives, approaches to meet those objectives, and a discussion of time frames and resources.

I. GOALS

As mentioned above, the ultimate goal has been to protect public health through attaining and maintaining the ozone NAAQS in the OTR. Over the last ten years, experience has taught us the need to focus on key aspects of this ultimate goal, specifically:

- all facets of the attainment and maintenance goals within the context of State Implementation Plans (SIPs)
- the fundamental role of reducing the transport of ozone and ozone precursors as an integral part of SIPs; and
- the importance of a broad-based approach to maximize environmental benefits and cost-effectiveness as a part of the need to reduce transport of ozone and ozone precursors.

OTC's three basic goals can be stated as follows:

- I. Protect public health in the Ozone Transport Region (OTR) by attaining and maintaining the ozone NAAQS.**
- II. Reduce transport of ozone and ozone precursors.**
- III. Seek and develop innovative control measures that provide multiple environmental benefits.**

OTC articulated these basic goals as a part of its "Declaration of Principles: Next Steps for Reducing Ground Level Ozone" (October 8, 1998). At that time, in addition to its focus on the one-hour ambient standard, OTC indicated that:

- “The OTC States will continue to develop feasible regional strategies that may be needed for attainment of the eight-hour standard. The OTC States will also consider the effects of additional control strategies on other regional air quality issues such as fine particulate matter, regional haze, and nitrogen and acid deposition.
- The OTC shall consider emissions trading, pollution prevention, and other innovative technologies and strategies wherever possible to reduce emissions, encourage early compliance, and lower compliance costs.”

At its 2000 Annual Meeting (June 1, 2000), when it structured an approach for new regional strategies to address the one-hour standard, OTC expanded on these goals in a Memorandum of Understanding (MOU). In that MOU, OTC stated that, with respect to longer-term measures, such as energy-related measures:

- “(W)henever possible ... the measures ... should be evaluated for, and should be designed to provide for, reductions in additional regional pollutants in order to encourage enhanced cost effectiveness of control actions, energy efficiency, and improved environmental quality.”

The following sections outline a continued evolution toward additional emphasis on the third goal, a broad-based approach, as a primary way that OTC is able to accomplish its other goals of addressing transport to ensure meeting the health-based NAAQS in the OTR.

II. PROGRESS TO DATE AND NEW CHALLENGES: OZONE, REGIONAL HAZE, AND RELATED REGIONAL AIR POLLUTANTS

There has been substantial progress in reducing the ground-level ozone levels in the Ozone Transport Region (OTR). OTC has facilitated reductions in emissions of urban volatile organic compounds (VOC) and regional emissions of nitrogen oxides (NOx). This has been accomplished through support of measures to reduce:

- mobile source emissions within the OTR;
- stationary source emissions within the OTR; and
- emissions outside the OTR that contribute significantly to ozone levels within the OTR.

The types of measures that have been identified are extremely varied, and included:

- measures developed by OTC to address regional nonattainment issues within the OTR (e.g. the OTC NOx MOU), after mandatory Clean Air Act Amendments measures were implemented;
- measures endorsed by OTC in March 2001 to address one-hour emission reduction shortfalls identified by EPA, help maintain the one-hour ozone standard, and reduce eight-hour ozone levels;
- measures adopted by EPA that provide reductions in ozone transport, including the National Low Emission Vehicle (NLEV) program, EPA’s ozone transport rule (i.e., the NOx State Implementation Plan (SIP) call),

and EPA's rule responding to Section 126 petitions relating to ozone transport within the eastern U.S.;

- measures required to be implemented for urban nonattainment areas under the Clean Air Act;
- measures required to be implemented specifically for the OTR under the Clean Air Act; and
- State or area-specific measures adopted by OTC States individually to deal with their local ground-level ozone problems.

Therefore, the major elements of a regional control strategy for the one-hour ozone standard are now in place. Things have changed since the adoption of the Clean Air Act Amendments of 1990: a revised eight-hour ozone National Ambient Air Quality Standard (NAAQS) has been finalized after surviving a legal challenge up through the U.S. Supreme Court. EPA is now developing implementation guidance for developing eight-hour ozone SIPs. A fine particulate standard (PM-2.5) has also been adopted, and EPA promulgated its regional haze rule in 1999.

EPA and others, including EPA's FACA Subcommittee on Ozone, Particulate Matter, and Regional Haze in the late 1990s, stressed the interrelationship not only of ozone, PM-2.5 and regional haze, but of additional regional pollutant problems. OTC recognized this in its Statement of Principles on Regional Air Pollutant Programs in February 1998, when it indicated it would take into account the impact on other environmental problems when it took ozone-related actions, as well as the impacts of non-ozone programs on ozone.

There are a number of principles which can be articulated as a result of this work, including:

- no one regional pollutant should be analyzed by itself, i.e., without reference to other regional air pollutants;
- there are benefits to analyzing multiple regional air pollutants together when possible; and
- multiple pollutants benefits can be achieved through single actions, thereby providing enhanced environmental protection and enhanced cost effectiveness.

With this as background, OTC collaborated with 11 States, the District of Columbia, several Indian Tribes, EPA, and other Federal agencies, as well as the air director organizations in its region, to create the Mid-Atlantic/Northeast Visibility Union (MANE-VU), an organization dedicated to improving visibility within its region. OTC has made a priority of supporting this collaboration, as it offers the potential for not only reducing regional haze -- thereby improving visibility -- but also for providing additional opportunities to reduce ozone precursor emissions. Given the relationship between regional haze and fine particulate matter, MANE-VU also provides the potential for reducing concentrations of fine particulate matter that adversely affects public health.

OTC has also been active in investigating new technologies and ways that incentives can be built into or coordinated with more traditional regulatory approaches. Multiple pollutant reductions through new technologies offer potential benefits by reducing ground-level ozone, fine particulate matter, and regional haze, as well as benefits in other environmental areas, such as reducing acid and nutrient deposition, greenhouse

gases, and air toxics. In this area, OTC's major focus has been in clean energy production and use, energy efficiency, and land use.

Therefore, OTC must build on the work it has already started, including:

- continuing to implement regional initiatives that it has already undertaken;
- addressing maintenance of the one-hour ozone National Ambient Air Quality Standard (NAAQS); and
- developing approaches to reducing ozone precursor emissions in order to reduce eight-hour ozone levels, thus making progress to attain and maintain the eight-hour ozone NAAQS.

III. RECENT EVENTS

Recent events and changes in the landscape have occurred over the last eighteen months that, in turn, affect OTC's previous approach to achieving its goals, and warrant a shift in OTC's work. These are discussed below.

- As mentioned, within the OTR a new regional haze organization, the Mid-Atlantic/Northeast Visibility Union (MANE-VU), was created. With many common members from OTC, MANE-VU has taken a parallel path to OTC in terms of regional haze planning: i.e., focusing on regional haze, but identifying linkages to other regional air pollutants. This approach offers an opportunity to cost effectively craft coordinated regional responses to ozone and regional haze. Regional haze analysis can produce useful information for ozone work, and vice versa.
- Individual OTC States have developed programs for multiple pollutant reductions. Regional actions can build off of and support these State programs, as well to enhance total regional emission reductions.
- Several Federal proposals have been and are in the process of being developed that would create or enhance multiple pollutant emission reduction programs. If finalized these proposals could have a profound effect on the air quality trends for multiple pollutants within the OTR. In addition to long term environmental benefits, early regional actions have the potential to encourage initial progress on current or future Federal requirements.
- OTC has performed significant work over the last several years on the interrelationship between air quality and energy production and use, including energy efficiency. In order for energy-related measures to be effective and supported, coordination between air quality and energy agencies must occur. OTC has been building partnerships with the National Association of Regulatory Utility Officials (NARUC) and the National Association of State Energy Officials (NASEO). This effort has the potential to encourage multiple pollutant emission reductions, including ozone precursors.
- OTC's regional control measure model rules of March 2001 have been used by OTC States as part of their attainment demonstrations for the one-hour standard. While future regional control measures developed by OTC may include some source categories to date that have not been regulated by

States, it may also be useful to reevaluate regulated source categories and research the potential for new control technologies.

IV. APPROACHES TO MEET THE NEW CHALLENGES

The regional measures identified to reduce emissions in the early to mid-1990s were calculated to achieve tens of thousands or even hundreds of thousands of tons of emissions reductions per year. Many of these measures were and continue to be highly cost effective, at \$2000 per ton reduced or better.

Emission reductions from new measures are typically smaller, and are often spread over a greater number of sources. This emphasizes the need for good communication with the sources, and to stress the importance of voluntary compliance efforts and benefits of pollution prevention approaches. Traditional types of regulations for these sources may require substantially higher levels of State resources to implement; the emission reductions may be relatively more expensive on a dollars per ton basis.

The trend of fewer emission reductions at higher cost is balanced by the development of impressive new technologies over the last decade. This not only includes control technologies that reduce ozone precursor emissions from air pollution sources, but also new types of technologies, such as new types of fuel cells, that result in pollution prevention. There are also opportunities for reducing ozone precursor emissions concurrently with other emissions. Pollution prevention activities, including actions to promote energy efficiency, provide specific examples for States to make multiple pollutant emission reductions a reality.

Within this context, the following objectives and approaches have been developed to help OTC's members reach the goals discussed above:

- I. Develop and support implementation of new regional measures for inclusion in State Implementation Plans (SIPs) to address the eight-hour ozone NAAQS and reduce transport of ozone and ozone precursors.** Eight-hour control measures will help to maintain the one-hour ozone NAAQS. New regional control measures, whether focused on source categories previously unregulated by States, or those currently regulated by States, should be prioritized in part on the basis of potential emission reductions.
- II. Encourage linkages with the work of the Mid-Atlantic/Northeast Visibility Union.** Parallel goals, organizations, and approaches of the two organizations offer straightforward opportunities for meaningful action on multiple pollutants simultaneously.
- III. When analyzing and developing regional ozone and haze control measures, evaluate other potential, concurrent environmental benefits (e.g., reductions in other regional air pollutants), particularly PM-fine.** Opportunities to provide for multiple pollutant reductions, through energy efficiencies and pollution prevention should be considered. OTC plans to build on the scientifically demonstrated connections between ozone, particulate matter and regional haze, and other environmental issues, such as acid and nutrient deposition, greenhouse gases, and others. OTC plans to identify viable actions that will reduce multiple pollutants simultaneously whenever possible.

- IV. **For eight-hour and one-hour ozone levels, assess the degree of interstate transport of ozone and ozone precursors into and throughout the Ozone Transport Region (OTR), evaluating other regional air pollutants simultaneously whenever possible.** OTC has historically carried out this regional function with respect to the one-hour ozone standard. Given the interrelated nature of ozone and other regional air pollutants, OTC should look for opportunities to analyze multiple pollutants and source contributions whenever possible, as it continues its ozone work. OTC should continue to emphasize coordinated States-based regional ozone modeling efforts as a policy level body, rather than using OTC resources.
- V. **Incorporate market-based and other incentives into regional programs such as energy efficiency, pollution prevention, and innovative technologies and approaches.** OTC should build on past efforts, such as its OTC NO_x MOU, which resulted in the NO_x emissions trading program.
- VI. **Ensure effective outreach and communication to the regulated community and the public at large.** Communications with the regulated community is a priority, not only for feedback on regulatory proposals, but for compliance assistance activities; such efforts will maximize compliance and minimize the expenditure of State resources. As a starting point, OTC should develop a communications plan emphasizing public health to guide its efforts.
- VII. **Create and foster partnerships with other organizations to help create pollution reduction opportunities, such as through energy efficiency.** OTC plans to continue the partnerships it has built over the last decade, and will continue to work closely with key State environmental organizations, such as the Environmental Council of the States (ECOS), MARAMA, NESCAUM, and STAPPA/ALAPCO. In areas such as the integration of air quality and energy policy, OTC will partner with other organizations, such as NARUC and NASEO, that represent State officials who share goals such as energy efficiency with OTC members.
- VIII. **Support implementation of existing control measures within and outside of the OTR.** Implementing existing control measures, such as EPA's NO_x SIP call and the Section 126 rule, is the foundation of OTC's future work. Only with the full implementation of these measures can the public health benefits of the any new approaches described above be fully realized.

V. TIME FRAME AND RESOURCES

With EPA's SIP policy and guidance for ozone, PM_{2.5}, and regional haze still under development, it is difficult to give precise timelines for products to be completed in order for States (and in the case of regional haze, Tribes) to submit plans to EPA that meet statutory and regulatory requirements. Notwithstanding, much must be done to prepare for the 2007-2008 timeframe when regional haze SIPs (and possibly eight-hour ozone SIPs) are due. Therefore, at this time it is appropriate to look within a five-year time horizon.

During the several years, States will be adopting and implementing OTC and Federal measures, and OTC will need to continue to provide support to its States. This will also

be the time to start identifying both regulatory and non-regulatory control measures that have the potential to reduce emissions over the next five to ten years. In addition, the partnerships that will be necessary to sustain a longer-term effort will need to be identified and developed.

In order to ensure this effort, current resources must be maintained over the long term, and, in the case of any special projects to be identified, enhanced. For the short term, resources from OTC members (both member States and EPA) must be maintained in order to continue implementation of existing programs, and to develop the longer term cooperative arrangements that are necessary to ensure a broader range of control measures than have been considered previously.