UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

AUG 10 2005

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

MEMORANDUM

SUBJECT: Consideration of Multiple Pollutants in Control Strategy Development

FROM: Stephen D. Page, Director
Office of Air Quality Planning and Standards (C404-04)

TO: Air Division Directors, Regions I-X

I am writing to update you on our efforts to support multipollutant approaches in developing state implementation plan (SIP) control strategies and to enlist your support in encouraging States to start moving towards the development of such strategies. We are asking for your input on the tools and/or guidance needed to support development of multipollutant control strategies and for examples of multipollutant control strategies and/or multipollutant SIPs that have already been created.

In addition, I am requesting that each Regional office provide us with the name of a contact person by August 22, 2005 to: 1) work with us during the guidance development process; and 2) provide us with recommendations for tools, information, and guidance needed for developing multipollutant control strategies by August 29, 2005.

As you are aware, the National Research Council (NRC) of the National Academies formed the Committee on Air Quality Management (AQM) in the United States in response to a congressional request for an independent evaluation of the overall effectiveness of the CAA. In their January 2004 report, *Air Quality Management in the United States*, the Committee made several recommendations. One recommendation was to transform the SIP into a comprehensive air quality management plan (AQMP) that would: 1) encompass all criteria pollutants for which a State has not attained the National Air Ambient Quality Standards; 2) include key hazardous air pollutants (HAPs); and 3) identify and propose control strategies for air pollution hot spots.

In June 2004, the Clean Air Act Advisory Committee (CAAAC) formed the AQM Work Group, which was tasked with assessing the recommendations made in the 2004 NRC report and advising the CAAAC on ways to improve the AQM system in the U.S. Specifically, the CAAAC charged the Work Group with outlining concrete steps that could promote change in the direction recommended by the NRC. The Work Group provided 38 recommendations, and one of these, Recommendation 4.1, states that "for the SIPs States are required to submit over the next several years, EPA and States, locals, and Tribes should promote the consideration of multipollutant impacts, including the impacts of air toxics, and where there is discretion, select regulatory approaches that maximize benefits from controlling key air toxics, as well as ozone, $PM_{2.5}$ and regional haze." The CAAAC accepted all 38 recommendations and EPA is moving

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper (40% Postconsumer)

forward to implement them. At its core, Recommendation 4.1 is based on the NRC's long-term vision of creating a multipollutant, integrated AQMP. While multipollutant SIPs are not required by the CAA, the CAAAC believed that there are opportunities for testing this concept in the short-term.

The SIP planning efforts are already underway for many areas. Clearly, States have a very demanding schedule for meeting the SIP submittal deadlines, and they are working with limited resources. However, I believe that States need to move forward in considering multipollutant control strategies. With a modest amount of additional attention, a State could test and/or implement multipollutant planning approaches during the current SIP planning process. Though a multipollutant approach to assessing control strategies would require additional work in the near term, the long-term benefits are likely to be significant, both environmentally and economically. By taking steps toward a multipollutant approach for control strategy development, a State should be able to make better use of limited resources and improve its ability to develop control strategies that optimize the mix of controls for multiple pollutants.

While there is no federal regulatory requirement for States to reduce individual toxic air pollutants to any specific ambient level, there are federal requirements for categories of sources of toxic air pollutants, many of which contribute to the formation of ozone, PM2.5, and/or regional haze. We recognize that, by taking a multipollutant approach, improvements in air quality and human health can be obtained if air toxics, especially high-risk air toxics, are reduced. To facilitate the multipollutant approach in SIP development, we are revisiting our approach to regulating toxic air pollutants. For example, we are evaluating opportunities to use the authorities under section 112 of the CAA, particularly the delegation authorities in section 112(l), to facilitate the use of SIPs for joint planning for relevant source categories. In this way, States could make improvements in air quality by considering air toxics reduction potential when selecting specific control strategies through the SIP process.

I encourage you to work with the States in your Region to encourage them to start taking a multipollutant approach in developing control strategies as part of their air quality planning. An EPA multipollutant control strategy team has been formed which consists of representatives from the Office of Air Quality Planning and Standards (OAQPS), the Office of Transportation and Air Quality (OTAQ), the Office of Policy, Analysis and Review (OPAR), the Office of Atmospheric Program's Clean Air Markets Division (CAMD), and Region V. To provide some immediate assistance to States in initiating multipollutant control strategies, the team has developed the attached 3-page document, "Preliminary Approach for Identifying Toxic Air Pollutants for Consideration in Multipollutant Control Strategies." The attachment includes: 1) a working definition of "multipollutant control strategy"; 2) an initial list of key toxic air pollutants to consider, as well as a website address that provides a list of key area source categories for toxic air pollutants; and 3) a summary description of an approach that an area can use to develop its own list of toxic air pollutants with a link to a website describing a more detailed approach to identifying local toxic air pollutants.

In the longer term, we are planning to develop more detailed and comprehensive guidance on multipollutant control strategy development. With that in mind, we have initiated a pilot project in Detroit to evaluate multipollutant control strategy development for an urban area. The goal is to incorporate the information gained from this pilot project into additional guidance by early 2006.

Before we proceed further with guidance development, I would appreciate your input in two important areas. First, I would like to know your thoughts about the information and/or tools that State, local, and Tribal (S/L/T) groups will need in order to pursue the development of multipollutant control strategies. I would ask that you survey your States for their input as well. Second, we would like information about cases in which a S/L/T group has considered multiple pollutants in the process of developing a SIP and/or has created a "joint" or multipollutant SIP. Please send information on any examples of multipollutant control strategies and/or multipollutant SIP development to Amy Vasu of my staff.

By August 22, 2005, please send an email to Lydia Wegman (wegman.lydia@epa.gov) and to Amy Vasu of my staff (vasu.amy@epa.gov) with the name of a contact person who will provide us with your recommendations and work with us during the guidance development process. I also ask that this contact provide your recommendations, and those of your States, by email to Lydia Wegman and Amy Vasu by August 29, 2005. We will also be requesting input from S/L/T representatives and others at the 2005 Air Innovations conference in Chicago (http://www.cleanairinfo.com/airinnovations2005) during the August 25 breakout session on multipollutant control strategy development. The recommendations you and others provide will inform the EPA team on how best to focus its efforts with regard to further development of tools, information, and guidance to assist S/L/T groups in developing multipollutant control strategies.

In conclusion, I ask that you share this information, as well as the attached summary, with your States and encourage them to take a multipollutant approach in developing control strategies as part of their SIPs. If you have any questions, please contact Amy Vasu at (919) 541-0107.

Attachment

cc: Joe Paisie
Tom Helms
Penny Lassiter
Marypat Tyson (Region V)
Lydia Wegman

Preliminary Approach for Identifying Toxic Air Pollutants for Consideration in Multipollutant Control Strategies

I. Background

In 2002, the National Research Council (NRC) of the National Academies formed the Committee on Air Quality Management in the United States in response to a congressional request for an independent evaluation of the overall effectiveness of the Clean Air Act (CAA). In their January 2004 report, *Air Quality Management in the United States*, the Committee made several recommendations. One recommendation was to transform the state implementation plan (SIP) into a comprehensive air quality management plan (AQMP) that would: (1) encompass all criteria pollutants for which a State has not attained the NAAQS; (2) include key hazardous air pollutants (HAPs); and (3) identify and propose control strategies for air pollution hot spots.

In June 2004, the Clean Air Act Advisory Committee (CAAAC) formed the Air Quality Management Work Group, which was tasked with assessing the recommendations made in the 2004 NRC report and advising the CAAAC on ways to improve the AQM system in the U.S. Specifically, the CAAAC charged the Work Group with outlining concrete steps that could promote change in the direction recommended by the NRC. The Work Group provided 38 recommendations, including Recommendation 4.1, which states that "for the SIPs States are required to submit over the next several years, EPA and States, locals, and Tribes should promote the consideration of multipollutant impacts, including the impacts of air toxics, and where there is discretion, select regulatory approaches that maximize benefits from controlling key air toxics, as well as ozone, $PM_{2.5}$ and regional haze." The CAAAC accepted these recommendations, and now EPA is moving forward to implement them. At its core, Recommendation 4.1 is based on the NRC long-term vision of creating a multipollutant, integrated AQMP. While multipollutant SIPs are not required by the CAA, the CAAAC believed that there are opportunities for testing this concept in the short-term.

II. What is the objective of this document?

The objective of this document is to provide information to the States to support their moving toward the goal of multipollutant SIPs by taking steps to evaluate multiple pollutants and develop multipollutant control strategies. This document includes: 1) a working definition of "multipollutant control strategy"; 2) an initial list of key toxic air pollutants to consider, as well as a website address that provides a list of key area source categories for toxic air pollutants; and 3) a summary description of an approach that an area could use to develop its own list of toxic air pollutants and source categories. This is intended to be an interim document that will be replaced within a year by a guidance document which is currently under development.

III. What is a multipollutant control strategy?

A multipollutant control strategy is a strategy for reducing pollutant emissions that considers two or more groups of pollutants in selecting control strategies, with the goal of selecting a control strategy that optimizes the mix of controls for multiple pollutants. Two or more of the following groups of air pollutants should be included: 1) ozone and its precursors; 2) $PM_{2.5}$ and its precursors; and 3) one or more toxic air pollutants. As an example, in developing a

multipollutant control strategy for an area that is a nonattainment area for $PM_{2.5}$, but which is in attainment with the ozone NAAQS, a State might focus on $PM_{2.5}$ and its precursors, as well as on selected toxic air pollutants that pose high risk and/or contribute to $PM_{2.5}$ (as direct PM or as $PM_{2.5}$ precursors).

IV. Why should a State/local/Tribal entity develop a multipollutant control strategy?

A State/local/Tribal entity should develop a multipollutant control strategy for several reasons:

- to prepare for the future / move in the direction of having integrated, multipollutant control strategy;
- to assist an area in reaching attainment in a more cost-effective and efficient manner with greater overall reductions of pollutants;
- to promote an optimal mix of control measures for multiple pollutants and to avoid control measures that, while beneficial in reducing one pollutant, may result in increases in another;
- to better utilize limited State/local/Tribal resources, and those of the regulated community, for improving air quality; and
- to make it easier for potentially affected sources to plan installation of controls, rather than having to install controls in a piecemeal fashion.

V. What are the steps in identifying toxic air pollutants for consideration in developing a multipollutant control strategy?

Once areas, and criteria pollutants of concern in those areas, have been identified, a State/local/Tribal entity could use the following three-tiered approach to select toxic air pollutants for consideration in developing a multipollutant control strategy for a particular area. The first tier contains a short list of 3 toxic air pollutants that have been identified as national risk drivers by the National Air Toxics Assessment (NATA) National Scale Assessment for 1999. The second tier includes a list of some toxic air pollutants that occur in many areas of the U.S. that, due to emission levels and toxicological properties, may pose high risks.[1] The third tier presents an approach for identifying toxic air pollutants of concern that can be used for assessing a local area. Additional information on the 1999 NATA National Scale Assessment will be available in fall 2005 at: http://www.epa.gov/ttn/atw/nata/.

1) **Tier 1:** Evaluate a "short list" of toxic air pollutants that are nationally-occurring and that have the potential to pose high risks to human health in urban areas:
    - Benzene
    - Acrolein
    - Diesel PM

[1] This is a subset of the toxic air pollutants identified by the 1999 NATA National Scale Assessment as "regional risk drivers." More information will be available in fall 2005 at: http://www.epa.gov/ttn/atw/nata/.

The file "99 NATA Risk Drivers EI Pie Charts.ppt" (at http://www.epa.gov/air/caaac/aqm.html, under "document library") contains pie charts showing the source category contributions of emissions for each of these toxic air pollutants. Information on area source categories of toxic air pollutants is provided at: http://www.epa.gov/ttn/atw/urban/arearules.html.

2) **Tier 2:** Consider some additional toxic air pollutants that have been identified as being emitted by existing sources, as well as having the potential to cause cancer and/or noncancer effects:

- Arsenic compounds
- 1,3-Butadiene
- Chlorine
- Chromium VI
- Coke oven emissions
- Formaldehyde
- Hydrazine
- Manganese compounds
- Naphthalene
- Nickel compounds
- PAHs
- Tetrachloroethylene (Perchloroethylene)

The file "99 NATA Risk Drivers EI Pie Charts.ppt" (at http://www.epa.gov/air/caaac/aqm.html, under "document library") contains pie charts showing the source category contributions of emissions for each of these toxic air pollutants. Information on area source categories of toxic air pollutants is provided at: http://www.epa.gov/ttn/atw/urban/arearules.html.

3) **Tier 3:** Identify any additional local toxic air pollutants.

Areas can develop their own lists of toxic air pollutants using the NATA results by following the step-by-step approach provided in the 3-page file called "Use of NATA data to Evaluate Area-Specific Toxic Air Pollutants of Concern" (at http://www.epa.gov/air/caaac/aqm.html, under "document library").

Note that this three-tiered approach focuses on pollutants that present inhalation risks (since the NATA national scale assessment only accounts for inhalation risks from outdoor pollutants) and, therefore, does not specifically highlight other significant pollutants (e.g., mercury) that have the potential to affect human health and ecosystems. A State/local/Tribal entity could choose to include such pollutants in their analyses, as well as in their selection of control measures.