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Mr. Bruce S. Carhart
Executive Director
Ozone Transport Commission
444 North Capitol Street, NW
Washington, DC 20001

Dear Bruce:

I am writing on behalf of the Midwest Ozone Group (MOG), to express our support for stakeholder participation in the Northeast Ozone Transport Commission Regional Planning Organization (NE OTC RPO) process. To that end, this letter addresses the "Resolution of the States of the Ozone Transport Commission Supporting the Creation of a Regional Group to Support State and Tribal Actions to Meet the Requirements of the Federal Regional Haze Rule" (OTC Res. 01-2).

Stakeholder involvement in the EPA's Visibility Protection Program is of utmost importance to MOG member companies. MOG believes that the RPO process can be greatly enhanced by involving stakeholders as RPO committee members or as participants on an advisory panel as suggested in the OTC Res. 01-2. Precisely this result has occurred in each of the other RPOs.

MOG is supportive of the establishment of an advisory panel of outside stakeholders to enhance the NE OTC RPO process, and is committed to active participation. MOG urges that participation in advisory panels include involvement in all technical and public outreach committees including attendance at meetings and conference calls.

We have read with interest the January 31, 2001, report titled, "Regional Haze and Visibility in the Northeast and the Mid-Atlantic States," which was prepared for the NE OTC by the Northeast States for Coordinated Air Use Management (NESCAUM). Enclosed are several comments on that report that we offer to illustrate the kinds of substantive input that MOG is posed to present as a stakeholder to the RPO process. Please consider these comments, not only in your future endeavors, but also as the NE OTC and its forums deliberate the benefits of an advisory panel of outside stakeholders and determine the extent to which stakeholders will be involved in the NE OTC RPO process.

Mr. Bruce S. Carhart
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MOG looks forward to the opportunity to participate in the NE OTC RPO process. As stakeholders to VISTAS, CENRAP and the Midwest RPO, we feel that our presence could afford unique insight to the RPO process. Thank you very much for your consideration of our comments.

Very truly yours,

A handwritten signature in black ink, appearing to read "Ed L. Kropp". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Edward L. Kropp

Enclosure
Cc: Jason Grumet, NESCAUM

Midwest Ozone Group
**Comments on the NESCAUM Report titled, "Regional Haze and
Visibility in the Northeast and the Mid-Atlantic States."**

July 10, 2001

On January 31, 2001, the Northeast States for Coordinated Air Use Management (NESCAUM) made available their report titled, "Regional Haze and Visibility in the Northeast and the Mid-Atlantic States" (NESCAUM Visibility Report), which had been prepared for the Northeast Ozone Transport Commission (NE OTC). These comments focus on the process for finalizing this report and several technical issues.

The Midwest Ozone Group (MOG) asks that the NE OTC and NESCAUM consider these comments in their future endeavors.

A. Process Issues

The report was posted on the NESCAUM web site on January 31, 2001, as a final document without the benefit of public comment. We are unaware of any public meetings convened to discuss the methodology, data, or interpretation of results for the NESCAUM Visibility Report. We recommend that NESCAUM and/or the NE OTC provide for public comment and prepare responses to the comments received before they rely on the NESCAUM Visibility Report in the effort to implement the regional haze rule.

B. Technical Comments in the NESCAUM Visibility Report

1. Micro-Emission Inventory

The NESCAUM Visibility Report is silent on micro-emission inventories (of emissions in and near the Class I areas). This omission contrasts with the GCVTC report:

... comprehensive micro-inventories are needed for the near-field around Class I areas. Without them, it will be impossible to reliably identify that portion of the contribution to visibility impairment caused by long-range transport of regional haze.

The GCVTC Report @ 62-63. As supported by other Regional Planning Organizations (RPOs), such as the Midwest RPO, micro-emission inventories can be an insightful tool to be used in the investigation of regional haze issues.

2. Source-Receptor Relationships

The NESCAUM Visibility Report discusses trajectory models and results from their use in an effort to target source regions. NESCAUM Visibility Report @ III-23-27, III-33-34, and VII-11-13. The NESCAUM Visibility Report's Figures III-10 and 12 refer to back trajectory analyses. But the Report does not address the uncertainty of using back trajectory modeling for attribution exercises. In addition, NESCAUM's "trajectories do not take into account plume rise, deposition, or transformation chemistry . . ." Accordingly, the analyses do not address sulfate or nitrate formation, particle growth, or removal processes.

These characteristics make the trajectory analyses of the NESCAUM Visibility Report unreliable for linking source regions to the visibility impairing material found in Class I areas of the NE OTC region.

What is needed is data sufficient to evaluate, refine, and apply a tool like MODELS3. But neither the necessary data nor that model is now available. The NESCAUM Visibility Report should defer policy-related judgments until the appropriate modeling tools have been developed and applied to assess the sources of visibility impairments in the Class I areas of the NE OTC region.

3. Discussion of SO₂ and sulfate and the relationship between the two species

The NESCAUM Visibility Report presents, as part of its argument for the prominent role of sulfates, plots of trends in visual air quality and emissions of SO₂. NESCAUM Visibility Report @ V-11 and VI-2. The NESCAUM Visibility Report does not, however, address the deterioration in visual air quality at Lye Brook, VT from 1992 to 1995, and the decline in national SO₂ emissions during this period. The National Park Service has addressed a similar anomaly in the Great Smoky Mountains National Park. Moreover, IMPROVE data, which may be extremely useful in characterizing the relationship between SO₂ emissions and sulfate measurements, is still being quality assured. These examples raise questions regarding the ability to form conclusions about the relationship between SO₂ emissions and visibility impairment, as NESCAUM apparently has done.

Similarly, further study is needed to understand the ability of SO₂ emission reductions to reduce PM-2.5 generally. Due to the complex chemical interplay among emissions of SO₂, NO_x, and ammonia, reductions of SO₂ emissions can increase atmospheric concentrations of nitrates. While this was briefly addressed in the report at V-17 and C.2, this topic deserves much greater emphasis, including a recommendation for further research. This concept has significant implications for policy because it could effectively mean that under some regimes, a reduction in SO₂ could result in an increase in haze-causing nitrate.

The NESCAUM Visibility Report states, "It is clear, for example, from available monitoring data that SO₂ emissions are an obvious target for achieving reasonable progress toward improving visibility in the near term." NESCAUM Visibility Report xxii. While it may seem likely that this will be an outcome of the RPO investigation, such a conclusion should be avoided in what is considered to be a data-gathering or educating phase of the process. Similarly, we would advocate eliminating the usage of emphatic language, as illustrated in the following sentence, "The most striking observation to emerge from Figures III-3a and III-3b concerns the dominant role of sulfate." While the data supports sulfate as a dominant contributor to visibility impairment in the east, it is presumptuous to describe this observation as "the most striking," and again is placing strong emphasis on the role of SO₂ and sulfates prior to the five-year RPO investigation. For the foregoing reasons, the NESCAUM Visibility Report appears to prejudge the results of the detailed air quality monitoring and modeling analyses needed to support the visibility protection program. Only after the RPOs have performed the necessary analyses of meteorological and chemically speciated ambient data will they be in a position to draw policy inferences.

4. Modeling and monitoring recommendations

The NESCAUM Visibility Report cites with favor the REMSAD model. NESCAUM Visibility Report @ xix and VII-6. The NESCAUM Visibility Report should have identified the limitations of REMSAD for conducting the analysis needed to support inferences about source

effects on the visual air quality of the Class I areas. The NESCAUM Visibility Report should also have addressed the plans for MODELS3 to overcome REMSAD's deficiencies.

The NESCAUM Visibility Report also cites with favor the reconstructed mass and visual air quality data derived from the IMPROVE network. NESCAUM Visibility Report @ xviii and V-2. But the discussion does not mention the differences among the reconstructions from IMPROVE monitors and those that satisfy the FRM for PM-2.5, that make even more reliable species and total mass measurements, and that provide alternative measures of visibility. Credible monitoring of key atmospheric parameters are at the heart of the visibility protection program. In our view, the NESCAUM Visibility Report does not adequately address the limitations in current databases that the States will need to overcome to support the visibility program.

5. Visibility photographs

The NESCAUM Visibility Report compares the visibility conditions using photographs to make the point that there are significant differences between the haziest and clearest days. NESCAUM Visibility Report III-30. While such photographs have some useful applications, it is important to indicate that they have limitations as well. The viewer needs to understand that, to be comparable, photographs of a scene should be taken with the same sun angle, which requires attention to the season and time of day, and the same natural conditions. Such factors were not addressed in the report or in the description of the photographs.

6. The Haze Event Case Study

A "haze event case study" was incorporated into the NESCAUM Visibility Report as an example of haze event dynamics in the Northeast. NESCAUM Visibility Report III-21 – III-36. The weather conditions leading up to this case study were atypical and severe; in fact, the NESCAUM Visibility Report stated that July of 1999 was the ninth warmest for the Northeast and Mid-Atlantic since 1895. MOG is concerned with such an illustration because we advocate the belief that visibility impairment is a regional problem that can not be effectively characterized by the description of one severe event. The NESCAUM Visibility report stated, "It should be stressed at the outset of this section that the haze event that occurred in mid-July of 1999 in the eastern U.S. was only unusual in its severity, not in its underlying causes." If such is the case, it must be documented and proven that the illustration is a fair characterization of haze in the Northeast. Without such support, the NE OTC RPO could use such an unusual event to implicate sources and regions, despite the fact the visibility protection program is not aimed at such extreme events but rather at the regional problem of haze.

C. Conclusion

The process in which the NESCAUM Visibility Report was issued allowed for no public comment, thus precluding the opportunity for stakeholder comment and input. Furthermore, the NESCAUM Visibility Report could be strengthened by characterizing the issue of regional haze in a manner that offers more detail on the existing uncertainties to visibility analysis. Finally, we believe the report should have refrained from policy conclusions until the appropriate regional haze investigations have been accomplished over the course of the five-year RPO process.

For additional information on these comments contact:

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