

August 31, 2012

Mid-Atlantic/Northeast Visibility Union
MANE-VU

Lisa P. Jackson, Administrator
U.S. Environmental Protection Agency
Air and Radiation Docket
Mail Code 6102T
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

*Reducing Regional Haze for
Improved Visibility and Health*

RE: Proposed Rule – Docket No. EPA-HQ-OAR-2007-0492

Dear Administrator Jackson:

The Mid-Atlantic North East Visibility Union (MANE-VU) appreciates the opportunity to comment on EPA's proposed National Ambient Air Quality Standards (NAAQS) for Particulate Matter (77 FR 38890, June 29, 2012).

The EPA's Promulgation of the Secondary Standard for Visibility is Commended

MANE-VU commends EPA on considering health based standards that were recommended by CASAC for fine particulate matter (PM_{2.5}), as well as proposing a secondary PM_{2.5} standard that is intended to protect visibility in urban, suburban and rural areas beyond the Class I Federal areas covered by the Regional Haze Rule. In order to ensure the secondary standard results in improvements of visibility and can be used by the public to gauge improvements, MANE-VU recommends an alternative method for determining attainment of the secondary standard.

The EPA's Proposed Metric of Using the IMPROVE Equation to Calculate Visibility is Flawed

Implementation of a secondary PM standard that differs from the primary is a very important step, but MANE-VU is concerned that the method proposed by EPA does not properly calculate light extinction in urban and rural settings, over the time periods for which impaired visibility is most important. The proposed 24-hour averaging time is marginally relevant to (instantaneous) perception of visibility effect. Additionally, reliance on CSN or IMPROVE for data limits calculations to frequencies of 3 to 6 days and delays information from 3 to 12 months, making them useless for real-time reporting. The use of climatologically averaged relative humidity functions further separates the regulatory metric from actual visibility conditions, resulting in calculations that give more weight to higher humidity values in the night hours, which are not as relevant to urban visibility as they are to visibility in remote Class I Federal areas.

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The EPA Should Move Towards Developing a Network to Directly and Instantaneously Measure Light Extinction

The ideal solution that MANE-VU sees would be to develop a network that directly monitors light extinction using instrumentation designed for such a purpose. However, MANE-VU does realize that such a network would require imposing monitoring techniques that have not been fully tested and that are currently not cost effective. That is why MANE-VU suggests that EPA implement a small-scale pilot field study using the candidate instruments (nephelometers, aethalometers, transmissometers) that would allow for near real time measurements of light extinction and could be co-located with existing PM_{2.5} continuous monitors and regional haze camera (CAMNet) sites to ensure proper functionality. Using instruments that directly measure light extinction would be beneficial since it would allow for the public to have certainty that what they are experiencing visually is what is being factored into decisions about controlling sources to meet the standard. As a part of, or as a supplement to the small-scale pilot field study, a careful evaluation should also be conducted of the feasibility of using the large (>1000 site) network of existing Automated Surface Observing System (ASOS) visibility sensors as a method for determining hourly PM light extinction. By examining the results of a field study that uses nephelometers, aethalometers, and/or transmissometers and the use of the existing ASOS network EPA can have a cost effective and technically feasible solution for future NAAQS revisions that rely on directly monitored light extinction.

This pilot study should then be adapted to address key locations in an early step for implementation. More sites can be added over time as the need and resources are identified in an approach similar to EPA's current staged implementation for near highway monitoring. It is critical that EPA consider the efficient use of resources during implementation of these proposed standards to ensure that monitoring for proper public health protection (primary standard) is maintained.

EPA Should Not Wait to Promulgate the Secondary Standard But Develop a Hybrid Approach Using Existing and Historical Data While Resolving Issues Along the Way

Since direct measurement may not be in a state to be implemented at the current time, MANE-VU would also like to see a final rule with an improved algorithm. MANE-VU recommends a hybrid approach, in which historical speciation data could be used to develop monthly or seasonal "aerosol composition" factors which could then be combined with hourly PM_{2.5} mass and RH data. This would allow hourly averaging time, based on speciated PM_{2.5} mass data, which is more relevant to perceived visibility effects. As a result hourly PM light extinction data would be available and could be communicated to the public in near-real time. Compliance with the standard could be based on a 4 to 6 hour daylight-only averaging time, which would focus on the hours where PM-related visibility impairment is most perceptible, would remove the artifactual influence of high nighttime humidity on the extinction estimates, and minimize errors associated with the hourly PM_{2.5} mass data. Such a method would not increase levels of monitoring and computation efforts required to compute PM light extinction, but would generate more detailed and relevant data suitable for comparisons to other estimates or direct measurements on an hourly basis.

A variation on this approach, closer to the EPA proposal, would be to combine historical speciation and relative humidity data to develop climatologically-derived "PM_{2.5} wet extinction efficiencies" by month and by hour of day. This would be less ideal than combining actual, concurrent RH and PM_{2.5} data, but would eliminate the unwarranted influence of nighttime RH, yield hourly (or aggregated longer) extinction estimates superior to the 24-hour metrics being proposed, and would eliminate the need to

measure continuous RH at continuous PM_{2.5} sites. If such extinction efficiency calculations were developed on a regional basis, they could be applied to any site with continuous PM_{2.5} data.

EPA Should Propose Technically Evaluated Alternate Methods to Measure Light Extinction After Adopting the Standard

MANE-VU is highly supportive of a secondary PM standard that differs from the primary standard, but urges EPA to implement a technically evaluated alternative method for determining attainment of the secondary PM standard that relies on hourly data. Furthermore, MANE-VU would like to see pilot programs that examine the effectiveness of using light extinction measurement equipment and the existing ASOS network so that future implementations of a secondary standard result in light extinction being measured directly in a cost effective manner.

EPA Should Propose an Implementation Rule to Obtain Public Comment on Issues Relating to the Implementation of the Secondary Standard

The scientific method(s) to instantaneously measure and report visibility levels to the public, as well as any issues associated with the state implementing the new secondary standard for visibility, should be laid out by EPA in an implementation rule for public comment. The EPA should work cooperatively with the States in developing this rule and we offer our support for this endeavor.

Please contact me at 202-508-3842 with any concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Wick Havens", written in a cursive style.

Wick Havens
Interim Executive Director