MINNESOTA POLLUTION CONTROL AGENCY

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April 30, 2018

Sent electronically to possiel.norm@epa.gov and palma.elizabeth@epa.gov

Dear Norm Possiel and Beth Palma:

The Minnesota Pollution Control Agency (MPCA) appreciates the opportunity to provide comments on the U.S. Environmental Protection Agency's (EPA) March 27, 2018, memorandum, "Information on the Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2))(D)(i)(I)" (Memo). In particular, the MPCA would like to provide comment regarding Attachment A, "Preliminary List of Potential Flexibilities Related to Analytical Approaches for Developing a Good Neighbor State Implementation Plan" (Attachment A).

Under Clean Air Act (CAA) sections 110(a)(1) and 110(a)(2), within three years of the finalization of a new or revised National Ambient Air Quality Standard (NAAQS), each state must submit an Infrastructure State Implementation Plan (I-SIP) that outlines the rules and other structures that the state has in place that will ensure its ability to implement that NAAQS. Within the CAA I-SIP requirements, section 110(a)(2)(D)(i)(I) requires states to submit "good neighbor SIPs" that ensure that sources within the state's borders do not "contribute significantly to nonattainment in, or interfere with maintenance by, any other state..." States are currently working on I-SIPs, including the good neighbor provisions, for the 2015 ozone NAAQS, which are due on October 1, 2018.

Attachment A offers a list of potential flexibilities that EPA is considering offering to states in their development of I-SIP for the 2015 Ozone National Ambient Air Quality Standards (NAAQS). Attachment A suggests potential good neighbor SIP flexibilities for the analytics and modeling necessary for developing the SIPs, as well as for all four steps relied on in other recent good neighbor SIP development efforts.

General comments

MPCA appreciates EPA's efforts over recent years to work with states to clarify requirements of I-SIPs generally, and good neighbor SIPs more specifically. EPA's September 13, 2013 memorandum, "Guidance on Infrastructure State Implementation Plan (SIP) Elements under Clean Air Act Sections 110(a)(1) and 110(a)(2)", has served as a helpful guide. In addition to the 2013 memorandum, MPCA has appreciated EPA's efforts to provide timely modeling to assist states in developing their good neighbor SIPs. It has also been helpful that EPA has, in recent years, developed a consistent methodology for developing good neighbor SIPs; this means that states can develop SIPs that they can reasonably count on to be approved. MPCA agrees, and has iterated before, that the primary responsibility for prevention and control of air pollution rests with the states. That being said, we highly value consistency and clarity from EPA, which helps us to be the first actor in developing SIPs that we can feel confident EPA will be able to approve.

The MPCA could potentially support some small changes to methodologies, if those changes were made through notice-and-comment rulemaking, and were based in thorough analysis and strong science. The process currently being followed by EPA is, however, neither of those things, and is subsequently predisposed to further confusion and drawn-out litigation.

Although the MPCA appreciates EPA's interest in working with states to create and explicate processes that work for us, the MPCA is strongly opposed to the degree and magnitude of the suggested flexibilities in Attachment A. The methodology for the development of good neighbor SIPs has been established through years of notice-and-comment rulemaking and litigation. In recent years, the process for writing and submitting good neighbor SIPs has become relatively well established. The MPCA is concerned that the amount of variability that is proposed in Attachment A will undermine the previous process, thereby potentially jeopardizing the integrity of the NAAQS for ozone, rendering the state good neighbor SIP revisions more vulnerable to litigation and uncertainty, and potentially set the precedent for ongoing uncertainty for future NAAQS revisions. At this late date, changing the process does not assist states with providing EPA legally or technically defensible, or approvable, good neighbor SIPs.

Most of the potential flexibilities outlined in Attachment A are vague and lack specific recommendations that states can concretely react to, especially in the timeframe offered by EPA. We, and likely other states, do not have time to complete the analyses that would be needed to thoroughly consider the implications of the wide variety of interpretations that might be possible under each potential flexibility.

EPA indicates that it plans to go through notice-and-comment rulemaking to finalize any potential flexibilities from Attachment A. EPA simply does not have time to complete this rulemaking process and leave states with sufficient time to develop approvable SIPs under the potential new rules. For instance, in Minnesota, in order to have a good neighbor SIP ready to send to EPA by October 1, 2018, we will need to publish our SIP in our State Register by early July. If we go through our SIP development process and then the expected methods change, we will not be able to submit an approvable SIP by October 1, leaving us open to litigation and potentially a Federal Implementation Plan.

It is critical that EPA provide concrete guidance and implementation rules that result in consistency across all states and regions. This is particularly important for issues such as the regional transport of air pollution, which involves complex interactions of emissions from states across the country. The MPCA is concerned that Attachment A implies that EPA may allow states to individually select different modeling techniques, assumptions, thresholds, and definitions. The MPCA does not support any process that would allow states to pick and choose whatever methods make their emissions appear to contribute the least to neighboring states.

The MPCA is concerned that the flexibilities in Attachment A could lead to, in a worst-case scenario, fifty different states using fifty different modeling techniques and assumptions, which would create conflicting views as to who is contributing how much and to where, and who needs to make reductions. Given that there will be little to no time to make comments on or otherwise react to actions by other states before the October 1 deadline, it seems possible that states with downwind obligations could find ways out of them through the subjective use of data, subsequently leaving downwind states to contend with attainment issues beyond their control. Further confusion over variations in methodology, and subsequent litigation, seem inevitable.

Analytics

The MPCA believes there is insufficient time for air agencies to consider alternative base years or alternate future analytic years. We do believe that a 2023 projection is appropriate because it aligns with the attainment deadline for moderate nonattainment areas, and such a deadline maintains consistency with previous good neighbor modeling expectations.

The MPCA believes power sector emissions forecasts must address economic factors, preserve system reliability, and include controls or emission reduction measures justified through some legal framework. It is our understanding that the engineering analysis used by EPA to project EGU emissions to 2023 (version EN of the modeling platform) does not comply with these key requirements, instead relying in large part on activity estimates not part of an identifiable control program. In light of that, the MPCA supports the use of alternative power sector modeling that is consistent with the key requirements in good neighbor SIPs.

Step 2: Identify upwind states that contribute to those downwind air quality problems to warrant further review and analysis

The MPCA considers Anthropogenic Precursor Culpability Analysis (APCA) the most appropriate probing tool to quantify contribution to ozone at downwind receptors. APCA and Ozone Source Apportionment Technology (OSAT) are both methods designed to assess contribution. APCA provides a more useful outcome than OSAT because APCA assigns culpability to controllable anthropogenic nitrogen oxides (NO_x) precursors in the event ozone formation is due to anthropogenic NO_x interacting with uncontrollable biogenic volatile organic compounds (VOCs). OSAT apportions contribution to VOC sources naturally occurring in the environment, which disregards the intent of the exercise: to identify anthropogenic sources culpable for downwind ozone formation.

The DDM (or High-order Direct Decoupled Method, HDDM) probing tool and brute force method quantify the sensitivity of ozone production to changes in precursor emissions (NO_x and VOC). The sensitivity tools can inform the extent of precursor emission changes from contributors identified by APCA (and OSAT) necessary to reduce ozone concentrations. For more information, the MPCA recommends EPA consult the Coordinating Research Council's "Guidance on the application of CAMx probing tools"[1], in particular the excerpt on the following page:

[1] Yarwood, G., R. Morris, S. Lau, U. Ganesh, G. Tonnesen. "Guidance on the application of CAMx probing tools", CRC Project A-37-2, September 2003.

> "First-order DDM sensitivities appear similar to OSAT source apportionments because they appear to describe similar relationships (between precursors and ozone) and often have similar magnitudes. However, source sensitivity is not the same thing as source apportionment as explored in detail in Section 6. Two comparisons between OSAT and DDM illustrate key differences between source sensitivity and OSAT source apportionments: (1) Sensitivity coefficients can be negative, meaning that reducing emissions will increase ozone, whereas OSAT source apportionments are never negative. An example would be an area with high NOx emissions where reducing NOx emissions will increase ozone (for small changes) and DDM will obtain negative ozone sensitivities to local NOx whereas OSAT will have zero or small ozone apportionments to local NOx. (2) Adding up all the first-order sensitivities over all sources of ozone and precursors typically explains only about 60-70% of the total ozone. The modeled ozone that is 'unexplained' by the first-order sensitivity coefficients is explained by higher-order sensitivities, but they are more difficult to calculate and difficult to interpret. An advantage of DDM sensitivity coefficients is that they are rigorously defined (mathematically) and so are unique. The value of this uniqueness is weakened if the sensitivities are interpreted as source apportionments because of the significant portion of the ozone that is 'unexplained' by the first-order sensitivities."

Conclusions

As discussed, the MPCA appreciates EPA's efforts at cooperative federalism, but the flexibilities provided in the Memo are too broad and too open-ended to allow for constructive dialogue; they do not actually assist states with the development of their good neighbor SIPs; and they lack sufficient technical reasoning and context. In addition, those points being aside, there simply is not enough time for states to explore the allowed flexibilities under Attachment A before the October 1 deadline. We urge EPA to apply the methods that have been developed by states and EPA through years of discussion, comment, and litigation, rather than introducing more ambiguous direction that could lengthen what has already been a contentious application of the 2015 Ozone NAAQS.

If you have any questions, please do not hesitate to contact Mary Jean Fenske, Air Policy Unit Supervisor, at maryJean.fenske@state.mn.us or at 651-757-2354.

Sincerely,

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FLK/CS:vs

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