

December 17, 2018

Honorable Andrew R. Wheeler
Acting Administrator
U.S. Environmental Protection Agency
Mail Code 1101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Midwest Ozone Group Additional Comments
on the New York CAA Section 126 Petition.

Dear Acting Administrator Wheeler:

On May 31, 2018, the Midwest Ozone Group (MOG)¹ submitted an initial set of comments to the Environmental Protection Agency (EPA) with respect to the March 12, 2018, the New York Department of Environmental Conservation petition filed pursuant to Section 126 of the federal Clean Air Act (CAA).

On October 19, 2018, MOG filed a set of supplemental comments which, among other things, provided EPA with the results of MOG's modeling available at that time which used an EPA-approved technique called "flexi-nesting" to apply EPA's 2011/2023en modeling platform at 12km to a more refined 4km grid.

Since the filing of its supplemental comments on October 19, 2018, two new developments have occurred that MOG would like to bring to EPA's attention in the form of these additional comments.

- 1. Updated 4km modeling using 4km-processed emissions performed at the request of the Midwest Ozone Group confirms that in 2023 all of New York's monitors will attain the 2015 (70 ppb) ozone NAAQS.**

¹ The members of and participants in the Midwest Ozone Group include: American Coalition for Clean Coal Electricity, American Electric Power, American Forest & Paper Association, American Wood Council, Ameren, Alcoa, Appalachian Region Independent Power Producers Association (ARIPPA), ArcelorMittal, Associated Electric Cooperative, Citizens Energy Group, Council of Industrial Boiler Owners, Duke Energy, East Kentucky Power Cooperative, FirstEnergy, Indiana Energy Association, Indiana Utility Group, LGE / KU, National Lime Association, Ohio Utility Group, Olympus Power, and City Water, Light and Power (Springfield IL).

Since the time of the filing of its supplemental comments on October 19, 2018, Alpine Geophysics, at the request of MOG, has rerun EPA’s 2011/2023en modeling platform on MOG’s 4km domains using 4km-processed emissions. This was done in a further effort to refine modeled ozone concentrations at and near land-water interface receptors. Alpine Geophysics has completed the model performance evaluation on these domains and at key receptors. Based upon this evaluation, there is consistent performance with the earlier 4km results and therefore this updated platform demonstrates the scientific credibility for these 4km domains. These results provide confidence in the ability of the modeling platform to provide a reasonable projection of expected future year ozone concentrations and contributions. This model performance evaluation and the results of the updated 4km modeling have been incorporated into a Technical Support Document (TSD)² that is attached to these comments and identified as Exhibit A.

These results support the conclusion stated in MOG’s October 19, 2018, comments, that there are no monitors in the State of New York that are predicted to be in nonattainment with the 2015 ozone NAAQS in 2023. This conclusion and the remaining data presented in this letter support the conclusion that the New York petition has no merit and must be denied.

2. Application of EPA’s alternative maintenance monitor methodology demonstrates that there will not be any maintenance monitors in New York in 2023.

Set out in the table below is a comparison of the new updated 4km results with the previous flexi-nested 4km results for those New York monitors that were previously identified as being maintenance monitors.

Monitor	State	County	Ozone Design Value (ppb)				
			DVb (2011)	Original 4km Modeling		Updated 4km Modeling	
				DVf (2023) Ave	DVf (2023) Max	DVf (2023) Ave	DVf (2023) Max
360850067	New York	Richmond	81.3	69.6	71.0	69.6	71.0
361030002	New York	Suffolk	83.3	70.7	72.1	70.6	72.0

On October 19, 2018, EPA issued new guidance³ in the form of a memorandum entitled “Considerations or Identifying Maintenance Receptors for Use in Clean Air Act Section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards” (“EPA’s Memo”). That guidance recognizes an

² “Air Quality Modeling Technical Support Document for Midwest Ozone Group’s Updated 4km Modeling,” prepared by Alpine Geophysics, LLC, Burnsville, NC. December 2018.

http://www.midwestozonegroup.com/files/Final_TSD_-_Updated_4km_Ozone_Modeling_Dec_2018_.pdf

³ <https://www.epa.gov/airmarkets/considerations-identifying-maintenance-receptors-memo>

alternative methodology for making a determination of the monitor's status as a maintenance monitor.

Alpine Geophysics was tasked by MOG to review EPA's Memo and to apply MOG's updated 4km modeling results presented in this letter, as well observed ozone concentrations, to relevant monitors, including the Richmond and Suffolk New York monitors, to determine whether those monitors would qualify as maintenance monitors under EPA's alternative methodology. A report of the results of this review⁴ is attached and identified as Exhibit B.

EPA's Memo provides that to qualify for this new flexibility, a modeled demonstration would first need to show that using an alternative base year period would lead to a projected future year design value at or below a concentration of 70.9 ppb which is necessary to demonstrate modeled attainment of the 2015 ozone NAAQS of 70 ppb. If that demonstration is successful, EPA's Memo states that the following technical criteria would need to be satisfied

1. meteorological conditions in the area of the monitoring site were conducive to ozone formation during the period of clean data or during the alternative base period design value used for projections;
2. ozone concentrations have been trending downward at the site since 2011 (and ozone precursor emissions of nitrogen oxide (NO_x) and volatile organic compounds (VOC) have also decreased); and
3. emissions are expected to continue to decline in the upwind states out to the attainment date of the receptor.

As is illustrated below, application of all of these criteria to the Richmond NY and Suffolk NY monitors demonstrates that they should not be considered maintenance monitors.

a. Utilization of alternative base period design values results in a projection of clean data for the monitors in question.

A first step in applying the flexibility guidance set forth in EPA's Memo is to determine whether these monitors should be properly characterized as a maintenance receptor under the alternative methodology, Alpine Geophysics reviewed 2023 ozone design values using alternate base year concentrations (from the three, three-year time periods between 2009 – 2013) for each of these two monitors. These data, presented in the following table, demonstrate that each of the monitors has at least one alternate base year period design value that results in a 2023 projection

⁴ "Addressing Maintenance Monitor Flexibilities Using the 2023 Cross-State Air Pollution Rule Closeout Modeling Platform - Revised December 2018," prepared by Alpine Geophysics, LLC, Burnsville, NC. December 2018.

http://www.midwestozonegroup.com/files/Maintenance_Monitor_Flexibility_Dec_2018_.pdf

⁴ <https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data>

equal to or lower than the 70.9 ppb threshold satisfying this condition of EPA’s alternative methodology.

Alternate Base Year Projections of 2023 ozone Design Values (ppb) from Alpine 4km Modeling for Key Monitors in the 4km Domains.

Monitor	State	County	DVb (2011)	2023 Ozone Design Value (ppb)		
				DVf (Ave)	DVf (Max)	DVf (Max 2011/13)
360850067	New York	Richmond	81.3	69.6	71.0	66.7
361030002	New York	Suffolk	83.3	70.6	72.0	68.7

b. Meteorological conditions of the monitors were conducive to ozone formation.

One of the criteria established in EPA’s Memo for approving an alternative demonstration of a monitor’s maintenance status is that the “meteorological conditions in the area of the monitoring site were conducive to ozone formation during the period of clean data or during the alternative base period design value used for projections.” Significantly, the alternative demonstrations set forth in this memorandum for the Richmond NY, and Suffolk NY monitors are based upon alternative base year periods involving the years 2010 through 2013. EPA has recognized that, with one limited exception relevant to this analysis (the summer of 2013 in the Upper Midwest), the meteorology in these years was conducive to ozone formation. Because these two monitors are located in New York and not the Upper Midwest, we can correctly conclude that the alternative base period design values stated above for these monitors reflect meteorology in ozone conducive years. By basing model projections for the attainment year of 2023 on alternative base period design values for ozone conducive years, the Richmond NY, and Suffolk NY monitors meet the meteorological threshold of EPA’s Memo.

c. Ozone concentrations are trending downward.

As an additional supporting case to the flexibility in identifying maintenance monitors, EPA guidance provides that a state would need to show that “ozone concentrations have been trending downward at the site since 2011”. The first table below presents 4th high ozone concentration data⁵ measured at each noted receptor and a calculated slope between 2011 and the most recently EPA-approved 4th high concentrations from 2017. The second table below presents a count of the number of ozone exceedance days per monitor per year relative to the 2015 70 ppb ozone NAAQS.

⁵ Appendix, “Addressing Maintenance Monitor Flexibilities Using the 2023 Cross-State Air Pollution Rule Closeout Modeling Platform - Revised December 2018,” prepared by Alpine Geophysics, LLC, Burnsville, NC. December 2018. http://www.midwestozonergroup.com/files/Maintenance_Monitor_Flexibility_Dec_2018_.pdf.

4th High Ozone Concentrations (ppb) and Slope Calculation for Key Monitors in the 4km Domains.

Monitor	State	County	4th High Ozone Concentration (ppb)							Slope (2011-2017) (ppb/yr)
			2011	2012	2013	2014	2015	2016	2017	
360850067	New York	Richmond	87	78	71	72	79	77	72	-1.39
361030002	New York	Suffolk	89	83	72	66	78	73	77	-1.79

Daily Ozone Exceedance Counts and Slope Calculation for Key Monitors in the 4km Domains.

Monitor	State	County	Daily Ozone Exceedance Counts							Slope (2011-2017)
			2011	2012	2013	2014	2015	2016	2017	
360850067	New York	Richmond	17	14	4	6	10	10	7	-1.14
361030002	New York	Suffolk	16	12	5	0	7	4	7	-1.46

In the case of each of the Richmond NY, and Suffolk NY monitors, negative slopes for both 4th high ozone concentrations and daily ozone exceedance counts demonstrate the necessary downward trends in ozone concentrations necessary to satisfy this requirement of EPA's Memo.

- d. Emissions of ozone precursors have been trending downwards since 2011 and are expected to continue to decline out to the attainment date of the receptor.**

NOx and VOC emissions across the CSAPR region have been dramatically reduced in recent years. These emission reductions will continue as the result of "on-the-books" regulatory programs already required by states on their own sources, "on-the-way" regulatory programs that have already been identified by state regulatory agencies as efforts that they must undertake as well as from the effectiveness of a variety of EPA programs including the CSAPR Update Rule.

Presented in Exhibit B to these comments are tables developed from EPA modeling platform summaries⁶ illustrating the estimated total anthropogenic emission reduction in the CSAPR states. These tables show that total annual anthropogenic NOx emissions are predicted to decline by 29% between 2011 and 2017 over the CSAPR domain and by 43% (an additional 1.24 million tons) between 2011 and 2023.

Importantly, and as stated in our initial comments, the estimated 2017 emissions used in the EPA modeling are inflated as compared to the actual 2017 CEM-reported EGU emissions. As is shown in Exhibit B to these comments, when the CSAPR-modeled 2017 annual EGU emissions are compared to the actual CEM-reported 2017 annual EGU emissions, it becomes

⁶ 83 Fed. Reg. 7716 (February 22, 2018).

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apparent that there is a significant domain-wide overestimation (129,000 annual tons NOx) of the predicted emissions for this category. The modeled values from state-to-state vary between over- and under-estimated, domain-wide, CEM-reported annual NOx ranging from 158% overestimation (2017 actual emissions are 61% of modeled emissions) for Pennsylvania to 54% underestimation (2017 actual emissions are 118% of modeled emissions) for Virginia with a domain-wide overestimation of 18% (129,553 tons) of annual NOx emissions from EGUs. Exhibit B also shows that total annual anthropogenic VOC emissions are predicted to decline by 9% between 2011 and 2017 over the CSAPR domain and by 15% (an additional 1.43 million tons) between 2011 and 2023.

EPA's October 19, 2018, guidance memo offers the option of using an alternative method of identifying maintenance monitors to be addressed in connection with the implementation of the requirements on CAA section 110(a)(2)(D)(i)(I) related to the 2015 ozone NAAQS. When current data is applied to the various criteria identified by EPA, it is clear that neither the Richmond NY nor Suffolk NY monitors should be considered maintenance monitors for purposes related to the 2015 ozone NAAQS.

For reasons stated here, and in its initial comments filed on May 31, 2018, and supplemental comments filed on October 19, 2018, MOG submits that the New York has neither the legal nor technical bases to support its Section 126 petition. Consequently, we urge EPA to deny the New York Section 126 petition.

Very truly yours,



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