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August 14, 2019

Via Email: ozone@otcair.org

David C. Foerter
Executive Director
Ozone Transport Commission
800 Maine Avenue, SW, Suite 200
Washington, DC 20024

Re: Maryland 184(c) Petition;
Comments of Midwest Ozone Group

Dear Mr. Foerter:

Please find attached comments submitted on behalf of the Midwest Ozone Group ("MOG")[1] in response to the Ozone Transport Commission notice of public comment period regarding whether the OTC should act upon the May 30, 2019 petition filed by Maryland to the OTC pursuant to CAA Section 184(c). As characterized in the public notice, "The petition asks the OTC to consider developing additional control measures within part of the OTR, specifically the potential need for daily limits at coal-fired EGUs in Pennsylvania, as necessary to bring areas in the OTR into attainment by the dates mandated by the CAA." On June 26, 2019, the OTC voted to proceed with the initial steps associated with CAA Section 184(c) petition process, including analyzing recent EGU operations in Pennsylvania. The OTC is now soliciting public comment on: 1) whether the OTC should develop additional control measures for Pennsylvania, and if so, 2) how those specific control measures should be structured.

MOG's principal concern regarding the Maryland petition goes to the fundamental premise of CAA §184(c) – to address the need for additional control measures to bring any area in the OTC into attainment with the ozone NAAQS by the dates required by the CAA. In these attached comments, MOG has identified many deficiencies in the Maryland petition, including a complete failure to offer any data that there will be any nonattainment or maintenance concerns anywhere in the OTC by the dates required by the CAA. In sharp contrast, MOG demonstrates

[1] MOG is an affiliation of companies, trade organizations, and associations that draw upon their collective resources to seek solutions to the development of legally and technically sound national ambient air quality management programs. The members of and participants in the Midwest Ozone Group include: 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, City Water, Light and Power (Springfield IL), Council of Industrial Boiler Owners, Duke Energy, East Kentucky Power Cooperative, ExxonMobil, FirstEnergy, Indiana Energy Association, Indiana Utility Group, LGE / KU, Ohio Utility Group, and Olympus Power.

in these comments that neither Maryland nor the NYNA nor any other portion of the OTR will have any modeled ozone nonattainment monitors in 2023, the appropriate attainment date.

Accordingly, MOG urges that the OTC deny the Maryland 184(c) petition request for any additional control measures on the named sources in Pennsylvania.

Very truly yours,

David M. Flannery

Attachments

cc: Ben Grumbles, Secretary, Maryland Department of the Environment
George S. "Tad" Aburn, Air Director, Maryland Department of the Environment
Shawn Garvin, OTC Chair and Secretary, Delaware Department of Natural Resources and Environmental Control
Katie S. Dykes, Commissioner, Connecticut Department of Energy and Environmental Protection
Tommy Wells, Director, District of Columbia Department of Energy & Environment
Gerald D. Reid, Commissioner, Maine Department of Environmental Protection
Martin Suuberg, Commissioner, Massachusetts Department of Environmental Protection
Robert R. Scott, Commissioner, New Hampshire Department of Environmental Services
Catherine R. McCabe, Commissioner, New Jersey Department of Environmental Protection
Basil Seggos, Commissioner, New York Department of Environmental Conservation
Patrick McDonnell, Secretary, Pennsylvania Department of Environmental Protection
Janet Coit, Director, Rhode Island Department of Environmental Management
Emily Boedecker, Commissioner, Vermont Department of Environmental Conservation
David K. Paylor, Director, Virginia Department of Environmental Quality

MIDWEST OZONE GROUP COMMENTS

REGARDING MARYLAND'S PETITION TO

THE OZONE TRANSPORT COMMISSION

FOR ADDITIONAL CONTROL MEASURES PURSUANT

TO SECTION 184(c) OF THE CAA

AUGUST 14, 2019

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Exhibit A:

"Good Neighbor" Modeling for the 2008 8-Hour Ozone State Implementation Plans, Final Modeling Report, prepared by Alpine Geophysics, LLC, December 2017; http://midwestozonegroup.com/files/Ozone_Modeling_Results_Supporting_GN_SIP_Obligations_Final_Dec_2017_.pdf

Exhibit B:

Air Quality Modeling Technical Support Document for Midwest Ozone Group's Updated 4km Modeling Final Technical Support Document, prepared by: Alpine Geophysics, LLC, December 2018; http://www.midwestozonegroup.com/files/Final_TSD_-_Updated_4km_Ozone_Modeling_Dec_2018_.pdf

Exhibit C:

"Good Neighbor" Modeling Technical Support Document for 8-Hour Ozone State Implementation Plans Using MOG's 4kei Modeling Platform Final Technical Support Document Prepared by: Alpine Geophysics, LLC, March 2019 Revised: June 2019; http://midwestozonegroup.com/files/Final_TSD_-_Ozone_4kei_Modeling_Supporting_GN_SIP_Obligations.pdf

Exhibit D:

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

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

Exhibit E:

Stationary and Area Sources Committee; OTC / MANE-VU Joint Committees' Meeting September 21, 2018;

http://www.midwestozonegroup.com/files/MOG_OTC_SAS_Public_09212018.pdf

Exhibit F:

Stationary and Area Sources Committee; OTC / MANE-VU Joint Committees' Meeting, June 11, 2019;

http://midwestozonegroup.com/files/OTC_SAS_Presentation_AnnMtg_06112019.pdf

Exhibit G:

Analysis of Ozone Trends in the East in Relation to Interstate Transport Norm Possiel, EPA/OAQPS, May 14, 2018; http://midwestozonegroup.com/files/2018-05-14_EPA_OAQPS_-_Analysis_of_O3_Trends_in_the_East_in_Relation_to_Interstate_Transport.pdf

MIDWEST OZONE GROUP COMMENTS REGARDING MARYLAND'S PETITION TO THE OZONE TRANSPORT COMMISSION FOR ADDITIONAL CONTROL MEASURES PURSUANT TO SECTION 184(c) OF THE CAA

August 14, 2019

I. INTRODUCTION.

On May 30, 2019, the State of Maryland filed a petition pursuant to Section 184(c) of the federal Clean Air Act (CAA) requesting that the Ozone Transport Commission (OTC) develop and transmit to U.S. Environmental Protection Agency (EPA) recommendations for additional control measures to be applied to certain sources located in the Commonwealth of Pennsylvania, for the stated - but unsupported purpose – of bringing portions of the Ozone Transport Region (OTR) – namely Maryland and the New York-New Jersey-Connecticut Nonattainment Area (NYNA) - into ozone attainment pursuant to the CAA. Specifically, while the petition acknowledges that CAA Section 184(c) links any request for additional control measures to a demonstration that such measure are necessary to bring an area into attainment by the dates provided in the CAA, the petition does not offer even a single sentence addressing attainment by the required dates.

The Maryland 184(c) petition directly targets for additional regulation facilities owned and operated by the members of and participants in the Midwest Ozone Group (MOG) and also raises several general legal and technical matters of concern to MOG. While MOG will defer to the owners of the individual sources on matters specific to those facilities, these comments[1] are offered to address more general concerns about the legal and technical deficiencies of the Maryland petition.

MOG is an affiliation of companies, trade organizations, and associations that draw upon their collective resources to seek solutions to the development of legally and technically sound

[1] Comments or questions about this document should be directed to David M. Flannery, Kathy G. Beckett, Edward L. Kropp, or Laura M. Goldfarb, Legal Counsel, Midwest Ozone Group, Steptoe & Johnson PLLC, 707 Virginia Street East, Charleston West Virginia 25301; 304-353-8000; dave.flannery@steptoe-johnson.com; kathy.beckett@steptoe-johnson.com;, skipp.kropp@steptoe-johnson.com; and laura.goldfarb@steptoe-johnson.com, respectively. These comments were prepared with the technical assistance of Alpine Geophysics, LLC.

national ambient air quality management programs.[2] MOG's primary efforts are to work with regulators and others in evaluating air quality policies by encouraging the use of sound science. MOG has been actively engaged in a variety of EPA issues and initiatives related to the development and implementation of air quality policy, including the development of transport rules, NAAQS standards, nonattainment designations, petitions under Sections 176A and 126 of the CAA, NAAQS implementation guidance, the development of Good Neighbor state implementation plans and related regional haze issues. MOG members and participants operate a variety of emission sources including more than 75,000 MW of coal-fired and coal-refuse fired electric power generation in more than ten states. They are concerned about the development of technically unsubstantiated interstate air pollution rules and the impacts on their facilities, their employees, their contractors, and the consumers of their products. Significantly, the facilities owned by the Members and Participants in MOG, including those targeted by the Maryland petition, have been subject to several new emission control regulations in recent years. These regulations in combination with many unit retirements, curtailments and fuel conversions which have occurred in Pennsylvania have resulted in a substantial reduction in annual and ozone season nitrogen oxides (NO_x) emissions which have been incurred at very significant cost to those facilities, the communities where they are located and the employees and their families.

MOG's principal concern regarding the Maryland petition goes to the fundamental premise of CAA §184(c) – to address the need for additional control measures to bring any area in the OTC into attainment with the ozone NAAQS by the dates required by the CAA.

In these comments, MOG has identified many deficiencies in the Maryland petition, including a complete failure to offer any data that there will be any nonattainment or maintenance concerns anywhere in the OTC by the dates required by the CAA. In sharp contrast, MOG will demonstrate in these comments that neither Maryland nor the NYNA nor any other portion of the OTR will have any modeled ozone nonattainment monitors in 2023, the appropriate attainment date. Specifically, these comments will demonstrate that:

1. EPA's CSAPR Update Rule photochemical modeling and independent air quality modeling performed for MOG confirm that in 2023 Maryland will

[2] The members of and participants in the Midwest Ozone Group include: 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, City Water, Light and Power (Springfield IL), Council of Industrial Boiler Owners, Duke Energy, East Kentucky Power Cooperative, ExxonMobil, FirstEnergy, Indiana Energy Association, Indiana Utility Group, LGE / KU, Ohio Utility Group, and Olympus Power.

have no modeled nonattainment or predicted maintenance monitors[3] related to the 2008 (75 ppb) ozone NAAQS.

2. Utilizing EPA approved modeling protocols MOG modeled the ambient air quality impacts of EPA's 2023 emission inventory using 4km-processed emissions and meteorology. This more refined modeling (as compared with EPA's 12km modeling) demonstrates that in 2023 all monitors in Maryland, NYNA and the remainder of the OTR will attain the 2015 (70 ppb) ozone NAAQS and that in 2023 there will not be any modeled nonattainment monitors in Maryland, the NYNA or the remainder of the OTR.

3. Application by MOG of EPA's October 2018 alternative maintenance monitor methodology demonstrates that in 2023 there will not be any predicted ozone monitor maintenance concerns in Maryland, the NYNA or the remainder of the OTR.

Accordingly, in the complete absence of any attempt by Maryland to assess ozone attainment by the dates required by the CAA, and for the many more additional reasons set forth in our more detailed comments, MOG submits the Maryland CAA §184(c) petition is fundamentally flawed on both legal and technical bases and should be denied.

II. RELEVANT STATUTORY AUTHORITY.

The CAA provides within CAA Section 184(c) the following:

(c) Additional control measures

(1) Recommendations

Upon petition of any State within a transport region established for ozone, and based on a majority vote of the Governors on the Commission (or their designees), the Commission may, after notice and opportunity for public comment, develop recommendations for additional control measures to be applied within all or a part of such transport region if the commission determines such measures are **necessary to bring any area in such region into attainment by the dates provided by this subpart**. The commission shall transmit such recommendations to the Administrator. (Emphasis added.)

[3] For ease of discussion, we are adopting the shorthand convention throughout these comments of identifying three types of future year ozone monitors: a) those with 2023 model results showing predicted attainment in 2023 are described as monitors with no "modeled nonattainment "; b) those with 2023 model results showing modeled nonattainment are described as monitors with "modeled nonattainment"; and c) those with predicted 2023 model results that would trigger maintenance requirements, rather than nonattainment, in accordance with EPA's alternative maintenance methodology are described as "maintenance monitors."

(2) Notice and review

Whenever the Administrator receives recommendations prepared by a commission pursuant to paragraph (1) (the date of receipt of which shall hereinafter in this section be referred to as the "receipt date"), the Administrator shall— (A) immediately publish in the Federal Register a notice stating that the recommendations are available and provide an opportunity for public hearing within 90 days beginning on the receipt date; and (B) commence a review of the recommendations to determine whether the control measures in the recommendations are necessary to bring any area in such region into attainment by the dates provided by this subpart and are otherwise consistent with this chapter.

(3) Consultation

In undertaking the review required under paragraph (2)(B), the Administrator shall consult with members of the commission of the affected States and shall take into account the data, views, and comments received pursuant to paragraph (2)(A).

(4) Approval and disapproval

Within 9 months after the receipt date, the Administrator shall (A) determine whether to approve, disapprove, or partially disapprove and partially approve the recommendations; (B) notify the commission in writing of such approval, disapproval, or partial disapproval; and (C) publish such determination in the Federal Register. If the Administrator disapproves or partially disapproves the recommendations, the Administrator shall specify—(i) why any disapproved additional control measures are not necessary to bring any area in such region into attainment by the dates provided by this subpart or are otherwise not consistent with the chapter; and (ii) recommendations concerning equal or more effective actions that could be taken by the commission to conform the disapproved portion of the recommendations to the requirements of this section.

(5) Finding

Upon approval or partial approval of recommendations submitted by a commission, the Administrator shall issue to each State which is included in the transport region and to which a requirement of the approved plan applies, a finding under section 7410(k)(5) of this title that the implementation plan for such State is inadequate to meet the requirements of section 7410(a)(2)(D) of this title. Such finding shall require each such State to revise its implementation plan to include the approved additional control measures within one year after the finding is issued.

III. SPECIFIC COMMENTS.

Set forth in the remainder of these comments are MOG's detailed comments which provide various bases that require OTC's rejection of the Maryland 184(c) petition.

1. **While Maryland proposes that additional control measures be mandated for the sources it has named, the Maryland petition does not offer even a single sentence assessing whether such measures are necessary to bring Maryland and the NYNA into attainment by the dates mandated in the CAA.**

CAA Section 184(c)(1) makes it explicitly clear that any recommendation for additional control measures must be based on a determination that such measures "are necessary to bring any area in such region into attainment by dates provided by this subpart." With this statutory requirement in mind, we note that Attachment 1 of the Maryland petition requests that the OTC recommend that additional control measures be put in place by 2020. However, the Maryland petition fails to offer even a single sentence assessing ozone air quality in 2020 or the justification for specifying the attainment of ozone NAAQS requirements by 2020.

While the Maryland petition does offer air quality modeling (see Attachment 6 to its petition), that modeling data relates to 2023 – not 2020 – and does not address attainment. Instead, the Maryland modeling assesses the differences that may exist in 8-hour average ozone concentrations when its alternative control measures are modeled. The Maryland analysis, however, does not relate those modeling results in any way to attainment.

As a result, the petition fails to demonstrate that any additional control measures are necessary to achieve attainment. Even if there were any legitimate residual nonattainment concerns in the areas cited by Maryland, the petition fails to address whether the maximum reductions included in Maryland's 2023 modeling are greater than would be needed to eliminate those concerns. The petition also fails to address the nec3essity of imposing new controls on the selected power plants, versus mobile and other local sources in the Northeast which have a much greater impact on air quality measured at monitors in Maryland and the Northeast.

Inasmuch as Maryland has failed to address the statutorily required assessment of attainment in the appropriate future year, the OTC should deny Maryland's request for a recommendation for additional control measures on the selected electrical generating units.

2. Maryland modeling assumptions compromise the validity of key findings in their sensitivity results as related to Pennsylvania EGU contribution at OTC receptors.

Maryland Department of the Environment (MDE) contracted with the University of Maryland, College Park (UMD) Department of Atmospheric & Oceanic Science to perform photochemical sensitivity modeling to demonstrate that emissions from all Pennsylvania coal fired EGUs significantly contribute to ozone formation in Maryland. The sensitivity modeling completed was intended to show the maximum ozone concentration reductions/ozone benefits if Pennsylvania coal-fired EGUs were to be required to maximize the emissions reductions that could be accomplished using existing SCR and SNCR controls. The sensitivity analysis compared "current maximum allowable emission" at Pennsylvania coal-fired EGUs and some coal refuse-fired EGUs to previously achieved emission rates associated with MDE's "optimization" scenario during the ozone season. Significantly, this modeling included a series of assumptions that call into question the relative contribution findings of the analysis.

a. UMD's 2023 EGU base case assumes no PA EGU has any control associated with the promulgated CSAPR Close-Out rule and uses mass percentage adjustments to simulate compliance with CSAPR in other states.

UMD's documentation indicates that "[t]his scenario consists of starting from the GAMMA 2023 base case (Scenario 5r) and optimized SCR/SNCR controls at all PA coal fired EGUs and some coal refuse-fired and compliance with the CSAPR Update at all other EGUs. The ozone season NOx mass was adjusted down based on the mass percentage adjustment calculated for each of the units to reflect 2023 ozone season NOx rates consistent with (1) compliance with the CSAPR Update and (2) optimization of SCR/SNCR controls for the sources named in this petition. This scenario is representative of PA EGU coal units and some coal-refuse-fired EGUs operating their SCR or SCNR controls at optimized rates."

Instead of using EPA or ERTAC-based projections of CSAPR application directly, UMD calculates mass adjustment factors by which to apply to individual units in their modeling domain. It is also unclear from provided documentation whether UMD captures CSAPR controls at all applicable facilities or states in their modeling domain. More importantly, however, they fail to simulate and compare the application of CSAPR in Pennsylvania to their "optimized" case to determine the relative difference in emissions or adjusted air quality resulting from the application of the promulgated rule. Results presented in the analysis presume no application of CSAPR constraints to Pennsylvania units and therefore likely overestimate the impact of the optimization sensitivity.

b. UMD's 2023 base case assumes a 50% NOx reduction in mobile sources associated with their Science Framework[4].

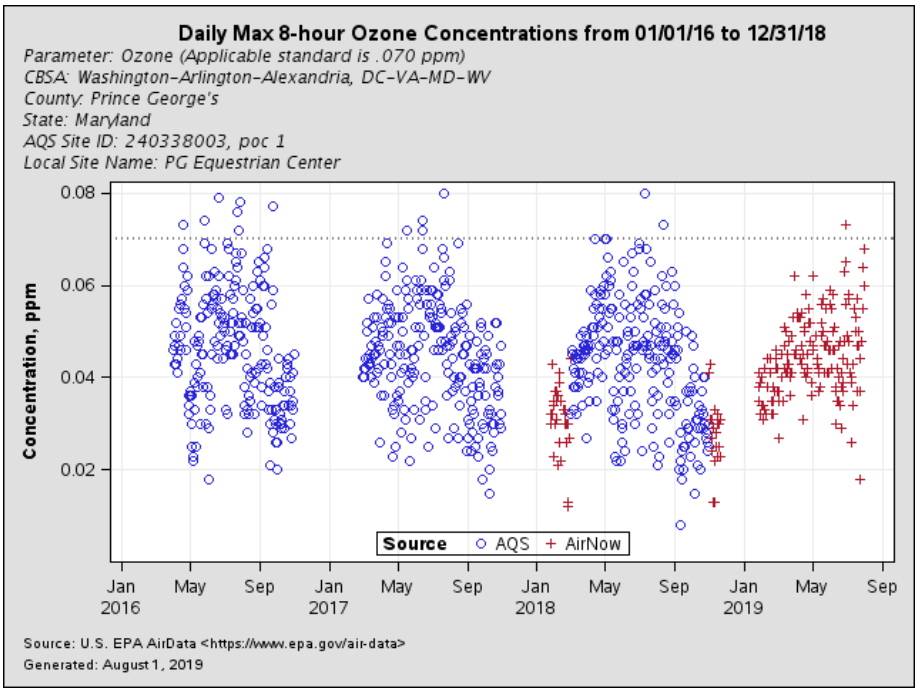
UMD has applied a 50% NOx reduction in mobile source emissions consistent with findings published elsewhere. However, MOG has not found that at any time the EPA, nor the OTC, has indicated acceptance of this adjustment in their regulatory modeling efforts. As a result of this downward adjustment in the largest contributing source category to ozone concentrations in the northeastern states, UMD is artificially lowering the relative contribution of mobile sources to ozone concentrations at downwind receptors. Consequently, all other source sectors will have a greater relative contribution, including EGUs from Pennsylvania, resulting from no other reason than this subjective, speculative scalar adjustment.

c. UMD fails to demonstrate that differences in maximum 8hr average ozone (MDA8) calculated for any receptor occurs on days when the model predicts exceedances of the 2008 or 2015 ozone NAAQS.

Notwithstanding the emission estimation limitations in the 2023 modeling cases noted above, in the additional attachments presented with the petition, UMD documents results of their sensitivity analysis using maximum ozone benefits (in delta ppb) between the base case (no CSAPR control in PA) and optimized case. What is not detailed in these attachments, however, is whether any of these maximum benefits occur at receptors predicted to be in nonattainment of the 2008 or 2015 ozone NAAQS with their 2023 platform, or whether any of these maximum benefits occur on days when ozone is predicted to exceed either standard or whether the back trajectory associated with the high impact days actually passes over any of the Pennsylvania facilities named in the petition.

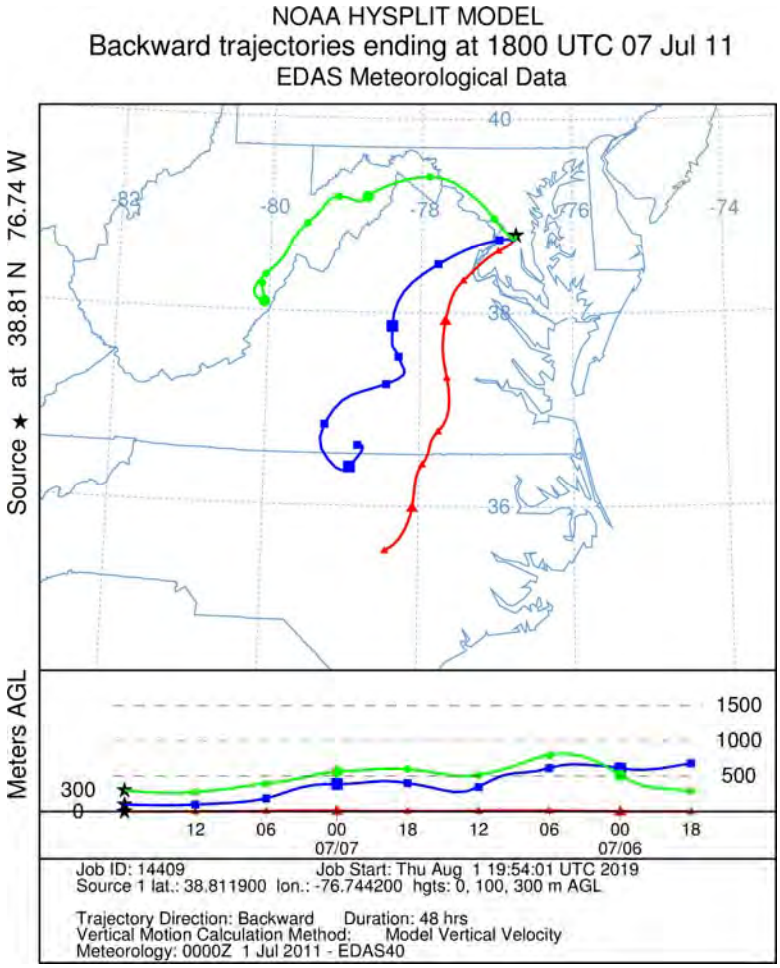
As an example, we reviewed the PG Equestrian Center, MD monitor (240338033) with a noted maximum ozone benefit of 4.9 ppb on July 7th. We first note that this receptor has a recent downward trend in MDA8 values between 2016 and current observations. As demonstrated in the figure below, observations of MDA8 values above the 70 ppb threshold have decreased in number for the past four years. The current 3-yr design value for this receptor (2016-2018) is 71 ppb with a 2018 4th high maximum value of 70 ppb.

[4] Anderson, D. C., et al. (2014), Measured and modeled CO and NOx in DISCOVER-AQ: An evaluation of emissions and chemistry over the eastern US, *Atmospheric Environment*, 96, 78-87.



Even assuming, however, that future year projections of ozone indicate this monitor to be in nonattainment of either the 2008 or 2015 NAAQS, we investigated whether emissions from Pennsylvania coal-fired or coal refuse-fired facilities would have had an impact on the day when the greatest benefit was calculated. To do this, we created a 48 hour back trajectory from the receptor site to determine if ozone concentrations on July 7th would have been the result of "excess daily NOx" from the day, or even two days, before the maximum impact date.

The plots below indicate that not only did the July 7th 48 hour back trajectory not pass over any coal-fired facility in Pennsylvania, it clearly did not pass over any Pennsylvania facility at all because of the southwesterly influence from over northern Virginia, North Carolina, and parts of West Virginia and Maryland.



These findings alone indicate that the impacts calculated for this receptor are not the result alone of the sensitivity configurations run by UMD and that a source apportionment style (OSAT) analysis would be better suited to determine state or facility level impacts at downwind monitors.

3. 2023 is the appropriate year for assessing whether additional control measures are necessary to bring the areas involved into attainment.

CAA Section 184(c) makes it explicitly clear that any recommendation for additional control measures must be linked to whether those controls are necessary to attain NAAQS requirement by the applicable attainment date. Specifically, CAA Section 184(c)(1) provides that:

> Upon petition of any State within a transport region established for ozone, and based on a majority vote of the Governors on the Commission (or their designees), the Commission may, after notice and opportunity for public comment, develop recommendations for additional control measures to be applied within all or a part of such transport region if the commission determines such measures are **necessary to bring any area in such region into attainment by the dates provided by this**

subpart. The commission shall transmit such recommendations to the Administrator. (Emphasis added.)

In the so-called "CSAPR Close-Out Rule[5]," EPA stated that it was "determining that 2023 is an appropriate future analytic year to evaluate remaining good neighbor obligations and that, for the purposes of addressing good neighbor obligations, there will be no remaining nonattainment or maintenance receptors with respect to the 2008 ozone NAAQS in the eastern U.S. in that year." Significantly, EPA noted in preamble to the CSAPR Close-Out Rule that it "acknowledges one distinction between the good neighbor and designation analyses: The good neighbor analysis relies on *future-year* projections of emissions to calculate ozone concentrations and upwind state contributions, compared to the use of current measured data in the designation analysis."

In choosing the appropriate future year for its control analysis, EPA considered "two primary factors: (1) The applicable attainment dates for this NAAQS; and (2) the timing to feasibly implement new NOX control strategies." (83 Fed Reg 65890). With respect to attainment dates, EPA first clarified that areas that measure violations of the relevant ozone NAAQS are generally designated nonattainment, regardless of what specific factors have influenced the measured ozone concentrations or whether such levels are due to enforceable emissions limits. EPA added that, in such cases where an ozone nonattainment area is classified as Moderate or higher, the state is required to develop an attainment plan, which generally includes the application of various enforceable control measures to sources of emissions located in the nonattainment area, consistent with the requirements in Part D of title I of the Act. Significantly, however, EPA also cited Clean Air Act Section 182(a) for the proposition that "areas classified as Marginal nonattainment areas are required to submit emission inventories and implement a nonattainment new source review permitting program, but are not generally required to implement controls at existing sources." (83 Fed Reg 65887) (emphasis supplied) Accordingly, and in conformance with CAA Section 182(a), EPA properly considered only nonattainment areas classified as Moderate or higher in its analysis in support of promulgation of the CSAPR Close-Out Rule.

EPA noted in its analysis that many areas currently classified as Moderate have attainment dates of July 20, 2018, but then acknowledged that, since the 2017 ozone season was the last full season from which data could be used to determine attainment of the NAAQS by the 2018 attainment date and the 2017 ozone season had ended when the CSAPR Close-Out Rule was promulgated, it was not possible to achieve additional emission reductions by the Moderate area attainment date. EPA then logically concluded that it was therefore necessary to review appropriate subsequent attainment dates in order to "inform the EPA's analysis." (83 Fed Reg 65892)

The next attainment dates for the 2008 ozone NAAQS will be July 20, 2021, for nonattainment areas classified as Serious, and July 20, 2027, for nonattainment areas classified as

[5] 83 Fed Reg 65878, December 21, 2018

Severe. EPA noted that, "because the various attainment deadlines are in July, which is in the middle of the ozone monitoring season for all states, data from the calendar year prior to the attainment date - e.g., data from 2020 for the 2021 attainment date and from 2026 for the 2027 attainment date - are the last data that can be used to demonstrate attainment with the NAAQS by the relevant attainment date. Therefore, the EPA considers the control strategies that could be implemented by 2020 and 2026 in assessing the 2021 and 2027 attainment dates in its subsequent analysis." (83 Fed Reg 65892) Importantly, EPA also recognized that Clean Air Act Section 181 requires that areas should attain the NAAQS as expeditiously as practicable.

Next in its analysis, and in light of the Clean Air Act requirement to attain the NAAQS as expeditiously as practicable, EPA considered the feasibility of NOX control strategies, including "the time needed to plan for, install, test, and place into operation EGU and non-EGU NOX reduction strategies regionally - i.e., across multiple states," noting that "[t]his regional analytic approach is consistent with the regional nature of interstate ozone pollution transport…" (83 Fed Reg 65892). Focusing its analysis on the feasibility of implementing additional emission controls on stationary sources between 2020 and 2026, EPA concluded that there may only be limited opportunity for EGUs or Non-EGUs in CSAPR Update states to implement further emission reductions prior to 2023 as interstate transport control measures. EPAs ultimate conclusion was that, "because the air quality modeling results for 2023 show that air quality problems in the eastern U.S. would be resolved by 2023, the EPA has not further evaluated the cost-effectiveness of the control options considered for the feasibility analysis, adding that "[t]his approach is consistent with the EPA's four-step framework and does not rely on the relative cost effectiveness of controls for non-EGU sources." (83 Fed Reg 65904)

Based on its determination that 2023 is the appropriate future year for analysis of control obligations, EPA addressed questions related to attainment of both the 2008 and 2015 ozone NAAQS in 2023. In doing so, EPA appropriately considered the upcoming attainment dates for the 2008 and 2015 ozone NAAQS and the timing and economics of feasible controls when making the determination that the 2023 analytic year is appropriate for assessing the Good Neighbor SIP obligations.

The attainment dates for both the 2008 and 2015 ozone NAAQS were considered when evaluating the appropriate analytic year. EPA considered and either implemented or rejected additional short-term controls to meet these attainment dates in the CSAPR Update.[6] Based on EPA's modeling for data for the 2023 analytical year, EPA determined that the Good Neighbor SIP obligations would be addressed by the CSAPR Update.

When the more restrictive 2015 ozone NAAQS is considered, EPA again appropriately selected 2023 as the future analytic year "because it aligns with the anticipated attainment year for

[6] 83 Fed. Reg. at 65,893-94.

the Moderate ozone nonattainment areas".[7] Indeed, 2023 aligns with the last full ozone season before the attainment year for Moderate ozone nonattainment areas.

Aligning implementation of emission reductions in upwind states with the applicable attainment dates in downwind areas is an integral part of the directive of the D.C. Circuit. Specifically, the court holding *North Carolina v. EPA*[8] directed EPA to assure alignment of the implementation of the closely related Good Neighbor SIPs with the date by which states are required to demonstrate attainment with the applicable NAAQS. There must be continued recognition that air quality will improve between the due date for Good Neighbor SIPs and the 2023 attainment deadline as a result of additional local controls in nonattainment areas as well as CAA programs including Federal measures, federally mandated state RACT rules, nonattainment infrastructure SIPs, and Good Neighbor SIPs. While the Federal measures, state RACT rules, nonattainment infrastructure SIPs, and other control programs will all significantly improve air quality in many nonattainment areas, those programs will all be implemented after the Good Neighbor SIPs are due, which means that states will need to carefully consider how best to address those air quality improvements as part of their Good Neighbor SIP submittals. The failure to include the benefits of these programs will result in over-control of upwind states, which is, of course, illegal given the Supreme Court decision in *E.P.A. v. EME Homer City Generation, L.P.*, 572 U.S. 489, (2014).

[7] See, EPA Response to Clean Air Act Section 126(b) Petition From New York, 84 FR 22787-01 at22799, May 20, 2019; see also, *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)*, prepared by Peter Tsirigotis, March 27, 2018, p. 3. https://www.epa.gov/airmarkets/march-2018-memo-and-supplemental-information-regarding-interstate-transport-sips-2015.

[8] *North Carolina v. EPA*, 531 F.3d 896, 911-12 (D.C. Cir. 2008).

4. State-of-the science 12km air quality modeling performed by both EPA and MOG demonstrates that in 2023 all monitors located in Maryland, the NYNA and the remainder of the OTR will show attainment with the 2008 (75 ppb) ozone NAAQS.

On October 27, 2017, EPA issued guidance and supporting data describing how states should develop approvable Good Neighbor SIPs related to the 2008 ozone NAAQS.[9] The following is the opening paragraph of that memorandum:

> The purpose of this memorandum is to provide supplemental information to states and the Environmental Protection Agency Regional offices as they develop or review state implementation plans (SIPs) that address section 110(a)(2)(D)(i)(I) of the Clean Air Act (CAA), also called the "good neighbor" provision, as it pertains to the 2008 ozone National Ambient Air Quality Standards (NAAQS) of 75 parts per billion (ppb). Specifically, we are providing future year ozone design values and contribution modeling outputs for monitors in the United States based on updated air quality modeling (for 2023) and monitoring data. The EPA's updated modeling indicates that there are no monitoring sites, outside of California, that are projected to have nonattainment or maintenance problems with respect to the 2008 ozone NAAQS of 75 ppb in 2023.

EPA's modeling data related to the 2008 ozone NAAQS has been confirmed by modeling performed for MOG by Alpine Geophysics which has been incorporated into a report attached to these comments and identified as Exhibit A.[10] The data taken from the EPA 12km grid modeling results related to the Maryland monitors are displayed in the following table:

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[9] Memorandum "Supplemental Information on the Interstate Transport State Implementation Plan Submissions for the 2008 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I) from Stephen Page, October 27, 2017. https://www.epa.gov/sites/production/files/2017-10/documents/final_2008_o3_naaqs_transport_memo_10-27-17b.pdf.

[10] "Good Neighbor" Modeling for the 2008 8-Hour Ozone State Implementation Plans, Final Modeling Report, prepared by Alpine Geophysics, December 2017 http://midwestozonegroup.com/files/Ozone_Modeling_Results_Supporting_GN_SIP_Obligations_Final_Dec_2017_.pdf

Monitor	State	County	DVb (2011)	DVf (2023) Ave	DVf (2023) Max
240030014	Maryland	Anne Arundel	83.0	63.4	66.4
240051007	Maryland	Baltimore	79.0	63.9	66.3
240053001	Maryland	Baltimore	80.7	64.9	67.6
240090011	Maryland	Calvert	79.7	64.2	66.9
240130001	Maryland	Carroll	76.3	58.8	60.9
240150003	Maryland	Cecil	83.0	64.5	66.8
240170010	Maryland	Charles	79.0	61.6	64.7
240199991	Maryland	Dorchester	75.0	60.7	60.7
240210037	Maryland	Frederick	76.3	59.6	61.8
240230002	Maryland	Garrett	72.0	55.1	57.4
240251001	Maryland	Harford	90.0	71.4	73.8
240259001	Maryland	Harford	79.3	61.8	63.9
240290002	Maryland	Kent	78.7	61.2	63.7
240313001	Maryland	Montgomery	75.7	60.0	61.0
240330030	Maryland	Prince George’s	79.0	60.5	62.8
240338003	Maryland	Prince George’s	82.3	63.2	66.8
240339991	Maryland	Prince George’s	80.0	61.0	61.0
240430009	Maryland	Washington	72.7	56.0	57.8
245100054	Maryland	Baltimore (City)	73.7	59.9	61.0

In addition, EPA's 12km grid modeling results related to monitors in the NYNA are displayed in the following table:

Monitor	State	County	DVb (2011)	DVf (2023) Ave	DVf (2023) Max
90010017	Connecticut	Fairfield	80.3	66.8	69.0
90011123	Connecticut	Fairfield	81.3	65.2	66.6
90013007	Connecticut	Fairfield	84.3	69.2	73.1
90019003	Connecticut	Fairfield	83.7	68.3	71.0
90070007	Connecticut	Middlesex	79.3	63.8	65.2
90090027	Connecticut	New Haven	74.3	61.8	64.9
90099002	Connecticut	New Haven	85.7	68.9	71.5
340030006	New Jersey	Bergen	77.0	65.5	66.4
340130003	New Jersey	Essex	78.0	63.4	66.7
340170006	New Jersey	Hudson	77.0	65.3	66.2
340190001	New Jersey	Hunterdon	78.0	60.8	62.4
340230011	New Jersey	Middlesex	81.3	64.5	67.4
340250005	New Jersey	Monmouth	80.0	65.4	67.9
340273001	New Jersey	Morris	76.3	62.6	64.0
340315001	New Jersey	Passaic	73.3	59.9	61.3
340410007	New Jersey	Warren	66.0	50.9	50.9
360010012	New York	Albany	68.0	55.4	57.0
360050133	New York	Bronx	74.0	68.0	69.9
360150003	New York	Chemung	66.5	54.9	55.3
360270007	New York	Dutchess	72.0	58.6	60.2
360530006	New York	Madison	67.0	55.0	55.0
360610135	New York	New York	73.3	65.3	67.8
360671015	New York	Onondaga	69.3	57.8	60.1

Monitor	State	County	DVb (2011)	DVf (2023) Ave	DVf (2023) Max
360715001	New York	Orange	67.0	55.3	56.9
360750003	New York	Oswego	68.0	55.7	57.3
360790005	New York	Putnam	70.0	58.4	59.2
360810124	New York	Queens	78.0	70.1	71.9
360850067	New York	Richmond	81.3	71.9	73.4
360870005	New York	Rockland	75.0	62.0	62.8
361030002	New York	Suffolk	83.3	72.5	74.0
361030004	New York	Suffolk	78.0	66.3	68.0
361030009	New York	Suffolk	78.7	68.5	69.7
361111005	New York	Ulster	69.0	57.4	57.4
361192004	New York	Westchester	75.3	68.1	68.8

On December 21, 2018, EPA finalized the determination that the existing CSAPR Update for the 2008 Ozone NAAQS fully addresses certain states' obligations under the good neighbor provision of the CAA regarding interstate pollution transport for the 2008 ozone NAAQS.[11] This determination concluded, based upon EPA's 12km modeling, that neither Maryland nor the NYNA nor any other portion of the OTR would have any nonattainment or maintenance monitors in 2023 with respect to the 2008 ozone NAAQS.

[11] "Determination Regarding Good Neighbor Obligations for the 2008 Ozone National Ambient Air Quality Standard," 83 Fed. Reg. 65,878 (December 21, 2018).

5. State-of- the-science 4km air quality modeling performed by the MOG demonstrates that in 2023 all monitors located in Maryland, the NYNA and the remainder of the OTR will be in attainment with the 2015 (70 ppb) ozone NAAQS.

Maryland has not met its burden of demonstrating that the additional controls measures applied to the sources named in its petition are necessary for attainment of either the 2008 ozone NAAQS or the 2015 ozone NAAQS. Alpine Geophysics, at the request of MOG, has modeled EPA's 2011/2023en modeling platform on MOG's 4km domain using 4km-processed emissions. This was done as a further effort to refine modeled ozone concentrations at and near land-water interface receptors. Alpine Geophysics has completed the model performance evaluation upon these domains and at key receptors to assure the results are in strict compliance with EPA modeling protocols. This model performance evaluation is attached to these comments and identified as Exhibit B and are also available on the MOG website.[12] Modeling of this type, using a finer grid, is specifically recommended under existing EPA guidance that states:

> The use of grid resolution finer than 12 km would generally be more appropriate for areas with a combination of complex meteorology, strong gradients in emissions sources, and/or land-water interfaces in or near the nonattainment area(s).[13]

Based upon this evaluation by Alpine Geophysics, 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. The results of the updated 4km modeling have been incorporated into an Alpine Geophysics/MOG Technical Support Document (TSD) "Good Neighbor" Modeling Technical Support Document for 8-Hour Ozone State Implementation Plans Using MOG's 4kei Modeling Platform" attached to these comments and identified as Exhibit C.[14]

When EPA's air quality modeling platform is modeled using a 4km grid (rather than a 12km grid), predicted ozone concentration at monitors in Maryland, the NYNA and the reminder of the OTR are demonstrated as being in attainment with the 2008 ozone NAAQS as well as the more stringent 2015 ozone NAAQS.

Accordingly, when state-of-the-science modeling is used to assess air quality in Maryland, the NYNA and the remainder of the OTR on the appropriate attainment dates, all receptors – without

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

[13] https://www3.epa.gov/ttn/scram/guidance/guide/O3-PM-RH-Modeling_Guidance-2018.pdf

[14] A copy of this TSD can also be found at: http://midwestozonegroup.com/files/Final_TSD_-_Ozone_4kei_Modeling_Supporting_GN_SIP_Obligations.pdf

exception - are in attainment with the 2015 ozone NAAQS, thereby supporting the definitive denial of the Maryland petition. EPA's air quality modeling analysis was conducted only at 12km and in doing so it failed to account for the significantly improved air quality that becomes apparent with the more refined modeling as EPA recommends in its own modeling guidance.

These results establish that there are no air quality monitors located in the State of Maryland, the NYNA or the reminder of the OTR that are predicted to demonstrate nonattainment with the 2015 ozone NAAQS in 2023. This conclusion and the remaining data presented in these comments, compel the conclusion that the Maryland CAA §184(c) petition lacks technical basis. Consequently, MOG believes that the OTC must consider this lack of technical basis and deny the Maryland 184(c) petition.

6. Application of EPA's alternative maintenance monitor methodology demonstrates there will not be any maintenance monitors located in Maryland and the NYNA in 2023.

On October 19, 2018, EPA issued guidance in the form of a memorandum entitled "Considerations for 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").[15] That guidance recognized an alternative methodology for making a determination of the monitor's status as a maintenance monitor.

MOG requested Alpine Geophysics to review EPA's Memo and to apply its updated 4km modeling results and observed ozone concentrations, to relevant monitors to determine whether there are any monitors in Maryland that would qualify as maintenance monitors under EPA's alternative methodology. A report of the results of this review is attached and identified as Exhibit D and is offered as additional support for finalization by the OTC to deny the Maryland CAA §126 petition.[16]

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

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[15] "Considerations for 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," from Peter Tsirigotis, October 19, 2018, https://www.epa.gov/airmarkets/considerations-identifying-maintenance-receptors-memo

[16] "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.

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 the following technical criteria would need to be satisfied:

a. 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;
b. ozone concentrations have been trending downward at the site since 2011 (and ozone precursor emissions of nitrogen oxide (NOx) and volatile organic compounds (VOC) have also decreased); and
c. emissions are expected to continue to decline in the upwind states out to the attainment date of the receptor.

Based upon MOG's 4km modeling, the Harford Maryland monitor in Maryland and the Richmond and Suffolk monitors in New York are the only monitors in the East that are candidates to be considered as a maintenance monitors with maximum 2023 ozone design values exceeding levels of the 2015 NAAQS. However, as is illustrated below, application of EPA's criteria to these three monitors demonstrate **they should not be considered maintenance monitors.**

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

A first step in applying the flexibility guidance set forth in EPA's Memo is to determine whether these three monitors should be properly characterized as maintenance receptors under the alternative methodology. Alpine Geophysics reviewed 2023 ozone design values using alternate base-year concentrations (specifically the three consecutive three-year time periods from 2009 through 2013) for these monitors.

The data, presented in the following table, demonstrate the Harford monitor has at least one alternate base year period design value resulting in a 2023 projection equal to or lower than the 70.9 ppb threshold, satisfying this condition of EPA's alternative methodology for the demonstration of clean data.

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

				2023 Ozone Design Value (ppb)		
Monitor	**State**	**County**	**DVb (2011)**	**DVf (Ave)**	**DVf (Max)**	**DVf (Max 2011/13)**
240251001	Maryland	Harford	90.0	70.9	73.3	67

The data, presented in the following table, demonstrate that each of the monitors in Richmond and Suffolk have at least one alternate base year period design value resulting in a 2023 projection equal to or lower than the 70.9 ppb threshold, satisfying this condition of EPA's alternative methodology for the demonstration of clean data.

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

				2023 Ozone Design Value (ppb)		
Monitor	**State**	**County**	**DVb (2011)**	**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 candidate maintenance monitors were conducive to ozone formation.

As stated above, 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 these three monitors is based upon alternative base-year periods involving the years 2010 through 2013. EPA has recognized, 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. These three monitors are not located in the Upper Midwest, therefore, it is appropriate to conclude 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, all three 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 suggests a state needs to show that "ozone concentrations have been trending downward at the site since 2011." The first table below presents 4th high ozone concentration data measured at each noted receptor and a calculated slope between 2011 and the most recently EPA-approved 4th high concentrations from 2017.[17] 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.

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

			4th High Ozone Concentration (ppb)							
Monitor	**State**	**County**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Slope (2011-2017) (ppb/yr)**
240251001	MD	Harford	98	86	72	67	74	79	76	-2.79

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

			4th High Ozone Concentration (ppb)							
Monitor	**State**	**County**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Slope (2011-2017) (ppb/yr)**
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

[17] 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.midwestozonegroup.com/files/Maintenance_Monitor_Flexibility_Dec_2018_.pdf.

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

			Daily Ozone Exceedance Counts							
Monitor	**State**	**County**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Slope (2011-2017**
240251001	MD	Harford	22	17	5	3	5	9	6	-2.29

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

			Daily Ozone Exceedance Counts							
Monitor	**State**	**County**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Slope (2011-2017**
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 these Maryland and New York monitors, negative slopes for both 4th high ozone concentrations and daily ozone exceedance counts demonstrate the downward trend in ozone concentrations necessary to satisfy this requirement of EPA's Memo.

d. Emissions of ozone precursors have been trending downward 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 dramaticaly reduced across all source categories in recent years. These emissions reductions will continue as the result of various deactivated curtailed and fuel switched units, "on-the-books" regulatory programs already required by states for their own sources; "on-the-way" regulatory programs already identified by state regulatory agencies as efforts that they must undertake; as well as from the reductions imposed by a variety of EPA programs including the CSAPR Update Rule.

As presented in the Alpine Geophysics report (Exhibit D to these comments) are tables developed from EPA modeling platform summaries illustrating the estimated total anthropogenic

emission reduction in the CSAPR States.[18] These tables show that the estimated 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.

However, it is important to understand that these estimated 2017 emissions used by EPA in its modeling effort are inflated as compared to the actual 2017 CEM-reported EGU emissions. As is shown in EPA's trends found in Exhibit D to these comments, when the CSAPR-modeled 2017 annual EGU emissions are compared to the actual CEM-reported 2017 annual EGU emissions, it becomes apparent there is a significant domain-wide overestimation (129,000 annual tons NO_x) 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 NO_x 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 NO_x emissions from EGUs. Exhibit D also shows 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.

Having demonstrated that ozone precursors have been trending down and are expected to continue to do so, the Alpine Geophysics report (Exhibit D) clearly establishes that all alternative maintenance monitor criteria set forth in EPA's October 19, 2018, guidance memo have been satisfied for all three monitors. When current data are applied to the various criteria identified by EPA, all three monitors should be considered as a maintenance monitor for purposes related to the 2015 ozone NAAQS. This analysis of maintenance monitors in combination with MOG's 4km modeling, confirm that in 2023 Maryland and the NYNA will have no nonattainment or maintenance monitors.

[18] EPA Air Pollutant Emissions Trends Data available at https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data.

7. Because there will be no nonattainment or maintenance monitors located in Maryland or the NYNA in 2023 with respect to either the 2008 or 2015 ozone NAAQS, the Maryland 184(c) petition must be rejected by the OTC.

CAA Section 184(c) clearly establishes that additional control measure can only be advanced if it is necessary to achieve attainment in the applicable future analytic year. Not only has Maryland failed to address at all the question of attainment in the future attainment year, the refined 4km modeling data from Alpine Geophysics demonstrate there will not be any ozone nonattainment or maintenance monitors with respect to the 2008 or 2015 ozone NAAQS in Maryland, the NYNA or the remainder of the OTR. Accordingly, the Maryland petition must be denied.

8. If Maryland or any other states in the OTR believes there are remaining ozone air quality concerns related to Maryland and the NYNA those concerns must first be addressed with controls on local sources rather than those sources named in the petition.

As we have established, state-of-the-science air quality modeling shows that that there will not be any nonattainment or maintenance concerns with respect to either the 2008 or 2015 ozone NAAQS in 2023. Should Maryland or any other state believe otherwise, the CAA requires the effects and benefits of local controls on all source sectors be considered first, prior to pursuing controls of sources in upwind states.

a. Portions of Maryland and the NYNA are subject to additional local control requirements which must be implemented prior to the pursuit of control measures on any other state's emissions sources.

CAA §107(a) states "[e]ach State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such State." In addition, CAA §110(a)(1) requires a state SIP "provides for implementation, maintenance, and enforcement" of the NAAQS "in each air quality control region . . . within such State." Moreover, by operation of law, pursuant to the CAA, additional planning and control requirements are applicable to areas designated to be in nonattainment.

Current ongoing state non-attainment programs are important first steps to assess the merit of the Maryland petition and to provide a legal basis to pursue additional control measures on other state's sources. Even though EPA's current interstate transport modeling platforms, relied upon by both EPA and MOG, do not include the air quality benefits of these legally mandated controls, the results nevertheless show attainment throughout the OTC in 2023. The fact that these additional were not assessed in the EPA and MOG modeling results makes those results overly conservative. Before being able to make the case that additional control measures are needed to achieve attainment, it would be necessary to account for the legally mandated controls. Only through a full

assessment of these legally mandated local emissions reductions can a full and complete picture of the status of air quality in the appropriate attainment year be obtained.

The CAA addresses the affirmative obligations of the states to meet the deadlines for submittal and implementation of SIPs designed to specifically address their degree of nonattainment designation. Review of Section 172(c)(1) of the CAA provides that SIPs for nonattainment areas shall include "reasonably available control measures," including "reasonably available control technology" (RACT), for existing sources of emissions. CAA §182(a)(2)(A) requires that for Marginal Ozone nonattainment areas, states shall revise their SIPs to include RACT. CAA §182(b)(2)(A) requires that for Moderate Ozone nonattainment areas, states must revise their SIPs to include RACT for each category of VOC sources covered by a CTG document issued between November 15, 1990, and the dates of attainment. CAA §182(c) through (e) applies this requirement to States with ozone nonattainment areas classified as Serious, Severe and Extreme.

The CAA also imposes the same requirement on States in ozone transport regions (OTR). Specifically, CAA §184(c)(b) provides that a state in the Ozone Transport Region (OTR) must revise its SIP to implement RACT with respect to all sources of VOCs in the state covered by a CTG issued before or after November 15, 1990. CAA §184(c)(a) establishes a single OTR comprised of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and the Consolidated Metropolitan Statistical Area (CMSA) that includes the District of Columbia.

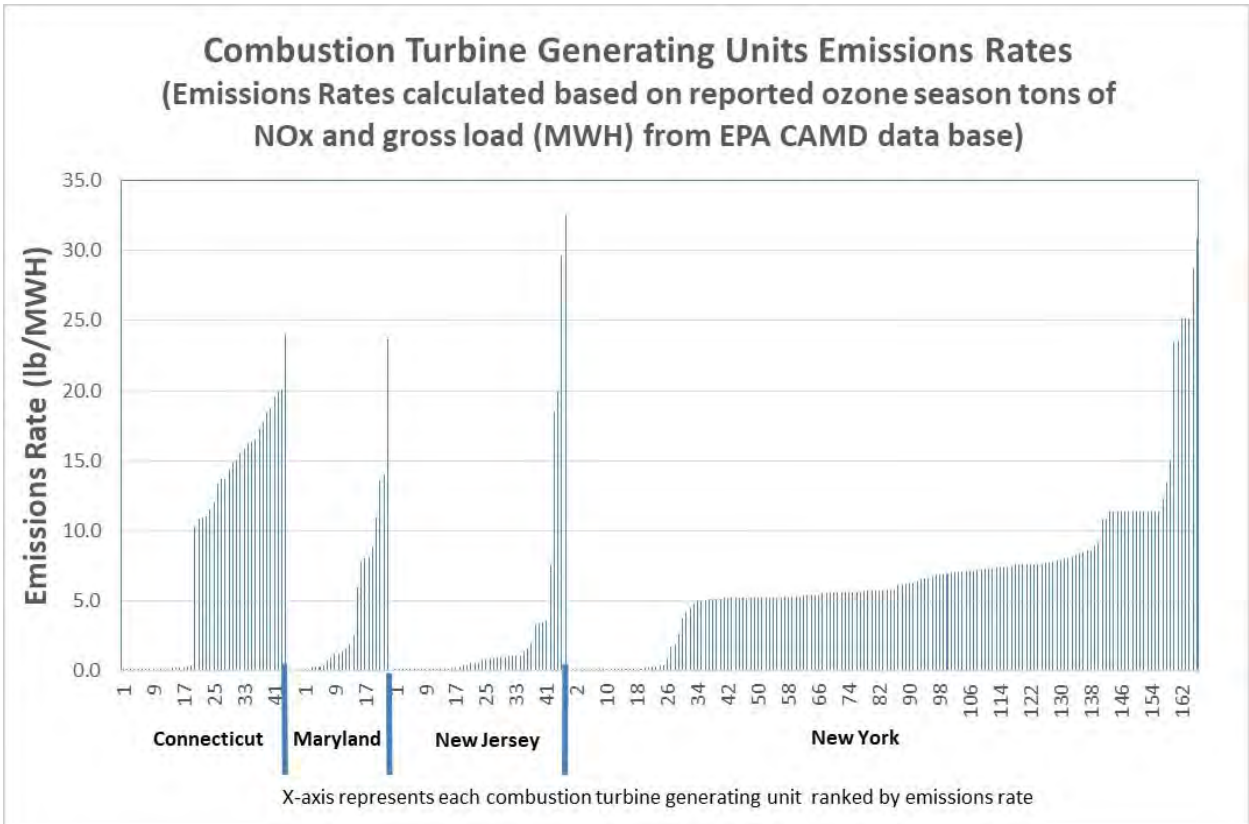
In conclusion, it is essential that Maryland and the NYNA have an effective local non-attainment control program prior to seeking controls from the sources named in the Maryland petition.

b. Need for additional control on certain older simple cycle combustion turbines as part of local requirements.

On September 21, 2018 a report of the OTC Stationary and Area Source Committee identified many emission units of concern in Maryland and NYNA and called for additional controls on those sources to reduce their impact on ozone air quality concentrations. This report is attached and identified as Exhibit E.[19] Data from this report are set out in the following chart and demonstrate that states within the OTC and specifically Maryland, New York, New Jersey, and Connecticut have a much greater reliance on the use of simple cycle combustion turbines with very high emissions rates during High Electric Demand Days (HEDDs) which are typically the days during which ambient conditions are most conducive to ozone formation. MOG has not had the opportunity to obtain and review the stated basis for the OTC conclusion that control or replacement

[19] The report can also be found at
http://www.midwestozonegroup.com/files/MOG_OTC_SAS_Public_09212018.pdf.

of “old” units is “cost effective.” Such a strategy may be cost-effective within the OTC. Such a strategy would not be cost-effective for other states that do not have the same degree of reliance on high emitting combustion turbines during HEDD periods. A comparison between units in these OTC states is illustrated in the following chart:



Significantly, the September 18, 2018 OTC report reached the following conclusion:

- Simple cycle turbines operate on high ozone days.
- Control of NO_x or replacement of old units is cost effective based on ozone day benefit.
- There are 200 simple cycle units in OTR with very high NO_x emissions – approximately 10 times most boiler NO_x rates and greater than 100 times most combined cycle NO_x rates.
- Simple cycle units significantly increase and can dominate EGU NO_x emissions on high ozone days.

- Approximately 40% of simple cycle units have low NO_x rates, showing that much lower NO_x from simple cycle units is readily achievable and is already occurring.[20]

In a follow-up presentation offered by the OTC Stationary and Area Sources Committee on June 11, 2019 (attached to these comments and identified as Exhibit F) the OTC offered the following statement on slide 3 with respect to cost effectiveness:

> An SCR on a gas or oil fired SC turbine can be ~10X more cost effective than an SCR on a coal fired power plant.[21]

Shortly following the issuance of the OTC report, the New York State Department of Environmental Conservation proposed 6 NYCRR Subpart 227-3, "Ozone Season Oxides of Nitrogen (NO_x) Emission Limits for Simple Cycle and Regenerative Combustion Turbines." The comment period closed on May 20, 2019 and as of July 3, 2019 the rule is yet to be finalized. The emissions limits in this proposed rule would phase in beginning in 2023 with full implementation in 2025. The primary goal of this proposal is to lower allowable NO_x emissions from simple cycle and regenerative combustion turbines during the ozone season. According to the proposal, the lower emissions from these sources will help to address CAA requirements, ozone nonattainment, and protect the health of New York State residents.

The following are some highlights from the Regulatory Impact Statement NY DEC offered in support of its proposed rule:

> Simple cycle and regenerative combustion turbines (SCCTs) sometimes referred to as peaking units, run to meet electric load during periods of peak electricity demand. They typically run on hot summer days when there is a higher demand for air conditioning and when there is a strong likelihood of high ozone readings. Many peaking units in New York have very high NOx emission rates, are inefficient and are approaching 50 years of age. It is difficult to install after-market controls on most of these units because of their age and site limitations. Some sources are located on barges where control equipment would physically not fit.
>
> **Older SCCTs have adverse impacts on NYMA air quality and make it difficult, if not impossible, for New York to meet air quality goals and CAA requirements.** SCCTs are generally located in communities of low to moderate income that are populated predominantly by people of color. The emissions generated by SCCTs can have both regional (ozone) and local nitrogen dioxide

[20] *Id*. at slide 15.

[21] http://midwestozonegroup.com/files/OTC_SAS_Presentation_AnnMtg_06112019.pdf

> impacts. These older sources emit significantly more NOx than new, efficient modern SCCTs. The emissions from these units typically occur during high ozone days and are concentrated in the NYMA which, as described above, does not attain the 2008 or 2015 ozone NAAQS.
>
> This rulemaking proposes to lower allowable emission rates for SCCTs during the ozone season with the intention to lower NOx emissions from these sources, especially on high ozone days. To better understand the impact of SCCTs on the ambient air DEC used the Community Multiscale Air Quality Modeling system (CMAQ) to model one high ozone day. The high ozone day modeled was July 23, 2011 and the results demonstrated that old SCCTs located in New York State contributed 0.0048 ppm to downwind monitors that currently show nonattainment. With a protective ozone NAAQS, set at a level of 0.070 ppm, it is clear that these sources alone have the ability and potential to significantly impact attainment of the ozone NAAQS.[22] (Emphasis added.)

These types of emission reduction programs must be implemented and taken into consideration first by the OTC prior to pursuing the control measures requested by the Maryland petition. The failure of Maryland to address these legally mandated local control measures is another important reason to deny its CAA §184(c) petition.

c. Mobile sources have the largest impact on monitored air quality in Maryland and the NYNA.

The Maryland CAA §184(c) petition erroneously implies that major stationary sources, including EGUs, in Pennsylvania are causing ozone air quality concerns in the OTR.

From the ozone source apportionment analysis using the 2017 EPA CSAPR platform, it is clear that even with considerably overestimated emissions levels for EGUs, the largest contribution to ozone impacts on the NYNA and Maryland problem monitors are from motor vehicles and area and non-road sources.[23] The following charts are from the 2017 EPA CSAPR platform.

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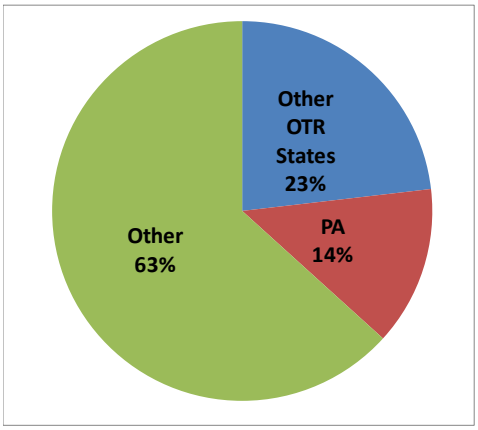
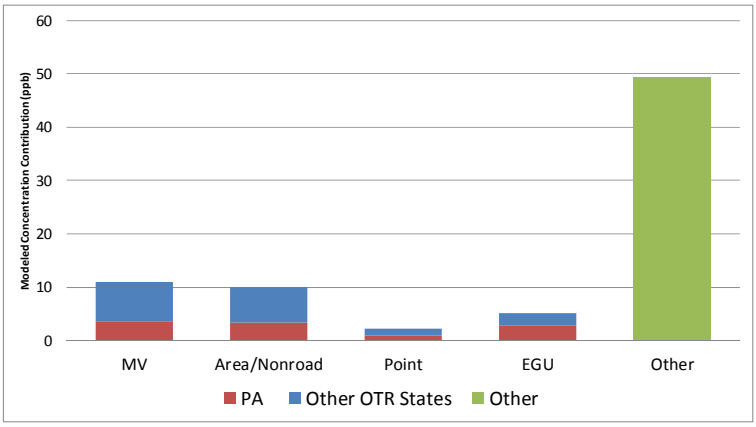
[22] The full proposal and supporting documents can be found at: https://www.dec.ny.gov/regulations/116131.html.

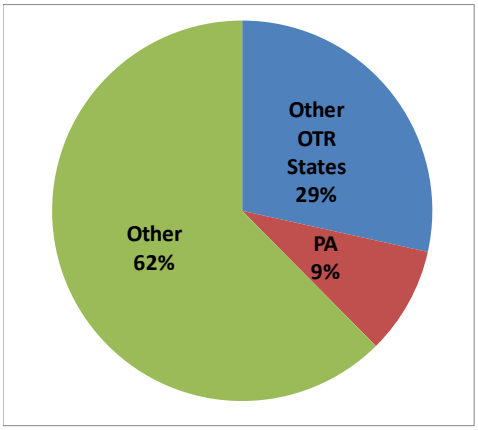
[23] Relative Contribution of Upwind Sources on Key Monitors 176A Petitioning and Petitioned States Using CSAPR 2017eh Modeling Platform, prepared by Alpine Geophysics, LLC, http://www.midwestozonegroup.com/files/Relative_Contribution_of_Upwind_Sources_on_Key_Monitors.pdf

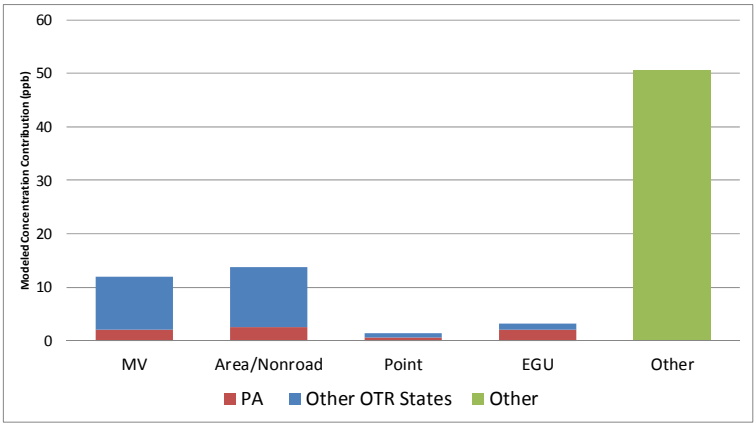
360850067 - Susan Wagner HS, NY - 2017 OSAT Results



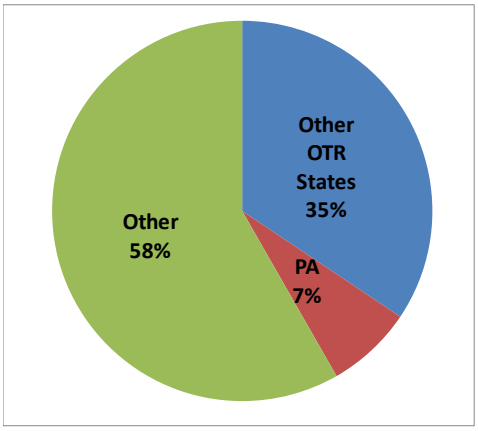


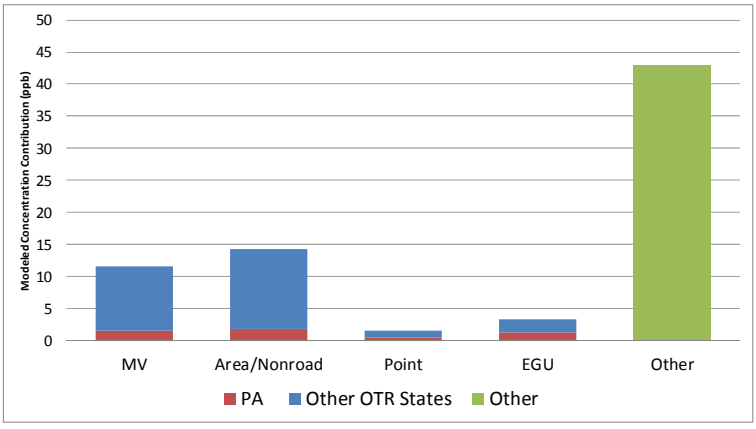
361030002 - Babylon, NY - 2017 OSAT Results

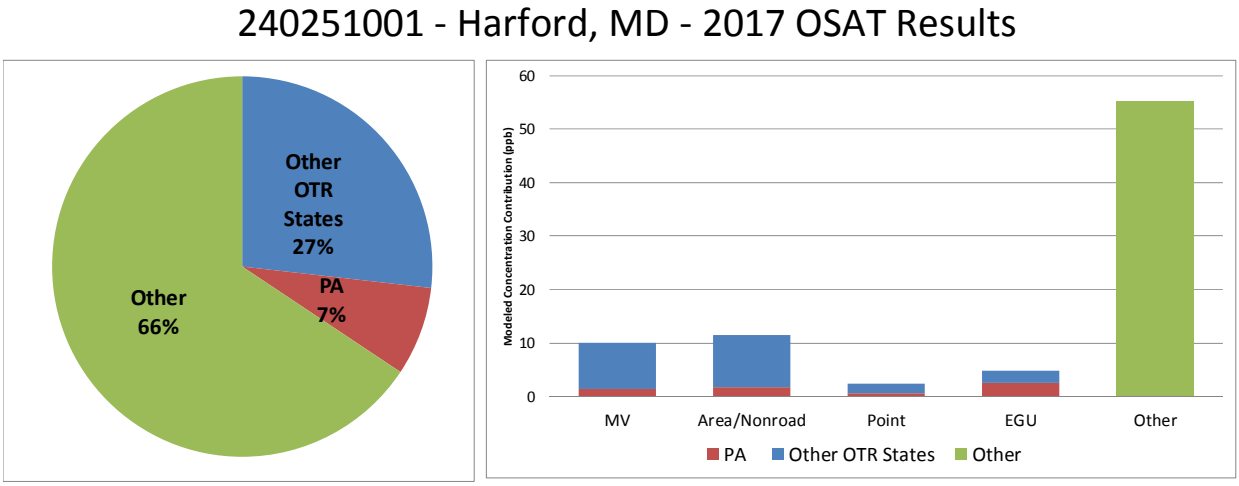




361030004 - Riverhead, NY - 2017 OSAT Results







Regulatory actions haves been taken by EPA to address mobile sources. On November 13, 2018 EPA announced its Cleaner Truck Initiative.[24] As Administrator Wheeler stated in his January 16, 2019 response to questions from the U.S. Committee on Environment and Public Works:

> EPA expects that heavy-duty trucks will be responsible for one-third of NOx emissions from transportation in 2025. Updating these standards will result in NOx reductions from mobile sources and could be one important way that allows areas across the U.S. to meet National Ambient Air Quality Standards for ozone and particulate matter. Updating the standards will also offer opportunities to reduce regulatory burden through smarter program design.

Accordingly, it is essential that these and other mobile source emission reduction programs be assessed relative to air quality improvement prior to invoking CAA §184(c).

9. EPA's analysis confirms that any current ozone problems in Maryland and the NYNA are more related to local sources than to sources in upwind states.

EPA addressed the question of whether any current air quality concerns in Maryland and the remainder of the Northeast are related to local sources as opposed to broad regional sources. This study was reflected in a presentation by Norm Possiel of USEPA OAQPS dated May 14, 2018 attached and identified as Exhibit G.[25] Principal among the conclusions reached in the study are the following points:

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[24] https://www.epa.gov/regulations-emissions-vehicles-and-engines/cleaner-trucks-initiative

[25] This document can also be found here: http://midwestozonegroup.com/files/2018-05-14_EPA_OAQPS_-_Analysis_of_O3_Trends_in_the_East_in_Relation_to_Interstate_Transport.pdf

> From an Eastern US perspective, the current ozone levels appear to be more of a "local" problem (i.e., home state and adjacent neighboring states) compared to the larger regional ozone problem for (sic) that was evident back in 2010-2012.
>
> The magnitude of net ozone available for transport into the NE Corridor and the Lake Michigan area from more distant upwind states appears to have declined by 5 to 10 ppb based on 2010-2012 vs 2015-2017 avg ranked ozone values.
>
> Ozone levels have also declined substantially at the traditionally high ozone sites in the southern and central portions of the NE Corridor and at the traditionally high ozone sites along Lake Michigan.[26]

In addressing possible causes for High Ozone at Sites in the Northeast, the EPA study identified various source sectors within the Northeast Corridor including the following:

> • The NYC area has higher mobile source emissions than other parts of the OTR, (onroad and non-road sources).
>
> • A unique mix of local (Tri-State area) contributions from other sources such as EGU, non-EGU point, nonpoint, and commercial marine.
>
> • "Behind the meter" generation (diesel generators that are not controlled and not in the emissions inventory that operate on hot summer days).
>
> • Peaking units (HEDD) within the OTR that may operate on mostly on high ozone days.[27]

While several of these hypotheses are discussed elsewhere in the comments, it is significant that EPA has identified this changing development with its implications for addressing any remaining ozone concerns though controls on local sources rather that upwind sources. This study clearly provides an additional basis for OTC to deny the Maryland petition.

10. Emission trends have been decreasing for many years and will continue to do so for the foreseeable future.

The Maryland petition is directed at sources and states that have in fact experienced a significant reduction in NO_x emissions over recent years. These reductions not only reflect the good faith of these upwind states in regulating their own sources but also the effectiveness of EPA

[26] *Id*. at slide 4.

[27] *Id*. at slide 17.

programs adopted to meet the Good Neighbor provisions of the CAA and to reduce emissions from industrial source categories.

Set forth below is a table developed from EPA modeling platform summaries illustrating total anthropogenic emission reduction and EGU-only emission reduction.[28]

	Annual Anthropogenic NOx Emissions (Tons)			Emissions Delta (2017-2011)		Emissions Delta (2023-2011)	
State	**2011**	**2017**	**2023**	**Tons**	**%**	**Tons**	**%**
Illinois	506,607	354,086	293,450	152,521	-30%	213,156	-42%
Indiana	444,421	317,558	243,954	126,863	-29%	200,467	-45%
Kentucky	327,403	224,098	171,194	103,305	-32%	156,209	-48%
Maryland	165,550	108,186	88,383	57,364	-35%	77,167	-47%
Michigan	443,936	296,009	228,242	147,927	-33%	215,694	-49%
Ohio	546,547	358,107	252,828	188,439	-34%	293,719	-54%
Pennsylvania	562,366	405,312	293,048	157,054	-28%	269,318	-48%
Virginia	313,848	199,696	161,677	114,152	-36%	152,171	-48%
West Virginia	174,219	160,102	136,333	14,117	-8%	37,886	-22%
Sec 126 Total	**3,484,895**	**2,423,153**	**1,869,107**	**1,061,742**	**-30%**	**1,615,788**	**-46%**
New York	388,350	264,653	230,001	123,696	-32%	158,349	-41%

	Annual EGU NOx Emissions (Tons)			Emissions Delta (2017-2011)		Emissions Delta (2023-2011)	
State	**2011**	**2017**	**2023**	**Tons**	**%**	**Tons**	**%**
Illinois	73,689	31,132	30,764	42,557	-58%	42,926	-58%
Indiana	119,388	89,739	63,397	29,649	-25%	55,991	-47%
Kentucky	92,279	57,520	42,236	34,759	-38%	50,043	-54%
Maryland	19,774	6,001	9,720	13,773	-70%	10,054	-51%
Michigan	77,893	52,829	33,708	25,064	-32%	44,186	-57%
Ohio	104,203	68,477	37,573	35,727	-34%	66,630	-64%
Pennsylvania	153,563	95,828	49,131	57,735	-38%	104,432	-68%
Virginia	40,141	7,589	20,150	32,553	-81%	19,992	-50%
West Virginia	56,620	63,485	46,324	(6,865)	12%	10,296	-18%
Sec 126 Total	**737,551**	**472,600**	**333,003**	**264,952**	**-36%**	**404,549**	**-55%**
New York	27,379	10,191	16,256	17,188	-63%	11,123	-41%

As can be seen from this table, Pennsylvania is projected to reduce its annual anthopogenic NO_x emissions by 28% (157,054 tons) through 2017 and 48%, from 562,366 tons to 293,048 tons, between 2011 and 2023. Comparatively, Pennsylvania is projected to reduce EGU-only annual NO_x emissions by 38% (57,735 tons) through 2017. The 2017 actual NO_x emissions reductions from EGUs are even greater than the predicted reductions as shown by the CEM-reported emissions presented in earlier sections of this document and Exhibit D as compared to the modeled 2017 EGU emissions. Futhermore, a 68% reduction in annual EGU NO_x emissions from Pennsylvania, or 104,432 tons, is projected by EPA between 2011 and 2023. Emission trends for this state has been deceasing for many years and will continue to decrease for the foreseeable future as the result of nothing more than on-the-books controls.

[28] https://www.epa.gov/air-emissions-modeling/2011-version-63-platform

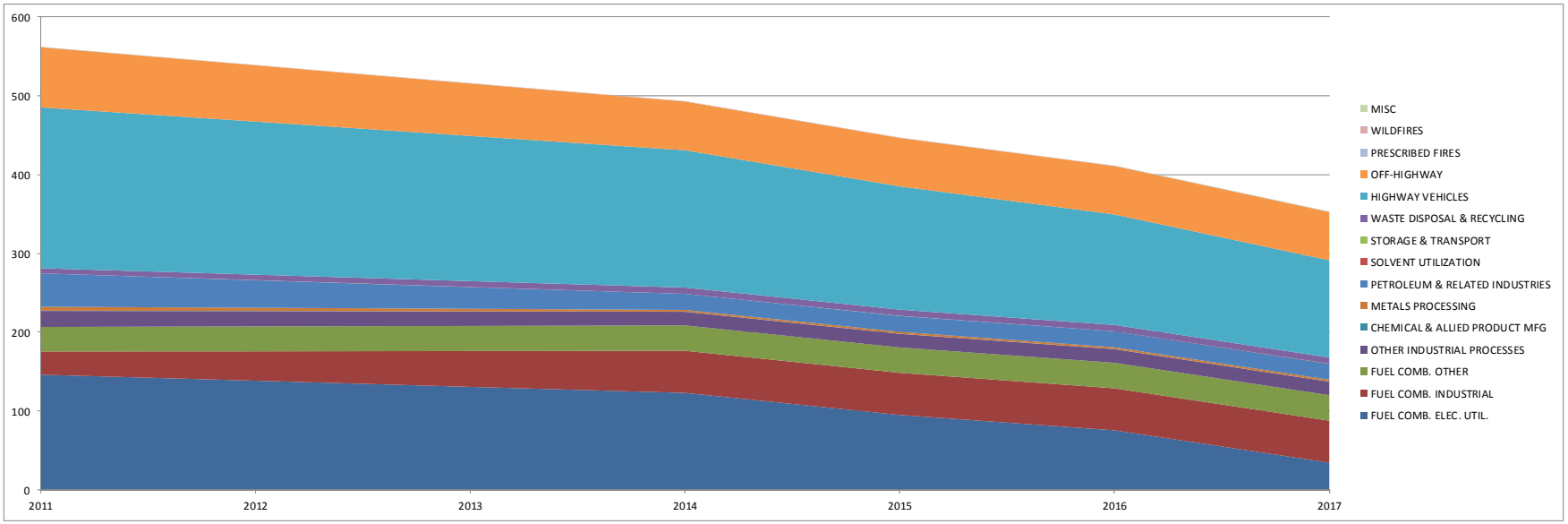
Additional review of recent EPA emission trends reporting[29] shows significant reduction in annual Pennsylvania NOx emissions through 2017, especially in the Electric Utility Fuel Combustion category.

[29] https://www.epa.gov/sites/production/files/2018-07/state_tier1_caps.xlsx

State PA
Pollutant NOX

Annual Tons (Thousands)

Year	FUEL COMB. ELEC. UTIL.	FUEL COMB. INDUSTRIAL	FUEL COMB. OTHER	OTHER INDUSTRIAL PROCESSES	CHEMICAL & ALLIED PRODUCT MFG	METALS PROCESSING	PETROLEUM & RELATED INDUSTRIES	SOLVENT UTILIZATION	STORAGE & TRANSPORT	WASTE DISPOSAL & RECYCLING	HIGHWAY VEHICLES	OFF-HIGHWAY	PRESCRIBED FIRES	WILDFIRES	MISC
2011	146.17	29.45	31.07	20.48	0.27	4.91	42.30	0.06	0.09	6.48	204.07	76.40	0.27	0.02	0.17
2012	138.50	37.41	31.49	19.41	0.24	4.01	34.95	0.06	0.08	6.96	194.13	71.51	0.28	0.10	0.13
2013	130.82	45.37	31.90	18.34	0.21	3.11	27.60	0.07	0.06	7.44	184.18	66.62	0.28	0.18	0.10
2014	123.15	53.33	32.31	17.27	0.18	2.21	20.25	0.07	0.05	7.91	174.23	61.73	0.29	0.25	0.06
2015	95.19	53.33	32.31	17.27	0.18	2.21	20.25	0.07	0.05	7.91	156.25	61.57	0.29	0.25	0.06
2016	75.67	53.33	32.31	17.27	0.18	2.21	20.25	0.07	0.05	7.91	140.27	61.41	0.29	0.25	0.06
2017	34.46	53.33	32.31	17.27	0.18	2.21	20.25	0.07	0.05	7.91	123.29	61.25	0.29	0.25	0.06



11. The issues being raised by the Maryland 184(c) petition have already been considered and rejected by EPA in other proceedings.

It is significant that the issues associated with the need for additional control measure to address residual attainment with the 2008 and 2015 ozone NAAQS are being addressed by EPA in several other proceedings, making it unnecessary to do so under the Maryland CAA 184(c) petition. These other proceeding include the CAA 126 petitions filed by Maryland, Delaware, Connecticut and New York seeking to impose similar control requirements on many of the same sources that are subject of the Maryland 184(c) petition. Most recently EPA has cited numerous legal and technical reasons for its denial of these similar requests that Maryland included in its 126 petition.[30]

The four Delaware 126 petitions named the following sources: Conemaugh, Homer City, Brunner Island, in Pennsylvania, as well as Harrison in West Virginia. EPA denied those petitions based on its findings not only that air quality modeling of ozone levels in 2023 show no air quality problems, but also that the CSAPR Update rule already evaluated the absence of additional control measures beyond those set forth in the rule.[31] EPA found that Delaware's petition seeking additional control measures similar to those proposed in the 184(c) petition was not sufficient on its own merit leading EPA to deny it.[32]

Similarly, the Maryland 126 petition sought to impose similar control measures on many of the same sources named in its 184(c) petition – specifically: Bruce Mansfield Units 1, 2 and 3; Cambria CoGen Units 1 and 2; Cheswick Unit I; Homer City Units 1, 2 and 3, Keystone Units 1 and 2; Montour Units 1 and 2. As with the Delaware 126 petition, EPA denied the Maryland 126 petition on the following grounds: EPA looked at whether there are current and future nonattainment or maintenance problems for the 2008 and/or 2015 ozone air quality standards in the petitioning states. EPA also specifically looked at whether there were additional cost-effective emission control measures available for the named sources. EPA found that existing programs such as the CSAPR Update Rule, already require cost effective emissions reductions from the named sources.[33]

Inasmuch as many of the points made by Maryland in its 126 petition are the same as the points being raised in its 184(c) petition, the relief requested in the Maryland 184(c) petition should also be rejected.

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[30] Response to Clean Air Act Section 126(b) Petitions From Delaware and Maryland, 83 Fed. Reg. 50,444 (Oct. 5, 2018).

[31] Id. at 50,445.

[32] Id. at 50,456

[33] Id.

12. Maryland's request to have emission control limits set on a daily basis has been previously considered and rejected by EPA and should also be rejected here.

The Maryland petition specifically seeks a recommendation from the OTC that coal fired EGU's in Pennsylvania run their existing controls in "an optimized manner" by requiring that emission limits be imposed on a daily rather than ozone season basis.[34] Not only is the basis for such a proposal incorrect, the proposal itself has previously been considered and rejected by EPA in connection with the CSAPR Update Rule.

As will be shown in this comment, NOx emissions controls are in fact "optimized" from a control and economic standpoint to inject ammonia during high load periods such that higher emission rates during the low load operations can be accounted for in achieving shorter-term and ozone season limits.

Many of the SCRs installed on named EGU sources were designed and constructed as retrofit equipment specifically for purposes of achieving overall ozone season reductions under the various NOx budget programs, and the design of many of these SCRs is not compatible with achieving continuous compliance with a short-term emission rate limit under all operating conditions. Typical retrofit SCRs are designed to achieve vendor guaranteed performance levels in the range of 80 to 90% NO_x removal with the unit operating at full load, steady state conditions consistent with the design criteria. These criteria were established based on projections on how the units would be operating at the time the SCRs were installed. However, there have been significant changes in the electric utility industry over the past 10 years, with the result that many units that were previously operated to meet base-load generation are now subject to cycling operation and significantly more time at minimum load conditions.

As one example of the impacts of these changes in operation, many retrofit units are not able to operate SCRs at minimum load conditions because the flue gas temperature falls below the minimum temperature specified by the vendor. Operating below those temperatures can result in severe fouling of the SCR catalyst and downstream components due to formation of ammonium bisulfate. However, when the units are operating at higher loads that occur during the high electric demand days, ammonia is injected to control NOx emissions. As a consequence, even using an ozone season limit, NOx is most controlled at the times when the control of NOx is most important. EPA appropriately assessed the capabilities of NOx controls in the development of the final version of the CSAPR Update Rule. Maryland has not assessed the feasibility and cost impact of the significant upgrades that would be required for EGUs to demonstrate compliance with a short-term limit, nor has it demonstrated that this increased stringency is necessary.

[34] MD Petition, Attachment 5.

This is not to downplay the performance of these retrofit SCRs, and in fact, EGUs regulated under PA RACT 2 and CSAPR Update have demonstrated that the installed controls are very effective at achieving emissions reductions in terms of total tons of NO_x, which is the critical objective to addressing ozone.

Significantly, the PA RACT 2 regulations which are based on a 30-operating day limit include a HEDD component that sets lower allowable emissions rates at higher loads. Operation at higher loads is weighted more heavily in determining compliance and therefore units must assure that the NOx controls are operating effectively at all times when conditions allow the controls to operate (that is, above minimum operating temperatures). In effect, the operational process to demonstrate compliance with a 30-day limit requires actions that must take place on a continuous basis, and a shorter-term standard would reduce the necessary flexibility to address variations in operating conditions with little or no impact on actual emissions. Similarly, while the CSAPR Update Rule sets compliance based on ozone season NOx budgets, the rule greatly reduced the state-by-state budgets and also contains restrictions (the Compliance Assurance provisions) which constrain the statewide level of emissions in order to avoid severe economic penalties for emissions greater than the statewide budget. The constraints incentivize effective control of NOx emissions particularly when units are operating at higher loads with high heat input that would otherwise consume a disproportionate share of the NOx budget. This is evident in the significant statewide reductions in NOx emissions in the CSAPR Update-affected states following implementation of the rule.

In connection with the CSAPR Update rulemaking, EPA carefully considered requests from Northeast states urging that the CSAPR budget be applied on a short-term basis. EPA made the final decision to establish a program for the regulation of NO_X emissions from EGUs on an ozone season average basis rather than on any shorter time frame. EPA concluded in the CSAPR Update Rule that "NO_X ozone season trading programs are effective at reducing peak ozone concentrations, and the agency is therefore continuing with a seasonal approach in this final rule."[35]

In fact, much of the success in achieving real and significant reductions in ozone levels across the Eastern U.S. has been attributed to the progressive actions attributed to the regional NO_x budget trading programs, beginning with the OTAG effort and the NO_x SIP Call, up through to the CSAPR Update Rule.

EPA's analysis has supported a determination that seasonal budgets achieve both overall reductions in emissions as well as short-term reductions that translate into improved ozone concentrations. NO_x budget programs provide flexibility and opportunity to achieve cost-effective reductions that might not otherwise be justified, for example under a command-and-control

[35] Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS, 81 Fed. Reg. 74,504-01, 74,523, (October 26, 2016.)

regulation that would necessarily be based on a less-stringent unit-by-unit limit. Imposing short-term emissions limits on individual sources would substantially impact the cost of control, and in fact such limits may not be feasible without major impacts on operation of affected sources and significant upgrade or even replacement of existing NO_x control systems.

EPA squarely addressed the issue of short-term limits and SCR performance in denying the Maryland and Connecticut CAA §126 petitions. The following is a part of EPA's explanation of the basis for its denial:

> To the extent the petitions have alleged that short-term limits are necessary to prevent units from turning controls off intermittently on days with high ozone, the EPA examined the hourly NOx emissions data reported to the EPA and did not observe many instances of units selectively turning down or turning off their emissions control equipment during hours with high generation. SCR-controlled units generally operated with lower emissions rates on high generation hours, suggesting SCRs generally were in better operating condition—not worse, let alone idling—on those days/hours. In other words, the EPA compared NOx rates on hours with high demand and compared them with seasonal average NOx rates and found very little difference. The data do not support the notion that units are reducing SCR operation on high demand days…The EPA, therefore, concludes that increases in total emissions on days with high generation are a result of additional units coming online and units increasing hourly utilization, rather than units decreasing the functioning of control equipment. The petitions have not presented information that would contradict this conclusion.[36]

MOG urges that EPA's action in connection with the CSAPR Update Rule be relied upon by the OTC in support of a final decision to deny the Maryland CAA §184(c) petition.

13. Consideration of Exceptional Events that occurred in 2016 would result in all New York monitors measuring attainment with the 2008 Ozone NAAQS. Failure by New York to invoke EPA's exceptional events rule or otherwise to exclude certain Canadian wildfire events from 2016 ambient monitoring data provides an additional basis for denial of the Maryland 184(c) petition.

The CAA and EPA recognize that Exceptional Events can result in higher design values for many monitors in both the upwind and downwind states. If Exceptional Events are not accounted for, use of the resulting higher design values will not only result in inaccurate nonattainment designations, but also in ultimately higher future year predictions of ozone concentrations and the inaccurate representation that additional control measures are necessary.

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[36] 83 Fed. Reg. 26,679.

The importance of the need to exclude data influenced by Exceptional Events is recognized by Congress in the provisions of Clean Air Act §319(b)(3)(B) which provides as follows:

> Regulations promulgated under this section shall, at a minimum, provide that
>
> (i) the occurrence of an exceptional event must be demonstrated by reliable, accurate data that is promptly produced and provided by Federal, State, or local government agencies;
>
> (ii) a clear causal relationship must exist between the measured exceedances of a national ambient air quality standard and the exceptional event to demonstrate that the exceptional event caused a specific air pollution concentration at a particular air quality monitoring location;
>
> (iii) there is a public process for determining whether an event is exceptional; and
>
> (iv) there are criteria and procedures for the Governor of a State to petition the Administrator to exclude air quality monitoring data that is directly due to exceptional events from use in determinations by the Administrator with respect to exceedances or violations of the national ambient air quality standards.

EPA's regulations on Exceptional Events provide the framework for addressing Exceptional Events.[37] The regulations include requirements related to demonstrating (a) that a clear, causal relationship exists between the event and monitored exceedance(s), (b) the event was of human origin and not likely to recur or was natural in origins and (c) the occurrence was not reasonably controllable or preventable.

In addition, EPA also offered guidance related to Exceptional Events that, among other things, requires demonstrations include:

- A narrative conceptual model that describes the event(s) causing the exceedance or violation and a discussion of how emissions from the event(s) led to the exceedance or violation at the affected monitor(s);
- A demonstration that the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation;
- Analyses comparing the claimed event-influenced concentration(s) to concentrations at the same monitoring site at other times. The Administrator shall not require a State to prove a specific percentile point in the distribution of data;
- A demonstration that the event was both not reasonably controllable and not reasonably preventable;
- A demonstration that the event was caused by human activity that is unlikely to recur at a particular location or was a natural event; and
- Documentation that the submitting air agency followed the public comment

[37] 40 CFR 50.14 (81 Fed. Reg. 68,216, October 3, 2016).

process.[38]

A number of states have already made requests to have the air masses caused by the Canadian wildfires that occurred in 2016 be declared Exceptional Events – thus allowing monitored data influenced by those events to be excluded from the calculation of the design value for the affected monitor. Among the states submitting these requests are several of New York's neighboring states including:

> **Connecticut** - The Connecticut demonstration related to the May 2016 event was submitted on May 23, 2017.[39] In addition to showing that Canadian wildfire caused the event, the demonstration noted that ". . . the exceedances of May 25-26th cannot be attributed to EGUs operating on high electric demand days as is more typically the case later in the ozone season." EPA concurred in that demonstration on July 31, 2017.
>
> **New Jersey -** The New Jersey demonstration related to the May 2016 was submitted on May 31, 2017.[40] In addition to showing that Canadian wildfire caused the event in New Jersey, the demonstration also noted that the event had had a similar impact on many other states including Wisconsin, Michigan, Illinois, Indiana, Ohio, Pennsylvania and New York. EPA concurred in that demonstration on October 24, 2017.
>
> **Massachusetts** - The Massachusetts demonstration related to the May 2016 event was submitted on May 25, 2017.[41] EPA concurred in that demonstration on September 19, 2017.
>
> **Maryland –** While the Maryland demonstration dated May 26, 2017, nominally addresses July 2016 event, the demonstration report itself includes data which assesses how the design values for Maryland's monitors are affected by both the May and July 2016 events.[42] EPA responded by letter on December 26, 2017, concurring with Maryland on 17 monitor days, deferring action on 16 monitor days, and non-

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[38] Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations, Final, EPA, September 2016: https://www.epa.gov/sites/production/files/2016-09/documents/exceptional_events_guidance_9-16-16_final.pdf

[39] https://www.epa.gov/air-quality-analysis/exceptional-events-documents-ozone-connecticut

[40] https://www.epa.gov/air-quality-analysis/exceptional-events-documents-ozone-new-jersey

[41] https://www.epa.gov/air-quality-analysis/exceptional-events-documents-ozone-massachusetts

[42] http://www.mde.state.md.us/programs/Air/AirQualityMonitoring/Documents/MDE_JUL_21_22_2016_EE_demo.pdf

concurring on 10 monitor days.[43]

Pennsylvania – Pennsylvania has also made a demonstration related to the May 2016 event dated November 2017.[44] By letter on March 6, 2018, EPA concurred with Pennsylvania on 8 monitor days, defers action on 41 monitor days, and non-concurs on 78 monitor days.[45]

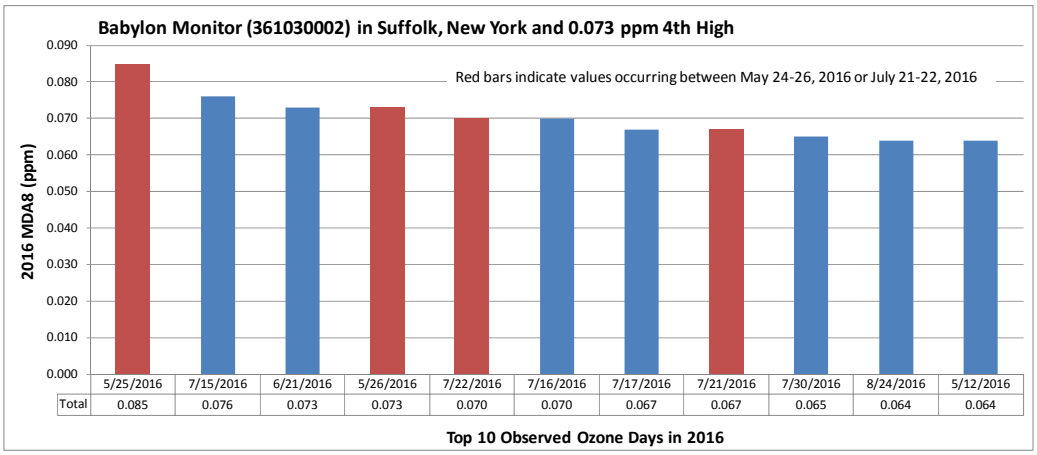
The Maryland 184(c) petition asserts in part that it is air quality in the NYNA that adds support for its petition. However, MOG's analysis of the 2016 design values of all the monitors in the NYNA indicate the implications of accounting for this exceptional event as it relates to any assessment of attainment.

To illustrate the process used to assess these monitors, MOG offers the following graphics related to the Suffolk (361030002) and Richmond (360850067) monitors in New York. In the case of each monitor MOG has graphically identified the 10 highest ozone concentrations that occurred in 2016 and have highlighted in red those readings that occurred on dates related to the May 2016 and July 2016 Canadian wildfire events. These graphics demonstrate the significance of the exclusion of those data points affected by the two Exceptional Events identified.

Suffolk, New York
AQS_SITE_ID 361030002

Date	MDA8 (ppm)
5/25/2016	0.085
7/15/2016	0.076
6/21/2016	0.073
5/26/2016	0.073
7/22/2016	0.070
7/16/2016	0.070
7/17/2016	0.067
7/21/2016	0.067
7/30/2016	0.065
8/24/2016	0.064
5/12/2016	0.064

Value	Ozone MDA8 (ppb)
2016 4th (fire)	73
2016 4th (no fire)	67
2014-16 DV (fire)	72
2014-16 DV (no fire)	70



[43] EPA Response Letter to MDE, December 26, 2017, available at https://www.epa.gov/sites/production/files/2018-07/documents/epa_response_mde_exceptional_events_package_12-26-17.pdf

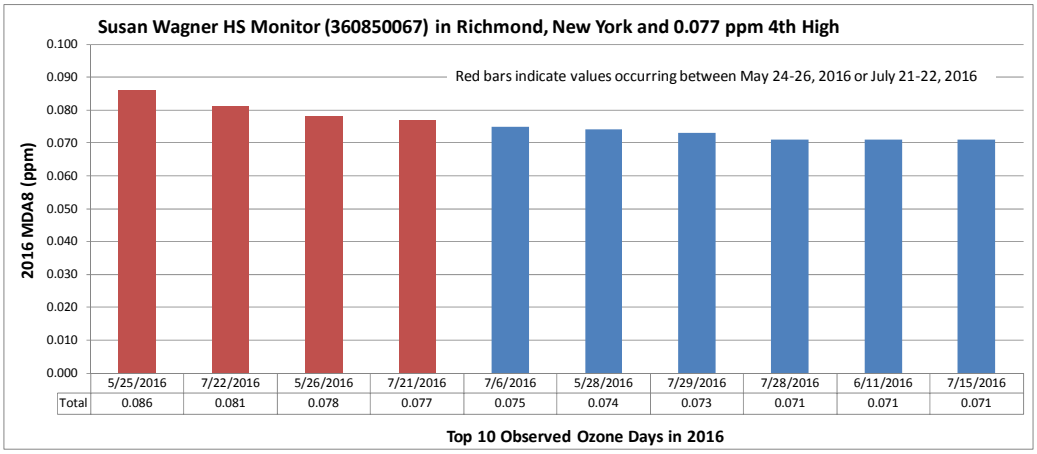
[44] http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-117484/Ozone%20EE%20Analysis%20May%2024-26-2017.pdf

[45] See, EPA PADEP approval letter March 6, 2018 available at https://www.epa.gov/sites/production/files/2018-08/documents/epa_padep_approval_ltr_030618.pdf

Richmond, New York
AQS_SITE_ID 360850067

Date	MDA8 (ppm)
5/25/2016	0.086
7/22/2016	0.081
5/26/2016	0.078
7/21/2016	0.077
7/6/2016	0.075
5/28/2016	0.074
7/29/2016	0.073
7/28/2016	0.071
6/11/2016	0.071
7/15/2016	0.071

Value	Ozone MDA8 (ppb)
2016 4th (fire)	77
2016 4th (no fire)	71
2014-16 DV (fire)	76
2014-16 DV (no fire)	74



While Connecticut, Massachusetts, New Jersey, Pennsylvania, Maryland and several other states requested consideration of Exceptional Events designation for the 2016 Canadian wildfire event, New York made no such request. However, as can be seen in the following data, if the May and July events been excluded, the design values for 25 of New York's monitors (highlighted in green) would be significantly lower.[46] In the case of each monitor, the measurements collected during on the days in May and July 2016 impacted by the Canadian wildfire for which Exceptional Events analysis should have been filed, resulted in new 4th high values and new 3-year design values for each monitor for comparison to the 2008 and 2015 ozone NAAQS.

AQS Site ID	State Name	County Name	2014-2016 Design Value (ppm)	Fire Excluded 2014-2016 Design Value (ppm)
360010012	New York	Albany	0.064	0.063
360050110	New York	Bronx	0.067	0.066
360050133	New York	Bronx	0.070	0.070
360130006	New York	Chautauqua	0.068	0.067
360270007	New York	Dutchess	0.068	0.067
360290002	New York	Erie	0.069	0.068
360310002	New York	Essex	0.062	0.061
360310003	New York	Essex	0.065	0.063

[46] New York-Northern New Jersey-Long Island, NY-NJ-CT Nonattainment Area Intended Area Designations for the 2015 Ozone National Ambient Air Quality Standards Technical Support Document (TSD) available at https://www.epa.gov/sites/production/files/2017-12/documents/ny_nj_ct_new_york-northern_new_jersey-long_island_120d_tsd_final.pdf

AQS Site ID	State Name	County Name	2014-2016 Design Value (ppm)	Fire Excluded 2014-2016 Design Value (ppm)
360319991	New York	Essex	0.058	0.058
360337003	New York	Franklin	0.058	0.057
360410005	New York	Hamilton	0.060	0.059
360430005	New York	Herkimer	0.063	0.058
360450002	New York	Jefferson	0.063	0.062
360551007	New York	Monroe	0.063	0.063
360610135	New York	New York	0.069	0.068
360631006	New York	Niagara	0.066	0.065
360671015	New York	Onondaga	0.064	0.062
360715001	New York	Orange	0.066	0.065
360750003	New York	Oswego	0.060	0.060
360790005	New York	Putnam	0.068	0.068
360810124	New York	Queens	0.069	0.067
360850067	New York	Richmond	0.076	0.074
360870005	New York	Rockland	0.072	0.071
360910004	New York	Saratoga	0.063	0.062
361010003	New York	Steuben	0.059	0.059
361030002	New York	Suffolk	0.072	0.070
361030004	New York	Suffolk	0.072	0.070
361030009	New York	Suffolk	0.066	0.065
361099991	New York	Tompkins	0.063	0.061
361173001	New York	Wayne	0.064	0.063
361192004	New York	Westchester	0.074	0.072

With respect to three of the more significant monitors New York, MOG also recalculated what the preliminary 2017 design value for each monitor would be if the Exceptional Events are considered. Significantly, all three of the New York monitors with preliminary design values above the 2008 ozone NAAQS, would be below the 2008 standard if only the 2016 Canadian wildfire related exceptional events were addressed.

AQS Site ID	Local Site Name	2017 DV With wildfire	2017 DV Without wildfire
360850067	Susan Wagner HS	76	74
361030002	Babylon	76	74
361030004	Riverhead	76	74

New York's failure to seek relief from these Exceptional Events has been recognized by EPA as a factor to be considered in assessing the obligation of upwind states to downwind areas. EPA's March 27, 2018, Good Neighbor SIP guidance memorandum specifically calls into question whether "downwind areas have considered and/or used available mechanisms for regulatory relief."[47] The fact that New York has not requested relief from the impact of these exceptional events does indeed become an independent basis for denying the Maryland's petition reliance on New York's attainment status.

14. International emissions must be addressed as an integral part of the consideration of this petition. Failure by Maryland and New York to invoke CAA §179B to account for international emissions provides an additional basis for denial of the Maryland 184(c) petition.

International emissions must be considered as an integral part of any assessment of interstate transport such as Maryland would have the OTC consider in acting on its petition.[48]

The CAA addresses international emissions directly in Section 179(B)(a) which states:

> (a) Implementation plans and revisions
>
> Notwithstanding any other provision of law, **an implementation plan or plan revision** required under this chapter shall be approved by the Administrator if—
>
> (1) such plan or revision **meets all the requirements applicable to it under the chapter other than a requirement that such plan or revision demonstrate attainment and maintenance** of the relevant national ambient air quality standards by the attainment date specified under the applicable provision of this chapter, or in a regulation promulgated under such provision, and
>
> (2) the submitting State establishes to the satisfaction of the Administrator that **the implementation plan of such State would be adequate** to attain and maintain the relevant national ambient air quality standards by the attainment date specified under the applicable provision of this chapter, or in a regulation promulgated under such provision, **but for emissions emanating from outside of the United States**. (Emphasis added.)

[47] EPA Peter Tsirigotis memorandum of March 27, 2018 (https://www.epa.gov/airmarkets/march-2018-memo-and-supplemental-information-regarding-interstate-transport-sips-2015 at p. A-2.

[48] Consideration of alternative approaches to address international emissions is also a central theme of EPA's Peter Tsirigotis memorandum dated March 27, 2018, p. A-3. (https://www.epa.gov/airmarkets/march-2018-memo-and-supplemental-information-regarding-interstate-transport-sips-2015).

Addressing international emissions in the context of the Maryland petition is critically important. The U.S. Supreme Court has ruled that it is essential that Good Neighbor states be required to eliminate only those amounts of pollutants that contribute to the nonattainment of NAAQS in downwind States. Specifically, the Supreme Court stated, "EPA cannot require a State to reduce its output of pollution by more than is necessary to achieve attainment in every downwind State. . ."[49] In addition, the D.C. Circuit has commented that ". . . the good neighbor provision requires upwind States to bear responsibility for their fair share of the mess in downwind States."

In addressing CAA §110(a)(2)(D)(i)(I) the DC Circuit ruled this section "gives EPA no authority to force an upwind state to share the burden of reducing other upwind states' emissions."[50]

At the request of MOG, Alpine Geophysics employed EPA's modeling data for 2017[51] and 2023[52] to prepare the following graphic which depicts the projected 8-hour ozone Design Values across the U.S. excluding boundary condition contributions and the international emissions sector. Note that the 2017 projections show all monitors in the continental US with design values equal to or less than 66 ppb when these categories are excluded, and 2023 projections show all monitors in the continental US with design values less than 57 ppb.

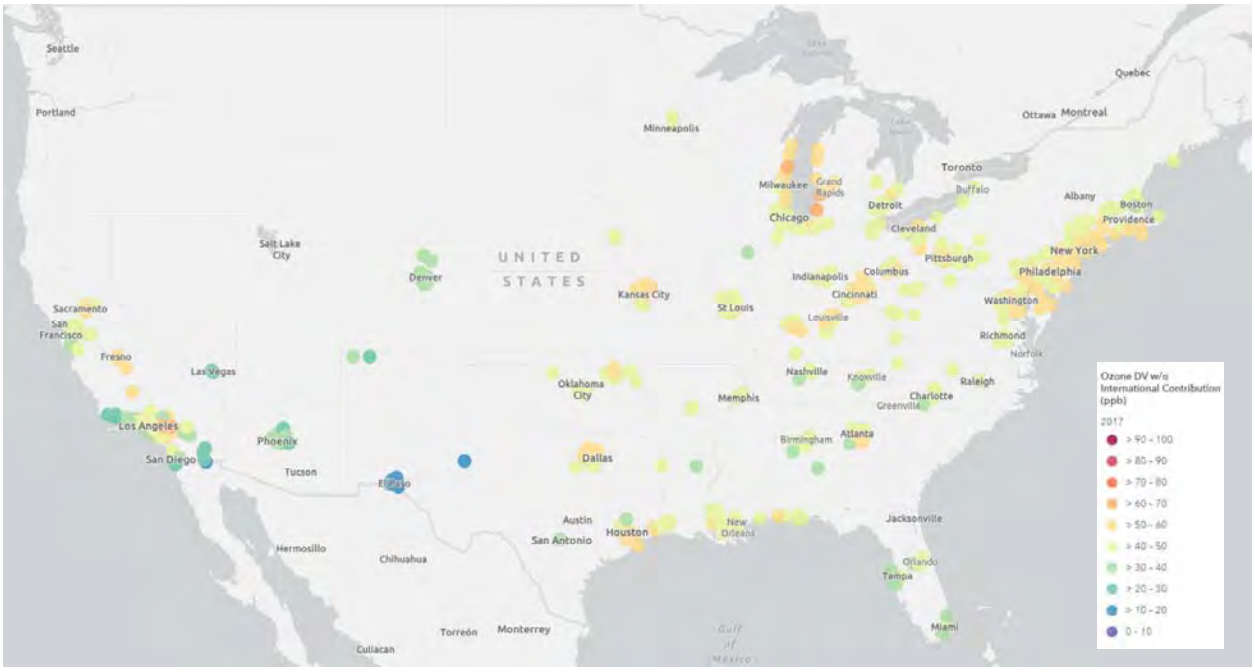
[49] *EPA v. EME Homer City Generation*, 134 S. Ct. 1584, 1608 (2014).

[50] *North Carolina v. E.P.A.*, 531 F 3d 896, 921 (D.C. Cir. 2008), on reh'g in part, 550 F. 3d 1176 (D.C. Cir. 2008).

[51] https://www.epa.gov/sites/production/files/2017-05/final_csapr_update_ozone_design_values_contributions_all_sites.xlsx

[52] https://www.epa.gov/sites/production/files/2016-12/2015_o3_naaqs_preliminary_transport_assessment_design_values_contributions.xlsx

Projected 2017 ozone design values (ppb) excluding the contribution from boundary condition, initial condition, Canadian and Mexican emission sources.



Projected 2023 ozone design values (ppb) excluding the contribution from boundary condition, initial condition, Canadian and Mexican emission sources.

Focusing only on the monitors in Maryland, Connecticut, New Jersey, and New York and applying EPA modeling data for 2023[53], the following chart shows that accounting for modeled

[53] Id.

contributions from boundary conditions and Canada/Mexico emissions brings the worst Maryland monitor to a level of 55.39 ppb. If only the Canada/Mexico portion of international transport were considered, EPA's 2023 modeling shows that all of New York's monitors would attain both the 2008 and 2015 ozone NAAQS in 2023 with a maximum value of 69.52 ppb.

				2023 MDA8 Concentrations and Contributions (ppb)				
Monitor	**State**	**County**	**2009-2013 Ave**	**2023 Ave**	**Canada & Mexico**	**2023 Base Case w/o Can/Mex**	**Initial & Boundary Condition Contribution**	**2023 Base Case w/o Can/Mex and IC/BC**
90010017	Connecticut	Fairfield	80.3	68.6	1.17	67.43	15.81	51.62
90011123	Connecticut	Fairfield	81.3	64.1	1.19	62.91	14.82	48.09
90013007	Connecticut	Fairfield	84.3	69.4	1.50	67.90	15.41	52.49
90019003	Connecticut	Fairfield	83.7	70.5	1.58	68.92	17.03	51.89
90031003	Connecticut	Hartford	74.3	59.7	0.96	58.74	14.49	44.25
90070007	Connecticut	Middlesex	79.3	63.4	1.39	62.01	15.31	46.70
90090027	Connecticut	New Haven	74.3	60.7	1.30	59.40	13.32	46.08
90099002	Connecticut	New Haven	85.7	69.8	1.40	68.40	16.21	52.19
90110124	Connecticut	New London	80.3	64.4	1.12	63.28	13.18	50.10
90131001	Connecticut	Tolland	75.3	59.5	0.98	58.52	15.01	43.51
90159991	Connecticut	Windham	71.0	55.3	1.23	54.07	14.65	39.42
240030014	Maryland	Anne Arundel	83.0	60.6	1.15	59.45	15.20	44.25
240051007	Maryland	Baltimore	79.0	62.0	1.17	60.83	16.95	43.88
240053001	Maryland	Baltimore	80.7	65.1	0.62	64.48	13.66	50.82
240090011	Maryland	Calvert	79.7	60.5	1.09	59.41	15.40	44.01
240130001	Maryland	Carroll	76.3	57.7	1.29	56.41	12.52	43.89
240150003	Maryland	Cecil	83.0	62.0	0.87	61.13	16.52	44.61
240170010	Maryland	Charles	79.3	57.3	1.01	56.29	14.47	41.82
240199991	Maryland	Dorchester	75.0	58.1	0.41	57.69	12.29	45.40
240210037	Maryland	Frederick	76.3	58.5	1.56	56.94	17.86	39.08

				2023 MDA8 Concentrations and Contributions (ppb)				
Monitor	**State**	**County**	**2009-2013 Ave**	**2023 Ave**	**Canada & Mexico**	**2023 Base Case w/o Can/Mex**	**Initial & Boundary Condition Contribution**	**2023 Base Case w/o Can/Mex and IC/BC**
240251001	Maryland	Harford	90.0	71.3	0.77	70.53	15.14	55.39
240259001	Maryland	Harford	79.3	60.1	0.62	59.48	14.35	45.13
240290002	Maryland	Kent	78.7	58.7	0.44	58.26	12.25	46.01
240313001	Maryland	Montgomery	75.7	57.6	1.25	56.35	13.26	43.09
240330030	Maryland	Prince George's	79.0	58.1	0.90	57.20	12.52	44.68
240338003	Maryland	Prince George's	82.3	59.7	0.64	59.06	12.73	46.33
240339991	Maryland	Prince George's	80.0	58.6	0.97	57.63	12.73	44.90
245100054	Maryland	Baltimore (City)	73.7	60.4	1.06	59.34	16.86	42.48
340010006	New Jersey	Atlantic	74.3	57.6	0.87	56.73	13.54	43.19
340030006	New Jersey	Bergen	77.0	62.1	0.95	61.15	13.88	47.27
340071001	New Jersey	Camden	82.7	64.3	1.69	62.61	13.40	49.21
340110007	New Jersey	Cumberland	72.0	55.2	1.44	53.76	11.10	42.66
340130003	New Jersey	Essex	78.0	61.9	1.38	60.52	14.85	45.67
340150002	New Jersey	Gloucester	84.3	65.4	2.42	62.98	15.02	47.96
340170006	New Jersey	Hudson	75.3	60.9	0.97	59.93	15.82	44.11
340190001	New Jersey	Hunterdon	78.0	60.3	1.03	59.27	16.24	43.03
340210005	New Jersey	Mercer	78.3	61.2	2.06	59.14	13.68	45.46
340219991	New Jersey	Mercer	76.0	58.8	0.94	57.86	14.80	43.06
340230011	New Jersey	Middlesex	81.3	62.8	2.15	60.65	13.63	47.02
340250005	New Jersey	Monmouth	80.0	63.3	1.79	61.51	15.61	45.90
340273001	New Jersey	Morris	76.3	60.5	1.02	59.48	15.78	43.70

				2023 MDA8 Concentrations and Contributions (ppb)				
Monitor	**State**	**County**	**2009-2013 Ave**	**2023 Ave**	**Canada & Mexico**	**2023 Base Case w/o Can/Mex**	**Initial & Boundary Condition Contribution**	**2023 Base Case w/o Can/Mex and IC/BC**
340290006	New Jersey	Ocean	82.0	63.5	2.93	60.57	12.93	47.64
340315001	New Jersey	Passaic	73.3	60.0	0.80	59.20	17.25	41.95
340410007	New Jersey	Warren	66.0	51.4	1.23	50.17	16.95	33.22
360050133	New York	Bronx	74.0	68.0	1.15	66.85	15.89	50.96
360130006	New York	Chautauqua	73.3	59.7	2.73	56.97	15.23	41.74
360270007	New York	Dutchess	72.0	57.0	1.31	55.69	15.08	40.61
360290002	New York	Erie	71.3	59.3	4.50	54.80	13.69	41.11
360551007	New York	Monroe	71.0	58.8	6.20	52.60	16.15	36.45
360610135	New York	New York	73.3	65.4	1.57	63.83	17.91	45.92
360631006	New York	Niagara	72.3	61.8	12.13	49.67	14.97	34.70
360715001	New York	Orange	67.3	55.0	1.01	53.99	16.65	37.34
360790005	New York	Putnam	70.0	55.6	1.64	53.96	14.33	39.63
360810124	New York	Queens	78.0	69.9	1.90	68.00	17.53	50.47
360850067	New York	Richmond	81.3	71.2	1.82	69.38	16.83	52.55
360870005	New York	Rockland	73.7	60.5	1.22	59.28	17.86	41.42
361030002	New York	Suffolk	83.3	71.3	1.78	69.52	17.17	52.35
361030004	New York	Suffolk	78.0	64.9	0.97	63.93	12.56	51.37
361030009	New York	Suffolk	78.7	67.3	1.39	65.91	13.51	52.40
361173001	New York	Wayne	65.0	53.4	5.23	48.17	14.72	33.45
361192004	New York	Westchester	75.3	67.1	1.54	65.56	15.97	49.59

These data demonstrate that but for Canadian and Mexican international emissions, all of New York's monitors would be in attainment with the 2008 and 2015 ozone NAAQS. These facts are made all the more important because New York has made no attempt to avail itself of this

available mechanism for regulatory relief – a clear factor to be considered in evaluating a request of this kind.[54] We also note that in its response to comments associated with its April 30, 2018 final rule establishing initial air quality designations for the 2015 ozone NAAQS, EPA offers the following comment on international transport:

> The EPA encourages affected air agencies to coordinate with their EPA Regional office to identify approaches to evaluate the potential impacts of international transport and to determine the most appropriate information and analytical methods for each area's unique situation. The EPA will also work with states that are developing attainment plans for which section 179B is relevant, and ensure the states have the benefit of the EPA's understanding of international transport of ozone and ozone precursors. To assist in this effort, EPA is currently developing or has developed guidance on stratospheric ozone intrusion exceptional events implementation, and technical guidance on preparing approvable demonstrations under CAA section 179B.[55]

New York's failure to seek relief from international transport pursuant to CAA §179(B) has been recognized by EPA as a factor to be considered in assessing the obligation of upwind states to downwind areas. EPA's March 27, 2018, Good Neighbor SIP guidance memorandum specifically calls into question whether "downwind areas have considered and/or used available mechanisms for regulatory relief."[56] The fact that New York has not requested relief from the impact of these international emissions does indeed become an independent basis for EPA to finalize its denial of the New York CAA §126 petition.

15. Maryland's failure to provide any data addressing the cost effectiveness of the controls that it has proposed provides an additional basis for denial of the petition.

The Maryland petition fails to offer any assessment of the potential costs and air quality benefits of the control strategy that it is urging. Neither does the petition offer any cost/benefit assessment of its request that the CSAPR Update emission limits be applied on a daily rather than ozone season basis. Failure to do so creates an additional fatal flaw in its petition. This very point was addressed directly by EPA in its denial of the Connecticut petition against Brunner Island. In its final determination, EPA offered the following comment:

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[54] EPA Peter Tsirigotis memorandum of March 27, 2018 (https://www.epa.gov/sites/production/files/2018-03/documents/transport_memo_03_27_18_1.pdf).

[55] https://www.epa.gov/sites/production/files/2018-04/documents/placeholder_2.pdf

[56] EPA Peter Tsirigotis memorandum of March 27, 2018 (https://www.epa.gov/airmarkets/march-2018-memo-and-supplemental-information-regarding-interstate-transport-sips-2015 at p. A-2.

> As discussed in further detail in section III, the state's analysis of Brunner Island's impact on air quality in Connecticut provides insufficient information regarding the source's impact on Connecticut air quality on high ozone days and it does not reflect the facility's current operations. Moreover, the petition does not evaluate the potential costs and air quality benefits that would inform the EPA's evaluation of whether additional emission reductions are cost effective, consistent with the EPA's interpretation of the good neighbor provision…. Accordingly, the EPA denies Connecticut's CAA section 126(b) petition.[57]

As stated in these comments, the Maryland petition should be denied for the reason that there will be no nonattainment or maintenance monitors anywhere in Maryland or the NYNA in 2023. Even if there were any such areas, the Maryland petition would also need to be denied because Maryland failed to provide data assessing potential costs and air quality benefits of the additional control measures it proposes.

EPA addressed the cost-effectiveness of controls for EGUs in its CSAPR Update rulemaking. EPA appropriately concluded, following public notice and comment, that a threshold of $1,400 per ton of NOx was cost-effective for EGU's and would not result in unallowable over-control of the affected EGUs.[58] EPA's analysis supporting the $1,400 per ton threshold considered what was feasible to achieve on average during the ozone season for existing units that have previously installed SCR and SNCR. Maryland has not provided any similar technical analysis or integrated generation and air quality modeling to demonstrate that Maryland's proposed control requirements would be cost-effective and would not result in over-control for the named group of sources.

IV. CONCLUSION

The actions requested by Maryland in its CAA §184(c) petition are not justified on either legal or technical bases. Ozone precursor emissions have been and will continue to be reduced absent the Maryland petition due to various deactivations and fuels conversions, as well as the CSAPR Update Rule, PA RACT 2, and other on-the-books controls, including controls in Maryland. In addition, the Good Neighbor SIP plans currently being developed by upwind states, in conjunction with EPA, will be addressing whether the requirements of CAA §110(a)(2)(D) are being satisfied. Additionally, appropriately accounting for Exceptional Events, international emissions, and local controls also serve to demonstrate compliance with CAA requirements.

Accordingly, the Midwest Ozone Group urges the OTC to issue a denial of the CAA §184(c) petition filed by Maryland on May 30, 2019.

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[57] https://www.gpo.gov/fdsys/pkg/FR-2018-04-13/pdf/2018-07752.pdf

[58] 81 Fed. Reg. 74,508.