COMMENTS OF THE MIDWEST OZONE GROUP

REGARDING EPA'S PROPOSED DENIAL OF MARYLAND AND DELAWARE

CLEAN AIR ACT §126 PETITIONS;

DOCKET ID NO. EPA–HQ–OAR–2018–0295

JULY 23, 2018

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83 FEDERAL REGISTER 26666

The Midwest Ozone Group (MOG) is pleased to have the opportunity to comment on EPA's notice of proposed action to deny the Maryland and Delaware petitions filed pursuant to Section 126 of the federal Clean Air Act (CAA) (126 Petition). 83 Federal Register 26666 (June 8, 2018).

The Maryland 126 petition was filed on November 16, 2016 and is directed at 36 electric generating units (EGUs) located in the states of Indiana, Kentucky, Ohio, Pennsylvania and West Virginia. Of the four (4) Section 126 petitions filed by Delaware, MOG will focus its comments on the petition filed on August 8, 2016, identifying Harrison Power Station located in West Virginia and the petition filed on November 28, 2016, identifying Conemaugh Power Station located in Pennsylvania. However, many of our comments are applicable to all four of the Delaware 126 petitions.

These petitions not only directly affect units owned and operated by the members of the Midwest Ozone Group (MOG), but also raise important policy matters that are of significant concern to MOG. While MOG defers to the owners of the individual units identified in the petitions on matters specific to those units, MOG is addressing in these comments specific concerns about the legal and technical deficiencies of the petitions which support EPA's proposed denial of each of them. MOG believes that these deficiencies require EPA to deny these petitions.

MOG is an affiliation of companies, trade organizations, and associations that draws upon their collective resources to seek solutions to the development of legally and technically sound air quality programs.[2] MOG's primary efforts are to work with policy makers in evaluating air quality

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

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

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 Clean Air Act, 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 or legally unsubstantiated interstate air pollution actions and the impacts of those actions on their facilities, their employees, their contractors, and the consumers of their products.

MOG's concerns regarding these petitions go to the fundamental premise of Section 126 of the CAA– to provide a carefully crafted mechanism by which states can resolve disputes of interstate transport of air pollutants as they relate to significant contribution to nonattainment or interference with maintenance of a NAAQS. The basic premise of Section 126 of the CAAas applied in these cases is that the petitioning states must first demonstrate that they have an ozone non-attainment or maintenance problem before they can assert a claim against an upwind source. See CAA §§126(b) and 110(a)(2)(D)(ii). As we will point out in these comments, there is no legitimate basis for either state to make a claim under Section 126 of the CAA as there are no ozone nonattainment or maintenance issues with respect to the ozone NAAQS requirements relied upon by the subject petitions. Consequently, EPA must deny all of the subject petitions.

MOG previously submitted comments to EPA on three of the subject petitions. For completeness in the record of this proposal, our comments on the Maryland petition dated May 17, 2017[3] are attached and identified as Exhibit A. In addition, our comments on the Delaware petition related to Harrison Power Station dated August 29, 2016[4] are attached and identified as Exhibit B and our comments on the Delaware petition related to Conemaugh Power Station dated June 20, 2017[5] are attached and identified as Exhibit C.

The following are some, but certainly not all, of the deficiencies in these petitions.

1. The petitions for both states were filed before implementation of the CSAPR Update Rule and therefore do not properly account for current emission reduction requirements.

EPA correctly notes (83 Federal Register 26668) that all of the subject petitions were submitted prior to implementation of the 2017 ozone season control requirements mandated by the CSAPR Update Rule which was promulgated on October 26, 2016. Significantly, the CSAPR Update Rule imposed new and more stringent ozone season NOx emission budgets, including state

[3] http://www.midwestozonegroup.com/files/PRUITT_LETTER.PDF
[4] http://www.midwestozonegroup.com/files/USEPA.PDF

variability and assurance levels, on the states that are the target of these petitions. While EPA concluded at the time of adoption that it could not determine whether the CSAPR Update Rule emission budgets would achieve a full remedy (83 Federal Register 26670), it is clear that the Rule required significant NOx emissions reductions that were not appropriately considered by the petitioning states. As will be discussed later in these comments, current data does indeed demonstrate that the reduced state NOx emissions budgets adopted and implemented through the CSAPR Update Rule are more than adequate to provide a full remedy for the 2008 and 2015 ozone NAAQS for the petitioning states. EPA is correct in concluding that because all of the subject petitions were submitted before implementation of the CSAPR Update Rule, the information in the subject petitions does not represent the most recent data regarding the operations of the units that are the subject of the petitions. As was stated by EPA in its proposed denial (83 Federal Register 26679):

> *Thus, the CSAPR Update emissions budgets already reflect emissions reductions associated with the turning on and optimizing of existing SCR controls on EGUs that are the subject of the petitions, which is the same control strategy identified in the petitions as being both feasible and cost effective.*

2. The petitions of both Delaware and Maryland ignore the recent reduction in the emissions of the units involved.

As stated above, the petitions rely upon emissions data which pre-dates the implementation of the CSAPR Update Rule, 83 Federal Register 26679. In conducting its own review of emission rates, EPA found that all units named in the subject petitions are consistently operating their SCR controls throughout the ozone season. In reaching this conclusion, EPA found that 260 of the 274 EGUs in the nation equipped with SCR (including all units named in the Maryland and Delaware petitions) have ozone season emissions rates below 0.2 lb/mmBtu indicating that they were likely operating those controls. 83 Federal Register 26679. In addition, EPA reviewed emission rates on high demand days and found no support for the notion that units were reducing SCR operations on these days. *Id*.

3. EPA projects that in 2023 all Delaware and Maryland monitors will be in attainment or are already in attainment with the 2008 75 ppb ozone NAAQS.

On October 27, 2017, EPA issued guidance and supporting data on how states should develop approvable Good Neighbor SIPs related to the 2008 ozone NAAQS.[6] The following is the opening paragraphs of that memorandum:

> *The purpose of this memorandum is to provide supplemental information to states*

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[5] http://www.midwestozonegroup.com/files/MOG_Comments_on_Delaware_126_petition_against_Conemaugh_Power_Station.PDF

[6] Stephen Page memorandum, October 27, 2017: https://www.epa.gov/sites/production/files/2017-10/documents/final_2008_o3_naaqs_transport_memo_10-27-17b.pdf.

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 has been confirmed by independent modeling performed for MOG by Alpine Geophysics.[7] The data taken from the EPA 12km grid modeling, included the updated "No Water" calculation from EPA's March 27, 2018 memorandum[8] for monitors located in Delaware and Maryland are displayed in the following table:

			Ozone Design Value (ppb)					
			Alpine Geophysics / EPA 12km Data				EPA 12km "No Water" Data	
Monitor ID	State	County	2009-2013 Base Period Ave	2009-2013 Base Period Max	2023 Base Case Ave	2023 Base Case Max	2023 Base Case Ave	2023 Base Case Max
100010002	DE	Kent	74.3	78	57.1	59.9	57.6	60.5
100031007	DE	New Castle	76.3	80	57.0	59.7	59.2	62.0
100031010	DE	New Castle	75.3	78	56.3	58.4	61.2	61.2
100031013	DE	New Castle	77.7	80	58.2	59.9	60.8	62.6
100032004	DE	New Castle	75.0	75	56.2	56.2	59.7	62.6
100051002	DE	Sussex	77.3	81	57.6	60.4	61.1	63.7
100051003	DE	Sussex	77.7	81	61.5	64.1	57.6	60.5
240030014	MD	Anne Arundel	83.0	87	60.6	63.5	63.4	66.4
240051007	MD	Baltimore	79.0	82	62.0	64.3	63.9	66.3
240053001	MD	Baltimore	80.7	84	65.1	67.7	65.3	67.9
240090011	MD	Calvert	79.7	83	60.5	63.0	63.2	65.9
240130001	MD	Carroll	76.3	79	57.7	59.8	58.8	60.9

[7] ""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

[8] https://www.epa.gov/airmarkets/march-2018-memo-and-supplemental-information-regarding-interstate-transport-sips-2015

			Ozone Design Value (ppb)					
			Alpine Geophysics / EPA 12km Data				EPA 12km "No Water" Data	
Monitor ID	State	County	2009-2013 Base Period Ave	2009-2013 Base Period Max	2023 Base Case Ave	2023 Base Case Max	2023 Base Case Ave	2023 Base Case Max
240150003	MD	Cecil	83.0	86	62.0	64.2	64.5	66.8
240170010	MD	Charles	79.3	83	57.3	60.0	61.6	64.7
240199991	MD	Dorchester	75.0	75	58.1	58.1	59.4	59.4
240210037	MD	Frederick	76.3	79	58.5	60.6	59.6	61.8
240251001	MD	Harford	90.0	93	71.3	73.7	70.9	73.3
240259001	MD	Harford	79.3	82	60.1	62.1	62.2	64.3
240290002	MD	Kent	78.7	82	58.7	61.1	61.2	63.7
240313001	MD	Montgomery	75.7	77	57.6	58.6	60.0	61.0
240330030	MD	Prince George's	79.0	82	58.1	60.3	60.5	62.8
240338003	MD	Prince George's	82.3	87	59.7	63.2	63.2	66.8
240339991	MD	Prince George's	80.0	80	58.6	58.6	61.0	61.0
245100054	MD	Baltimore (City)	73.7	75	60.4	61.4	59.4	60.4

It is thus apparent that current emission control programs are more than adequate to satisfy Good Neighbor obligations of states such as Delaware and Maryland even without consideration of a more refined grid modeling platform.

4. The 2015 70 ppb ozone NAAQS does not provide a basis for action on the Maryland petition.

The 2015 70 ppb ozone NAAQS was finally adopted by EPA on October 1, 2015. The Maryland petition, however, does not assert that the 2015 ozone NAAQS is a basis for its petition. Accordingly, any assessment of the Maryland petition must be limited to the 2008 ozone NAAQS.

5. Recent 12km "no water" modeling by EPA shows that all Delaware monitors will attain and maintain even the 2015 ozone NAAQS.

On March 27, 2018, EPA issued guidance and supporting data on how states should develop approvable Good Neighbor SIPs related to the 2015 ozone NAAQS.[9] The stated purpose of the memorandum as set forth in the first paragraph of the memorandum is as follows:

The purpose of this memorandum is to provide information to states and the

[9] Peter Tsirigotis memorandum dated March 27, 2018 (https://www.epa.gov/airmarkets/march-2018-memo-and-supplemental-information-regarding-interstate-transport-sips-2015.

Environmental Protection Agency Regional offices as they develop or review state implementation plans (SIPs) that address section 110(a)(2)(D)(i)(I) of Clean Air Act (CAA), also called the "good neighbor" provision, as it pertains to the 2015 ozone … (NAAQS). Specifically, this memorandum includes EPA's air quality modeling data for ozone for the year 2023, including newly available contribution modeling results, and a discussion of elements previously used to address interstate transport.

That memorandum goes on to list potential nonattainment and maintenance receptors with respect to the 2015 ozone NAAQS. No monitor in Delaware is identified to be either a nonattainment monitor or a maintenance monitor with respect to the 2015 ozone NAAQS. In the absence of either a nonattainment or maintenance monitor in 2023, the Delaware petitions must be denied.

The Maryland petition did not assert the 2015 ozone NAAQS as the basis for its petition.[10]

6. EPA has proposed a rule that determines that the CSAPR Update Rule, in combination with existing additional on-the-book controls, results in a full remedy with respect to the 2008 ozone NAAQS and approval of 2008 ozone NAAQS Good Neighbor SIPs.

EPA notes in its proposed denial of these petitions that in finalizing the CSAPR Update, the agency concluded that the rule was only a partial resolution of good neighbor SIP obligations. See 83 FR 26670

However, on June 29, 2018, EPA issued its proposed "Determination Regarding Good Neighbor Obligations for the 2008 Ozone National Ambient Air Quality Standard".[11] In that proposal, EPA has determined that with the CSAPR Update fully implemented, the states which do not yet have approved Good Neighbor SIPs related to the 2008 ozone NAAQS "are not expected to contribute significantly to nonattainment in, or interfere with maintenance by, any other state with regard to the 2008 ozone NAAQS." EPA's finding was based on the modeling results set forth its October 27, 2017 memorandum which found no 2008 ozone NAAQS nonattainment or maintenance areas outside California.[12]

According to the proposed rule " EPA proposes to determine that it has no outstanding, unfulfilled obligation under CAA section 110(c)(1) to establish additional requirements for sources in these states to further reduce transported ozone pollution under CAA section 110(a)(2)(D)(i)(I)

[10] Had Maryland asserted the 2015 ozone NAAQS as the basis for its petition, data set forth in EPA's March 27, 2018 memorandum demonstrates that all Maryland monitors would attain the 2015 ozone NAAQS in 2023 with the Harford monitor being the only maintenance monitor in that state in the absence of consideration of any of the flexibilities identified in that memorandum.

[11] https://www.epa.gov/airmarkets/proposed-determination-regarding-good-neighbor-obligations-2008-ozone-national-ambient

[12] Stephen Page memorandum, October 27, 2017: https://www.epa.gov/sites/production/files/2017-10/documents/final_2008_o3_naaqs_transport_memo_10-27-17b.pdf

with regard to the 2008 ozone NAAQS. As a result of this finding, this action proposes minor revisions to the existing CSAPR Update regulations to reflect that the CSAPR Update FIPs fully address CAA section 110(a)(2)(D)(i)(I). The proposed determination would apply to states currently subject to CSAPR Update FIPs as well as any states for which EPA has approved replacement of CSAPR Update FIPs with CSAPR Update SIPs.

Again, with EPA having determined that with respect to the 2008 ozone NAAQS the CSAPR Update is a full remedy and with the determination that there are no nonattainment or maintenance monitors in either Maryland or Delaware, the subject petitions must be denied.

7. The CSAPR Update Rule and Good Neighbor SIPs legally and practically resolve the issues raised by the Maryland and Delaware petitions.

The subject petitions fail to address the fact that the EPA's recent action addressing the 2008 ozone NAAQS Good Neighbor SIPs addresses exactly the same provision of the Clean Air Act as does their petitions (CAA §110(a)(2)(D)(i)) and would effectively satisfy their petitions as it relates to the 2008 ozone NAAQS.[13] This close relationship was addressed by EPA in its proposed denial of the Connecticut 126 petition involving the Brunner Island Plant when EPA stated[14]:

> *Put another way, requiring additional reductions would result in eliminating emissions that do not contribute significantly to nonattainment or interfere with maintenance of the NAAQS, an action beyond the scope of the prohibition in CAA section 110(a)(2)(D)(i)(I) and therefore beyond the scope of EPA's authority to make the requested finding under CAA section 126(b). See EPA v. EME Homer City Generation, L.P., 134 S. Ct. 1584, 1604 n.18, 1608-09 (2014) (holding the EPA may not require sources in upwind states to reduce emissions by more than necessary to eliminate significant contribution to nonattainment or interference with maintenance of the NAAQS in downwind states under the good neighbor provision).*

The petitions also fails to acknowledge the October 1, 2018 deadline that is applicable to all target states for the submittal of Good Neighbor plans related to the 2015 ozone NAAQS. These Good Neighbor plans would also address CAA §110(a)(2)(D)(i) and effectively eliminates the need for the relief requested in the subject petitions.

In addition to the 2008 and 2015 ozone NAAQS Good Neighbor State Implementation Plans (SIPs), EPA's CSAPR Update Rule was also adopted to implement and satisfy CAA Section 110(a)(2)(D)(i) obligations with respect to the 2008 ozone NAAQS.[15] The combination of these actions, along with other on-the-books controls, have already or ultimately will resolve the

[13] https://www.epa.gov/sites/production/files/2018-06/documents/eo_12866_epa_determination_for_ozone_naaqs_nprm_web_version.pdf
[14] 83 Fed. Reg. 7712 (February 22, 2018).
[15] https://www.epa.gov/sites/production/files/2018-06/documents/eo_12866_epa_determination_for_ozone_naaqs_nprm_web_version.pdf

responsibility of the states and sources named in the subject petitions (filed pursuant to CAA Section 126) because both sections of the CAA call for the application of the same legal standard.

CAA §126(b) provides –

> *Any state or political subdivision may petition the Administrator for a finding that any major source or group of stationary sources emit or would emit any air pollutant in violation of the prohibition of section 110(a)(2)(D)(ii) …* [16]

CAA §110(a)(2)(D)(i) provides –

> *Each plan shall … contain adequate provisions … prohibiting … any source … from emitting any air pollutant in amounts which will … contribute significantly to non-attainment in, or interfere with maintenance by, any other state*

Thus, resolution of the question of interstate transport under CAA §110(a)(2)(D)(i) effectively and legally resolves any issues that might be the bases for petitions filed under CAA §126(b).

8. International emissions must be addressed as an integral part of the consideration of these petitions.

As an integral part of the agency's consideration of this petition, EPA must assess the impact of natural and manmade international emissions. In doing so, EPA has the opportunity and duty to develop a reasonable and reasoned approach to the issue of international emissions so that the states and EGUs that are the target of these petitions are not subject to the illegal over-control of emissions.

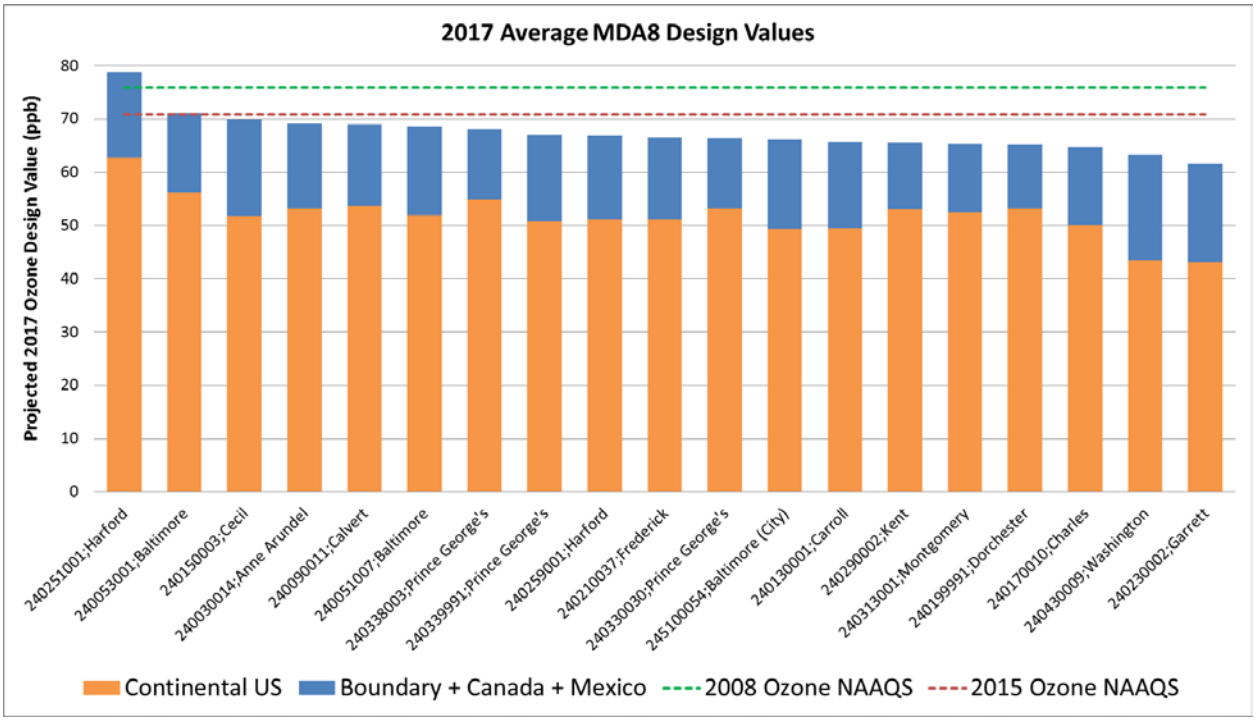
The figure below depict all monitors in Maryland and the projected average 2017 ozone design values (ppb) at these monitors[17]. The data presented here show each monitor's projected ozone design values compared to the 75 ppb NAAQS in terms of contributed U.S. anthropogenic emissions and the aggregate of initial & boundary conditions[18] and North American international emissions originating from Canada and Mexico.

[16] *Appalachian Power Co. v. EPA*, 249 F.3d 1032 (D.C. Cir.) held this to be a scrivener's error and that the reference here was intended to be to section 110(a)(2)(D)(i) rather than to section 110(a)(2)(D)(ii) as written.

[17] EPA-HQ-OAR-2015-0500-0459.

[18] Boundary conditions are comprised of anthropogenic and natural sources of ozone and precursors emanating from outside the 36 km modeling domain, e.g., international transported anthropogenic and biogenic emissions, and some fraction of U.S. emissions which exit the regional model domain but get re-imported into the domain via synoptic-scale recirculation.

Projected Average 2017 Ozone Design values (ppb) - Maryland

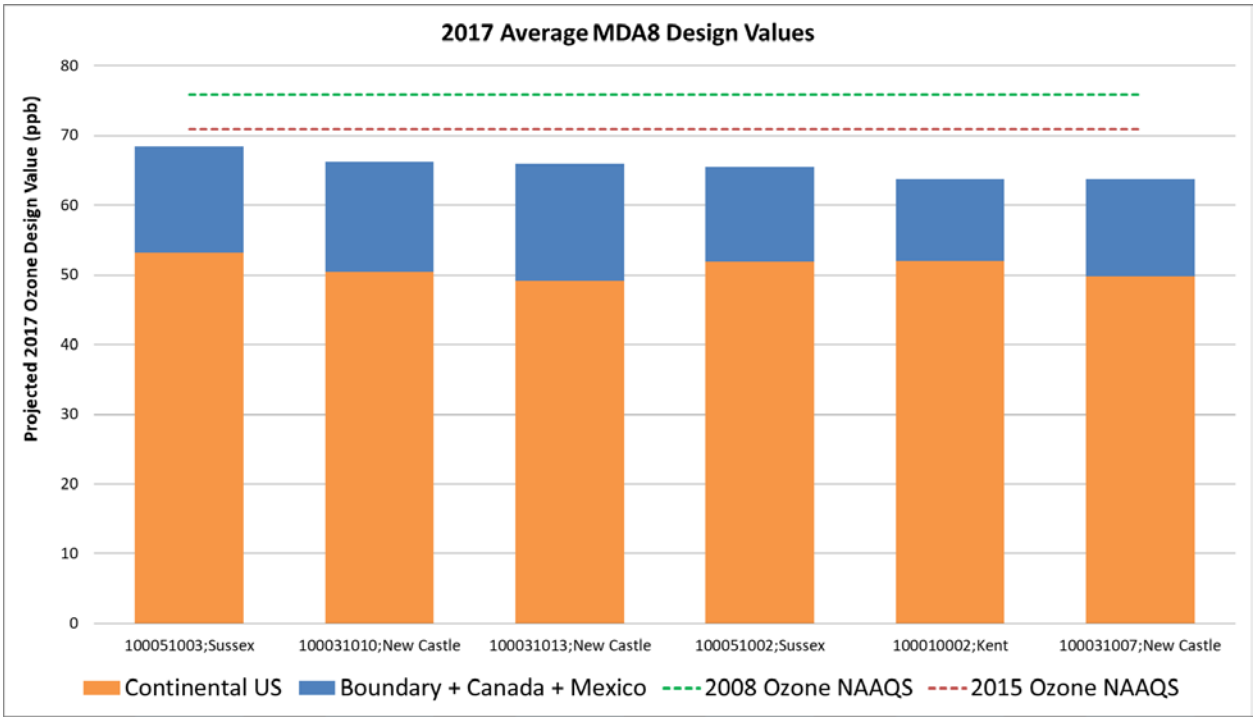


Maximum Daily 8-hr Ozone Design Value (ppb) - Maryland

Monitor ID	State	County	2017 Base Case Average	Contribution from Boundary + Canada + Mexico	2017 Base Case Minus Boundary + Canada + Mexico
240251001	Maryland	Harford	78.8	16.1	62.7
240053001	Maryland	Baltimore	71.1	14.9	56.2
240150003	Maryland	Cecil	69.9	18.0	51.9
240030014	Maryland	Anne Arundel	69.1	15.8	53.3
240090011	Maryland	Calvert	69.0	15.4	53.6
240051007	Maryland	Baltimore	68.6	16.7	51.9
240338003	Maryland	Prince George's	68.1	13.1	55.0
240339991	Maryland	Prince George's	67.0	16.2	50.8
240259001	Maryland	Harford	66.9	15.7	51.2
240210037	Maryland	Frederick	66.5	15.4	51.1
240330030	Maryland	Prince George's	66.4	13.2	53.3
245100054	Maryland	Baltimore (City)	66.1	16.7	49.4
240130001	Maryland	Carroll	65.8	16.3	49.5
240290002	Maryland	Kent	65.6	12.5	53.1
240313001	Maryland	Montgomery	65.4	13.0	52.4
240199991	Maryland	Dorchester	65.2	11.9	53.3
240170010	Maryland	Charles	64.7	14.6	50.1

Monitor ID	State	County	2017 Base Case Average	Contribution from Boundary + Canada + Mexico	2017 Base Case Minus Boundary + Canada + Mexico
240430009	Maryland	Washington	63.3	19.8	43.5
240230002	Maryland	Garrett	61.6	18.6	43.0

Projected Average 2017 Ozone Design values (ppb) - Delaware



Maximum Daily 8-hr Ozone Design Value (ppb) - Delaware

Monitor ID	State	County	2017 Base Case Average	Contribution from Boundary + Canada + Mexico	2017 Base Case Minus Boundary + Canada + Mexico
100051003	Delaware	Sussex	68.4	15.2	53.2
100031010	Delaware	New Castle	66.2	15.8	50.4
100031013	Delaware	New Castle	65.9	16.8	49.1
100051002	Delaware	Sussex	65.5	13.6	51.9
100010002	Delaware	Kent	63.7	11.7	52.0
100031007	Delaware	New Castle	63.7	13.9	49.8

The CAA addresses international emissions directly. Section 179(B) subsections (a) and (b) state that -

(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 [19] 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.

(b) Attainment of ozone levels

> Notwithstanding any other provision of law, any State that establishes to the satisfaction of the Administrator that, with respect to an ozone nonattainment area in such State, such State would have attained the national ambient air quality standard for ozone by the applicable attainment date, but for emissions emanating from outside of the United States, shall not be subject to the provisions of section 7511(a)(2) or (5) of this title or section 7511d of this title. (Emphasis added.)

Addressing international emissions is important not only to Delaware and Maryland directly but also states and sources targeted by their petitions.

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. . ." EPA v. EME Homer City Generation, 134 S. Ct. 1584, 1608 (2014).

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."[20] However, this "mess" seems to be related to international emissions for which upwind states and sources have no responsibility.

The D.C. Circuit has also stated "section 110(a)(2)(D)(i)(I) gives EPA no authority to force an upwind state to share the burden of reducing other upwind states' emissions," *North Carolina*, 531

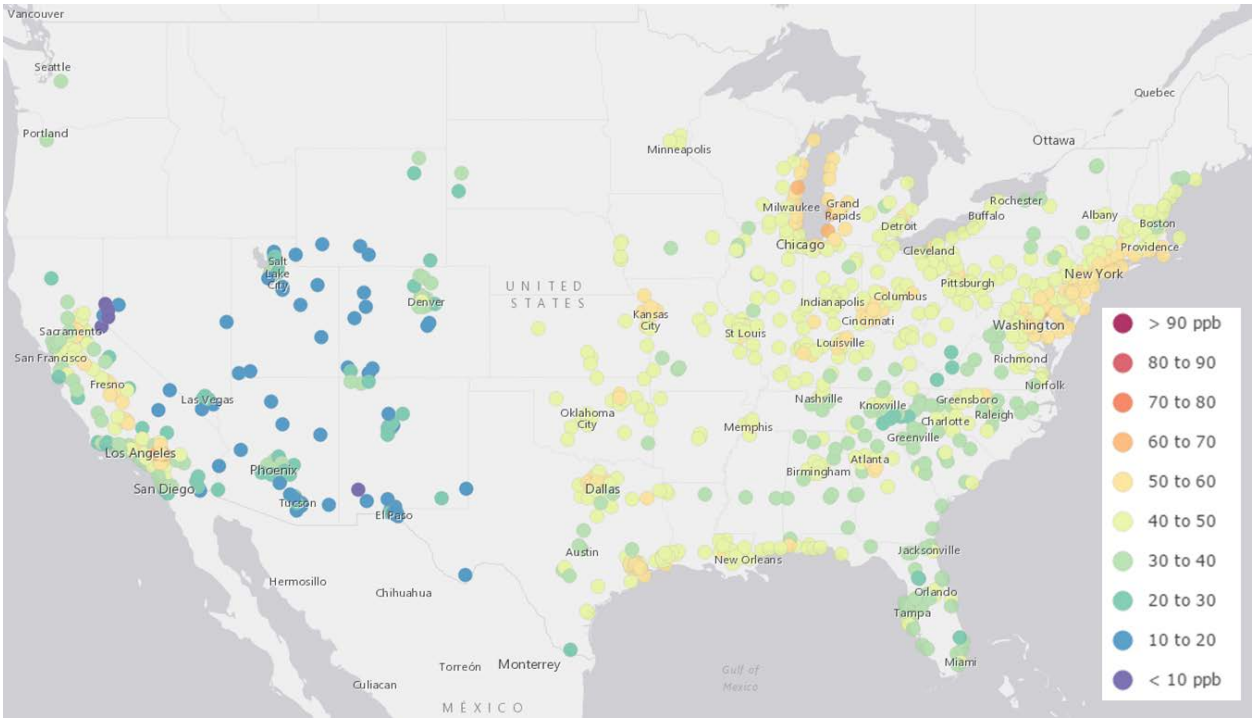
[19] So in original. Probably should be "this".

[20] *EME Homer City Generation, L.P. v EPA*, 696 F3.3d 7, 13 (D.C. Cir. 2012).

F.3d at 921. Given this ruling by the Court it seems logical that the CAA would not require upwind states to offset downwind air-quality impacts attributable to other *countries*' emissions. Simply put, EPA over-controls a state if the state must continue reducing emissions *after* its linked receptors would attain in the absent of international emissions.

Projected 2017 ozone design values (ppb) excluding the contribution from boundary condition, initial condition, Canadian and Mexican emission sources shown below was prepared by Alpine Geophysics for MOG and depicts the projected 2017 8-hour ozone Design Values across the US excluding the international emissions sector. The exclusion of international emissions was executed for all such emissions whether from international border areas or beyond. Note that this projection shows all monitors in the continental US with a design value equal to or less than 66 ppb when international emissions are excluded. Modeling the US emissions inventory projected to 2017 but without the impact of uncontrollable international emissions demonstrates that the CAA programs in the U.S. are performing as intended.

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



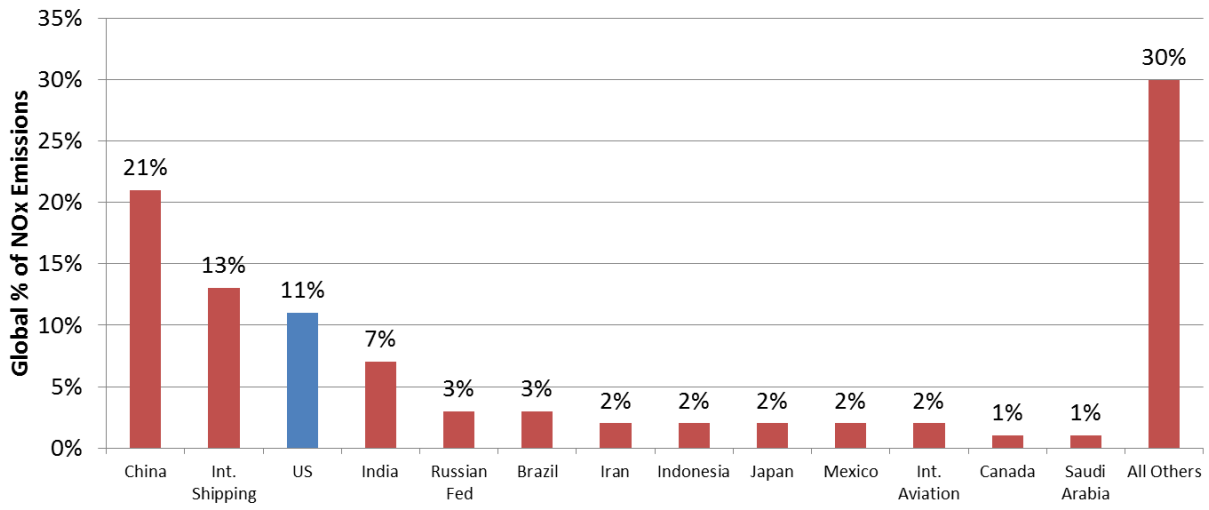
In addition to changing emissions resulting from growth and control in the continental U.S., EPA has identified updated projected emissions in both Canada and Mexico that have been

integrated into the modeling platform used in this modeling.[21] EPA's modeling boundary conditions, however, have been held constant at 2011 levels. This is inconsistent with recent publications that indicate emissions from outside of the U.S., specifically contributing to international transport, are on the rise.[22]

This figure does not show the full impacts of excluding U.S. background. Consequently, the EPA must reconsider its selection of "problem" monitors to be considered as part of any Good Neighbor SIP guidance because any residual nonattainment is demonstrably attributable to international emissions.

In support of conclusion that boundary conditions are significantly impacted by international emissions, the following chart illustrates that 89% of the emissions being modeled to establish boundary conditions are related to international sources.[23]

Relative International NOx Emissions (% of Total) Used to Inform Global Model Boundary Concentrations of Ozone



To avoid prohibited over-control, EPA's assessment of monitors in Delaware and Maryland should deduct from predicted ozone concentration the value that the model attributes to Canada/Mexico (which are believed to be entirely international) in addition to a portion of the boundary condition component of the modeling (believed to be mostly international). To the extent

[21] EPA-HQ-OAR-2016-0751-0009.
[22] Atmos. Chem. Phys., 17, 2943–2970(2017).
[23] European Commission, Joint Research Centre (JRC)/PBL Netherlands Environmental Assessment Agency. Emission Database for Global Atmospheric Research (EDGAR),https://protect-us.mimecast.com/s/N-G6CERPwVI3vMWjhNVQlp?domain=edgar.jrc.ec.europa.eu

that the resulting design values are below the attainment level of the ozone NAAQS, any additional controls on upwind states would be prohibited by the CAA and applicable judicial precedent.

9. Had current air modeling projections taken into account the significant emission reduction programs that are legally mandated to occur up to 2023, even better air quality would have been demonstrated.

There are also several on-the-books emission reductions programs that have not yet been included in the current modeling efforts related to 2023 ozone predictions. These programs, both individually and collectively, at are of sufficient magnitude to have a material effect on predicted air quality in Delaware and Maryland. As part of its review of the merits of these petitions, we urge EPA to insist that the petitioning states document these legally mandated emissions reduction expected by 2023 so they can be used to adjust the emissions inventories used to perform any modeling as part of the assessment of the merit of the petitions. Failure to do so risks the likelihood of imposing new requirements that would result in over-control prohibited by the CAA and applicable judicial precedent.

The State of Maryland, itself, has identified[24] nine programs that the OTC has recommended for implementation by its member states to reduce both NO_X and VOC. These programs (set out below) have the potential to reduce a total of nearly 27,000 tons of ozone season NO_X and 22,000 tons of ozone season VOC emission reductions.

[24] http://midwestozonegroup.com/files/MOG_May_7_Final_050515.pptx

NO_X and VOC Reduction Programs

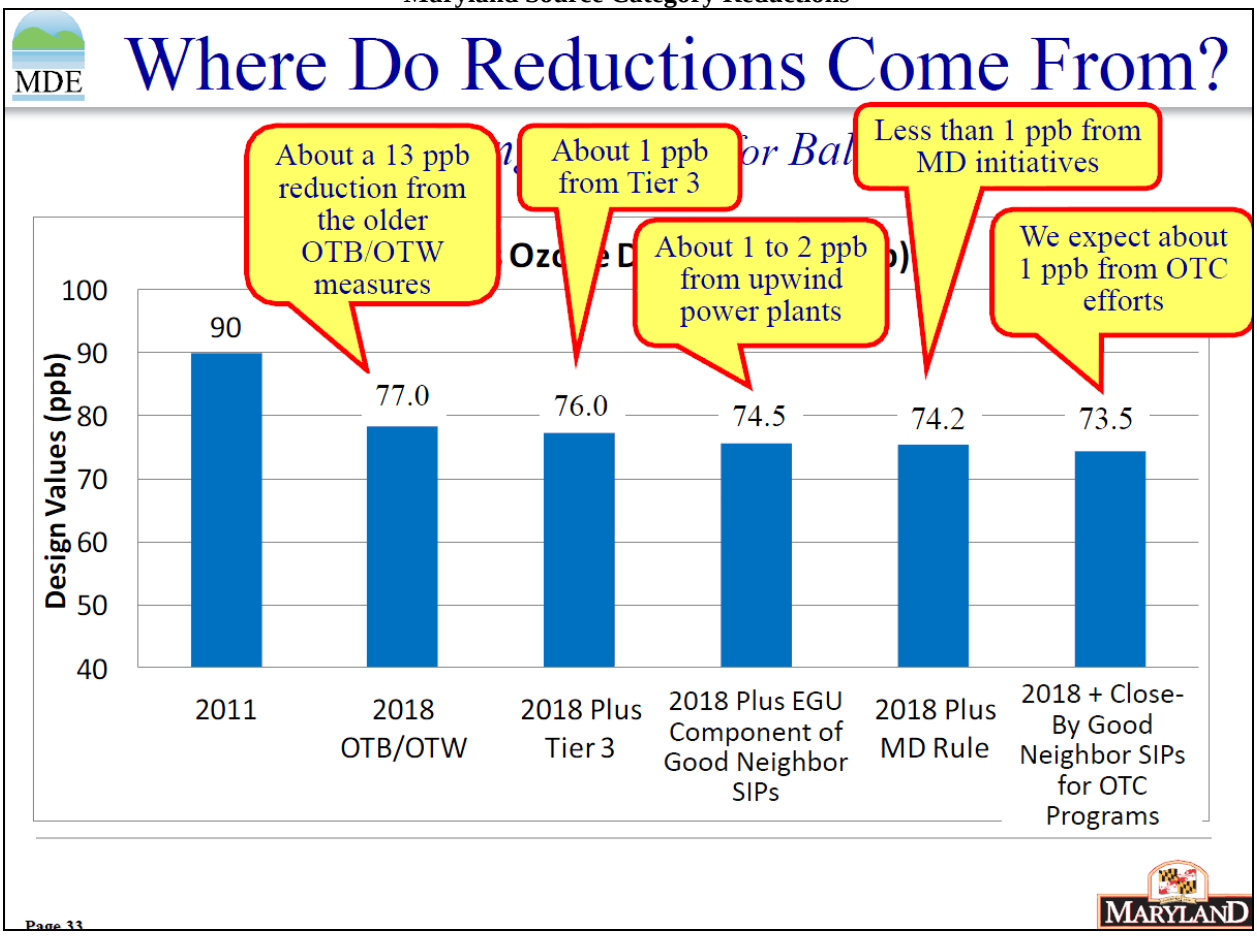
OTC Model Control Measures	Regional Reductions (tons per year)	Regional Reductions (tons per day)
Aftermarket Catalysts	14,983 (NO_X) 3,390 (VOC)	41 (NO_X) 9 (VOC)
On-Road Idling	19,716 (NO_X) 4,067 (VOC)	54 (NO_X) 11 (VOC)
Nonroad Idling	16,892 (NO_X) 2,460 (VOC)	46 (NO_X) 7 (VOC)
Heavy Duty I & M	9,326 (NO_X)	25 (NO_X)
Enhanced SMARTWAY	2.5%	
Ultra Low NOX Burners	3,669 (NO_X)	10 (NO_X)
Consumer Products	9,729 (VOC)	26 (VOC)
AIM	26,506 (VOC)	72 (VOC)
Auto Coatings	7,711 (VOC)	21 (VOC)

Here too, we urge EPA to determine the extent to which OTC states are following the recommendation of the OTC and to assess the impact that these programs have on air quality in both Delaware and Maryland.

Maryland's expected improvement in air quality is perhaps best illustrated by the material presented by Maryland at the New Jersey Clean Air Council Hearing on April 14, 2015.[25] Maryland used the following chart to show how they believe these additional control programs will bring its monitors into attainment with the 2008 ozone NAAQS. As can be seen from the graphic used in that presentation Maryland believes that it will be able to reach attainment with the 75 ppb ozone NAAQS with nothing more than on-the-books/on-the-way controls, Tier 3 controls, OTC measures and local Maryland initiatives – without additional reductions emission reductions from upwind states.

[25] http://midwestozonegroup.com/files/MOGMay7Final050515.pdf

Maryland Source Category Reductions



Beyond the aforementioned programs, Maryland air quality will benefit in the very near future from other programs. For example, a recent report from the Maryland PIRG[26] found that Maryland will receive $71 million to reduce NOx emissions from diesel engines and electric transportation projects as part of the national Volkswagen settlement. Maryland and EPA should both consider that investment in an 'on the way' project and include in future projections.

These programs as well other local control programs will almost certainly improve ozone predictions in 2023. Accounting for the programs and the related emission reductions at this time is critical to avoiding prohibited over-control.

10. Controls on local sources must be addressed first by Delaware and Maryland before EPA can approve emission reductions on sources in the target states.

When an area is measuring nonattainment of a NAAQS, the Clean Air Act (CAA) requires that the effects and benefits of local controls on all source sectors be considered first, prior to

[26] http://marylandpirg.org/reports/mdp/deceit-transformation

pursuing controls of sources in upwind states. CAA §107(a) states that "[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 that 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, additional planning and control requirements are applicable to areas that are designated to be in nonattainment.

This issue is important not only to assessing the merit of the Delaware and Maryland petitions but also because upwind states must be confident this has occurred as they prepare to submit approvable Good Neighbor state implementation plans to address the 2008 and 2015 ozone NAAQS this year. EPA's current interstate transport modeling platforms fails to incorporate local emission reductions programs that are required to improve ambient ozone concentration by 2023. Only through a full assessment of these local emissions reductions can EPA determine whether there are any bases for the imposition of additional emissions controls in upwind states. This is because additional control requirements in upwind states can only be legally imposed if, after consideration of local controls, there is a continuing nonattainment issue in downwind areas. [27]

The CAA addresses the affirmative obligations of the states to meet the deadlines for submittal and implementation of state implementation plans designed to specifically address their degree of nonattainment designation. Review of Section 172(c)(1) of the CAA provides that State Implementation Plans (SIPs) for nonattainment areas shall include "reasonably available control measures", including "reasonably available control technology" (RACT), for existing sources of emissions. Section 182(a)(2)(A) requires that for Marginal Ozone nonattainment areas, states shall revise their SIPs to include RACT. Section 182(b)(2)(A) of the CAA 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 date of attainment. CAA section 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 Section 184(b) provides that a state in the Ozone Transport Region (OTR) must revise their SIPs to implement RACT with respect to all sources of VOCs in the state covered by a CTG issues before or after November 15, 1990. CAA Section 184(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.

Given the significance of the need for local controls to address concern about any possible residual nonattainment area, MOG urges EPA to reject the Delaware and Maryland petitions for the

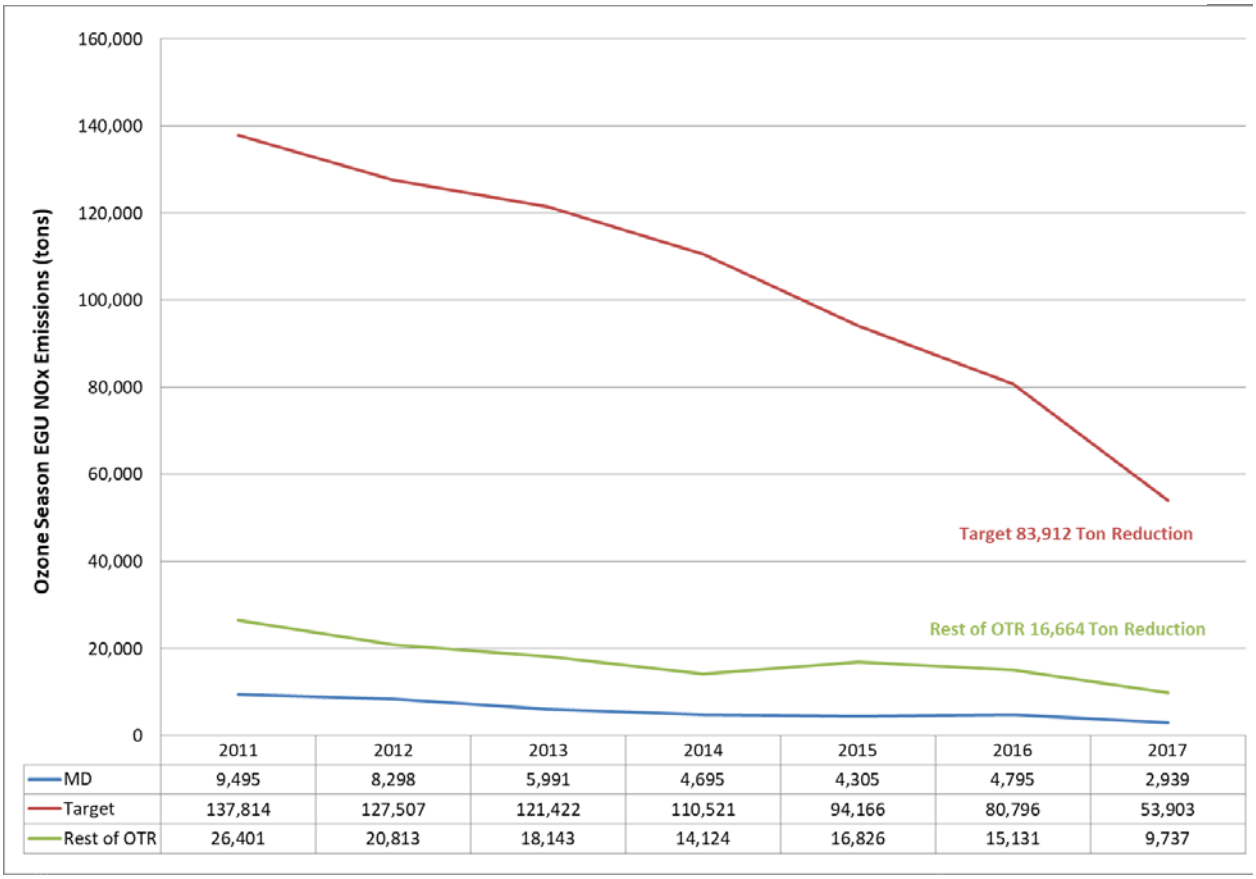
[27] *EME Homer et.al. v EPA*, 134 S. Ct. at 1608.

additional reason that the two states have not yet quantified the emission reductions that are legally mandated from the control of local sources in those states.

11. The increases in ozone concentrations in 2016 at the Cecil monitor occurred at a time when EGU emissions decreased.

It is particularly curious that the Cecil monitor measured an increase in ozone concentration in 2016 because 2016 ozone season EGU NO_X emissions in the targeted states continued the downward trend that has been observed over a number of years. This downward trend is illustrated in the following graphics which compare the EGU emissions of the target states of Indiana, Kentucky, Pennsylvania, Ohio, and West Virginia to reductions occurring in Maryland and the remaining OTR states. EPA's final assessment of the merits of this petition must examine the possibility that there are other factors or sources of emissions that caused such an increase in monitored ozone concentrations, particularly with all other Maryland monitors measuring design values that are well below the 2008 ozone NAAQS of 75 ppb.

CEM Reported EGU Emissions from Petition Targeted States



	2011	2012	2013	2014	2015	2016	2017
MD	9,495	8,298	5,991	4,695	4,305	4,795	2,939
Target	137,814	127,507	121,422	110,521	94,166	80,796	53,903
Rest of OTR	26,401	20,813	18,143	14,124	16,826	15,131	9,737

12. Emission trends for states targeted by the petition have been decreasing for many years and will continue to do so for the foreseeable future.

The Maryland petition is directed at EGU's in five upwind states that have in fact experienced a significant reduction in NOx emissions from EGU sources over recent years. The Delaware petition is directed at sources in two of the states named in the Maryland petition (West Virginia and Pennsylvania). These reductions not only reflect the good faith of these upwind states in regulating their own sources but also the effectiveness of EPA programs adopted to meet the Good Neighbor provisions of the Clean Air Act.

In its recent air quality assessment report[28], Maryland itself concedes its recognition of a reduction in NOx emissions from sources in upwind states by offering the following statement:

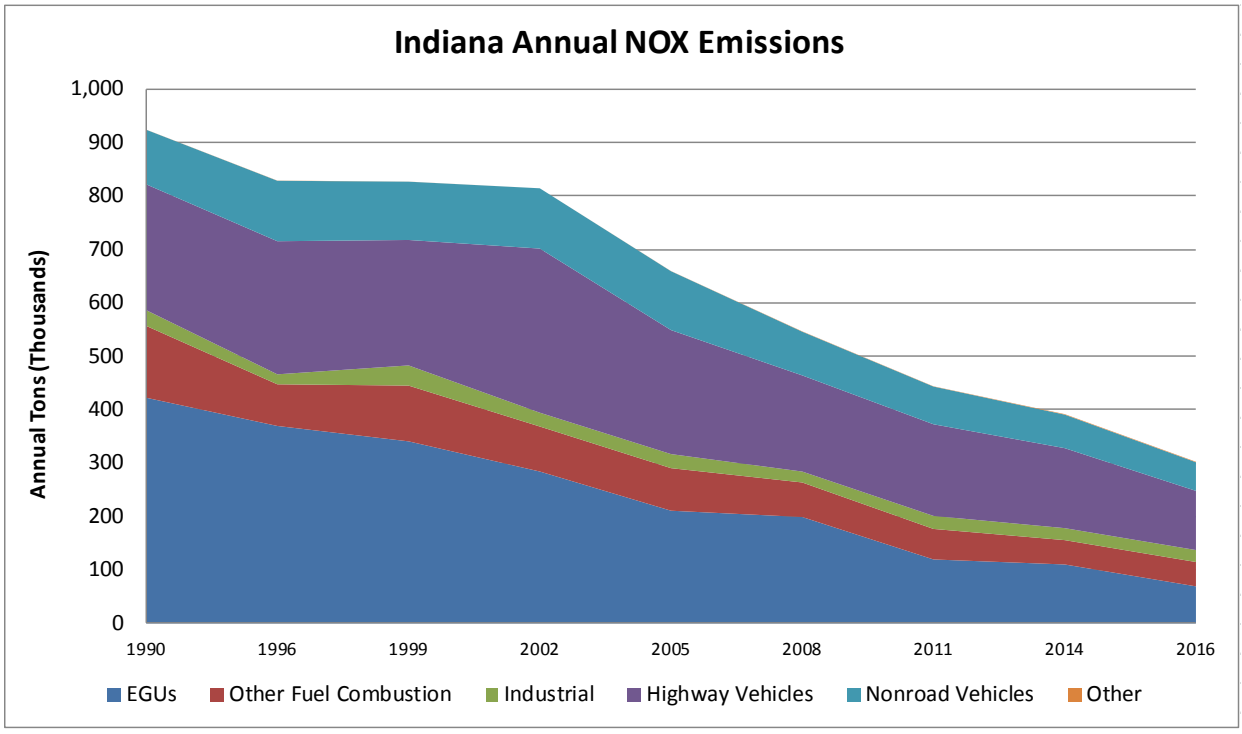
> Maryland has a long history of working in partnership with other states and taking action, when it is necessary, to reduce "incoming ozone. … These efforts have begun to show results. NOx emissions from power plants in upwind states have been decreasing each year."

Set forth below are charts developed from EPA National Emission Inventory (NEI) summaries[29] illustrating emission reduction in the states targeted by the subject petitions.

[28] http://mde.maryland.gov/programs/Air/Documents/MDCleanAirProgress2017.pdf
[29] https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data

Indiana

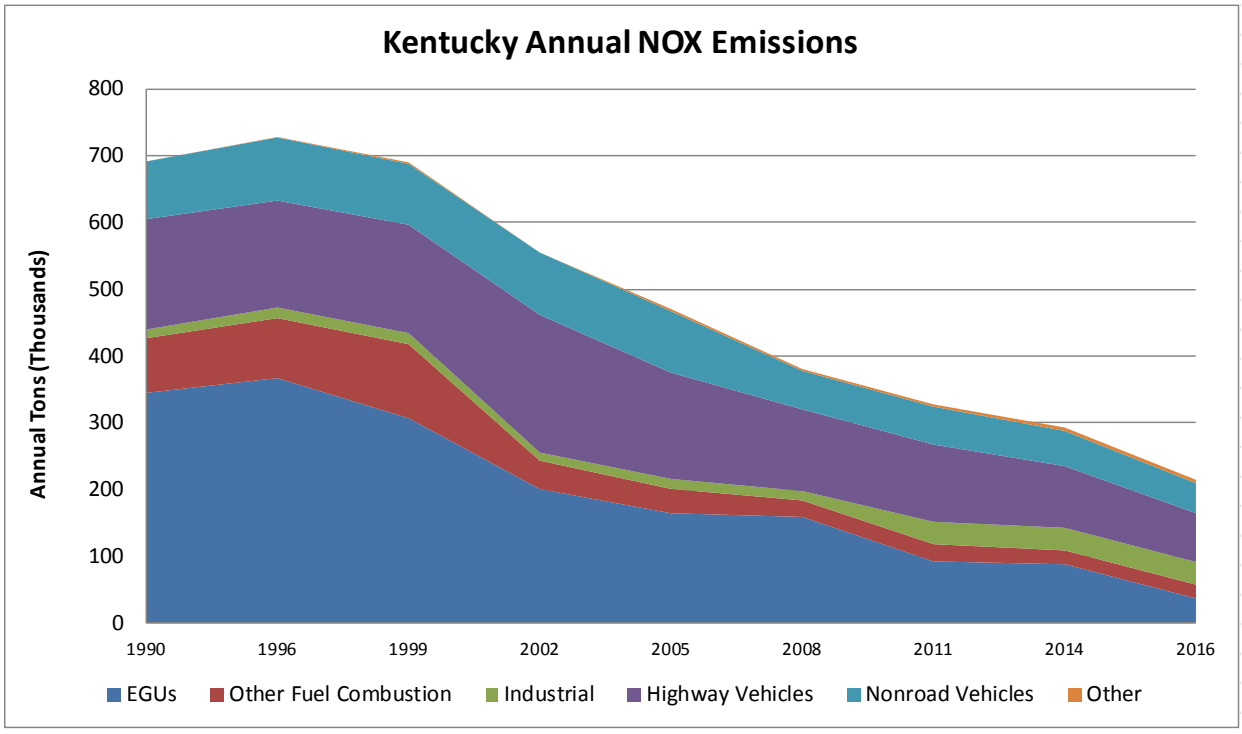
	Annual NOX Emissions (Thousand Tons)						
Year	EGUs	Other Fuel Combustion	Industrial	Highway Vehicles	Nonroad Vehicles	Other	Total
1990	422	134	29	235	102	0	924
1996	369	78	19	249	113	0	828
1999	341	104	38	235	109	0	827
2002	284	84	26	307	113	0	814
2005	211	80	26	232	110	0	659
2008	199	65	20	180	82	1	546
2011	120	57	24	171	71	0	444
2014	110	46	22	150	63	1	392
2016	69	46	22	111	54	1	302



Indiana EGU NOx Emissions Reduction of 84% between 1990 and 2016

Kentucky

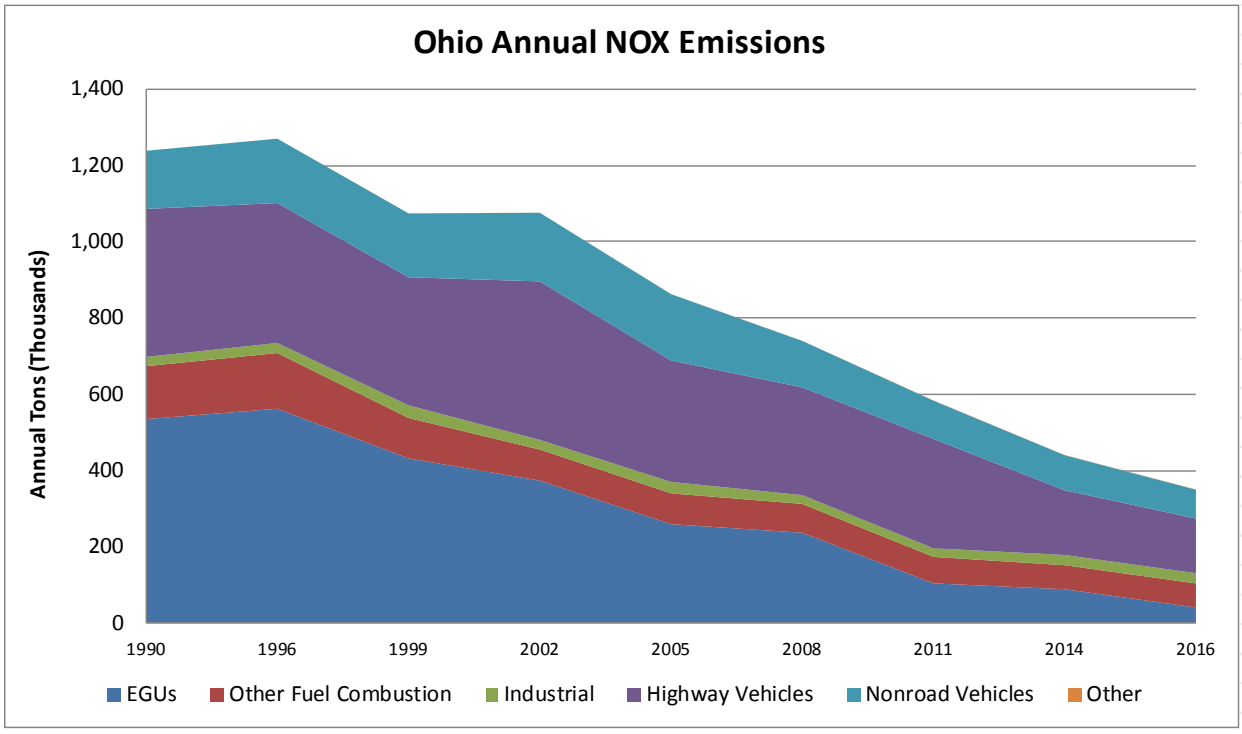
	Annual NOX Emissions (Thousand Tons)						
Year	EGUs	Other Fuel Combustion	Industrial	Highway Vehicles	Nonroad Vehicles	Other	Total
1990	345	82	13	165	86	0	691
1996	367	90	16	160	95	1	728
1999	307	111	17	162	91	2	690
2002	201	43	12	206	93	0	555
2005	165	36	15	159	92	3	471
2008	159	25	14	122	58	3	381
2011	93	26	33	116	57	3	328
2014	89	21	34	92	53	5	293
2016	37	21	34	73	45	5	215



Kentucky EGU NOx Emissions Reduction of 89% between 1990 and 2016

Ohio

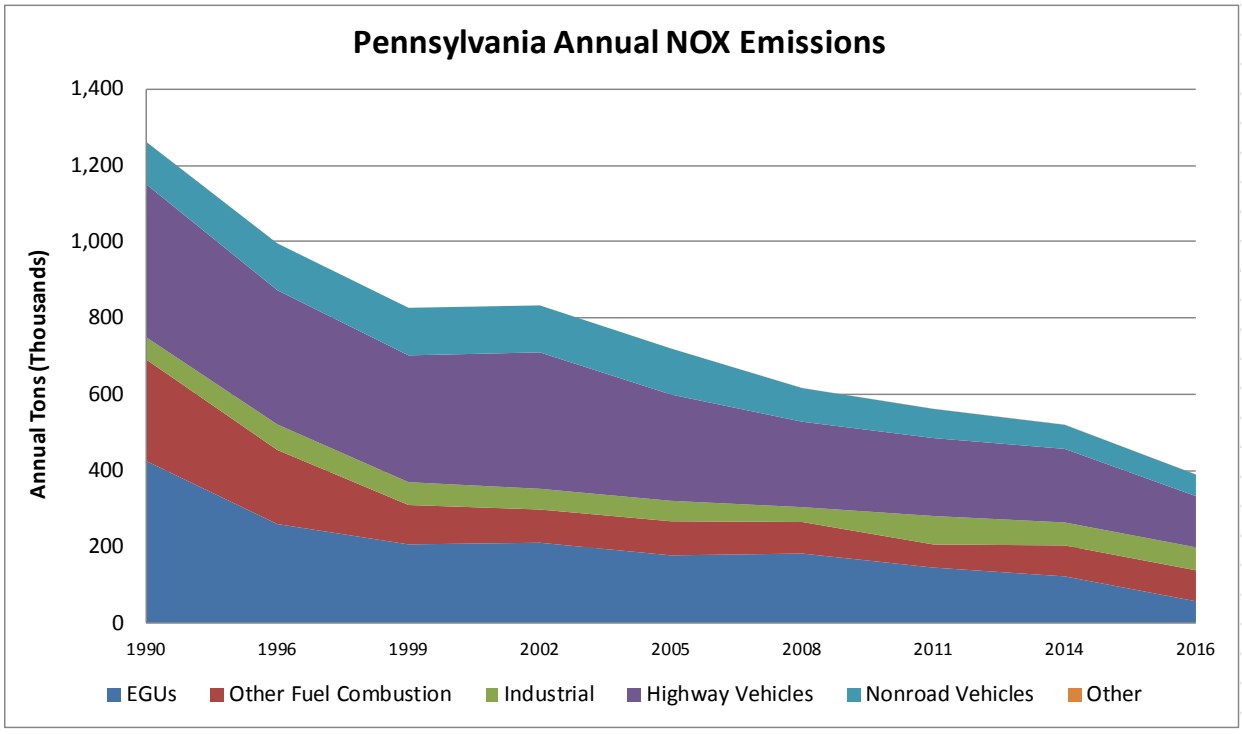
	Annual NOX Emissions (Thousand Tons)						
Year	EGUs	Other Fuel Combustion	Industrial	Highway Vehicles	Nonroad Vehicles	Other	Total
1990	535	139	24	388	152	0	1,238
1996	562	146	26	367	169	0	1,270
1999	432	106	33	335	167	0	1,074
2002	374	81	25	415	180	0	1,076
2005	260	81	30	318	174	0	863
2008	237	75	23	282	122	0	740
2011	105	69	23	286	100	1	584
2014	89	63	27	169	92	1	441
2016	42	63	27	143	76	1	351



Ohio EGU NOx Emissions Reduction of 92% between 1990 and 2016

Pennsylvania

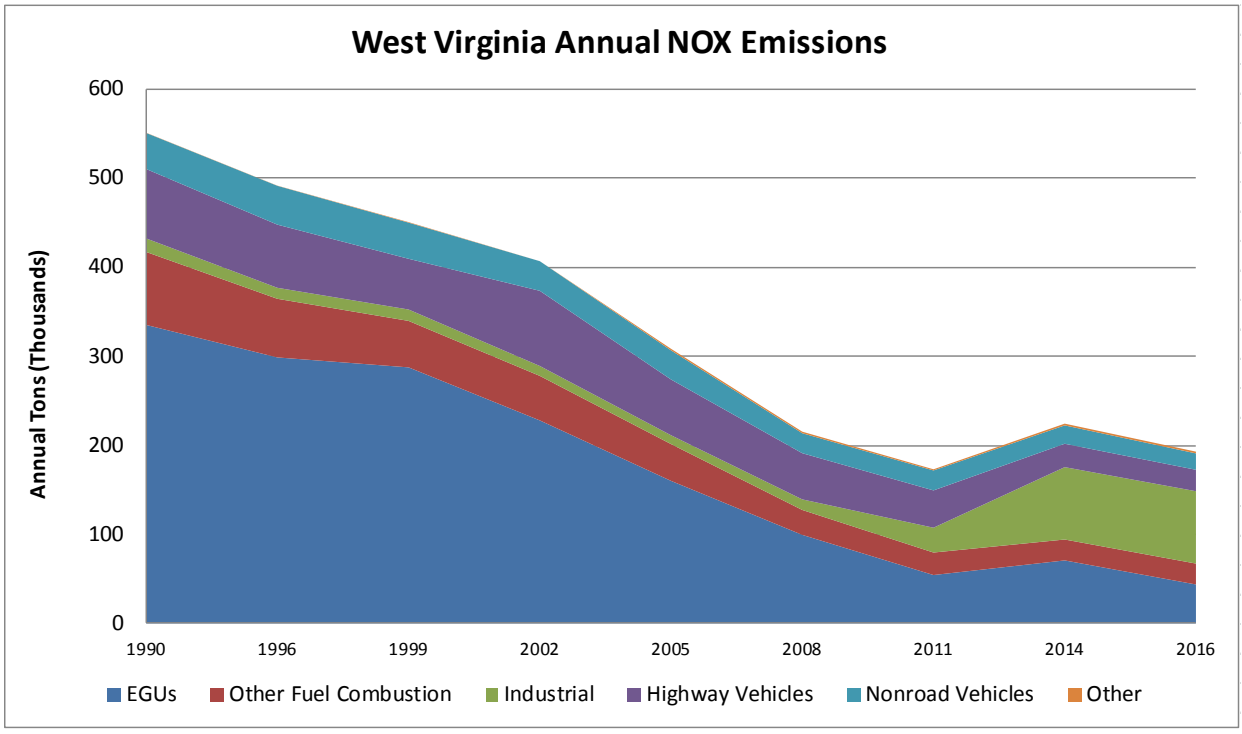
	Annual NOX Emissions (Thousand Tons)						
Year	EGUs	Other Fuel Combustion	Industrial	Highway Vehicles	Nonroad Vehicles	Other	Total
1990	425	266	58	401	111	0	1,262
1996	260	194	67	352	123	0	995
1999	207	103	60	332	125	0	827
2002	211	87	54	357	123	0	833
2005	178	89	54	278	120	0	720
2008	183	83	39	224	88	0	617
2011	146	61	75	204	76	0	562
2014	123	81	60	193	63	1	521
2016	58	81	60	134	57	1	390



Pennsylvania EGU NOx Emissions Reduction of 86% between 1990 and 2016

West Virginia

	Annual NOX Emissions (Thousand Tons)						
Year	EGUs	Other Fuel Combustion	Industrial	Highway Vehicles	Nonroad Vehicles	Other	Total
1990	335	82	15	78	40	0	551
1996	299	66	12	71	44	0	491
1999	287	52	13	57	41	1	450
2002	228	50	11	84	33	0	407
2005	160	41	10	63	33	2	308
2008	99	28	12	52	22	2	215
2011	54	25	28	42	22	1	173
2014	71	23	81	26	21	2	224
2016	44	23	81	24	18	2	193



West Virginia EGU NOx Emissions Reduction of 87% between 1990 and 2016

As can be seen from these graphics the states being targeted by these petitions have already reduced their annual EGU NOx emissions from 84% to 92% from 1990 to 2016. Additionally, ozone season EGU NOx emissions, as presented in the previous section, show reductions of close to 84,000 tons between 2011 and 2017 from the petition targeted states. As will be discussed elsewhere in these comments, these emission reductions are continuing as the result of other on-the-books regulatory programs in addition to legally mandated regulatory requirements that are not yet on-the-books.

These reductions not only reflect the good faith of these upwind states in regulating their own sources but also the effectiveness of EPA programs adopted to meet the Good Neighbor provisions of the Clean Air Act and to reduce emissions from industrial source categories.

Set forth below is a table developed from EPA modeling platform summaries[30] illustrating the estimated total anthropogenic emission reduction and EGU-only emission reduction in the several eastern states including the states targeted by the subject petitions. Importantly, as can be seen in the previous discussion regarding the actual EGU NOx emissions that occurred in 2017, these estimated 2017 emissions used in the EPA modeling are inflated as compared to the actual 2017 EGU emissions.

	Annual Anthropogenic NOx Emissions (Tons)			Emissions Delta (2017-2011)		Emissions Delta (2023-2011)	
State	**2011**	**2017**	**2023**	**Tons**	**%**	**Tons**	**%**
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%
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%
West Virginia	174,219	160,102	136,333	14,117	-8%	37,886	-22%
Sec 126 Total	**2,054,955**	**1,465,177**	**1,097,356**	**589,778**	**-29%**	**957,599**	**-47%**
	Annual EGU NOx Emissions (Tons)			**Emissions Delta (2017-2011)**		**Emissions Delta (2023-2011)**	
State	**2011**	**2017**	**2023**	**Tons**	**%**	**Tons**	**%**
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%
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%
West Virginia	56,620	63,485	46,324	(6,865)	12%	10,296	-18%
Sec 126 Total	**526,053**	**375,049**	**238,662**	**151,004**	**-29%**	**287,392**	**-55%**

As can be seen from this table, the states being targeted by the subject petitions are projected to significantly reduce their annual anthopogenic NOx emissions through 2017, with actual EGU 2017 emissions being even lower than these 2017 and 2023 estimates, and between 2011 and 2023. Emission trends for these states have been deceasing for many and will continue to decrease for the foreseeable future as the result of nothing mode than on-the-books controls.

[30] 83 Fed. Reg. 7716 (February 22, 2018).

13. Consideration of Exceptional Events Results in all Maryland monitors achieving attainment of the 2008 ozone NAAQS.

On October 20, 2017[31,32] the State of Maryland submitted demonstrations which nominally addressed exceptional event episodes related to wildfire events originating in Canada that impacted monitors in Maryland. In addition to showing that Canadian wildfire caused the events, the demonstrations offered the following comment about the significant improvement in EGU emissions from the very states that have been targeted by the subject petitions:

> *Daily aggregate NOx emissions of Indiana, Ohio, West Virginia, Virginia, Pennsylvania Maryland and the District of Columbia for only the month of July from 2010 – 2016 pulled from CAMD showed emissions during late July 2016 were some of the lowest daily emissions ever.* Emphasis added.

As is illustrated below there are many monitors in Maryland that have been influenced by these events and full concurrence and future deference by EPA[33] of those events at each monitor results in 12 additional monitors (identified with an asterisk) that demonstrate regulatory impact from the adjustment and have EPA concurrence for lower design values than originally reported.

		4th High MDA8 Ozone (ppb)				3-yr MDA8 DV (ppb)	
Monitor	**County**	**2014**	**2015**	**2016/EE Adj**	**2017**	**2014-2016**	**2015-2017**
240053001	Baltimore*	68	72	78/77	71	72	73
240090011	Calvert*	70	67	70/68	66	68	67
240130001	Carroll*	64	70	72/66	66	66	67
240150003	Cecil*	74	74	80/75	75	74	74
240170010	Charles	70	68	73	68	70	69
240190004	Dorchester	65	61	67	64	64	64
240199991	Dorchester	65	65	68	63	65	65
240210037	Frederick*	63	70	70/66	67	66	67
240230002	Garrett	63	67	66	65	65	66
240251001	Harford*	67	74	79/77	76	72	75
240259001	Harford*	70	73	77/74	71	72	72
240290002	Kent*	68	72	72/69	70	69	70
240313001	Montgomery	64	72	68	65	67	67
240330030	Prince George's*	65	72	70/69	69	68	70
240338003	Prince George's*	69	69	76/73	72	70	71

[31] https://www.epa.gov/sites/production/files/2018-07/documents/mde_jul_21_22_ee_demo.pdf
[32] https://www.epa.gov/sites/production/files/2018-07/documents/mde_may_25_26_ee_demo.pdf
[33] https://www.epa.gov/sites/production/files/2018-07/documents/epa_response_mde_exceptional_events_package_12-26-17.pdf

		4th High MDA8 Ozone (ppb)				3-yr MDA8 DV (ppb)	
Monitor	**County**	**2014**	**2015**	**2016/EE Adj**	**2017**	**2014-2016**	**2015-2017**
240339991	Prince George's	69	67	70	70	67	68
240430009	Washington*	61	67	70/68	65	65	66
245100054	Baltimore (City)*	60	72	75/67	69	66	69

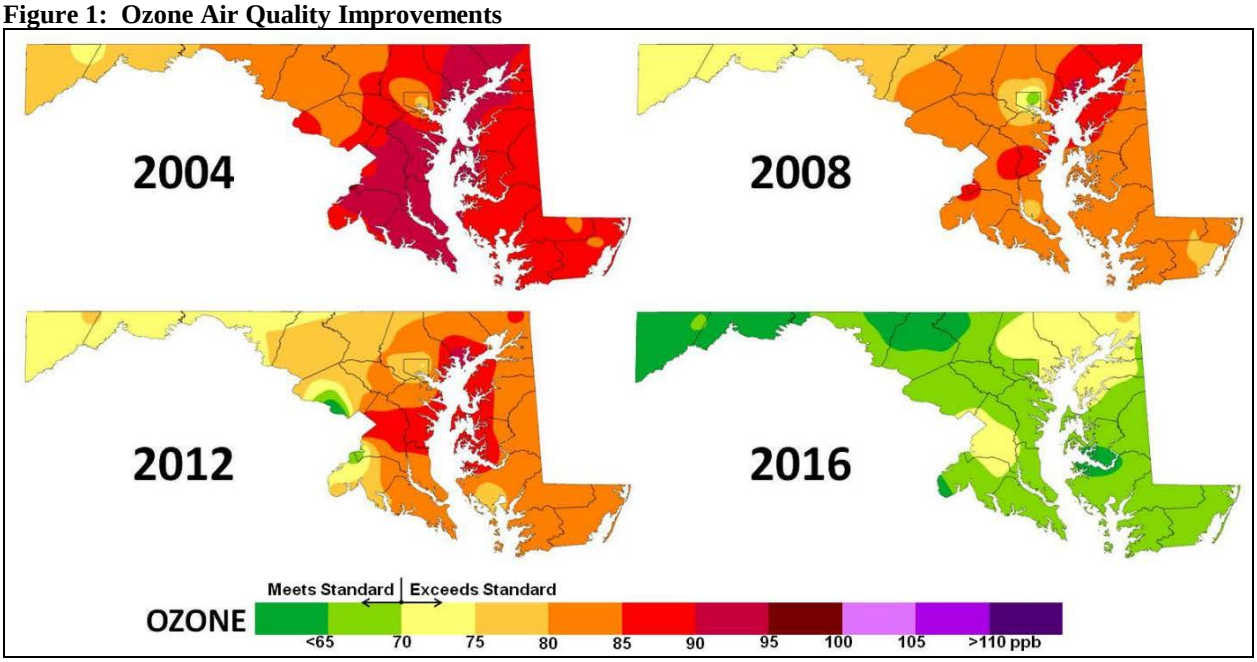
We also note that applying these additional Exceptional Event considerations results in multiple monitors demonstrating attainment of the 2015 ozone NAAQS (70 ppb).

Improvement in the design values for Cecil County (240150003) and Harford County (240251001) is especially important because they are two of the monitors that recently recorded higher ozone measurements.

14. Current ozone air quality in Delaware and Maryland is already measuring attainment of the 2008 (75 ppb) ozone NAAQS.

The following graphic from Maryland's own web site show the dramatic improvement in ozone air quality that has occurred in Maryland over recent years.

Figure 1: Ozone Air Quality Improvements



Source: http://mde.maryland.gov/programs/Air/AirQualityMonitoring/Pages/HistoricalData.aspx

When the most recent EPA design values (2014-2016) and the preliminary design values (2015-2017) for the Maryland monitoring stations are assessed against the 2008 ozone NAAQS, (75 ppb), the results show that all monitors are measuring design values over the 2015 through 2017

period that are below the 2008 ozone NAAQS. These design values include EPA concurrence[34] with respect to the 2008 ozone NAAQS (75 ppb) for two exceptional event episodes (May 25-26, 2016 and July 21-22, 2016) and associated adjustments to 4th high values for multiple monitors in 2016. Following are the 4th high and 3 year 2016 and preliminary 2017 design values for all Maryland monitors inclusive of the adjustments (noted with asterisk) made with EPA's concurrence:

Recent maximum daily 8-hr ozone design values (ppb)

			4th Highest (ppb)				3-yr Avg (ppb)	
AQS Site ID	**State**	**County**	**2014**	**2015**	**2016**	**2017**	**2014-2016**	**2015-2017**
240053001	Maryland	Baltimore	68	72	78	71	72	73
240090011	Maryland	Calvert	70	67	70	66	69	67
240130001	Maryland	Carroll	64	70	72	66	68	69
240150003	Maryland	Cecil	74	74	75*	75	74	74
240170010	Maryland	Charles	70	68	73	68	70	69
240190004	Maryland	Dorchester	65	61	67	64	64	64
240199991	Maryland	Dorchester	65	65	68	63	66	65
240210037	Maryland	Frederick	63	70	70	67	67	69
240230002	Maryland	Garrett	63	67	66	65	65	66
240251001	Maryland	Harford	67	74	77*	76	72	75
240259001	Maryland	Harford	70	73	77	71	73	73
240290002	Maryland	Kent	68	72	69*	70	69	70
240313001	Maryland	Montgomery	64	72	68	65	68	68
240330030	Maryland	Prince George's	65	72	70	69	69	70
240338003	Maryland	Prince George's	69	69	73*	72	70	71
240339991	Maryland	Prince George's	69	67	70	70	68	69
240430009	Maryland	Washington	61	67	70	65	66	67
245100054	Maryland	Baltimore (City)	60	72	67*	69	66	69

*Denotes 2016 4th High DV Exception Event Adjustments with EPA Concurrence

With respect to Delaware, on July 29, 2016, EPA released its latest compilation of 8-hour ozone design values and the annual 4th highest maximum values for all monitors in the U.S. for recent years.[35]

The most recent EPA (2014-2016) design values for the Delaware monitoring stations when compared to the 2008 (75 ppb) ozone NAAQS, show that all design values are below the 2008 ozone NAAQS.

It is not an accident that Delaware's air quality already measures attainment of the 2008

34 https://www.epa.gov/sites/production/files/2018-07/documents/epa_response_mde_exceptional_events_package_12-26-17.pdf

35 https://www.epa.gov/sites/production/files/2016-07/ozone_designvalues_20132015_final_07_29_16.xlsx

ozone NAAQS. Delaware's ozone air quality has steadily improved over recent years. In a January 2017 report prepared at the request of MOG,[36] Alpine Geophysics documented this trend for Delaware for the years 2001 through 2016.

The following are the 2014-2016 and preliminary 2015-2017 design values for all Delaware monitors:

			4th Highest (ppb)				3-yr Avg (ppb)	
AQS Site ID	**State**	**County**	**2014**	**2015**	**2016**	**2017**	**2014-2016**	**2015-2017**
100010002	Delaware	Kent	66	66	68	66	66	66
100031007	Delaware	New Castle	71	65	69	69	68	67
100031010	Delaware	New Castle	74	71	78	74	74	74
100031013	Delaware	New Castle	69	69	74	70	70	71
100032004	Delaware	New Castle	68	72	73	71	71	72
100051002	Delaware	Sussex	63	64	68	63	65	65
100051003	Delaware	Sussex	67	70	70	63	69	67

Without exception the design values for all monitors in Delaware are lower than the 2008 (75 ppb) NAAQS standards.

As is pointed out elsewhere in these comments additional improvements in the ozone air quality in Delaware, Maryland and other Ozone Transport Region states are also likely to occur as the result of regulatory programs that are already on-the-books, some of which became effective in 2017. These programs, both individually and collectively, are of sufficient magnitude to have a material effect on predicted air quality in Delaware and therefore are substantive to the merit of the subject petition. These include:

- CSAPR Update
- Pennsylvania RACT II;
- OTC Model Rules;
- High Energy Demand Day (HEDD) controls;
- Tier 3 gasoline; and
- Boiler MACT implementation.[37]

15. The petitions' request to have emission control limits set on a daily basis is a consideration that EPA previously addressed and rejected and daily limits should also be rejected here.

[36] http://midwestozonegroup.com/files/NOx_AQ_Trends_1990-2016.pdf
[37] http://midwestozonegroup.com/files/MOGCommentsonProposedCSAPRUpdate-Final.pdf

Each of the subject petitions urge the establishment of emission limits on a short-term – rather than ozone season - basis. As part of the CSAPR Update rulemaking, EPA carefully considered the comment urging that the CSAPR Update Rule budgets 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.[38]

Specifically, during the course of the CSAPR Update rulemaking, EPA specifically solicited comment on whether to impose emission limits on a basis consistent with the type of shorter time-frame that has been proposed by Delaware and Maryland in their petitions. After carefully considering the comments filed in response to that request for comment, EPA made the final decision to establish a program for the regulation of NO_X emissions from EGUs including those named in the subject petitions. It is that CSAPR Update Rule that currently applies to the EGUs named in the subject petitions. Compliance with those requirements is all that is needed to satisfy any obligation that the named sources and states have to the petitioning states.

EPA has already considered and rejected the relief requested by Delaware and Maryland in the context of other rulemakings. We urge EPA to reach the same conclusion in this denial as all previous efforts have determined these shorter term limits are unnecessary.

16. Reliance on the historical best observed rate (BOR) for the units targeted in these petitions ignores the capability of the existing NOx control equipment to achieve that the historical BOR.

The Maryland petition inappropriately estimates the emission reductions that would occur from the operation of NOx control equipment by applying the best observed rate (BOR) that has ever been reported by an EGU to CAMD. Such a position is, of course, ignores significant operational and regulatory constraints that will be addressed in this comment.

Any discussion of the operation of these controls must begin with the fact that these EGUs are being operated in conformity with and in compliance with both state and federal regulations. The CSAPR Update program provides unit-specific ozone season NOx allocations for each affected unit. These allocations are established under each state's annual ozone season budget and those state budgets are constrained by an annual variability limit that results in an annual ozone season assurance level.

There are a myriad of factors that prevent the BOR from being used as the indicator of SCR performance today or in the future. These include but are certainly not limited to the following:

1. The efficiency of NOx control equipment degrades from initial unit operations. When an SCR is first put into service the layers of catalyst are all new and therefore achieve

[36] 81 Fed Reg. 74523, October 26, 2016.

the most effective NOx control. After being in service it is typical for the layers of catalyst to be replaced at a rate of 25% every two years. Consequently, there is never a time after the initial in-service date of the SCR that 100% of the catalyst is new or fully reconditioned.

2. Taking SCRs from operation during the ozone season only to year round operation, raises maintenance issue for the units. This overtaxing of the units is known to foul air heaters and to result in excessive ammonia slip which can contribute to hazards in the ash disposal areas.

3. The fact that units today may well be part of an emission control strategy to remove mercury also creates limitations on the ability of an EGU to maximize NOx reductions. This is because the SCRs are also being used to oxidized mercury so that it can be effectively captured the plant's particulate control system(s) and/or wet flue gas scrubbers. Achieving necessary mercury control necessarily means that the SCR cannot be used to achieve maximum NOx reductions.

4. It is also the case that units are not operated the same today as they have been operated historically. The reality of today's unit dispatching is that units swing load dramatically on a daily basis. This is especially true for units operating in wholesale markets. This changing load not only results in lower efficiency of the control equipment as it seeks to follow the load of the generator, but also results in lower flue gas temperature which makes the unit less efficient and increases the potential for air heater fouling. Also, forcing units to remain at elevated loads during "out of market" periods to achieve a lower emissions rate forces unnecessary economic burdens on the units as well as negating to a considerable degree the lower NOx emission rate because of the higher heat input necessary to maintain unit load with sufficient SCR inlet temperature to allow the injection of ammonia. Moreover, this doesn't consider and account for the increases in all other pollutants that occur due to forced operation at higher loads.

In an affidavit filed in support of the agency's position in connection with the challenge to the Kentucky Good Neighbor SIP, then Assistant Administrator Janet McCabe[39] offered the following explanation of why imposing the best emission rate of a source should not be legally mandated, as has been proposed by Maryland.

[39] Declaration of Janet G. McCabe, December 15, 2016, *Sierra Club at al. v. EPA*, Case No. 3:15-cv-04328-JD (JSC) United States District Court for the Northern District of California, San Francisco Division.

> The EPA also considered the extent to which certain EGUs were able to operate at a rate better than 0.10 lb/mmBtu. However, the EPA did not assume and does not agree with Ms. Clements that it is appropriate to assume that EGUs can necessarily operate at the best rate ever achieved in the last 10 years. In the context of evaluating achievable NO_X emission rates for EGUs with existing SCR, the EPA found that it is not reasonable to assume that it is cost effective for an EGU with SCR to achieve its best ever rate over the course of its operating life. Specifically, the EPA found that the lowest NO_X year for SCRs often reflects installation of a brand new system, including brand new catalyst. The NO_X removal efficiency under brand new conditions is not necessarily cost-effectively sustainable over time.

The petitioning states have not presented any data to show that it considered any of these operational factors in its analysis. Accordingly there petitions should be denied.

17. State-of-the-art 4km modeling by the Midwest Ozone Group shows that all of Delaware's monitors will attain the 2015 ozone NAAQS.

To address its own concerns about whether modeling with a 12 km grid is sufficiently refined to address the land/water interface issues, MOG undertook to run EPA's model at a finer 4km grid. A copy of the Technical Support Document[40] containing these results is attached and identified as Exhibit D.

As is shown in the following chart, when EPA's air quality modeling platform is run with a 4 km grid (rather than a 12 km grid) predicted ozone concentration at all monitors in Delaware are in attainment with respect to both the 2008 ozone NAAQS as well as the more stringent 2015 ozone NAAQS.

			12km Modeling		**4km Modeling**	
Monitor	**County**	**DVb (2011)**	**DVf (2023) Ave**	**DVf (2023) Max**	**DVf (2023) Ave**	**DVf (2023) Max**
100010002	Kent	74.3	58.3	61.2	58.2	61.1
100031007	New Castle	76.3	59.2	62.0	59.3	62.1
100031010	New Castle	78.0	61.2	61.2	59.5	61.6
100031013	New Castle	77.7	60.8	62.6	61.6	63.4
100032004	New Castle	75.0	58.7	58.7	59.4	59.4

[40] http://www.midwestozonegroup.com/files/FinalTSD-OzoneModelingSupportingGNSIPObligationsJune2018.pdf

			12km Modeling		4km Modeling	
Monitor	**County**	**DVb (2011)**	**DVf (2023) Ave**	**DVf (2023) Max**	**DVf (2023) Ave**	**DVf (2023) Max**
100051002	Sussex	77.3	59.7	62.6	60.4	63.3
100051003	Sussex	77.7	62.4	65.1	63.2	65.9

Modeling of this type using a finer grid is specifically recommended under existing EPA guidance which 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).*[41] *Emphasis added.*

Accordingly, when state-of-the-art modeling is used to assess air quality in Delaware at the appropriate attainment date, all receptors – without exception- are in attainment with the 2015 ozone NAAQS. In the absence of any nonattainment or maintenance monitors in 2023 the Delaware petition must be denied.

18. Delaware's modeling was performed on the basis of outdated emissions.

In its proposed denial of the Delaware petitions EPA very properly recognizes that the only modeling data used to support the Delaware petition was performed using emissions data from 2011. 83 Federal Register 26676. As pointed out elsewhere in these comments, dramatic emission reductions have occurred between 2011 and 2017 with significant additional reductions occurring between now and 2023. Accordingly, the Delaware modeling data is not representative of the units that are the target of the Delaware petitions. Basing any action on such modeling would result in over-control that is prohibited by the CAA and applicable case law.

Conclusion.

The actions requested by Maryland and Delaware in their Section 126 petitions are not justified on either legal or technical bases. Ozone precursor emissions have been and will continue to be reduced absent the controls called for in the subject petitions. This will occur in part due to the CSAPR Update Rule, PA RACT 2 and other on-the-books controls, including controls in Maryland and Delaware. It will also occur because of legally mandated local control that are not yet on-the-books. This year, upwind states will be submitting Good Neighbor SIP plans that are likely to

[39] http://www3.epa.gov/scram001/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf

demonstrate that the existing programs will be adequate to satisfy Good Neighbor SIP obligations. Additionally, appropriately accounting for Exceptional Events, international emissions and local controls also serve to demonstrate compliance with Clean Air Act requirements.

Accordingly, the Midwest Ozone Group supports EPA's proposed decision to deny the Clean Air Act Section 126 petition filed by Maryland and Delaware.