COMMENTS OF THE MIDWEST OZONE GROUP REGARDING THE OHIO ENVIRONMENTAL PROTECTION AGENCY'S PROPOSED INFRASTRUCTURE STATE IMPLEMENTATION PLAN

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The Midwest Ozone Group (MOG) is pleased to have the opportunity to comment[1] on the proposed Infrastructure State Implementation Plan (SIP) by the Ohio Environmental Protection Agency (OEPA) related to the 2015 ozone National Ambient Air Quality Standard (NAAQS). While the full proposal relates to the requirements of Section 110(a)(1) and (2) of the federal Clean Air Act (CAA), these comments will be limited to the interstate transport provisions. MOG strongly supports OEPA's proposed plan as fully satisfying the requirements CAA section 110(a)(2)(D)(i)(I) regarding the interstate transport for the 2015 ozone NAAQS.

MOG is an affiliation of companies, trade organizations, and associations that draws upon its 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 policies by encouraging the use of sound science. MOG has been actively engaged in a variety of 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 (SIPs) and related regional haze and climate change 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. MOG Members and Participants also own and operate several fossil-fired generating units in the State of Ohio. 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.

1. MOG supports the conclusion that no additional emissions reductions beyond existing and planned controls are necessary to comply with CAA Section 110(a)(2)(D)(i)(I).

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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).

The issue being addressed in the proposed Good Neighbor SIP, is whether these existing measures also satisfy the Good Neighbor requirements of Section 110(a)(2)(D)(i)(I) which prohibits a state from significantly contributing to nonattainment or interfering with maintenance of any primary or secondary NAAQS in another state.

As was identified in the March 27, 2018, memorandum of EPA's Peter Tsirigotis[3], a four step process is to be used by EPA to address Good Neighbor requirements. These four steps are:

Step 1: identify downwind air quality problems;

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

Step 3: identify the emissions reductions necessary to prevent an identified upwind state from contributing significantly to those downwind air quality problems; and

Step 4: adopt permanent and enforceable measure needed to achieve those emission reductions.

Relying principally on modeling work performed by LADCO to address Step 1 and Step 2 in this analysis and its own data to assess Step 3, OEPA has concluded that "no additional emissions reductions beyond existing and planned controls are necessary to mitigate Ohio's contribution to downwind monitors in order to comply with CAA section 110(a)(2)(D)(i)(I)."[4]

Throughout its analysis, OEPA offers several reasons why even its analysis is conservative. Among the conservative factors cited by OEPA are:

Use of a 1% significant contribution test;[5]

EPA's methodology for identifying maintenance monitors;[6]

Over-estimation of Ohio EGU NOx emissions;[7]

Need to account for local onroad emissions in the northeast before requiring more reductions from Ohio;[8]

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

[4] *Ohio Interstate Pollution Transport Analysis 2015 Ozone Standard*, draft August 2018, p. 3.

[5] *Id*. at p. 7.

[6] *Id.* at p. 7.

[7] *Id*. at p. 10.

[8] *Id*. at p. 43.

Need to employ the use “red lines” analysis to proportion responsibility for contribution to downwind problem areas;[9] and

Need to consider international emissions.[10]

OEPA’s conclusion that no additional emission reductions are required is indeed a conservative one. MOG not only supports OEPA’s conclusion and its assessment of the factors that make that decision conservative, MOG will offer in these comments additional data and comments that we believe will further support the conservative nature of the conclusion that no further emission requirements are necessary to satisfy the requirements of CAA section 110(a)(2)(D)(i)(I).

2. Independent State-of-the-Art Modeling by Alpine Geophysics on behalf of MOG shows that all monitors in the Northeast are at or near attainment of the 2015 ozone NAAQS in 2023.

Beyond the modeling work performed by either LADCO or EPA, Alpine Geophysics has performed modeling on behalf of MOG which demonstrates that all monitors in the East attain the 2015 ozone NAAQS, except for a single monitor in Maryland. This modeling was undertaken to address the concerns about whether the LADO and EPA modeling with a 12 km grid is sufficiently refined to address the land/water interface issues, MOG undertook to run EPA’s modeling platform at a finer 4km grid. A copy of the Technical Support Document[11] containing these results is attached and identified as Exhibit A.

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) the problem monitors identified by LADCO in New York and Connecticut are shown to attain the 2015 ozone NAAQS leaving them only as maintenance monitors.

LADCO Identified Nonattainment Monitors

LADCO Identified Nonattainment Monitor	State	County	2009-2013 Avg (ppb)	LADCO 12km 2023 "3x3" Avg (ppb)	MOG 4km 2023 "3x3" Avg (ppb)
90019003	CT	Fairfield	83.7	71.4	69.9
240251001	MD	Harford	90.0	71.0	71.1
361030002	NY	Suffolk	83.3	71.6	70.7

[9] *Id*.
[10] *Id.* at p. 45.
[11] http://www.midwestozonegroup.com/files/FinalTSD-OzoneModelingSupportingGNSIPObligationsJune2018.pdf

LADCO Identified Maintenance Monitors

LADCO Identified Maintenance Monitor	State	County	2009-2013 Max (ppb)	LADCO 12km 2023 "3x3" Max (ppb)	MOG 4km 2023 "3x3" Max (ppb)
90010017	CT	Fairfield	83	71.2	71.5
90013007	CT	Fairfield	89	73.7	73.6
90099002	CT	New Haven	89	72.6	73.0
360810124	NY	Queens	80	71.0	69.8
360850067	NY	Richmond	83	72.4	71.0

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).*[12] *Emphasis added.*

Accordingly, when state-of-the-art modeling is used to assess air quality downwind of Ohio at the appropriate attainment date, all monitors are in attainment except for a single monitor at Harford Maryland with a MOG predicted average DV in 2023 of only 71.1 ppb (0.2 ppb above the 2015 ozone NAAQS). Remarkably, LADCO's predicted average design value for this monitor using its "water" data is 71.0 ppb (0.1 ppb above the 2015 ozone NAAQS), LADCO's "no water" data show this monitor to have an average design value of 70.5 ppb (attainment with the 2025 ozone NAAQS) and EPA's predicted average design value for the same monitor is 70.9 ppb (also attainment with the 2015 ozone NAAQS).

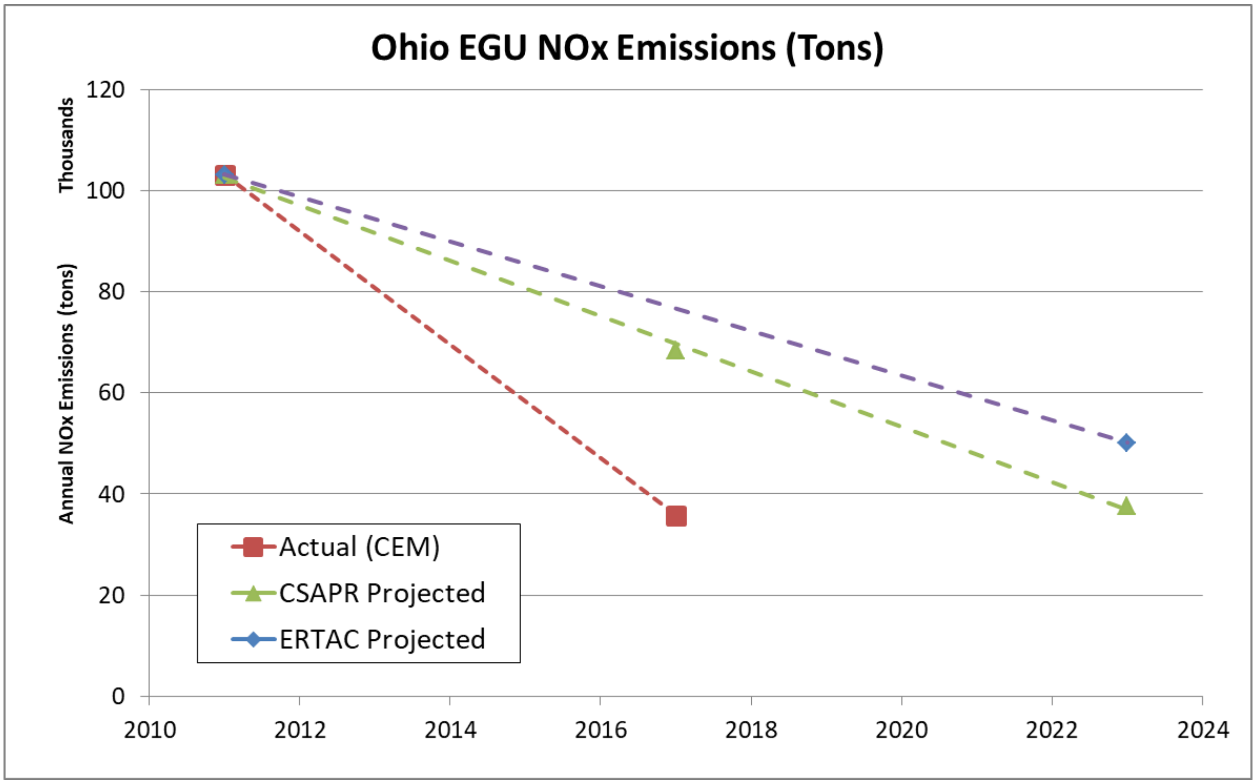
3. MOG agrees with Ohio's conclusion that ERTAC overestimates EGU emissions that can be expected in 2023.

In the modeling platform OEPA uses to support their iSIP, LADCO replaced the EGU emissions in the U.S. EPA platform with 2023 EGU forecasts estimated with the ERTAC EGU Tool version 2.7. ERTAC EGU 2.7 integrates state-reported information on EGU operations and forecasts as of May 2017. In their modeling TSD, LADCO states that the ERTAC EGU Tool provided more accurate estimates of the growth and control forecasts for EGUs in the Midwest and Northeast states than the U.S. EPA approach used for the "EN" platform.

However, recent comparisons of both EPA's CSAPR platform EGU emissions and ERTAC's EGU emissions to CEM-reported emissions show that both modeling platforms predict a 2023

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

emissions profile for Ohio EGUs that exceeds the recently reported CEM-based emissions for the state in 2017. This is demonstrated in the figure below.



It is apparent, therefore, that the LADCO modeling results for Ohio are likely to overstate Ohio's impact on downwind areas adding to very conservative nature of OEPA's conclusion that nothing more needs to be done by Ohio to comply with the requirements of CAA section 110(a)(2)(D)(i)(I).

4. Emission trends in the CSAPR Update region have been decreasing for many years and will continue to do so in the immediate future adding assurance that there will be no interference with any downwind maintenance areas.

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

Set forth below are tables developed from EPA modeling platform summaries[13] illustrating the estimated total anthropogenic emission reduction and EGU-only emission reduction in the

[13] 83 Fed. Reg. 7716 (February 22, 2018).

several eastern states. As can be seen in the first table, 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.

Final CSAPR Update Modeling Platform Anthropogenic NOx Emissions (Annual Tons).

	Annual Anthropogenic NOx Emissions (Tons)			**Emissions Delta (2017-2011)**		**Emissions Delta (2023-2011)**	
State	**2011**	**2017**	**2023**	**Tons**	**%**	**Tons**	**%**
Alabama	359,797	220,260	184,429	139,537	-39%	175,368	-49%
Arkansas	232,185	168,909	132,148	63,276	-27%	100,037	-43%
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%
Iowa	240,028	163,126	124,650	76,901	-32%	115,377	-48%
Kansas	341,575	270,171	172,954	71,404	-21%	168,621	-49%
Kentucky	327,403	224,098	171,194	103,305	-32%	156,209	-48%
Louisiana	535,339	410,036	373,849	125,303	-23%	161,490	-30%
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%
Mississippi	205,800	128,510	105,941	77,290	-38%	99,859	-49%
Missouri	376,256	237,246	192,990	139,010	-37%	183,266	-49%
New Jersey	191,035	127,246	101,659	63,789	-33%	89,376	-47%
New York	388,350	264,653	230,001	123,696	-32%	158,349	-41%
Ohio	546,547	358,107	252,828	188,439	-34%	293,719	-54%
Oklahoma	427,278	308,622	255,341	118,656	-28%	171,937	-40%
Pennsylvania	562,366	405,312	293,048	157,054	-28%	269,318	-48%
Tennessee	322,578	209,873	160,166	112,705	-35%	162,411	-50%
Texas	1,277,432	1,042,256	869,949	235,176	-18%	407,482	-32%
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%
Wisconsin	268,715	178,927	140,827	89,788	-33%	127,888	-48%
CSAPR States	**8,651,264**	**6,152,990**	**4,914,012**	**2,498,274**	**-29%**	**3,737,252**	**-43%**

When looking exclusively at the estimated EGU emissions used in these modeling platforms, even greater percent decrease is noted between 2011 and 2017 (40% reduction CSAPR-domain wide) and between 2011 and 2023 (51% reduction). These reductions are particularly significant since the CSAPR Update Rule focus exclusively on EGU sources.

Final CSAPR Update Modeling Platform EGU NOx Emissions (Annual Tons).

	Annual EGU NOx Emissions (Tons)			Emissions Delta (2017-2011)		Emissions Delta (2023-2011)	
State	**2011**	**2017**	**2023**	**Tons**	**%**	**Tons**	**%**
Alabama	64,008	23,207	24,619	40,800	-64%	39,388	-62%
Arkansas	38,878	24,103	17,185	14,775	-38%	21,693	-56%
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%
Iowa	39,712	26,041	20,122	13,671	-34%	19,590	-49%
Kansas	43,405	25,104	14,623	18,301	-42%	28,781	-66%
Kentucky	92,279	57,520	42,236	34,759	-38%	50,043	-54%
Louisiana	52,010	19,271	46,309	32,740	-63%	5,701	-11%
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%
Mississippi	28,039	14,759	13,944	13,280	-47%	14,095	-50%
Missouri	66,170	38,064	44,905	28,106	-42%	21,265	-32%
New Jersey	7,241	2,918	5,222	4,323	-60%	2,019	-28%
New York	27,379	10,191	16,256	17,188	-63%	11,123	-41%
Ohio	104,203	68,477	37,573	35,727	-34%	66,630	-64%
Oklahoma	80,936	32,366	21,337	48,570	-60%	59,599	-74%
Pennsylvania	153,563	95,828	49,131	57,735	-38%	104,432	-68%
Tennessee	27,000	14,798	11,557	12,201	-45%	15,442	-57%
Texas	148,473	112,670	103,675	35,804	-24%	44,799	-30%
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%
Wisconsin	31,881	15,374	15,419	16,507	-52%	16,462	-52%
CSAPR States	**1,392,682**	**831,466**	**688,175**	**561,216**	**-40%**	**704,508**	**-51%**

Importantly, these estimated 2017 emissions used in the EPA modeling are inflated as compared to the actual 2017 CEM-reported EGU emissions. As can be seen in the following table, when the CSAPR-modeled 2017 annual EGU emissions are compared to the actual CEM-reported 2017 annual EGU emissions, it becomes apparent that there is a significant domain-wide overestimation (129,000 annual tons NOx) of the predicted emissions for this category. The modeled values from state-to-state vary between over- and under-estimated, domain-wide, CEM-reported annual NOx ranging from 158% overestimation (2017 actual emissions are 61% of modeled emissions) for Pennsylvania to 54% underestimation (2017 actual emissions are 118% of modeled emissions) for Virginia with a domain-wide overestimation of 18% (129,553 tons) of annual NOx emissions from EGUs.

Final CSAPR Update Modeling Platform EGU NOx Emissions Compared to CEM-Reported EGU NOx Emissions (Annual Tons).

	Annual EGU NOx Emissions (Tons)			Emissions Delta 2017 CEM-2017 EPA	
State	**2011 EPA**	**2017 EPA**	**2017 CEM**	**Tons**	**%**
Alabama	64,008	23,207	24,085	878	4%
Arkansas	38,878	24,103	27,500	3,397	14%
Illinois	73,689	31,132	33,066	1,934	6%
Indiana	119,388	89,739	63,421	(26,318)	-29%
Iowa	39,712	26,041	22,564	(3,477)	-13%
Kansas	43,405	25,104	13,032	(12,072)	-48%
Kentucky	92,279	57,520	46,053	(11,467)	-20%
Louisiana	52,010	19,271	29,249	9,978	52%
Maryland	19,774	6,001	6,112	111	2%
Michigan	77,893	52,829	37,739	(15,090)	-29%
Mississippi	28,039	14,759	12,162	(2,597)	-18%
Missouri	66,170	38,064	49,692	11,628	31%
New Jersey	7,241	2,918	3,443	524	18%
New York	27,379	10,191	11,253	1,062	10%
Ohio	104,203	68,477	57,039	(11,438)	-17%
Oklahoma	80,936	32,366	21,761	(10,606)	-33%
Pennsylvania	153,563	95,828	37,148	(58,680)	-61%
Tennessee	27,000	14,798	18,201	3,402	23%
Texas	148,473	112,670	109,914	(2,756)	-2%
Virginia	40,141	7,589	16,545	8,957	118%
West Virginia	56,620	63,485	44,079	(19,406)	-31%
Wisconsin	31,881	15,374	17,856	2,482	16%
CSAPR States	**1,392,682**	**831,466**	**701,913**	**(129,553)**	**-16%**

These data conclusively demonstrate that annual anthopogenic NOx emissions in the CSAPR Update region are projected to be significantly reduced through 2017, with overall actual EGU 2017 emissions being even lower than these estimates. Emission trends for these states have been deceasing for many years and will continue to decrease through at least 2023 as the result of nothing more than on-the-books controls.

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

There are several on-the-books NOx 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, will have a material effect on predicted air quality, particularly in the East. As part of its review of the adequacy of this proposed rule, we urge EPA to take note of these additional control programs and to adjust the emissions inventories used to perform any modeling to include these on-the books NOx reductions as part of the assessment of the adequacy of this proposed rule.

The State of Maryland has identified[14] nine such programs that have been recommended by the OTC 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.

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)

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

Most recently, Maryland's 75 ppb Ozone Transport SIP dated July 25, 2018[15], confirms the additional emissions-reduction measures that Maryland has applied to such NOx sources as mobile sources, and industrial sources as well as several sources of VOCs. In addition, Maryland lists a series of "Voluntary/Innovative Control Measures" that it identifies as assisting in "the overall clean air goals in Maryland" although these measures have not been quantified.

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 offers additional support for EPA's conclusion that on-the-books control programs are all that is needed to address the 2015 ozone NAAQS.

6. Controls on local sources must be addressed first before any additional emission reductions can be imposed on sources in Ohio.

When an area is measuring nonattainment of a NAAQS, as is the case with the areas linked to Ohio, the Clean Air Act (CAA) requires that the effects and benefits of local controls on all source sectors be considered first, prior to 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 because upwind states must be confident this has occurred as they prepare to submit approvable Good Neighbor state implementation plans to address the 2015 ozone NAAQS. 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. [16]

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

[15] https://mde.maryland.gov/programs/Air/AirQualityPlanning/Documents/OzoneTransportSIP_2008/Proposed_MD0.075ppmOzoneTransportSIP%20.pdf

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

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 that this factor be considered as an additional factor supporting the conclusion that no further emission requirements are necessary to satisfy the requirements of CAA section 110(a)(2)(D)(i)(I).

7. Consideration of international emissions also adds support to the conclusion that there is no further obligation to reduce emissions.

As an integral part of the consideration of this proposal, MOG supports an assessment of the impact of natural and manmade international emissions not only on the red lines calculation of proportional responsibility (see page 45 of the proposal) but also on the ultimate question of whether the downwind monitors can be properly considered either nonattainment or maintenance monitors.

The CAA addresses international emissions directly. Section 179(B)(a) states 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* [17] *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*

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

applicable provision of this chapter, or in a regulation promulgated under such provision, but for emissions emanating from outside of the United States.

In addition, addressing international emissions is particularly important to upwind states as they implement the requirements of CAA section 110(a)(2)(D)(i)(I).

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).

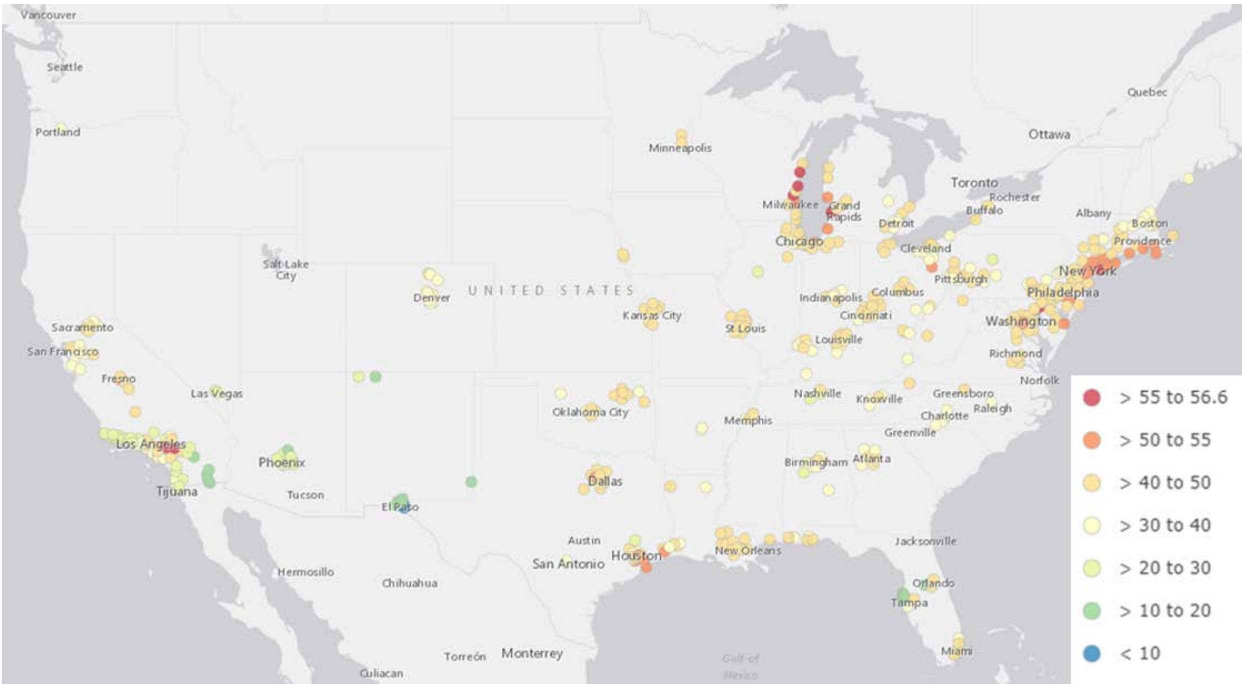
In addition, the D.C. Circuit has commented that “. . . the good neighbor provision requires upwind States to bear responsibility for their fair share of the mess in downwind States.”[18] However, this “mess” seems to be related to international emissions for which upwind states and sources have no responsibility.

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 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.

The pProjected 2023 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 2023 8-hour ozone Design Values across the U.S. 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 U.S. with a design value equal to or less than 56.6 ppb when international emissions are excluded. Modeling the U.S. emissions inventory projected to 2023 but without the impact of uncontrollable international emissions demonstrates that the CAA programs in the U.S. are performing as intended.

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

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

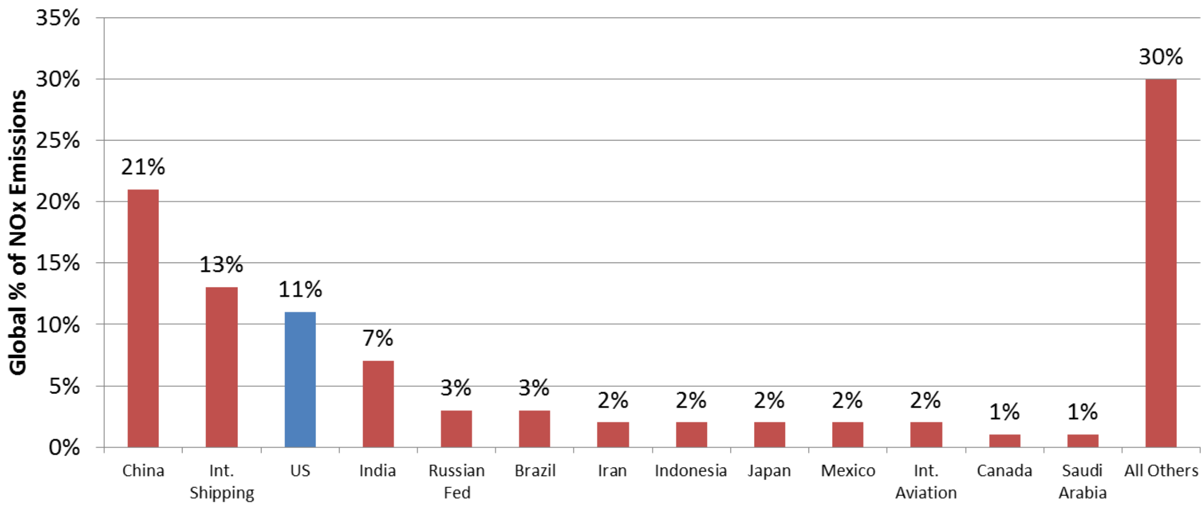


In addition to changing emissions resulting from growth and control in the continental U.S., EPA has identified updated projected emissions in both Canada and Mexico that have been integrated into the modeling platform used in this modeling.[19] EPA's modeling boundary conditions, however, have been 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.[20]

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.[21]

[19] EPA-HQ-OAR-2016-0751-0009.
[20] Atmos. Chem. Phys., 17, 2943–2970(2017).
[21] 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

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



There can be no doubt that international emissions have a significant impact on ozone measurements at all monitors related to this proposal. MOG urges that the agency recognize the significance of this impact and to determine that but for international emissions there would be no downwind problems areas and therefore no need to for additional action to be undertaken to satisfy the requirements of CAA section 110(a)(2)(D)(i)(I).

8. Mobile sources have the most significant impact on ozone concentrations at the problem monitors identified in the OEPA proposal.

As OEPA points out on page 43 of its proposal, it must be recognized that it is emissions from mobile, including both on-road and non-road, and local area sources that have the most significant impact on ozone concentrations and the problem monitors identified in this proposal, and that these sources must be addressed by EPA before requiring additional emission reductions from upwind states.

While the CSAPR Update Rule addressed only emissions from EGU sources, it must be recognized that it is emissions from mobile, including both on-road and non-road, and local area sources that have the most significant impact on ozone concentrations and the problem monitors identified in this proposal.

EPA recently recognized the significance of mobile source emissions in preamble to its full remedy proposal. There EPA stated:

> *Mobile sources also account for a large share of the NOx emissions inventory (i.e., about 7.3 million tons per year in the 2011 base year, which represented more than 50% of*

continental U.S. NOx emissions), and the EPA recognizes that emissions reductions achieved from this sector as well can reduce transported ozone pollution. The EPA has national programs that serve to reduce emissions from all contributors to the mobile source inventory (i.e., projected NOx emissions reductions of about 4.7 million tons per year between the 2011 base year and the 2023 future analytical year). A detailed discussion of the EPA's mobile source emissions reduction programs can be found at www.epa.gov/otaq.

In light of the regional nature of ozone transport discussed herein, and given that NOx emissions from mobile sources are being addressed in separate national rules, in the CSAPR Update (as in previous regional ozone transport actions) the EPA relied on regional analysis and required regional ozone season NOx emissions reductions from EGUs to address interstate transport of ozone.

83 Federal Register 31918.

We strongly agree that mobile source emissions are the dominant contributor to predicted ozone concentrations across the nation. At the request of MOG, Alpine Geophysics has examined not only the relative contribution of mobile and local area sources to problem monitors but also how a small reduction in these emissions could bring about significant additional reductions in ozone concentrations.

The following table presents the annual mobile source NOx emission totals (onroad plus nonroad) for eastern states as presented in the final CSAPR update emission summary files[22]. As can been seen in this table, consistent with EPA's national assessment of mobile source emissions, annual mobile source NOx emissions in this region comprise 51%, 41%, and 33% of the annual anthropogenic emission totals for 2011, 2017, and 2023, respectively.

[22] ftp://ftp.epa.gov/EmisInventory/2011v6/v3platform/reports/

Eastern State Mobile Source NOx Emissions (Annual Tons).

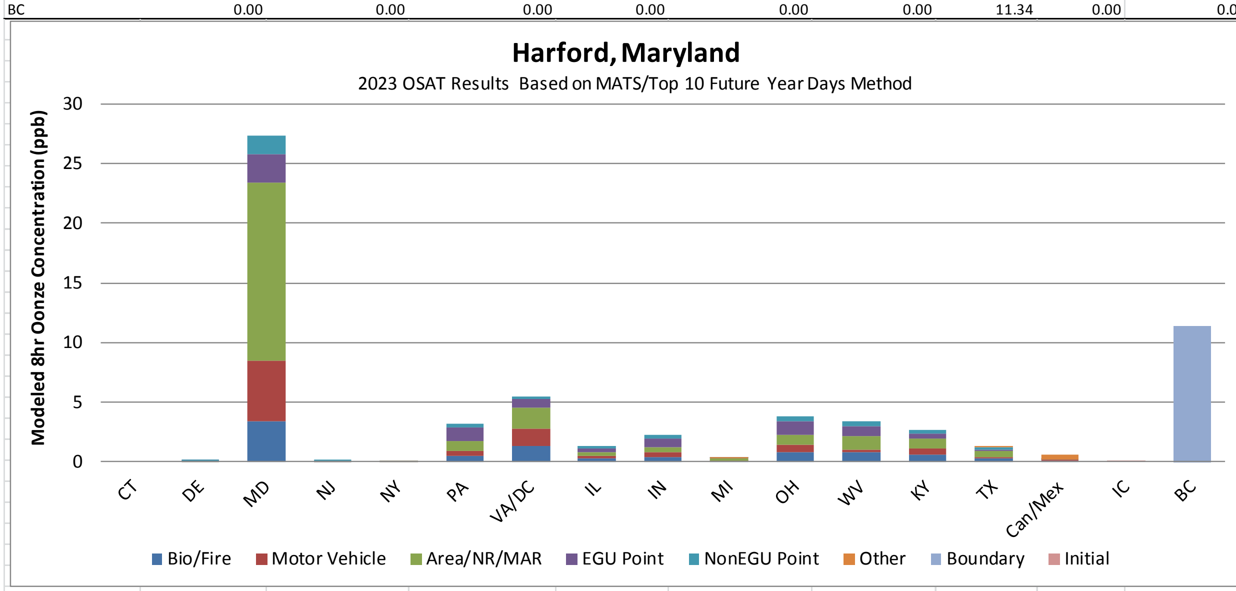
	Annual Anthropogenic NOx Emissions (Tons)			Annual Mobile Source NOx Emissions (Tons)			Mobile Sources as % of All Annual Emissions (%)		
State	**2011**	**2017**	**2023**	**2011**	**2017**	**2023**	**2011**	**2017**	**2023**
Alabama	359,797	220,260	184,429	175,473	88,094	54,104	49%	40%	29%
Arkansas	232,185	168,909	132,148	113,228	68,949	44,583	49%	41%	34%
Connecticut	72,906	46,787	37,758	49,662	26,954	18,718	68%	58%	50%
Delaware	29,513	18,301	14,511	17,788	10,387	6,819	60%	57%	47%
District of Columbia	9,404	6,052	4,569	7,073	3,947	2,500	75%	65%	55%
Florida	609,609	410,536	323,476	406,681	232,319	153,275	67%	57%	47%
Georgia	451,949	295,397	236,574	267,231	147,690	90,541	59%	50%	38%
Illinois	506,607	354,086	293,450	261,727	166,393	114,243	52%	47%	39%
Indiana	444,421	317,558	243,954	218,629	122,633	76,866	49%	39%	32%
Iowa	240,028	163,126	124,650	132,630	82,212	53,712	55%	50%	43%
Kansas	341,575	270,171	172,954	115,302	68,491	43,169	34%	25%	25%
Kentucky	327,403	224,098	171,194	139,866	80,244	50,633	43%	36%	30%
Louisiana	535,339	410,036	373,849	117,529	67,331	43,962	22%	16%	12%
Maine	59,838	42,918	32,186	34,933	18,380	12,240	58%	43%	38%
Maryland	165,550	108,186	88,383	103,227	60,164	38,922	62%	56%	44%
Massachusetts	136,998	90,998	73,082	83,398	45,031	30,508	61%	49%	42%
Michigan	443,936	296,009	228,242	250,483	135,434	88,828	56%	46%	39%
Minnesota	316,337	216,925	174,797	176,424	102,728	65,868	56%	47%	38%
Mississippi	205,800	128,510	105,941	108,198	57,751	34,561	53%	45%	33%
Missouri	376,256	237,246	192,990	219,505	122,137	75,380	58%	51%	39%
Nebraska	217,427	159,062	119,527	88,985	55,067	35,556	41%	35%	30%
New Hampshire	36,526	22,413	18,794	24,919	14,780	10,322	68%	66%	55%
New Jersey	191,035	127,246	101,659	133,073	75,538	51,231	70%	59%	50%
New York	388,350	264,653	230,001	224,454	130,023	92,171	58%	49%	40%
North Carolina	369,307	231,783	167,770	250,549	114,952	70,812	68%	50%	42%
North Dakota	163,867	135,009	128,864	57,289	37,071	23,956	35%	27%	19%
Ohio	546,547	358,107	252,828	311,896	168,799	100,058	57%	47%	40%
Oklahoma	427,278	308,622	255,341	139,550	79,830	50,525	33%	26%	20%
Pennsylvania	562,366	405,312	293,048	249,792	135,765	81,645	44%	33%	28%
Rhode Island	22,429	15,868	12,024	13,689	7,705	5,209	61%	49%	43%
South Carolina	210,489	134,436	104,777	132,361	73,359	44,886	63%	55%	43%
South Dakota	77,757	49,014	37,874	48,499	30,473	19,685	62%	62%	52%
Tennessee	322,578	209,873	160,166	213,748	122,738	77,135	66%	58%	48%
Texas	1,277,432	1,042,256	869,949	554,463	292,609	189,601	43%	28%	22%
Vermont	19,623	14,063	10,792	14,031	8,569	5,958	72%	61%	55%
Virginia	313,848	199,696	161,677	179,996	108,175	67,678	57%	54%	42%
West Virginia	174,219	160,102	136,333	48,294	27,487	17,494	28%	17%	13%
Wisconsin	268,715	178,927	140,827	167,753	100,814	67,201	62%	56%	48%
Eastern US Total	**11,455,243**	**8,042,552**	**6,411,386**	**5,852,332**	**3,291,024**	**2,110,555**	**51%**	**41%**	**33%**

Additionally, when source apportionment is applied to many of the problem monitors in the northeastern states, a distinct signal of mobile and local area source contribution to future year ozone concentrations is demonstrated.

Using the Harford, MD (240251001) monitor as an example and the 2023 4km modeling and source apportionment methods outlined elsewhere[23], it can be seen in the following table and figure that area, nonroad, marine/air/rail (MAR) and onroad mobile source emission from within Maryland itself dominate the relative contribution to projected nonattainment.

Relative Contribution of Source Regions and Categories to Harford, MD Monitor.

Monitor	240251001	Harford, Maryland						Final CSAPR DV	71.1
	2023 OSAT Results (Modeled ppb) -- MATS/Top 10 Future Method								
Region	Bio/Fire	Motor Vehicle	Area/NR/MAR	EGU Point	NonEGU Point	Other	Boundary	Initial	Total Anthro
CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DE	0.02	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.05
MD	3.41	5.09	14.93	2.39	1.55	0.00	0.00	0.00	23.96
NJ	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.04
NY	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02
PA	0.53	0.34	0.92	1.13	0.32	0.00	0.00	0.00	2.71
VA/DC	1.37	1.40	1.79	0.67	0.27	0.00	0.00	0.00	4.13
IL	0.32	0.17	0.33	0.34	0.22	0.00	0.00	0.00	1.06
IN	0.41	0.40	0.44	0.68	0.32	0.00	0.00	0.00	1.84
MI	0.06	0.07	0.11	0.05	0.05	0.01	0.00	0.00	0.27
OH	0.77	0.66	0.86	1.12	0.40	0.00	0.00	0.00	3.03
WV	0.81	0.24	1.15	0.74	0.41	0.00	0.00	0.00	2.55
KY	0.62	0.53	0.84	0.38	0.34	0.00	0.00	0.00	2.09
TX	0.29	0.14	0.44	0.16	0.15	0.03	0.00	0.00	0.89
Can/Mex	0.14	0.01	0.01	0.01	0.01	0.40	0.00	0.00	0.04
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
BC	0.00	0.00	0.00	0.00	0.00	0.00	11.34	0.00	0.00

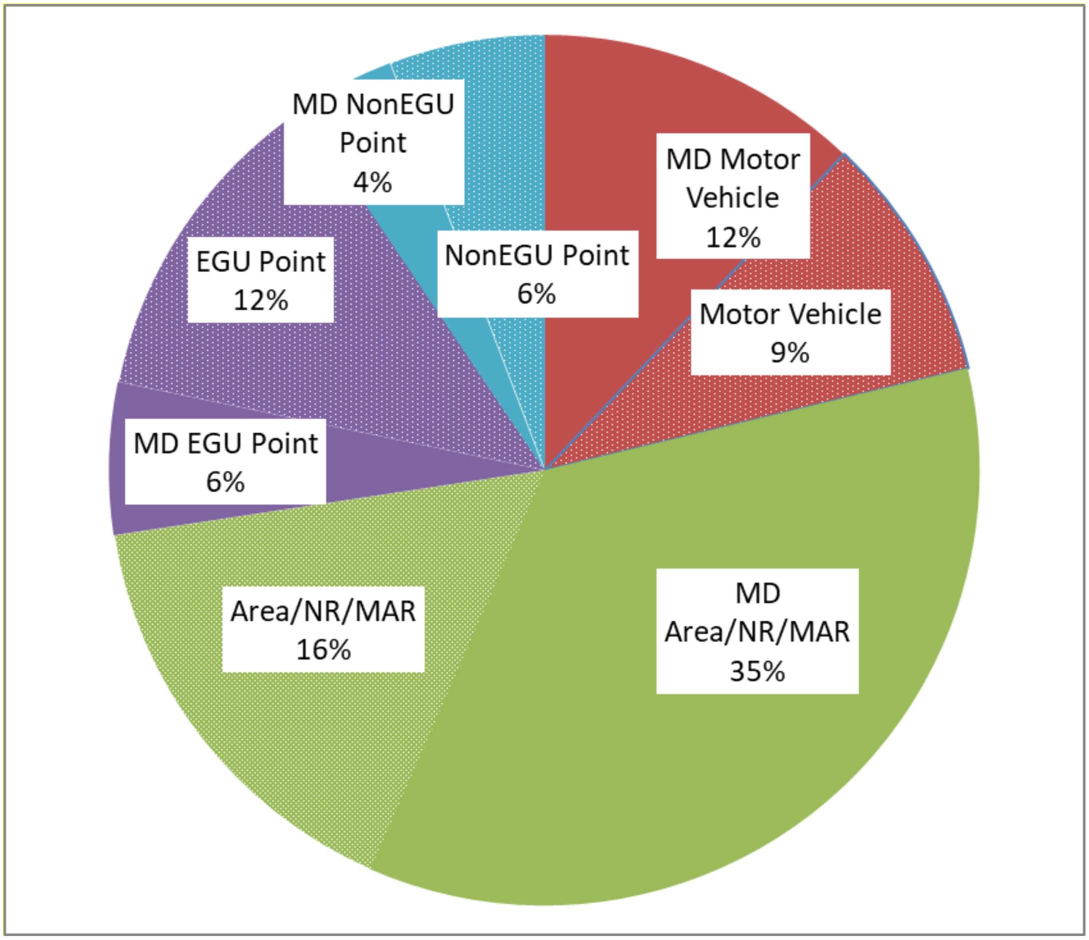


When focusing only on the anthropogenic contribution from the significant contributing states (1% of NAAQS or greater than or equal to 0.70 ppb), area/nonroad/MAR categories demonstrate more than half (51%; 35% from Maryland) of the total significant contribution from these states. As is shown in the following pie chart, an additional 21% of projected ozone from significant contributing state anthropogenic categories is estimated from onroad motor vehicle

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

emissions. Of this 21%, 12% is estimated from onroad mobile source emissions originating in Maryland.

Relative Contribution of Anthropogenic Emission Categories from Significant Contributing States to Harford, MD Monitor.



To further the assessment of which regions and categories have the greatest impact on this monitor's future year ozone concentration, a review of the modeling platform used in the 4km modeling develops relationships between the State-source category specific OSAT modeling and the seasonal NOx emissions used to develop the ozone concentrations. Using monthly, county and source category specific emissions published by EPA[24] , relational "impact factors" were developed using these data.

This value represents the relative contribution of modeled emissions (tons) to resultant ozone concentrations (in ppb).

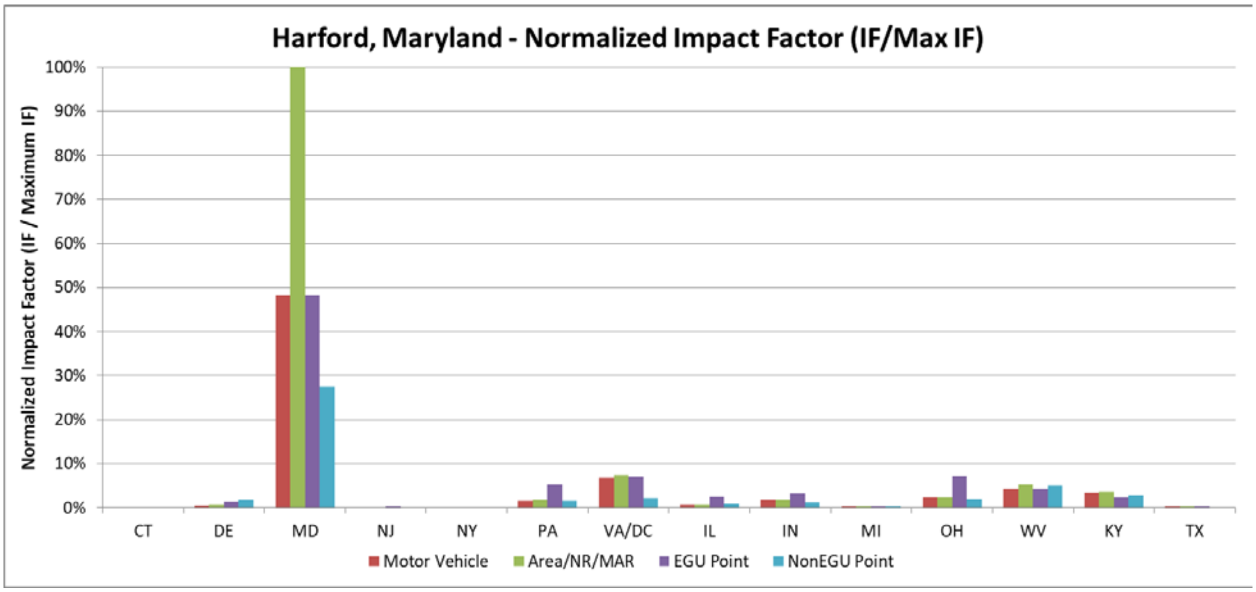
Impact Factor (ppb/ton) = OSAT Contribution (ppb) / Emissions (tons)

[24] ftp://ftp.epa.gov/EmisInventory/2011v6/v3platform/reports/2011en_and_2023en/

A primary purpose for this calculation is to determine, at each monitor, from where and what source category, on a ppb per ton basis, we see the greatest relative contribution. In other words, to determine which source category, and from what state, has the greatest per ton NOx contribution to the monitor's modeled ozone concentrations.

After this calculation was conducted for each monitor, results to the maximum individual state/category contributor were normalized, so that in the comparisons, it could easily be identified the greatest ppb per ton state/source category and provide an easy way of determining which categories have greater relative impact compared to all others.

The chart below provides this normalized comparison of significant contributing state-category combinations to the Harford, MD monitor.



In addition to recognizing the usefulness of this impact factor in determining which states and categories are the largest ppb/ton contributors to each monitor, the results may be used to assist in the development of control strategies and their relative impact on ozone concentrations at various locations.

As a further example using these impact factor calculations, and similar to EPA methods[25] with the Air Quality Assessment Tool, assuming a linear relationship of NOx emissions to ozone concentrations at low emission changes, we estimate that a 1.5% NOx emission reduction in Maryland's area, nonroad, and MAR category (226 NOx tons per ozone season) would have enough associated ozone concentration reduction (0.20 ppb) to bring the noted monitor into attainment at 70.9 ppb. Similarly, a reduction of 4% (or 426 tons NOx/ozone season) from onroad mobile source

[25] https://www.epa.gov/sites/production/files/2017-05/documents/ozone_transport_policy_analysis_final_rule_tsd.pdf

NOx emissions in Maryland alone would have the same ozone concentration impact (0.20 ppb). This compares to a 7% reduction from EGUs in all the other non-Maryland significant contributing states (PA, VA, DC, IL, IN, OH, WV, KY, and TX) and would be equivalent to an estimated 11,887 tons NOx per ozone season reduction from these sources.

The regulation of mobile sources is specifically addressed in the CAA section 209, which provides guidance on the management roles of mobile sources for the federal government, California and other states. Section 209(a) opens with the statement concerning on-road engines and vehicles, "No State or any political subdivision thereof shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to this part." Relative to non-road engines or vehicles, CAA 209(e) provides similar language.

The exception to these prohibitions is set forth in CAA §177 for California and any other state that chooses to adopt an "EPA-approved California control on emissions of new motor vehicles or engines." Regulation of new mobile-source emissions has been principally federally- driven, but states continue to have a role. *Engine Mfrs. Ass'n v. EPA*, 88 F.3d 1075, 1079 (D.C. Cir. 1996). The CAA §209(d) preserves the authority of the states to control, regulate, or restrict the use, operations, or movement of registered or licensed motor vehicles. The D.C. Circuit has interpreted this as maintaining state power to regulate pollution from motor vehicles once they are no longer new; for instance, through in-use regulations such as car pools and other incentive programs. *Id.* In response to the D.C. Circuit opinion, EPA clarified its position relative to state non-road regulatory authority in 40 CFR 89, Subpart A, Appendix A - State Regulation of Nonroad Internal Combustion Engines as follows:

EPA believes that states are not precluded under section 209 from regulating the use and operation of nonroad engines, such as regulations on hours of usage, daily mass emission limits, or sulfur limits on fuel; nor are permits regulating such operations precluded, once the engine is no longer new. EPA believes that states are precluded from requiring retrofitting of used nonroad engines except that states are permitted to adopt and enforce any such retrofitting requirements identical to California requirements which have been authorized by EPA under section 209 of the Clean Air Act. [62 FR 67736, Dec. 30, 1997]

Given the dominant role of mobile sources in impacting on ozone air quality, MOG agrees with OEPA that additional local mobile source controls in downwind states are necessary before requiring additional emission reductions from upwind states. We urge that downwind states take full advantage of all of the authority provided to each of them under the CAA and to reduce mobile source emissions appropriately to assure continued attainment of the 2015 ozone NAAQS.

9. 2023 is the appropriate year for assessing Good Neighbor SIP requirements related to the 2015 ozone NAAQS.

It is appropriate for the LADCO modeling results relied upon by OEPA to have been based on 2023 as the future analytic year. That year was selected by EPA as the basis for its modeling "because it aligns with the anticipated attainment year for the Moderate ozone nonattainment areas".[26] Indeed, 2023 aligns with the last full ozone season before the attainment year for Moderate ozone nonattainment areas.

10. The 1% significant contribution test is inappropriate and should not be applied.

For many months, EPA has had under consideration the appropriateness of the use of its 1% significance test to determine whether an upwind state significantly contributes to downwind non-attainment or interference with downwind maintenance areas. While EPA's March 27, 2018 memo related to interstate transport state implementation plan submission involving the 2015 ozone NAAQS provides a set of contributions by upwind states to downwind states, that data is not based on a particular significance threshold.[27] Indeed, that memo identifies the significance threshold as one of the flexibilities that a state may wish to consider in the development of its Good Neighbor SIP. Specifically, EPA offers the following description of this flexibility:

> "Consideration of different contribution thresholds for different regions based on regional differences in the nature and extent of the transport problem."

In commenting on this flexibility, states have made the point that the significant contribution threshold of 1% of the NAAQS (0.70 ppb for the 2015 ozone NAAQS) value is arbitrary and is not supported by scientific argument.[28]

On August 31, 2018, EPA issued significant new guidance in which it analyzed 1 ppb and 2 ppb alternatives to the 1% significance level that it has historically used.[29] In that memo, EPA offers the following statement:

> Based on the data and analysis summarized here, the EPA believes that a threshold of 1 ppb may be appropriate for states to use to develop SIP revisions addressing the

[26] *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.

[27] *Id* at p. A-2.

[28] Georgia EPD Comments on EPA's March 27, 2018 Interstate Transport Memo, J.W. Boylan, Air Protection Branch, George EPD, May 4, 2018. https://www.epa.gov/sites/production/files/2018-08/documents/ga_epd_comments_on_epa_march_27_2018_ozone_transport_memo.pdf.

[29] *Analysis of Contribution Thresholds 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*, Peter Tsirigotis, August 31, 2018. https://www.epa.gov/sites/production/files/2018-09/documents/contrib_thresholds_transport_sip_subm_2015_ozone_memo_08_31_18.pdf.

good neighbor provisions for the 2015 ozone NAAQS.

In reaching its conclusion that a 2 ppb threshold was not recommended, EPA compared the 2 ppb alternative to the 1 ppb alternative using data which averaged all receptors outside California. In that circumstance, EPA determined that using a 1 ppb threshold captures 86 percent of the net contribution captured using a 1% threshold whereas a 2 ppb threshold captures only half of the net contribution using 1%. A different picture is presented, however, when the receptors east of the Mississippi River (involving the states of Connecticut, Maryland, Michigan, New York and Wisconsin) are considered separately from the states of Arizona, Colorado and Texas. In that case, use a 1 ppb threshold captures 92% of the net contribution captured using a 1% threshold compared with 78% for the 2 ppb threshold.

In the case of either a 1 ppb threshold or a 2 ppb threshold, a significant reduction in downwind linkages occurs.

The following chart compares all three alternatives when applied to EPA's modeling result:

			Ozone Concentration (ppb)						
EPA Identified Nonattainment Site ID	State	County	2009-2013 Avg DV	2023 Avg DV	Contrib from Upwind 1%	Contrib from Upwind 1ppb	Contrib from Upwind 2ppb	% of 1ppb from 1%	% of 2ppb from 1%
90013007	Connecticut	Fairfield	84.3	71.0	36.91	33.63	27.38	91%	74%
90019003	Connecticut	Fairfield	83.7	73.0	38.55	36.93	32.28	96%	84%
361030002	New York	Suffolk	83.3	74.0	22.31	18.74	15.74	84%	71%
480391004	Texas	Brazoria	88.0	74.0	7.48	4.80	3.80	64%	51%
484392003	Texas	Tarrant	87.3	72.5	4.20	3.42	0.00	81%	0%
550790085	Wisconsin	Milwaukee	80.0	71.2	28.45	23.61	22.39	83%	79%
551170006	Wisconsin	Sheboygan	84.3	72.8	31.62	29.02	24.90	92%	79%

The results of the same comparison when applied to the LADCO modeling results are set forth in the following chart:

			Ozone Concentration (ppb)					
LADCO Identified Nonattainment Monitor	State	County	2023 Avg DV	Contrib from Upwind 1%	Contrib from Upwind 1ppb	Contrib from Upwind 2ppb	% of 1ppb from 1%	% of 2ppb from 1%
90019003	Connecticut	Fairfield	71.4	36.15	34.51	28.21	95%	78%
240251001	Maryland	Harford	71.0	19.9	17.51	14.56	88%	73%
361030002	New York	Suffolk	71.6	20.85	17.42	14.6	84%	70%
480391004	Texas	Brazoria	74.1	7.45	4.65	3.62	62%	49%
484392003	Texas	Tarrant	72.6	4.99	3.4	0	68%	0%
482011039	Texas	Harris	71.7	8.14	5.64	4.5	69%	55%

The results of the same comparison for the MOG modeling results are set forth in the following chart:

MOG Identified Nonattainment Site ID	State	County	Ozone Concentration (ppb) 2009-2013 Avg DV	2023 Avg DV	Contrib from Upwind 1%	Contrib from Upwind 1ppb	Contrib from Upwind 2ppb	% of 1ppb from 1%	% of 2ppb from 1%
90010017	Connecticut	Fairfield	80.3	69.2	26.85	25.98	21.68	97%	81%
90013007	Connecticut	Fairfield	84.3	69.7	23.91	23.04	18.57	96%	78%
90019003	Connecticut	Fairfield	83.6	69.9	27.78	26.12	21.49	94%	77%
90110124	Connecticut	New London	80.3	68.2	19.60	17.86	12.98	91%	66%
90099002	Connecticut	New Haven	85.7	70.3	21.08	17.92	15.04	85%	71%
240251001	Maryland	Harford	90.0	71.1	17.99	17.09	14.23	95%	79%
340150002	New Jersey	Gloucester	84.3	68.8	30.27	30.27	20.92	100%	69%
360850067	New York	Richmond	81.3	69.6	29.17	26.64	20.29	91%	70%
361030002	New York	Suffolk	83.3	70.7	22.52	19.85	14.50	88%	64%
421010024	Pennsylvania	Philadelphia	83.3	68.0	18.65	15.91	8.54	85%	46%

In the case of Ohio, EPA's modeling data below show that at the 1% threshold, Ohio would be linked to 5 non-attainment areas and 5 maintenance areas. Applying the 1 ppb threshold to this data would reduce the linkage to non-attainment areas to 4 while keeping the linkage to maintenance areas to 5. Moving to the 2 ppb threshold would completely eliminate all linkage to any non-attainment areas and reduce the linkage to maintenance areas to 2.

EPA Identified Nonattainment Site ID	State	County	Ozone (ppb) 2009-2013 Avg DV (ppb)	2023 Avg DV (ppb)	Significant Contribution (ppb) AR	IL	IN	IA	KY	LA	MD	MI	MO	NJ	NY	OH	OK	PA	TX	VA	WV	WI
90013007	Connecticut	Fairfield	84.3	71.0	0.13	0.72	0.97	0.16	0.89	0.11	1.8	0.7	0.38	6.94	14.12	1.84	0.21	6.32	0.44	1.51	1.1	0.24
90019003	Connecticut	Fairfield	83.7	73.0	0.13	0.67	0.83	0.17	0.79	0.11	2.17	0.63	0.37	7.75	15.8	1.6	0.21	6.56	0.45	1.91	1.14	0.2
361030002	New York	Suffolk	83.3	74.0	0.12	0.64	0.69	0.2	0.49	0.13	1.24	0.94	0.39	8.88	18.11	1.76	0.34	6.86	0.6	0.99	0.81	0.25
480391004	Texas	Brazoria	88.0	74.0	0.9	1	0.32	0.4	0.14	3.8	0	0.22	0.88	0	0	0.06	0.9	0.01	26	0.02	0.02	0.4
484392003	Texas	Tarrant	87.3	72.5	0.78	0.29	0.18	0.19	0.13	1.71	0.01	0.13	0.38	0	0.01	0.1	1.71	0.05	27.64	0.05	0.05	0.13
550790085	Wisconsin	Milwaukee	80.0	71.2	0.4	15.1	5.28	0.79	0.77	0.72	0.03	2.01	0.93	0	0.02	0.87	0.76	0.33	1.22	0.12	0.59	13.39
551170006	Wisconsin	Sheboygan	84.3	72.8	0.51	15.73	7.11	0.45	0.81	0.84	0.03	2.06	1.37	0	0.02	1.1	0.95	0.41	1.65	0.1	0.64	9.09

EPA Identified Maintenance Site ID	State	County	2009-2013 Max DV (ppb)	2023 Max DV (ppb)	Significant Contribution (ppb) AR	CT	IL	IN	IA	KS	KY	LA	MD	MI	MS	MO	NJ	NY	OH	OK	PA	TX	VA	WV	WI
90010017	Connecticut	Fairfield	83.0	71.2	0.07	8.7	0.39	0.44	0.11	0.09	0.34	0.05	1.18	0.5	0.03	0.21	6.24	17.31	1.04	0.15	5.11	0.3	1.27	0.68	0.26
90099002	Connecticut	New Haven	89.0	72.6	0.08	9.1	0.46	0.5	0.16	0.14	0.32	0.08	1.37	0.73	0.04	0.29	5.06	15.03	1.17	0.24	4.87	0.41	1.26	0.61	0.25
240251001	Maryland	Harford	93.0	73.3	0.17	0	0.84	1.35	0.23	0.23	1.52	0.19	22.6	0.79	0.08	0.59	0.07	0.16	2.77	0.35	4.32	0.74	5.05	2.78	0.24
260050003	Michigan	Allegan	86.0	71.7	1.64	0	19.62	7.11	0.77	0.77	0.58	0.7	0.01	3.32	0.4	2.61	0	0	0.19	1.31	0.05	2.39	0.04	0.11	1.95
261630019	Michigan	Wayne	81.0	71.0	0.27	0	2.37	2.51	0.44	0.44	0.65	0.22	0.02	20.39	0.09	0.92	0.01	0.06	3.81	0.62	0.18	1.12	0.16	0.23	1.08
360810124	New York	Queens	80.0	72.0	0.09	0.57	0.73	0.69	0.26	0.19	0.42	0.13	1.56	1.26	0.04	0.38	8.57	13.55	1.88	0.32	7.16	0.58	1.56	1.01	0.38
481210034	Texas	Denton	87.0	72.0	0.58	0	0.23	0.16	0.1	0.4	0.11	1.92	0.01	0.08	0.33	0.24	0	0.01	0.08	1.23	0.04	26.69	0.05	0.04	0.08
482010024	Texas	Harris	83.0	72.8	0.29	0	0.34	0.13	0.17	0.17	0.1	3.06	0	0.06	0.5	0.38	0	0	0.05	0.2	0.02	25.62	0.06	0.05	0.07
482011034	Texas	Harris	82.0	71.6	0.54	0	0.51	0.12	0.27	0.32	0.05	3.38	0	0.17	0.39	0.63	0	0	0.05	0.68	0.01	25.66	0.03	0.03	0.22
482011039	Texas	Harris	84.0	73.5	0.99	0	0.88	0.24	0.33	0.33	0.11	4.72	0	0.27	0.79	0.88	0	0	0.05	0.58	0.01	22.82	0.02	0.01	0.28

We urge OEPA to carefully evaluate these additional flexibilities as further support for the conclusion that Ohio has already satisfied the requirements of CAA section 110(a)(2)(D)(i)(I).

11. An important flexibility that should be considered is an alternative method for determining which monitors should be considered "maintenance" monitors.

Historically, the CSAPR Update methodology has been to address "interference with maintenance." This approach is, however, not only inconsistent with the CAA, but also inconsistent with both the U.S. Supreme Court and D.C. Circuit decisions on CSAPR. Upon consideration of the reasonableness test, EPA's emphasis upon the single maximum design value to determine a maintenance problem for which sources (or states) must be accountable creates a default assumption of contribution. A determination that the single highest modeled maximum design value is appropriate for the purpose to determining contribution to interference with maintenance is not reasonable either mathematically, in fact, or as prescribed by the Clean Air Act or the U.S. Supreme Court. The method chosen by EPA must be a "permissible construction of the Statute."

The U.S. Supreme Court in *EPA v. EME Homer City* explains the maintenance concept set forth in the Good Neighbor Provision as follows:

> *Just as EPA is constrained, under the first part of the Good Neighbor Provision, to eliminate only those amounts that "contribute…to nonattainment," EPA is limited, by the second part of the provision, to reduce only by "amounts" that "interfere with maintenance," i.e. by just enough to permit an already-attaining State to maintain satisfactory air quality."*[30]

Relative to the reasonableness of EPA's assessment of contribution, the U.S. Supreme Court also provides,

> *The Good Neighbor Provision . . . prohibits only upwind emissions that contribute significantly to downwind nonattainment. EPA's authority is therefore limited to eliminating . . . the overage caused by the collective contribution . . ."*[31] (Emphasis added.)

EPA's use of a modeled maximum design value, when the average design value is below the NAAQS, to define contribution, results in a conclusion that any modeled contribution is deemed to be a significant interference with maintenance. This concept is inconsistent with the Clean Air Act and the U.S. Supreme Court's assessment of its meaning.

As noted by the D.C. Circuit in the 2012 lower case of *EME Homer City v. EPA*, "The good neighbor provision is not a free-standing tool for EPA to seek to achieve air quality levels in downwind States that are *well below* the NAAQS."[32] "EPA must avoid using the good neighbor provision in a manner that would result in unnecessary over-control in the downwind States. Otherwise, EPA would be exceeding its statutory authority, which is expressly tied to achieving attainment in the downwind States."[33] EPA has not justified its proposal as necessary to avoid interference with maintenance.

MOG is pleased that OEPA has recognized the alternative approach that has been advanced by the Texas Commission on Environmental Quality (TCEQ). TCEQ introduced in its 2015 Ozone NAAQS Transport SIP Revision 34 an approach for identifying maintenance monitors that differs from the approach used by the EPA in CSAPR and the 2015 Transport NODA. The EPA used the

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[30] 134 S. Ct. at 1064, Ftn 18.
[31] Id. at 1604.
[32] *EME Homer City v. EPA*, 696 F.3d 7, 22 (D.C. Cir 2012).
[33] Id.

maximum of the three consecutive regulatory design values containing the base year as the base year design value (DV_b) to identify maintenance monitors. Both the EPA's approach and the TCEQ's approach account for three years of meteorological variability in their choice of DV_b to identify maintenance monitors since a single design value is a three-year average of the annual fourth-highest MDA8 ozone concentration. The EPA's approach is to choose the maximum of the three consecutive regulatory design values containing the base year as the DV_b while the TCEQ's approach is to choose the latest of the three consecutive regulatory design values containing the base year as the DV_b. For the reasons described in TCEQ's SIP revision, the TCEQ determined that the selection of the most recent DV_b addresses all issues relevant for an independent assessment of maintenance; and therefore, provides a comprehensive assessment of the potential impacts of Texas emissions on potential maintenance monitors.

OEPA's recalculation of maintenance monitors using the Texas approach presents an excellent alternative to EPA's approach and is supported by MOG.

12. In the development of its Good Neighbor SIP, maintenance areas should not be given the same weight and status as nonattainment areas.

OEPA is correct in addressing on page 9 of the proposed GNS that maintenance monitors should not be given the same weight as nonattainment monitors. Maintenance areas should not be subject to the same "significance" test as is applied to nonattainment areas. Maintenance areas do not require the same emission reduction requirements as nonattainment areas, and therefore, require different management.

The U.S. Supreme Court opinion in *EPA v. EME Homer City* offered the following on "interference with maintenance,"

> *The statutory gap identified also exists in the Good Neighbor Provision's second instruction. That instruction requires EPA to eliminate amounts of upwind pollution that "interfere with maintenance" of a NAAQS by a downwind State. §7410(a)(2)(D)(i). This mandate contains no qualifier analogous to "significantly," and yet it entails a delegation of administrative authority of the same character as the one discussed above. Just as EPA is constrained, under the first part of the Good Neighbor Provision, to eliminate only those amounts that "contribute . . . to nonattainment," EPA is limited, by the second part of the provision, to reduce only by "amounts" that "interfere with maintenance," i.e., by just enough to permit an already-attaining State to maintain satisfactory air quality. (Emphasis added). With multiple upwind States contributing to the maintenance problem, however, EPA confronts the same challenge that the "contribute significantly" mandate creates: How should EPA allocate reductions among multiple upwind States, many of which contribute in amounts*

[34] https://www.tceq.texas.gov/airquality/airmod/data/gn

sufficient to impede downwind maintenance" Nothing in either clause of the Good Neighbor Provision provides the criteria by which EPA is meant to apportion responsibility.[35]

The D.C. Circuit opinion in *EME Homer City v. EPA*, also informs the maintenance area issue:

The statute also requires upwind States to prohibit emissions that will "interfere with maintenance" of the NAAQS in a downwind State. "Amounts" of air pollution cannot be said to "interfere with maintenance" unless they leave the upwind State and reach a downwind State's maintenance area. To require a State to reduce "amounts" of emission pursuant to the "interfere with maintenance" prong, EPA must show some basis in evidence for believing that those "amounts" from an upwind State, together with amounts from other upwind contributors, will reach a specific maintenance area in a downwind State and push that maintenance area back over the NAAQS in the near future. Put simply, the "interfere with maintenance" prong of the statute is not an open-ended invitation for EPA to impose reductions on upwind States. Rather, it is a carefully calibrated and commonsense supplement to the "contribute significantly" requirement.[36]

EPA's January 17, 2018 brief in the CSAPR Update litigation (*Wisconsin et al. v EPA*, Case No. 16-1406) documents with the following statement on pages 77 and 78 that EPA is ready to concede that a lesser level of control is appropriate in situations not constrained by the time limits of the CSAPR Update:

Ultimately, Petitioners' complaint that maintenance-linked states are unreasonably subject to the "same degree of emission reductions" as nonattainment linked states must fail. Indus. Br. 25. There is no legal or practical prohibition on the Rule's use of a single level of control stringency for both kinds of receptors, provided that the level of control is demonstrated to result in meaningful air quality improvements without triggering either facet of the Supreme Court's test for over-control. So while concerns at maintenance receptors can potentially be eliminated at a lesser level of control in some cases given the smaller problem being addressed, this is a practical possibility, not a legal requirement. See 81 Fed. Reg. at 74,520. Here, EPA's use of the same level of control for both maintenance-linked states and nonattainment-linked states is attributable to the fact that the Rule considered only emission reduction measures available in time for the 2017 ozone season. Id. at 74,520. Under this constraint, both sets of states reduced significant emissions, without over-control, at the same level of control. Id. at 74,551-52. Accordingly, EPA's selection of a uniform level of control for both types of receptors was reasonable. Emphasis added.

As an alternative to maintenance monitors being accorded the same weight as nonattainment monitors, we urge that OEPA take the position that no additional control would be needed to address

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[35] 134 S. Ct. at 1064, Ftn 18.
[36] EME Homer City v. EPA, 96 F.3d 7, 27 Ftn. 25 (D.C. Cir 2012).

a maintenance monitor if it is apparent that emissions and air quality trends make it likely that the maintenance monitor will remain in attainment. Such an approach is consistent with Section 175A(a) of the Clean Air Act which provides:

Each State which submits a request under section 7407 (d) of this title for redesignation of a nonattainment area for any air pollutant as an area which has attained the national primary ambient air quality standard for that air pollutant shall also submit a revision of the applicable State implementation plan to provide for the maintenance of the national primary ambient air quality standard for such air pollutant in the area concerned for at least 10 years after the redesignation. The plan shall contain such additional measures, if any, as may be necessary to ensure such maintenance.

It is also consistent with the John Calcagni memorandum of September 4, 1992, entitled "Procedures for Processing Requests to Redesignate Areas to Attainment", which contains the following statement on page 9:

> *A State may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future mix of source and emission rates will not cause a violation of the NAAQS. Under the Clean Air Act, many areas are required to submit modeled attainment demonstrations to show that proposed reductions in emissions will be sufficient to attain the applicable NAAQS. For these areas, the maintenance demonstration should be based upon the same level of modeling. In areas where no such modeling was required, the State should be able to rely on the attainment inventory approach. In both instances, the demonstration should be for a period of 10 years following the redesignation.*

Accordingly, MOG urges that OEPA apply an alternate methodology to assess maintenance monitors than it does to assess nonattainment monitors. Any impacts which Ohio has on maintenance areas will certainly be addressed by consideration of controls that are already on the books and by emissions reductions that have been and will continue to apply to Ohio sources as is well-demonstrated by these comments and the proposed GNS.

13. OEPA's proportional calculation of responsibility for contribution to downwind monitors to which Ohio is linked is very conservative.

MOG was very pleased that EPA's March 27, 2018 memorandum recognized two methods for apportioning responsibility among upwind states to downwind problem monitors. In its memorandum, EPA offers the following statement:

For states that are found to significantly contribute to nonattainment or interfere with maintenance of the NAAQS downwind, apportioning responsibility among states.

- *Consider control stringency levels derived through "uniform-cost" analysis of NOx reductions.*

- *Consider whether the relative impact (e.g., parts per billion/ton) between states is sufficiently different such that this factor warrants consideration in apportioning responsibility.*

Addressing these issues is particularly important in the situation in which a state's contribution to a downwind problem monitor is greater than the level at which a monitor exceeds the NAAQS. To avoid unlawful over-control, a state must be allowed the option of prorating the reduction needed to achieve attainment over all states that contribute to that monitor. This process allows a state the option of addressing only their prorate portion of responsibility for the portion of the problem monitors ozone concentration that exceeds the NAAQS.

On pages 44 and 45 of the OEPA draft, the agency calculates Ohio's proportional responsibility for contribution to the Suffolk New York monitor – the worst nonattainment monitor linked to Ohio. Using EPA's approach and the LADCO data, OEPA calculates a responsibility of 0.06 ppb attributed to Ohio. As pointed out earlier in these comments, MOG's modeling data show that Suffolk New York (and for that matter Fairfield Connecticut) will be in attainment with the 2015 ozone NAAQS in 2023. In making its calculation of proportional responsibility, we urge that OEPA not consider the Suffolk, New York and Fairfield Connecticut monitors in this calculation. If these two monitors are eliminated from consideration, the only remaining nonattainment monitor in the OEPA's analysis would be Harford Maryland where Ohio's proportional contribution according to OEPA's own calculation would be only 0.01 ppb – 1/6th of that which it had calculated for the Suffolk New York monitor.

In addition, we strongly urge OEPA <u>not</u> to apply this same red lines methodology to maintenance monitors as it has to nonattainment monitors. As noted earlier, we do not believe there to be either legal or technical support for attaching the same weight to maintenance monitors as might be attached to a nonattainment monitor. Any impacts which Ohio has on maintenance areas will certainly be addressed by consideration of controls that are already on the books and by emissions reductions that have been and will continue to apply to Ohio sources as is well-demonstrated by these comments and the proposed GNS.

Conclusion.

Accordingly, the Midwest Ozone Group supports OEPA's draft Good Neighbor SIP as a conservative justification for the conclusion that no additional emissions reductions beyond existing and planned controls are necessary to mitigate any contribution Ohio may have to any downwind monitors to comply with CAA section 110(a)(2)(D)(i)(I).