STEPTOE & JOHNSON PLLC
ATTORNEYS AT LAW

Chase Tower, Eighth Floor
P.O. Box 1588
Charleston, WV 25326-1588
(304) 353-8000 (304) 353-8180 Fax
www.steptoe-johnson.com

Writer's Contact Information
(304) 353-8171
Dave.Flannery@Steptoe-Johnson.com

February 1, 2016

Gina McCarthy, Administrator
U.S. Environmental Protection Agency
Mail Code 1101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

RE: Docket No. EPA-HQ-OAR-2015-0500 – CSAPR Update

Dear Administrator McCarthy,

Please find attached the comments of the Midwest Ozone Group ("MOG") in response to the December 3, 2015, United States Environmental Protection Agency ("EPA") proposal to update the Cross State Air Pollution Rule (80 Fed. Reg. 75706, December 3, 2015).

At a time when ozone air quality is dramatically improving and when states are seeking their own resolution of the complex issue of how emissions from upwind states relate to downwind areas, EPA's proposed update of CSAPR solely focuses upon emissions from electric generating units (EGU's) - one of the smallest contributors to downwind air quality concentrations. The result is not a single downwind area air quality problem is resolved by the program that EPA proposes.

These comments review the significant legal and technical flaws in EPA's proposal and urge that EPA abandon its CSAPR update proposal. We urge that EPA work toward resolving that which current technical and modeling data demonstrates to be the single remaining localized air quality issue in the East – Fairfield, Connecticut.

At the heart of these comments is a careful analysis of EPA's flawed methodologies and strategies summarized as follows:

1. Incomplete and technically incorrect air quality modeling;
2. Incorrect determination that areas are maintenance areas based upon dated historical information, rather than the most recent air quality data and EPA air quality projections that show attainment in 2025;
3. Failure to recognize the numerous factors that will continue to improve air quality between now and 2017 at the Fairfield, Connecticut monitors – the three remaining monitors in the East with monitored nonattainment; and
4. Misdirected strategy that 23 states implement a regional transport rule that imposes a set of controls on sources that are among the smallest contributors to Fairfield, Connecticut's air quality, rather than more precisely and effectively directing efforts to effect a solution

to the actual cause of the air quality issues related to Fairfield, Connecticut on a local basis.

To add value to the analytical process for finding a solution to the Connecticut dilemma, these comments provide an assessment of which source categories are impacting on downwind monitors – an assessment that was not undertaken by EPA when it offered its proposal. These technical results reveal that for the monitor of concern (090013007) at Fairfield, Connecticut, it is not so much EGUs that are impacting on that monitors – but rather other sources including: area sources (24%); Boundary and Canada/Mexico/water (predominantly international emissions) (24%); motor vehicles (22%); and biogenics and fire (18%). EGUs are a much smaller contributor at 8% and non EGU point sources at only 4%.

This analysis clearly calls into question the appropriateness of addressing this isolated air quality problem through a proposed 23 state regional transport rule limited to EGUs. Resolution of Connecticut's residual air quality problem is guided by the Clean Air Act in which the state must first direct its own sources to install RACT controls. Connecticut must also insist that the Northeast OTC address the HEDD issue that Connecticut itself has identified as necessary to achieve attainment. Connecticut needs to also take into account the international emissions that must be recognized as the "but for" reason why Fairfield, Connecticut is in nonattainment.

EPA has already indicated that it will be conducting additional air quality modeling in support of the final version of its proposed update to CSAPR. We recommend that as a part of the process of refining this incomplete proposal, or for that matter any other analysis of interstate transport issues, EPA must carefully address the significant concerns that are raised by these comments. An essential part of EPA's further review of this proposal must necessarily include providing adequate opportunity for public review and comment in advance of the finalization of any rule.

We urge your careful consideration of these comments.

Very truly yours,

David M. Flannery
Legal Counsel
Midwest Ozone Group

cc: Environmental Protection Agency
EPA Docket Center (EPA/DC)
(Mailcode 28221T)
Attention Docket ID No. EPA-HQ-OAR-2015-0500
1200 Pennsylvania Avenue, NW
Washington, DC 20460

COMMENTS OF THE MIDWEST OZONE GROUP ON EPA'S PROPOSED CROSS-STATE AIR POLLUTION RULE FOR THE 2008 OZONE NAAQS (80 FEDERAL REGISTER 75706, DECEMBER 3, 2015)

FEBRUARY 1, 2016

EXECUTIVE SUMMARY AND RECOMMENDATIONS

At a time when ozone air quality is dramatically improving and when states are seeking their own resolution of the complex issue of how emissions from upwind states relate to downwind areas, EPA has proposed an update of its CSAPR program that again singles out emissions from electric generating units (EGU's) - one of the smallest contributors to downwind air quality concentrations. The result is that not a single downwind area air quality problem is resolved by the program that EPA proposes. These comments review the significant legal and technical flaws in EPA's proposal and urge that EPA abandon its CSAPR update proposal in favor of resolving what current technical and modeling data demonstrate to be the single remaining localized air quality issue in the East – Fairfield, Connecticut.

At the heart of these comments is a careful analysis of EPA's flawed methodologies in several major areas, including:

1. Incomplete and flawed air quality modeling;
2. Erroneously deeming areas to be maintenance areas based upon dated historical information – and not upon the most recent air quality data as well as its own air quality projections that show attainment in 2025;
3. Failure to recognize the numerous factors that will continue to improve air quality between now and 2017 at the Fairfield, Connecticut monitors – the three remaining monitors in the East with monitored non-attainment; and
4. Instead of addressing the true cause of the air quality issues related to Fairfield, Connecticut on a local basis, EPA has advanced a 23 state regional transport rule to impose a set of controls on sources that are among the smallest contributors to Fairfield, Connecticut's air quality.

Modeling

EPA's 2017 modeling results are both incomplete and flawed and do not provide a reliable basis for the proposed rule. Among the concerns about this modeling are the following:

1. In running its air quality computer model, EPA chose to reset the "timestep" parameter in the model that defines the altitude from peak winds are used in the calculations of vertical transport for the purpose of speeding-up the processing time of the computer which could otherwise take weeks or months. This was done however without checking to determine the impact of this change or whether the accuracy of the model may have been adversely affected. It turns out that model accuracy has been adversely affected. At the request of MOG, Alpine Geophysics LLC has checked EPA's modeling results for a small sample of days and found daily peak differences up to 2.8 ppb, raising questions about the basic conclusions of EPA's analysis including both its attainment/nonattainment calculations as well as its calculations about which states may or may not be significant contributors to other states.

2. Even though EPA based its predicted future year ozone concentrations for each monitor on the 10 days with the highest modeled concentrations, it did not conduct a model performance on those 10 days. Instead EPA evaluated the performance of its model by looking at all days where ozone was observed to be above 60 ppb. Model performance conducted by Alpine Geophysics on the 10 days selected by EPA for the proposed rule reveals that performance to be poor at monitors situated at complex meteorological locations.

3. EPA's use of 12 km grid cell modeling resulted in EPA selecting predicted ozone concentrations from predominantly water-based grid cells for all of its nonattainment monitors based on grid cells situated on land/water interfaces – and not from land-based grid cells where the monitor itself is located. This applies to all of the nonattainment monitors including those in:

   Fairfield, Connecticut;
   New Haven, Connecticut; and
   Sheboygan, Wisconsin.

   EPA's decision to base its future year projections on the selection of data from grid cells over water – and not from the grid cells over land where the monitors are located - effectively doubles the error to be found in its modeling.

4. EPA has based its proposal on IPM 5.14 modeling that assumes significantly higher emissions than will actually exist in 2017. Specifically, EPA's modeling results failed to account for the following reductions in NOx and VOC emissions in 2017:

   a. Use of even EPA's own estimate of what emission will be in 2017 (the IPM v 5.15 emission inventory) will reduce assumed EGU NOx emissions by 93,000 tons per ozone season – a reduction larger than the 83,000 ton reduction per ozone season to be achieved by the proposed rule itself.
   b. EPA has failed to recognize that Pennsylvania EGU NOx RACT II controls will reduce ozone season NOx emissions by an additional 19,000 tons per ozone season.
   c. EPA failed to recognize that there are nine Northeast Ozone Transport Region control measures that will reduce regional NOx emissions by an additional 27,000 tons per ozone season (as well as reduce ozone season VOC emissions by 3,300 tons per ozone season.
   d. EPA failed to account for RACT controls applicable to documented nonattainment areas that are required by law to be in place by the ozone season of 2017. For example, Connecticut has already identified the need to lower the NOx limits on the municipal waste contributors and fuel burning units in Connecticut to achieve appropriate RACT limits.
   e. EPA has failed to account for the reductions in HEDD emissions from sources in New York, New Jersey and Connecticut which Connecticut itself describes as necessary to "reach attainment in the NY-NJ-CT nonattainment area".

Maintenance Areas

EPA has failed to establish that any monitor in the East should be considered a maintenance problem area upon which the proposed transport rule can be based. Among the concerns about the modeling are the following:

1. All areas with monitored DVs below 75.9 ppb are predicted by EPA's own modeling to continue to be below 75.9 ppb through 2025 – satisfying the mandate of Section 175A of the Clean Air Act and EPA's own guidance.
2. Had EPA's approach to defining maintenance areas in this proposal been based on the most recent available monitoring data (2011 – 2015) 12 of the 18 identified attainment monitors would have all 3 of their maximum DV's below 75.9 ppb – satisfying even EPA's test for not classifying them as maintenance areas. The same analysis applied to the 6 remaining attainment monitors shows that these monitors had the two most recent maximum DV's below 75.9 ppb – strongly suggesting that they too should not be classified as maintenance areas even by EPA's test.

In summary, EPA has not established that there are maintenance areas on the East that require additional attention under its proposed transport rule. Without exception, all EPA identified maintenance areas are resolved.

Nonattainment Areas

While EPA's current modeling is not sufficient (for reasons stated above) to allow a conclusion to be reached about whether there are any downwind nonattainment areas, it does appear that, based upon the most recent monitored DVs, the only remaining problem areas among these identified by EPA are the 3 monitors located in Fairfield, Connecticut. The remaining monitors and their 2015 DVs are as follows:

Fairfield, CT (090013007) 83 ppb
Fairfield, CT (090019003) 84 ppb
Fairfield, CT (090010017) 81 ppb

Significantly, all DVs are decreasing over time and can be expected to decrease between now and 2017 as emissions continue to reduce. Moreover the modeling performed by EPA in support of its 70 ppb (2015) ozone NAAQS shows all monitors in the East to be in attainment with the 75 ppb NAAQS in 2025 – including the Fairfield, Connecticut monitors.

Clearly, more needs to be done to address these 3 Connecticut monitors. These comments note that several factors are already in place that will improve air quality in Fairfield, Connecticut including:

- New RACT controls being advanced by Connecticut DEEP;
- Reduced HEDD emissions from New York, New Jersey and Connecticut as identified by Connecticut DEEP itself;
- Reduced emissions from many other sources as the result of regulatory programs that are already on-the-books but not evaluated by EPA.

Need for Local Control

These comments offer an assessment of which source categories are impacting on downwind monitors. This source apportionment analysis was not undertaken by EPA (who elected to assess only the total of the emissions of all sources in upwind states). These results reveal that for the monitor of concern (090013007) at Fairfield, Connecticut, it is not so much EGUs that are impacting on that monitors – but rather other sources including: area sources (24%); boundary and Canada/Mexico/water (predominantly international emissions) (24%); motor vehicles (22%); and biogenics and fire (18%), EGUs are a much smaller contributor at 8% and non EGU point sources at only 4%.

This analysis clearly calls into question the appropriateness of addressing this isolated air quality problem through a proposed 23 state regional transport rule limited to EGUs. Connecticut's residual air quality problem is one that must first be addressed by requesting its own sources to install RACT controls, insisting that the Northeast OTC address the HEDD issue that Connecticut itself has identified as necessary to achieve attainment, while taking into account the international emissions that must be recognized as the "but for" reason why Fairfield, Connecticut is in nonattainment.

Only after these actions are taken should EPA focus on upwind states through a transport rule structured more broadly to address area and mobile source emissions - the dominant contributors to interstate ozone transport..

The remainder of the comments provides additional detail on these and other flaws in EPA's proposed update of the Cross State Air Pollution Rule.

Recommendations

EPA has already indicated that it will be conducting additional air quality modeling in support of the final version of its proposed update to CSAPR. We recommend that as a part of that, or any other, analysis of interstate transport issues, EPA should carefully address the significant concerns that are raised by these comments. Principal among these concerns are the deficiencies in the modeling platform, the failure to apply the most recent air quality and emissions data available and the failure to apply appropriate policy and legal considerations to the analysis. An essential part of this further review must necessarily include making the results available for public review and comment in advance of the finalization of the rule.

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COMMENTS OF THE MIDWEST OZONE GROUP ON EPA'S PROPOSED CROSS-STATE AIR POLLUTION RULE FOR THE 2008 OZONE NAAQS (80 FEDERAL REGISTER 75706, DECEMBER 3, 2015)

February 1, 2016

1. Introduction.

The Midwest Ozone Group (MOG) is an affiliation of companies, trade organizations, and associations which have drawn upon their collective resources to advance the objective of seeking solutions to the development of a legally and technically sound national ambient air quality program.[1] The primary goal of MOG is 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 of EPA related to the development and implementation of air quality policy including not only the development of transport rules, but also related NAAQS standards, petitions under 176A and 126 of the Clean Air Act and the development of state-based alternatives to EPA transport rules.

MOG members operate more than 85,000 MW of coal-fired generation in more than ten states. Its members are concerned not only about the direct impact of rules such as this on their facilities but also about the impact that such rules have on the consumers of their electric power.

MOG is pleased to have the opportunity to offer comments on the proposed update of the Cross State Air Pollution Rule.

2. EPA should not advance this or any other transport rule at this time given the efforts that are being undertaken by states to develop a framework for addressing interstate transport through Good Neighbor SIPs.

In the event that EPA elects to consider the need for a process to address the good neighbor SIP requirements of the Clean Air Act, MOG urges that the agency turn to mechanisms other than a transport rule.

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1 These comments were prepared with the technical assistance of Alpine Geophysics, LLC. Comments or questions about this document should be directed to David M. Flannery or Kathy G. Beckett, 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 respectively..

One such alternative is the State Collaborative On Ozone Transport (SCOOT) process which is seeking a multistate collaboration on a “good neighbor” SIP development process. EPA clearly needs to let that process mature and finalize before proceeding with a new ozone transport rule.

The January 22, 2015, memorandum by OAPQS Director Stephen Page was issued as "part of the process of working with states to offer support and information to enable the EPA and states to move forward to address the requirements of the ‘Good Neighbor’ provision for this NAAQS as soon as possible." In the memorandum, Director Page notes that "EPA plans to facilitate discussions with states on (1) available emission controls; (2) potential State-by-State electric generating unit (EGU) nitrogen oxides (NOx) reductions based on those controls; and (3) potential EGU emissions budgets informed by those reductions." EPA's stated goal in this process is to provide information "to initiate discussions that will inform state development and EPA review of "Good Neighbor" SIPs and, where appropriate, to facilitate state efforts to supplement or resubmit the Good Neighbor SIPs.” Significantly, Page states that "EPA also recognizes its backstop role in the SIP development process-that is, our obligation to develop and promulgate federal implementation plans, as appropriate." MOG urges that EPA’s role in the process should be to let the Good Neighbor collaborative among participating states conclude prior to adding more guidance on the Good Neighbor SIP process.

We recognize that in its proposal, EPA has stated that it intends the final rule to “provide regulated sources with flexibility in choosing compliance strategies.” 80. Fed. Reg. 75709. Significantly, EPA is also offers the following statement regarding program flexibility:

> “The proposed FIPs, if finalized, would not limit states’ flexibility in meeting their CAA requirements, as any state included in this proposed rule can submit a good neighbor SIP at any time that, if approved by the EPA, could replace the FIP for that state. Additionally, CSAPR already provides states with the option to submit abbreviated SIPs to customize the methodology for allocating NOx ozone-season allowances while participating in the ozone-season trading program and we propose to continue that approach in this rule.”

80 Fed. Reg. 75710 (December 3, 2015).

MOG urges that EPA withdraw this rule pending completion of the Good Neighbor SIP collaborative that is currently underway. In addition, MOG will urge in these comments that the proposal be withdrawn in favor of addressing local controls related to remaining problem areas. If EPA, nevertheless, elects to finalize this transport rule, we urge that the rule be as flexible as possible and to preserve the right of a state to be completely relieved of its obligations under the final rule at such time as a state receives approval of its Good Neighbor SIP or on the occasion of EPA concluding, after further analysis, that the problem areas it has identified will actually attain the 2008 ozone NAAQS without reliance on the proposed FIP.

3. Prior to advancing any regional transport rule, EPA is obligated to address the impact of emissions from local and international sources.

a. Controls on local sources must be addressed first by EPA before emission reductions on upwind states can be imposed through a transport rule.

EPA is required under the CAA to first consider the effects of local emissions in a nonattainment area and nearby areas in state(s) closest to the nonattainment area in question before seeking controls 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, EPA recognized the requirement to look locally in both its 1997 NOx SIP Call and in CAIR. We note that the requirement to consider emission reductions from local controls in downwind states was an element of CAIR (a factor that was not adversely impacted by the *North Carolina v. EPA* decision). EPA must study the impact of local controls in its upcoming rulemaking and require that such local sources be appropriately controlled before turning to upwind states for additional reductions.

In particular, EPA must determine whether downwind states would experience non-attainment of the NAAQS even if no transport occurred at all. If local sources in a non-attainment area, or for that matter, local sources within the OTR, are causing the NAAQS to be exceeded four or more times in the critical year, independent of regional transport, then it is imperative that the downwind states control those sources before EPA can turn to upwind states for further controls.

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.

The basic SIP components for nonattainment areas include: reasonable further progress (RFP) plan, reasonably available control technology (RACT), reasonably available control measures (RACM), contingency measures, nonattainment new source review program, motor vehicle

emissions budget and as applicable a variety of area-wide mobile source and stationary source control programs. EPA's February 26, 2015 PowerPoint presentation entitled, "Final State Implementation Plan (SIP) Requirements Rule for the 2008 Ozone NAAQS" is attached to these comments and identified as Exhibit 1 and can be found at: http://www3.epa.gov/ozonepollution/pdfs/20150226o3srrwebinar.pdf. This presentation provides a detailed discussion and summary graphics of state SIP development obligations. In addition, EPA's Menu of Control Measures (attached to these comments and identified as Exhibit 2 and available at: http://www3.epa.gov/ttn/naaqs/pdfs/MenuOfControlMeasures.pdf) sets forth a myriad of local emission reduction and SIP development options for identifying and evaluating effective control measures all with the goal of achieving attainment by the State. As noted by EPA in its opening comments to the Menu of Control Measures, "it is essential to identify the sources contributing to the ozone problem."

In the preamble to the proposed rule, EPA itself acknowledges the need for local controls. 80 Fed. Reg. 75709, 75711, 75712. Specifically EPA states: "Downwind states also have control responsibilities because, among other things, the Act requires each state to adopt enforceable plans to attain and maintain air quality standards." 80 Fed. Reg. 75709.

In its document entitled "Reasonably Available Control Technology Analysis under the 2008 8-Hour Ozone National Ambient Air Quality Standard", dated July 17, 2014 (which is attached to these comments and identified as Exhibit 3 and which can be found at: http://www.ct.gov/deep/lib/deep/air/ozone/ozoneplanningefforts/ract_2008_naaqs/2014-07-17_-_ct_final_ract_sip_revision.pdf) the Connecticut Department of Energy and Environmental Protection ("DEEP") Bureau of Air Management conducted an evaluation of its RACT controls. The principal conclusion reached by Connecticut at page 28 of that report is as follows:

> "DEEP commits to perform further evaluation of Connecticut's municipal waste combustor and fuel-burning source NOx requirements and to seek any regulatory revisions necessary to revise the control requirements to a RACT level for the 2008 ozone NAAQS. The main basis for the determination that these source categories are no longer subject to RACT is that other states now have in place emissions limitations that are more stringent than those required in Connecticut, so the more stringent emission limits, and the controls necessary to meet those emission limits, are technically and economically feasible."

With respect to Municipal Waste Combustors the Connecticut report offered the following statement (*Id. at* 28 - 29):

> "Connecticut has six facilities that burn municipal waste to create electricity and are comprised of a total of 15 units. Only three of the units are small municipal waste combustors, as defined by EPA in 40 CFR 60 Subpart AAAA and the associated emissions guidelines. Together, these 15 units are one of the most significant sources of NOx emissions in Connecticut. In 2011, the municipal waste combustor NOx emissions exceeded those of Connecticut's electric generating sector to become the largest stationary source category of NOx emissions in Connecticut.

…

Based on these observations, DEEP believes that it may be both technically and economically reasonable to reduce NOx emissions from the Connecticut municipal waste combustor facilities. The municipal waste combustor units at the Bristol facility, at which the LN™ technology has been installed, are mass burn waterwall units, which are the dominant combustor type in Connecticut.27 New Jersey has adopted, and Massachusetts has proposed to adopt, a NOx emissions limit for mass burn waterwall units that is more stringent than Connecticut's emissions limit …. In addition, Massachusetts has proposed to adopt a NOx emissions limit for mass burn refractory units that is more stringent than Connecticut's emissions limit …. DEEP commits to investigate the cost and emissions reductions available from the municipal waste combustors and, if appropriate, initiate a stakeholder process to develop a regulatory amendment. DEEP would seek to move such an amendment through the regulatory adoption process to allow for adoption by December 31, 2016."

With respect to Fuel-Burning Sources (Boilers, Turbines, Engines) the Connecticut report observed (*Id. at* 30, 32) as follows:

"Revisions to the NOx emissions control requirements for boilers, turbines and engines in RCSA section 22a-174-22 are necessary to establish a RACT level of control under the 2008 ozone NAAQS. Several nearby states, including New York and New Jersey, have updated NOx RACT regulations, and other states, including Maryland, are currently reviewing existing NOx RACT requirements with respect to boilers, turbines and engines. The Ozone Transport Commission (OTC) has also recently reviewed the short-term NOx emissions limitations for fuel-burning equipment throughout the Ozone Transport Region in part to allow states to address emissions from demand response units and other units that operate intermittently to meet electric demand, particularly in the summer months.

…

Based on the comparison of Connecticut's NOx emissions limitations with those in other states …, reductions in the emissions limitations of RCSA section 22a-174-22 are necessary, likely in conjunction with an elimination or adjustment of the NOx credit trading program, so that Connecticut's boilers, turbines and engines are controlled to a RACT level with respect to the 2008 ozone NAAQS."

As can be seen from this discussion there is a clear statutory and regulatory mandate for states such as Connecticut to adopt updated RACT controls in advance of the 2017 ozone season. The reductions related to these RACT-based control will of course have a direct impact on air quality and directly affect the Court mandated assessment of whether emission reductions imposed by a transport rule are more stringent than would be necessary to allow a downwind states to attain the 2008 ozone NAAQS. We therefore urge that EPA first consider the effects of local emissions in a nonattainment area and nearby areas in state(s) closest to the nonattainment area in question before seeking controls in upwind states.

b. Before EPA undertakes to impose controls on upwind states pursuant to a transport rule such as the one proposed, EPA is obligated to address the emission reductions which must be undertaken by the NEOTR under Section 184(c)(1) of the CAA to act on local transport.

Section 184(c)(1) of the federal Clean Air Act establishes the following process for addressing transport concerns within the Northeast Ozone Transport Region:

> "Upon petition of any State within a transport region established for ozone … the Commission may … develop recommendations for additional control measures … if … such measures are necessary to bring any area in such region into attainment ….

This process, fairly applied, obligates OTR states to address transport from their own sources, (i.e., local sources), as the primary means for addressing any concerns those states may have about the transport of air pollutants and nonattainment. Only after implementing controls on their own sources may the OTR states satisfy their primary obligation under the CAA to address their own sources that are impacting air quality first and only then turn to upwind states to impose additional controls on their sources.

A presentation by the Connecticut DEEP on April 14, 2015, identified specific concerns about interstate transport of air pollutants from other OTC states focusing particular attention on emissions related to "High Electric Demand Day" ("HEDD") (i.e., days on which localized distributive generation is dispatched by local owners). In that presentation (slide 12, New Jersey Clean Air Council Hearing, April 14, 2015, which is attached to these comments and identified as Exhibit 4 and which can found at: http://www.state.nj.us/dep/cleanair/PPP/2015/Pirolli.pdf) and set forth in Figure 1 below Connecticut highlights the emission reductions which it expects from New Jersey's HEDD rule.

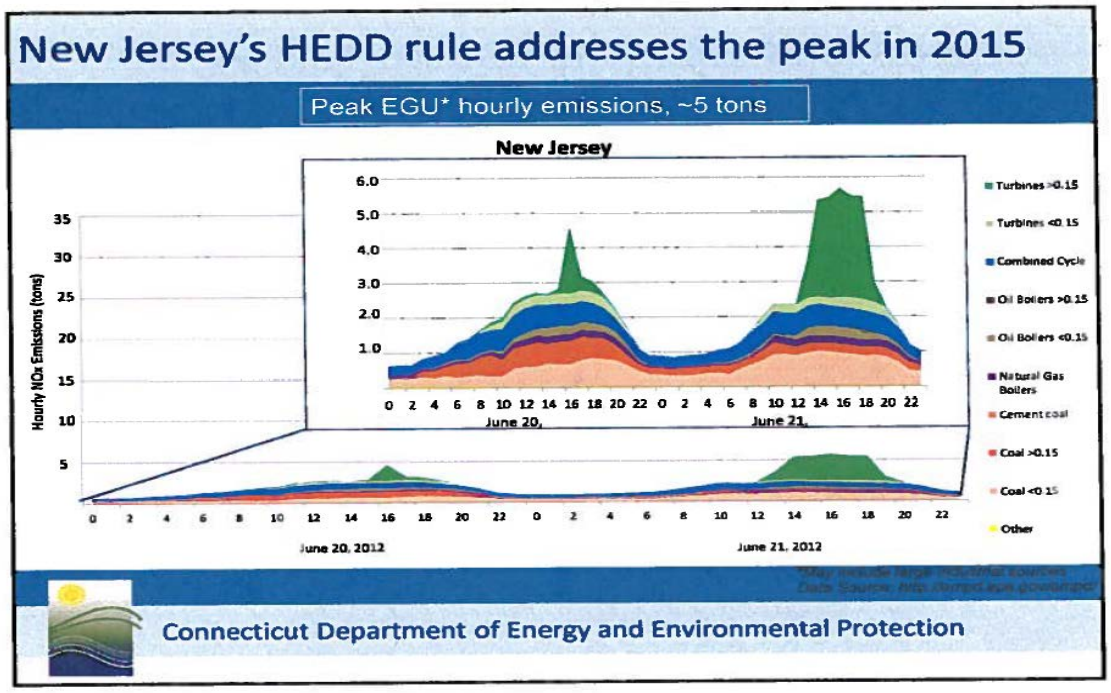


Figure 1. Connecticut, slide 12, New Jersey Clean Air Council Hearing, April 14, 2015

In addition, its document entitled "Reasonably Available Control Technology Analysis under the 2008 8-Hour Ozone National Ambient Air Quality Standard", dated July 17, 2014 (which is attached to these comments and identified as Exhibit 3 and which can be found at: http://www.ct.gov/deep/lib/deep/air/ozone/ozoneplanningefforts/ract_2008_naaqs/2014-07-17_-_ct_final_ract_sip_revision.pdf) the Connecticut Department of Energy and Environmental Protection Bureau of Air Management reached the following conclusion (pages 25, 27) about HEED emissions and their impact on Connecticut's air quality:

> "To reach attainment in the NY-NJ-CT nonattainment area, HEDD emissions need to be addressed in all three state portions of the area. DEEP recognizes that the appropriate approach to addressing HEDD emissions may differ in each state because the magnitude of emissions and type of units responsible for the emissions differs in each state's portion of the area. Figures 4, 5 and 6 show the unit types emitting in each of the three states during a HEDD episode. New York is represented by 14 southern counties while Connecticut and New Jersey emissions are presented statewide. The magnitude of emissions differs from state to state: Connecticut averaged 18 tons of NOx per day, New Jersey averaged 52 tons per day and New York (downstate) averaged 126 tons per day. Among the peaking units in each state (Figures 4, 5, and 6 include all units that operate during the HEDD), Connecticut's emissions are dominated by the load-following boilers, as explained above. New York and New Jersey's emissions are dominated by turbines with an emission rate greater than 0.15 lbs/MMBtu, which are labeled as "dirty" turbines in Figures 4, 5 and 6.
>
> …

> In sum, to address Connecticut's ozone nonattainment, and Connecticut's good neighbor obligations to downwind states, peak day emissions must be reduced. Thus, "beyond RACT" measures may be warranted for HEDD units on HEDD to meet the state obligation of attainment of the ozone NAAQS as expeditiously as possible." Emphasis added.

Unless and until this local transport is addressed in the Northeast, the OTC, and Connecticut in particular, will not be able to achieve attainment of the NAAQS. It is the primary duty of the downwind states to address this concern as a condition precedent to the development of a transport rule related to these receptors.

As stated earlier in these comments, EPA's authority to adopt a transport rule of this kind is limited by several factors including being prohibited from imposing any emission reductions on upwind states that would be more than would be necessary to eliminate nonattainment in downwind areas. It is clear from the Connecticut material provided here that controls on local sources in and around Connecticut are the key to attainment of the 2008 ozone NAAQS – raising a significant unaddressed question in EPA's proposal about whether the proposed transport rule emission reductions are justifiable. This is all the more significant since, as will be discussed later in these comments, the only remaining problem monitors in the East are located in Fairfield Connecticut. Before finalizing the rule, we urge that EPA address these local controls and if, it finds that these local controls bring about attainment, EPA should not finalize the proposed rule.

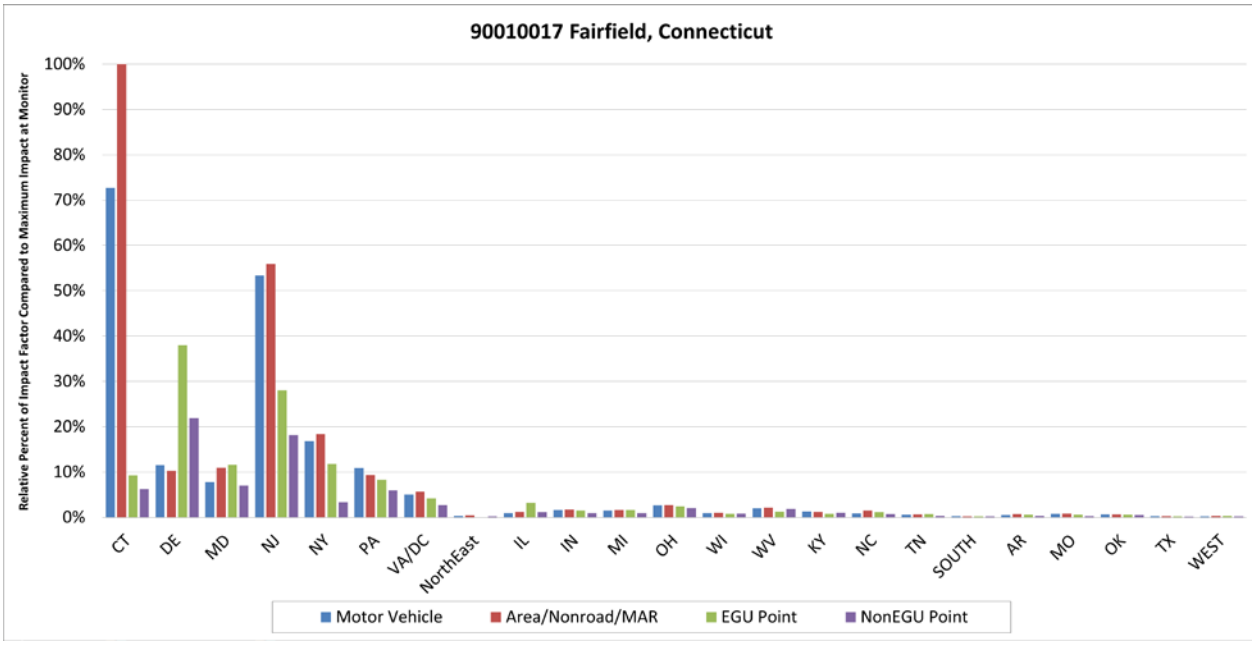
c. Emission impact of local sources is significantly greater per ton on ozone concentrations at local monitors than emission from sources in upwind states.

In a report prepared for MOG by Alpine Geophysics and entitled "Relative Impact of State and Source Category NOx Emissions on Downwind Monitors Identified Using the 2017 Cross State Air Pollution Rule Modeling Platform" which is attached to these comments and identified as Exhibit 5 (and which can be found at: http://www.midwestozonegroup.com/files/RelativeImpactofStateandSourceCategoryNOxEmissionsonDownwindMonitorsIdentifiedUsingthe2017CrossStateAirPollutionRuleModelingPlatform.pdf), Alpine has examined which state's emission have the greatest impact on downwind ozone concentrations.

In its report Alpine has determined, at each monitor, from where and what source category, on a ppb per ton basis, we see the greatest relative contribution to ozone concentrations. In other words, which source category, and from what state, has the greatest per ton NOx contribution to the monitors' modeled ozone concentrations. Results from Alpine's calculations were then normalized to the results to the maximum individual state/category contributor, so that one can easily identify the greatest ppb per ton state/source category and have an easy way of determining which categories have greater relative impact compared to all others. 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 in assisting policy makers in the development of control strategies and their relative impact on ozone concentrations at various locations. Resulting monitor-level,

relative impact factors for the twenty-one eastern state proposed rule identified nonattainment and maintenance monitors are presented in the tables set forth in that report.

The following is the graph from that report related to one of the Fairfield Connecticut monitors:



As can be seen from this chart, assuming linearity of NOx emissions and ozone concentration changes, the greatest improvement in ozone concentrations occur with reductions in emissions from sources located in Connecticut itself and from area and mobile sources throughout the Northeast . It also turns out that the three states with the next greatest potential to improve air quality on a per ton reduced basis in Connecticut are:

New Jersey (over 50% of Connecticut's potential);
Delaware (nearly 40% of Connecticut's potential); and
New York (nearly 20% of Connecticut's potential).

This analysis further supports the conclusion that the control of local sources and local transport are key components to addressing residual nonattainment concerns in the region with respect to the 2008 ozone NAAQS and provides an important preview of what might need to be done to address the 2015 ozone NAAQS..

d. International emissions must be addressed in advance of the imposition of controls pursuant to any new transport rule.

It is imperative that the modeling and associated data and methods prescribed by EPA for the purpose of developing any rulemaking proposal to address interstate ozone transport for the 2008 ozone NAAQS, take into consideration the impact of international transport on ozone air quality in

the United States. In the NODA, EPA comments that it will be following the CSAPR approach. The CSAPR approach must, however, be modified to recognize the impacts of international ozone transport. Boundary concentrations and impacts from international sources, including Canada, Mexico, and beyond, are appropriate components to the ozone source apportionment modeling.

In the proposed CSAPR update, EPA acknowledges the existence of international emissions but seemingly only to the extent they contribute to exceptional events. EPA states:

> "The Clean Air Act's good neighbor provision requires states and the EPA to address interstate transport of air pollution that affects downwind states' ability to attain and maintain NAAQS. Other provisions of the CAA, namely sections 179B and 319(b), are available to deal with NAAQS exceedances not attributable to the interstate transport of pollution covered by the good neighbor provisions but caused by emission sources outside the control of a downwind state. These provisions address international transport and exceptional events, respectively."
>
> 80 Fed. Reg. 75712 (December 3, 2015).

As acknowledged in EPA's research of "background" ozone levels, international impacts are a significant factor. EPA provides in its "Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards, August 2014" (which can be found at: http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100KCZ5.txt) that background ozone can originate from natural sources of ozone and ozone precursors, as well as from manmade international emissions of ozone precursors. *Policy Assessment*. p. 2-12. In the first draft policy assessment document (USEPA, 2012), EPA identified three specific definitions of background O_3; natural background (NB), North American background (NAB), and United States background (USB). NAB and USB are based on a presumption that the U.S. has little influence over anthropogenic emissions outside either our continental or domestic borders. *Policy Assessment,* p. 2-13. EPA's findings indicated that, "the relative importance of background O_3 would increase were ozone concentrations to decrease with a lower level of the O_3 NAAQS." *Policy Assessment,* p. 2-31. This is the circumstance we have today as the nation manages current levels of ozone concentrations relative to existing sources and current control and emissions reductions strategies and the NAAQS.

In the preamble to the adoption of the 2015 ozone NAAQS, EPA interjects the discussion of the impacts of international ozone levels. EPA offers discussion on the Clean Air Act section 179B which recognizes the possibility that certain nonattainment areas may be impacted by ozone or ozone precursor emissions from international sources beyond the regulatory jurisdiction of the state. 80 Fed. Reg. 65444 (October 26, 2015). EPA's science review suggests that the influence of international sources on U.S. ozone levels will be largest in locations are in the immediate vicinity of an international border with Canada or Mexico. Section 179B allows states to consider in their attainment plans and demonstrations (SIP and Good Neighbor SIP) whether an area might meet the ozone NAAQS by the attainment date "but for" emissions contributing to the area originating outside the U.S. If a state is unable to demonstrate attainment of the NAAQS in such an area impacted by international transport after adopting all reasonably available control measures, the EPA shall nonetheless approve the CAA-required state attainment plan and demonstration using the authority in

section 179B as discussed further below.

Relative to Good Neighbor SIPs, international impacts also play an important role. Indeed, EPA's NODA data (which can be found at: http://www.epa.gov/sites/production/files/2015-11/2017_ozone_contributions_transport_noda.xlsx) illustrates that international emissions contribute in excess of 15 ppb to all of the critical monitors in the East. We know the Clean Air Act was written to acknowledge the role of background and attainment. CAA §179B subsection (a) reads as follows addressing any implementation plan, whether downwind nonattainment SIPs or upwind good neighbor SIPs:

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

The U.S. Supreme Court noted it is essential that states only be required to eliminate "only those "amounts" of pollutants that contribute to the nonattainment of NAAQS in downwind States…" *EPA v. EME Homer City Generation*, 134 S.Ct. 1584, 1606 (April 29, 2014). "EPA cannot require a State to reduce its output of pollution by more than is necessary to achieve attainment in every downwind State. . . " *Id.* at 1608. The subsequent 2015 D.C. Circuit *EME Homer* decision offered in response to the remand from the U.S. Supreme Court, expanded as follows, "we thus must determine whether a downwind location would still attain its NAAQS if linked upwind States were subject to less stringent emissions." *EME Homer City Generation v. EPA*, 795 F.3d 118, 127(D.C. Cir. July 28, 2015). This statement assumes the variable for achieving attainment (or for not achieving attainment) is a set of sources in an upwind State, but it could have been a discussion of emissions from an upwind nation. In the circumstance of a variable of background ambient ozone concentrations attributable to international sources, the air quality deficit must be deducted from the formula for assigning whether a Good Neighbor SIP is warranted. The CAA provides for attainment "but for emissions emanating from outside the United States." As commented by the D.C. Circuit in the initial stages of the EME Homer Good Neighbor Litigation, ". . . the good neighbor provision requires upwind States to bear responsibility for their fair share of the mess in downwind States." *EME Homer City Generation, LP v. EPA*, 696 F.3d 7, 13 (D.C. Cir, August 21, 2012). Determination of "fair share of the mess" would be emissions reductions from the source state, after deduction of emission contributions from international sources, as contemplated by CAA §179B.

In addition, EPA notes that the new ozone NAAQS monitoring data influenced by international transport may be excluded from regulatory determinations. Depending on the nature and scope of international emissions events affecting air quality in the U.S., the event-influenced data may qualify for exclusion under the Exceptional Events Rule. EPA encourages affected air agencies to coordinate with their EPA regional office to identify approaches to evaluate the potential impacts of international transport and to determine the most appropriate information and analytical methods for each area's unique situation. October 1, 2015, Prepublication Final Rule for the National Ambient Air Quality Standard for Ozone, p. 553. In tandem with EPA's proposal to modify the ozone NAAQS, EPA has also commented that it is working on a number of fronts to better understand potential international sources of ozone and identify opportunities for reducing long-range transport . . ." http://www3.epa.gov/ozonepollution/pdfs/20141125fs-tools.pdf. It is apparent considerable further analysis of international emissions issue is warranted as the agency stands poised to dictate obligations on states to manage the good neighbor SIP obligations under the CAA.

4. EPA's proposed rule fails to account for the significant reduction in emissions and improvements in air quality that have occurred in the eastern U.S. in recent years.

a. There is widespread attainment of the 2008 ozone NAAQS.

Annual 4th high maximum and average three year design values (dvs) are the basis of future year nonattainment and maintenance designation for the proposed Cross State Air Pollution Rule (CSAPR). 80 Fed. Reg. 75706. The recommended process in developing future year dvs is to multiply site-specific relative reduction factors (the fractional change in air quality concentrations that is simulated due to emissions changes between a base and a future year emissions scenario) by the corresponding site-specific base year dv and then to compare the results against the current level of the ozone NAAQS.

Future year nonattainment is defined as areas with average future year design values exceeding the 75 ppb NAAQS while maintenance areas are proposed to be areas with average future year design values meeting the NAAQS, but with the projected maximum of the three, three-year base year dvs used in the calculation shown to be in exceedance of the standard.

As reported by EPA[2], air quality, based on the annual 4th maximum MDA8 average, in each eastern state region has improved since 2000 anywhere from 11% to 24% (18% nationally), with no region showing fewer than 90% of its monitors in 2014 attaining 2008 NAAQS concentrations. Attached to the comments and identified as Exhibit 6 is a report prepared by Alpine Geophysics (which can also be found at: http://www.midwestozonegroup.com/files/Current_Ozone_Design_Values_and_Widespread_Attainment_of_the_2008_8-hr_Ozone_NAAQS2.pdf) which summarizes current ozone air quality data.

Recent 8-hr ozone trends, for both the observed annual 4th high maximum of daily 8-hr

2 http://www3.epa.gov/airtrends/ozone.html

average (MDA8) ozone and calculated 3-yr averaged design values, show air quality improvement as a result of on-the-books controls and regulation. In fact, using these most current EPA data for 2014 and draft data for 2015[3] shows widespread attainment of the 2008 ozone NAAQS in the eastern United States.

Based on these 2014 and 2015 data and the associated 3-yr design value for 2013-2015, of the seventeen eastern state monitors designated in CSAPR as maintenance, only two monitors' current design values exceed the 2008 NAAQS; one in Connecticut and one in Michigan. The remaining nonattainment or maintenance monitors, located in only two distinct and limited geographic areas of the eastern U.S.; bordering Lake Michigan (WI and MI) and between Interstate 95 and the Long Island Sound (CT), are shown in Figure 2 of that study and set forth below.

Historical and CSAPR projected design values for the twenty-one monitors designated in CSAPR as nonattainment or maintenance are presented in Tables 1 and 2, respectively of that study. Table 3 of that study presents the monitor-level observational measurements of ozone concentrations for the monitors operated by EPA and the States in the U.S. and their associated average 3-yr ozone dvs. The table also presents the 2016 4th high maximum dv that would be necessary for each listed monitor to achieve the 75 ppb NAAQS with its 2014-2016 3-yr design value.

For those areas identified in CSAPR as projected nonattainment in the eastern U.S.(excluding Texas), it is shown that for all but three of the monitors (2 in Connecticut, 1 in Wisconsin), 4th maximum MDA8 values need not even attain 75 ppb in order for the 2014-2016 three year average

3 http://www3.epa.gov/airquality/airdata/index.html

to show attainment with the NAAQS. Similarly, at the projected maintenance monitors, only one monitor (Fairfield, Connecticut) needs to achieve a 4th high maximum below the 75 ppb NAAQS in order for the 2014-16 three year average to show attainment with the NAAQS.

This can be seen as another indication that air quality continues to improve in all but a few geographically constrained areas.

b. Emission reductions of ozone precursors have been significant in recent years and will continue into the future as the result of on-the-books controls.

Emission reductions of ozone precursors have been significant in recent years and will continue into the future as the result of on-the-books controls. As published by EPA, annual national and State-level NOx emissions are expected to decline between 2011 and 2017. A study prepared by Alpine Geophysics (identified as Exhibit 7 and which can be found at: http://www.midwestozonegroup.com/files/CSAPR_Documented_Emission_Reductions_and_Control_Scenarios.pdf) summarizes this data. Figure 1 of that study presents State-level annual NOx emissions from all anthropogenic categories for the base year 2011 and projected base case of 2017. As can be seen in this figure and in the associated Table 1, within the 23 state eastern U.S. domain impacted by the CSAPR, these NOx emissions decrease by approximately 2,450,000 tons (27%). Comparatively, annual NOx emissions from electric generating utilities (EGUs) decrease by 373,000 tons, or 26% from 2011 levels and have already shown significant reduction below projected progress as reported by CAMD CEM data in 2014 (Figure 2).

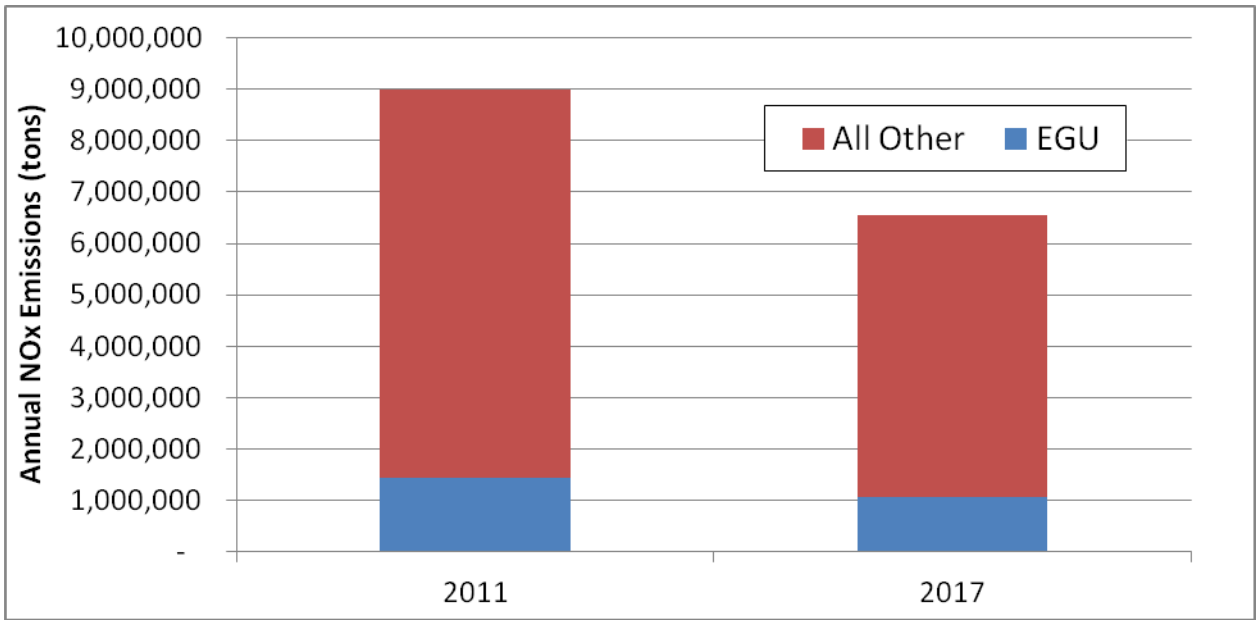


Figure 1. Annual NOx emission reduction trends; all sources and EGUs.

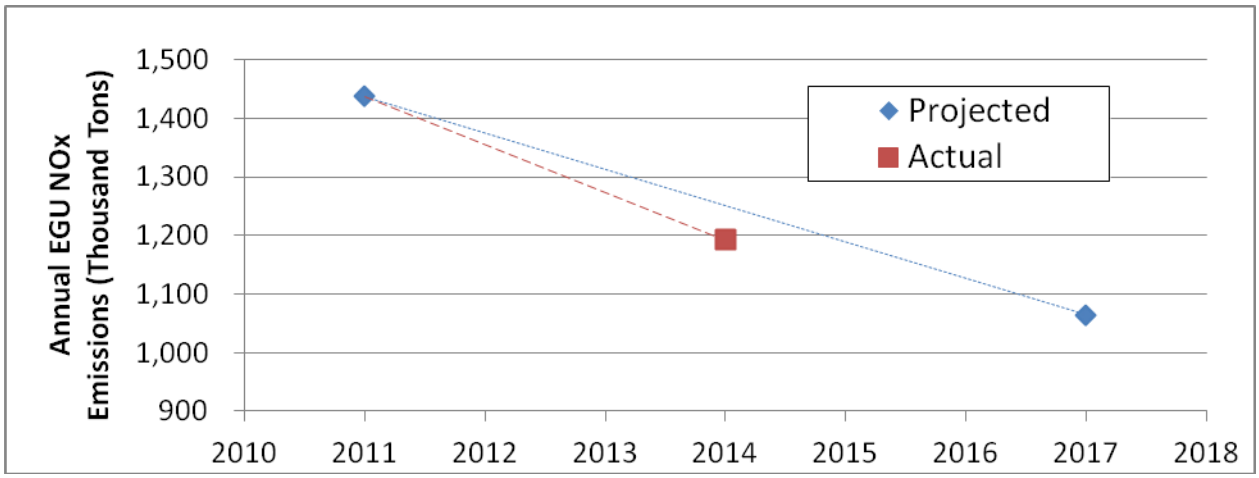


Figure 2. Annual EGUs NOx emission trends and projection.

Table 1. Annual NOx Emission Reduction Trends; All Sources and EGUs.

	Annual NOx Emissions (Tons) --- 23 CSAPR States				
	All Sources		Electric Generating Utilities		
State	**2011[4]**	**2017[5]**	**2011[1]**	**2014[6]**	**IPM 5.14 2017[2]**
Alabama	357,022	223,568	64,008	51,850	27,607
Arkansas	230,813	170,207	38,562	38,396	26,096
Illinois	504,642	358,286	73,670	49,776	35,372
Indiana	440,614	326,059	119,387	109,708	100,788
Iowa	238,571	156,305	39,704	32,337	21,034
Kansas	340,096	200,710	43,400	26,237	25,481
Kentucky	325,690	251,174	92,279	86,980	86,018
Louisiana	533,211	419,027	50,109	37,264	27,266
Maryland	164,876	111,618	19,706	15,053	8,858
Michigan	440,244	316,933	77,893	56,824	72,898
Mississippi	204,022	130,636	27,586	20,173	17,873
Missouri	370,818	241,103	66,168	74,192	46,932
New Jersey	166,521	134,868	7,242	7,096	8,924
New York	386,743	273,384	27,256	22,214	15,135
North Carolina	364,707	234,405	48,813	44,288	49,263
Ohio	581,520	384,429	104,199	89,345	70,888
Oklahoma	424,589	324,890	80,936	37,562	50,032
Pennsylvania	558,859	424,900	153,562	125,612	118,370
Tennessee	319,661	206,343	27,000	22,370	14,286
Texas	1,299,550	1,112,029	147,204	122,467	135,462
Virginia	312,169	214,366	40,139	27,648	24,221
West Virginia	173,444	157,946	56,620	72,970	61,818
Wisconsin	266,671	180,120	31,881	21,773	19,903
23 State Total	**9,005,052**	**6,553,307**	**1,437,324**	**1,192,138**	**1,064,525**

4 2011eh_cb6v2_v6_11g_state_sector_totals.xlsx (referenced in EPA-HQ-OAR-2015-0500-0087)
5 2017eh_cb6v2_v6_11g_state_sector_totals.xlsx (referenced in EPA-HQ-OAR-2015-0500-0087)
6 Air Markets Program Data tool (http://ampd.epa.gov/ampd/)

For purposes of determining whether alternate cost-based EGU emission control scenarios would be appropriate for reducing ozone at downwind monitors in the CSAPR modeling domain, EPA ran a series of IPM emission scenarios. Figures 2 and 3 of the Alpine Geophysics study present the emissions and emission reductions for all EGU as predicted by IPM, for the 2017 ozone season, as published by EPA in the document "Ozone Transport Policy Analysis Proposed Rule TSD"[7]. Figure 3 is taken from Table B-2, '2017 Ozone Season NOx EGU Emissions for Each State at Various Pollution Control Cost Thresholds (CT) per Ton of Reduction (Tons) "All Units"' while Figure 4 is taken from Table B-3, 'Emission Differences between the 5.14 Base Case and the Other Pollution Control Cost Thresholds (Tons) from "All Units"'.

In this policy analysis TSD, EPA states that "[t]he air quality modeling for this proposal, including identifying nonattainment and maintenance receptors, performing contribution analysis, and modeling an illustrative control case relied on IPM version 5.14. After the modeling analyses were underway, the EPA released an updated IPM base case, version 5.15, and the final Clean Power Plan (CPP)." However, as noted by EPA, due to constraints in time necessary to conduct an appropriate assessment on the updated platform and its impact on ozone concentrations, they chose to perform a scaling analysis on this new base case instead of rerunning their air quality models and source apportionment tools.

In fact, from EPA's TSD we note that EPA's estimate of ozone season NOx emissions from EGUs used in the air quality modeling and significant contribution analysis to justify this proposal is approximately 93,000 higher than latest on-the-books estimates expected by EPA. States that have the greatest seasonal decrease difference (lower in v 5.15 than in v 5.14) between the modeled simulation (v 5.14) and the one identified by EPA as the true base case (v 5.15) are Kentucky (11,792 tons), Michigan (10,188 tons), and Pennsylvania (8,574 tons). Alternately, the States that show the largest increase in emissions between the two scenarios are Maryland (2,217 tons), Alabama (1,441 tons), and Nevada (355 tons).

Finally, it can be observed in Figure 3 of the Alpine report (set out below) the CPP base case (v 5.15) is lower that the IPM v 5.14 used by EPA in its modeling by 92,961 tons and by an amount greater than the emission reductions that EPA expects to achieve with its proposed CSAPR update.[8]

7 http://www.epa.gov/sites/production/files/2015-11/documents/ozone_transport_policy_analysis_tsd.pdf
8 While MOG does not concede the accuracy of the IPM model to predict emission reductions in 2017, if EPA believes those reductions will occur the agency should appropriately assess the extent to which those emission reductions will reduce downwind ozone concentrations and to be certain that any proposal it advances in a transport rule do not result in over-control.

Table B-3. Emission Differences between the 5.14 Base Case and the Other Pollution Control Cost Thresholds (Tons) from "All Units".

	5.14 Base Case	5.15 Base Case	$500/ton CT	$1300/ton CT	$3400/ton CT	$5000/ton CT	$6400/ton CT	$10000/ton CT	Less Stringent Control Alternative	Proposed Emissions Budgets	More Stringent Control Alternative
Alabama	0	1,441	-288	-2,136	-2,207	-3,305	-3,932	-4,354	-56	-1,665	-1,620
Arizona	0	-3,874	-3,874	-9,940	-9,685	-9,802	-9,822	-9,911	-3,860	-3,860	-3,860
Arkansas	0	-5,492	-5,505	-5,595	-6,267	-6,555	-6,637	-7,330	-5,476	-5,476	-5,355
California	0	-333	-333	-334	-341	-336	-337	-452	-333	-333	-333
Colorado	0	-1,430	-1,430	-1,453	-2,062	-2,313	-2,721	-3,356	-1,430	-1,430	-1,430
Connecticut	0	20	19	22	2	-17	-17	-44	20	20	20
Delaware	0	192	192	192	192	192	192	188	192	192	192
District of Columbia	0	0	0	0	0	0	0	0	0	0	0
Florida	0	-3,493	-4,700	-10,017	-10,571	-10,719	-11,142	-11,350	-3,255	-3,106	-3,070
Georgia	0	-2,038	-2,157	-2,275	-2,376	-2,464	-2,494	-2,463	-2,035	-2,025	-2,019
Idaho	0	44	38	38	39	39	39	39	45	42	43
Illinois	0	-4,808	-5,183	-5,245	-5,317	-5,383	-5,394	-5,515	-5,037	-5,049	-5,060
Indiana	0	-1,414	-8,025	-13,536	-14,320	-15,099	-14,767	-18,113	-8,067	-12,877	-12,892
Iowa	0	-1,057	-1,174	-1,413	-1,452	-1,452	-1,424	-2,023	-1,211	-1,429	-1,429
Kansas	0	126	-301	-271	-93	-269	-301	71	-301	-301	-301
Kentucky	0	-11,792	-15,400	-23,687	-24,146	-24,237	-25,220	-26,267	-14,790	-23,017	-22,967
Louisiana	0	-2,764	-2,798	-2,851	-3,134	-3,187	-3,185	-3,391	-2,760	-2,849	-2,843
Maine	0	-44	-44	-44	-44	-52	-57	-57	-44	-44	-44
Maryland	0	2,217	1,189	1,191	1,053	1,041	848	848	1,026	1,032	903
Massachusetts	0	262	312	273	264	230	158	113	265	265	262
Michigan	0	-10,188	-10,563	-13,081	-13,559	-13,708	-13,704	-13,744	-10,348	-11,786	-11,786
Minnesota	0	-278	-356	-553	-758	-810	-851	-1,925	-275	-275	-275
Mississippi	0	-653	-734	-949	-1,536	-1,743	-2,056	-2,693	-1,163	-1,372	-1,884
Missouri	0	-1,969	-2,900	-2,927	-2,865	-2,751	-3,310	-3,519	-2,875	-2,839	-2,801
Montana	0	-743	-756	-756	-756	-780	-780	-780	-743	-743	-743
Nebraska	0	65	65	-311	-3,160	-3,339	-3,796	-4,762	31	29	30
Nevada	0	355	340	338	-868	-1,034	-1,608	-2,352	355	354	354
New Hampshire	0	-12	-12	-12	-7	-5	-6	-2	-12	-12	-12
New Jersey	0	-667	-1,036	-1,037	-1,041	-1,044	-1,047	-1,128	-1,526	-1,528	-1,532
New Mexico	0	106	106	-326	-324	-452	-902	-1,027	106	106	106
New York	0	-1,213	-1,317	-1,486	-1,545	-1,545	-1,818	-2,051	-1,253	-1,448	-1,447
North Carolina	0	-4,741	-6,663	-6,659	-8,263	-8,363	-9,153	-9,274	-6,707	-6,707	-7,833
North Dakota	0	-6,614	-6,614	-9,959	-9,983	-10,295	-10,557	-10,607	-6,791	-6,791	-6,791
Ohio	0	-444	-6,190	-10,090	-10,110	-9,908	-10,147	-10,220	-6,189	-9,870	-9,870
Oklahoma	0	-4,714	-5,417	-6,884	-7,883	-8,535	-10,404	-11,311	-4,720	-6,232	-6,220
Oregon	0	-238	-238	-238	-238	-238	-238	-238	-238	-238	-238
Pennsylvania	0	-8,575	-10,785	-35,339	-35,347	-35,469	-35,488	-35,560	-9,752	-35,079	-35,086
Rhode Island	0	49	49	52	49	49	49	49	47	48	48
South Carolina	0	-308	-1,365	-1,444	-1,482	-1,491	-1,493	-1,462	-167	-137	-136
South Dakota	0	-356	-356	-356	-356	-356	-356	-356	-356	-356	-356
Tennessee	0	-816	-890	-928	-937	-1,015	-1,032	-1,075	-890	-889	-888
Texas	0	-7,452	-8,081	-10,260	-12,245	-13,369	-14,123	-13,944	-7,423	-9,506	-9,428
Utah	0	-671	-671	-4,142	-4,142	-5,082	-5,314	-5,951	-671	-671	-671
Vermont	0	-36	-36	-36	-36	-36	-36	-36	-36	-36	-36
Virginia	0	-2,054	-2,476	-2,593	-3,445	-4,962	-5,072	-4,915	-2,002	-2,372	-2,343
Washington	0	-256	-256	-256	-256	-256	-256	-76	-256	-256	-256
West Virginia	0	57	-535	-10,851	-11,957	-12,153	-12,185	-12,185	-535	-10,851	-11,957
Wisconsin	0	-2,878	-2,881	-2,894	-2,955	-2,976	-3,127	-3,469	-2,884	-2,884	-2,884
Wyoming	0	-3,486	-3,558	-4,115	-5,023	-5,037	-5,470	-5,937	-3,486	-3,486	-3,486
Nationwide	**0**	**-92,961**	**-123,583**	**-205,173**	**-221,490**	**-230,390**	**-240,492**	**-253,916**	**-117,865**	**-177,736**	**-180,222**

*Source: Integrated Planning Model run by EPA, 2015. See Appendix A for list and description of these IPM runs. Emissions have been rounded to the nearest ton. Emissions shown for all fossil-fired units greater than 25 MW when only an ozone season cost constraint is applied. Costs are in 2011$.

Table B-3 from Air Policy TSD; State-level 2017 ozone season EGU NOx emission differences from modeled IPM v. 5.14 Base Case for various pollution control cost thresholds.

According to EPA, the proposed NOx controls represented in the above table result in "meaningful" ozone improvements. 80 Fed. Reg. 75736. In contrast to this statement, as noted in the air policy TSD, none of the CSAPR nonattainment monitors are estimated to have resolved their average design value problems (i.e., estimated nonattainment) at any of the NOx cost thresholds examined when examined across the IPM v. 5.15 scenarios. Table 2 of the attached Alpine report identifies the relatively insignificant change in future year design values projected by EPA. This table lists the nonattainment monitors from CSAPR and their estimated nominal change in design value

associated with the thousands of tons NOx reduced under the cost effective control strategies investigated by EPA.

In fact, the only change of significance noted in EPA's design value analysis is the average design value for two maintenance monitors (Richmond, NY and Hamilton, OH) dropped below 76 ppb in the transition from the IPM v. 5.14 to IPM v. 5.15 base cases. In other words, should EPA have run CAMx using the 2017 EGU base case they feel is more representative of on-the-books controls, they estimate that at least two additional projected monitors in the impacted eastern states (and the associated significant contribution requirements of upwind states) would have been eliminated.

When EPA rejecting $500/ton controls it did so because that level of control did not "resolve" any identified air quality problems (p. 75733, f/n 95). When EPA moved to consideration of $1300/ton controls it abandoned the "resolve" any identified air quality problems test in favor of applying the "meaningful" ozone improvements test.

5. EPA's proposal fails to take into consideration significant on-the-books regulatory programs that will further reduce ozone precursors over the next several years and result in additional improvements in ozone air quality.

EPA failed to account for several on-the-books emission reductions programs that are of sufficient magnitude to have a material effect on the outcome of the analysis underlying the proposal. Only through a full assessment of these reductions can EPA assess whether there is a basis for this transport rule, since there must be nonattainment to support such a transport rule. In addition we are mindful of the Court mandate that any effort to regulate upwind states once the downwind state has achieved attainment would be prohibited as "over-control". The two leading illustration of these omitted control programs are the Pennsylvania EGU NOx RACT rule and the various NEOTC measures.

With respect to the Pennsylvania EGU NOx RACT program, the applicable rule calls for emission reductions to take effect in January 2017. From a report prepared by Olympus Power entitled "Estimation of Pennsylvania RACT II Rule on Pennsylvania Ozone Season NOx Emissions from Electric Generation Units" attached to these comments and identified as Exhibit 8 (and which can be found at http://www.midwestozonegroup.com/files/PARACTNOx.pdf), it is apparent that EGU NOx emissions from EGUs in 2017 will be only 27,010 tons compared with 44,551 tons of actual CAMD ozone season emissions in 2014 – a 39% reduction. More significantly when these 2017 NOx emissions are compared with EPA IPM 5.14 data (which predicted ozone season EGU NOx emissions to be 52,173 tons) – a 48% reduction occurs

With respect to NEOTC programs, we have been advised by the State of Maryland (see attached presentation dated May 7, 2015, which is identified as Exhibit 9 and which can be found at: http://midwestozonegroup.com/files/MOG_May_7_Final_050515.pptx) that the OTC is implementing 9 programs that will reduce both NOx and VOC. These 9 programs (set out below) will result in a total of nearly 27,000 tons of ozone season NOx and 22,000 tons of ozone season VOC emission reductions.

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

EPA's authority to adopt a transport rule of this kind is limited by several factors including being prohibited from imposing any emission reductions on upwind states that would be more than would be necessary to eliminate nonattainment in downwind areas. These two omitted emission reduction programs alone are more than 46,000 tons per ozone season as compared with the 85,000 tons of ozone season NOx reductions proposed by EPA in its CSAPR update. Before finalizing the rule, we again urge that EPA address these additional controls and if it finds that these emission reductions bring about attainment, EPA should not finalize the proposed rule.

6. Use of more recent ozone design value data demonstrates that the only remaining ozone air quality problem areas in the East are the three monitors in Fairfield County, Connecticut which do not provide a sufficient basis to support a regional transport rule.

In its approach, EPA determined an area to be nonattainment in 2017 if the average of the three DVs for the years 2009-11, 2010-12 and 2011-13 exceeded 75.9 ppb. EPA then considered an area to be a maintenance area if any one of the three year DVs was in excess of 75.9 ppb. EPA is seeking comments on its use of this methodology (80 Fed. Reg. 75725). As will be set forth below,

we believe that the approach used by EPA is fatally flawed because it gives less recognition to the more recent monitored ozone data that now exists. EPA should have performed a similar analysis using the most recent data available. Specifically, we urge that consideration be given to the most recent 5-year period from 2011-15. Even though the 2015 data is currently available from EPA we acknowledge that it will not be considered final until later in 2016. We believe accounting for the data now adds significant value to this inquiry and in any case this data will be finalized by the time this rule becomes final. EPA itself recognizes the importance of using recent data (80 Fed. Reg. 75721) but in this case has not dome so.

EPA's Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze[9] provides for developing various alternatives in defining and calculating the base year and projection year design values associated with the determination of an area to be in attainment of a NAAQS. Specifically, in this document, EPA recommends that "[t]he base design value for each monitoring site is the anchor point for estimating future year projected concentrations. Because the modeling is being used in a relative sense to determine how the modeled emissions changes will affect air quality design values in an area, it is important to match the base design value as closely as possible to the base year for which future/base ratios will be assessed."

Additionally, EPA recommends that "[i]n addition to the model attainment test, air agencies should also consider performing a set of corroboratory analyses to further assess whether a proposed set of emission reductions will lead to attainment of the NAAQS (or uniform rate of progress for regional haze)." The document goes on to say "[i]n practice, the choice of the base design value can be critical to the determination of the estimated future year design values and careful consideration should be given to the calculation of base year values. There is no single methodology that can derive a "correct" base design value" and that a "5 year weighted average value establishes a relatively stable value that is weighted towards the emissions and meteorological modeling year." The document also states that "[a]lternate, equally plausible, calculations of base design values may be considered as part of the corroborating analyses that comprise the aggregate weight of evidence determination."

Alpine Geophysics prepared for the purpose of these comments an alternate, corroboratory analysis designed to investigate the changes in air quality associated with more current year (2011-2015) ozone concentration observations compared to the historical observations (2009-2013) used by EPA in CSAPR. This study (which is both attached to these comments and identified as Exhibit 10 and which can be found at: http://www.midwestozonegroup.com/files/Alternate_Design_Value_Calculation_and_Attainment_Demonstration.pdf) provides an up-to-date picture of projected air quality concentrations and design values inclusive of controls implemented between 2009 and 2011 and the impacts of these controls as observed in most recent ozone monitor observations.

As noted in Figures 1 and 2 of this study generated from data published by the National Oceanic and Atmospheric Administration (NOAA)[10,] meteorological years of 2011 through 2015 have shown relatively consistent precipitation amounts in the eastern states with a noted wet year in

9 http://www3.epa.gov/scram001/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf
10 http://www.ncdc.noaa.gov/temp-and-precip/us-maps/

2009 followed by an exceptionally a dry season in 2010. Similarly, for this series of recent years, 2009 appeared relatively cold compared to the seven year series, as 2010 also demonstrated exceptionally warm temperatures.

In this analysis, Alpine Geophysics ran EPA's CSAPR 2011/2017 base case modeling platform using the MATS tool and CSAPR configuration with the exception of using a shifted base year design value to account for more recent observations commensurate with the state of emissions and meteorology of more current years. Using this shift, the weighting of design values moved from a higher weighted 2011 base year (that includes the below/above average temperature years of 2009 and 2010) to a higher weighted 2013 base year. Using this option, the three, three year design values selected for the base year dv were 2011-2013, 2012-2014, and 2013-2015.

But temperature and precipitation are not the only conditions that led us to developing this alternate approach. It is well established that inter-annual variability in meteorological conditions often leads to year-to-year differences in design values, even with static emissions levels. However, in this case, there is also year to year variability in emissions due to economic factors and compliance with regulations.

Significant emission reductions and associated air quality improvements have been demonstrated in the eastern states during the period of time between 2011 and 2015. To account for this reduction in ozone in accord with the most current emissions and meteorological conditions, Alpine Geophysics concluded that calculating future year design values using the basis of current conditions is an appropriate alternative for consideration.

Recalculating the modeled baseline design values demonstrates an alternative approach to calculating the modeled design values that shows less bias to past conditions. This average is expected to best represent the air quality resulting from current year emissions with attention to meteorological and emissions variability while placing less weight on conditions in past years that are no longer representative of present conditions.

Until future year attainment tests include comparable base year inventory averages (over multiple years) consistent with the same years selected in the development of base year design values, this alternate approach should be considered as adequate a representation of base year conditions as the guidance recommended default.

As is shown in this study, with the exception of three monitors in Fairfield, Connecticut, all remaining monitors in the eastern U.S. show attainment in 2017. Equally significant is the fact that 12 of the monitors that EPA would call maintenance would no longer meet even EPA's test for maintenance areas. The other 6 maintenance sites are monitors that have DVs below 75.9 ppb for the last two sets of DVs raising serious questions about whether even under EPA's test whether they should continue to be considered maintenance areas.

Inasmuch as the only remaining nonattainment areas likely to exist in 2017 are the located in Fairfield County Connecticut, we do not believe that there is an adequate basis for undertaking a regional transport rule. As we have stated elsewhere in these comments, there is adequate authority

for Connecticut to address its residual nonattainment on the basis of local controls or at most by pursuing action within the framework of Section 184(c)(1) of the Clean Air Act. Moreover, as earlier stated, the State of Connecticut has itself conceded that "High electric demand day emissions are part of the persistent ozone attainment problems in the OTC" and that reductions in these emissions "are a key to attaining the ozone NAAQS."

7. EPA has improperly based its proposal on the premise that it may only impose controls on EGUs without considering emission reductions necessary to eliminate significant contribution of an upwind state to downwind air quality problems.

EPA repeatedly confirms that they know this proposal is only a "partial" transport rule. This raises serious questions about EPA's authority to promulgate a partial transport rule and to be able to assure that the prohibitions against over control are not circumvented.

EPA provides that "While these reductions are necessary to assist downwind states attain and maintain the 2008 ozone NAAQS and are necessary to address good neighbor obligations for these states, the EPA acknowledges that they may not be sufficient to fully address these states' good neighbor obligations." 80 Fed. Reg. 25714.

EPA goes on to explain its anticipated development of a subsequent rule to complement the partial one being proposed. EPA states:

> To evaluate full elimination of a state's significant contribution to nonattainment and interference with maintenance, EGU and non-EGU ozone season NOx reductions should both be evaluated. To the extent air quality impacts persist after implementation of the NOx reductions identified in this rulemaking, a final judgment on whether the proposed EGU NOx reductions represent a full or partial elimination of a state's good neighbor obligation for the 2008 NAAQS is therefore subject of an evaluation of the contribution to interstate transport form additional non-EGU emission sectors."
>
> 80 Fed. Reg. 75709 (December 3, 2015).

The basics of the CAA require that "each State shall, adopt and submit . . .a plan that provides for implementation, maintenance, and enforcement of such primary [and secondary] standard. . ." 42 U.S.C. 110(a)(1). "Each such plan shall contain adequate provisions prohibiting . . . any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard." 42 U.S.C. 110(a)(2)(D)(i)(I). The CAA provides that EPA shall promulgate a Federal implementation plan at any time within 2 years after the Administrator finds that a State has failed to make a required submission or finds that the plan or plan revision submitted by the State does not satisfy the minimum criteria . . .or disapproves a State implementation plan in whole or in part. 42 U.S.C. 7410(c)(1)(A)-(B). The language of the CAA speaks to EPA filing a federal implementation plan that would do that which the State has failed to complete, a plan to eliminate significant contribution from that State. The statute does not describe a process for EPA to issue a partial

solution to that which a state has failed to complete. It appears that EPA reads the CAA to allow it to delay development of a plan that meets the minimum criteria for an implementation plan. MOG raises this concern and invites EPA to revisit the legality of only developing a "partial" FIP.

The U.S. Supreme Court in *EME Homer City* affirmed the appropriateness of the first CSAPR transport rule relative to its significance test. CSAPR 1 provided that upwind emissions rank as "amounts [that] . . . contribute significantly to nonattainment" if they (1) constitute one percent or more of a relevant NAAQS in a nonattaining downwind State and (2) can be eliminated under the cost threshold set by the Agency." In CSAPR I, EPA considered both the magnitude of upwind States' contributions and the cost associated with eliminating them. The Supreme Court offered that, "Using costs in the Transport Rule calculus, we agree with EPA, also makes good sense." Id at 1607. The distinction from the rule the Supreme Court was reviewing and that being proposed today is the Supreme Court was managing a transport rule that developed comprehensive state budgets. The proposed rule before us only addresses one source category and therefore its cost analysis does not establish a comprehensive economic analysis for the states. EPA departed from the development of a comprehensive budget in this proposal. EPA offers little justification for its failure to develop a complete rather than partial FIP, other than they did not have adequate time. "Given the time constraints for implementing NOx reduction strategies, the EPA believes that implementation of a full remedy may not be achievable for 2017, even though a partial remedy is achievable." 80 Fed. Reg. 75715. The Supreme Court speaks to CAA timing by providing that "[The D.C. Circuit] allowed a delay Congress did not order by placing an obligation on EPA to provide specific metrics to States before they fulfilled their Good Neighbor obligations." *EME Homer City* at 1601. "The D.C. Circuit, we hold, had no warrant thus to revise the CAA's action-ordering prescriptions." *Id.* It is upon this basis that MOG questions the legality of EPA's action that fails the CAA FIP timing requirement for developing an adequate implementation plan that meets the minimum criteria.

Additionally, there is the unanswered question as to whether the entire EPA's proposal calls for a reduction of emissions that is more than is necessary to achieve attainment in every downwind State. *See, EME Homer City at 1608*. The proposed rule creates a process of a piecemeal attainment strategy that does not afford the public appropriate notice of the plan to allow for comment and assessment of the larger question of over control that can only be applied to a transport rule that, as a practical matter, can only be applied to a full set of emission controls for all sources in the upwind state.

8. EPA has failed to identify any air quality problems that are resolved by the NOx emission reductions it has proposed.

While EPA claims (80 Fed. Reg. 75736) that the proposed NOx controls result in "meaningful" ozone improvements, that claim is contradicted by the fact that the totality of the emission reductions called for under this proposal are not sufficient to change the attainment status of any one monitor or eliminate any states significant contribution (80 Fed. Reg. 75737). When EPA rejected $500/ton controls, it did so because that level of control did not "resolve" any identified air quality problems (80 Fed. Reg. 75733, f/n 95). When EPA moved to consideration of $1300/ton controls it abandoned the "resolve" any identified air quality problems test in favor of applying the "meaningful" ozone improvements test.

EPA states that EGU emissions cause ozone impacts of 5-25 ppb in mid-Atlantic metropolitan statistical areas (80 Fed. Reg. 75712). In support of this statement EPA cites in footnote #18 (80 FR 75712) a February 2015 published paper that used a 2007 modeling platform and CMAQ in its source contribution estimation of EGUs (5-25 ppb in noted metro areas). This conclusion has little meaning today since the relative distribution of EGU NOx in 2007 is significantly different (and higher) than that in either 2011 or 2017 as the result of control programs and equipment installation between 2007 and 2011/2017. In addition it should be noted that the study relied upon by EPA was based on so-called "zero out" modeling (the simulation of air quality in the absence of a certain sector or region) which perturbs the chemistry involved with ozone formation and is not as accurate as using source apportionment tools (OSAT / APCA) in determining ozone contribution metrics. More recent OSAT work with 2010 and 2011 modeling platforms (including work with LADCO's 2018 modeling) indicate that the ppb contribution of EGUs to these metro areas is significantly lower than noted in this discussion and analysis.

9. Contrary to EPAs representations, the NOx limits proposed for EGUs cannot be achieved by many units through the operation of existing controls.

The basic premise of EPA's CSAPR proposal is that NOx emission reductions by 2017 are readily available to EGUs through the operation of existing NOx controls. EPA has not only established state-wide budgets based upon this assumption, but has also determined what unit specific allocations would be to implement those state budgets. Moreover, EPA states at 80 Fed. Reg. 75742 that:

> "The EPA proposes to implement each state's EGU NOx ozone-season emissions budget in the trading program by allocating the number of emission allowances to sources within that state, equivalent to the tonnage of that specific state budget.... For these 23 states, the EPA would allocate allowances under each state's budget to covered units in that state."

According to EPA's Regulatory Impact Analysis Summary: " . . .under the FIPs, affected EGUs would participate in the CSAPR NOx Ozone Season allowance trading program. The allowance trading program is the remedy in the FIP that achieves the ozone season NOx emission reductions required by the proposed rule. The allowance trading program essentially converts the EGU NOx emissions budget for each of the 23 states subject to the FIP into a limited number of NOx allowances that, on a tonnage basis, equal the state's ozone season emissions budget. EGUs covered by the seasonal allowance trading program in the proposed FIPs are able to trade NOx ozone season emission allowances among EGUs within their state and across state boundaries, with emissions and the use of allowances subject to certain limits." p. 4.2.

MOG objects not only to unjustified nature of the state-caps which EPA proposes, but also to unit specific allocations that have been made. Specifically, while EPA has stated that its proposal is based upon the agency determinations that these emission reductions are readily available by the ozone season of 2017, it is readily apparent that many units will not able to do so. Specifically we call your attention to a report prepared by Alpine Geophysics entitled "NOx Emissions and Rate Comparison Data Ozone Season NOx Emissions and Rates, Units with Lowest Historical Ozone

Season NOx Emissions Exceeding CSAPR Proposed Budget Allocations which is attached to these comments and identified as Exhibit 11 (and which is also available at: http://midwestozonegroup.com/files/UnitswithLowestHistoricalOzoneSeasonNOxEmissionsExceedingCSAPRProposedBudgetAllocation.pdf) which identifies unit specific allocations under the proposal and compares them with the best performance those units have achieved during the ozone season rates from 2005 through 2015 for all units in the 23 states which are the target of the proposed rule. This exhibit identifies many units which have not experienced emission reduction since 2005 that would be sufficient to comply with the proposed unit allocations.

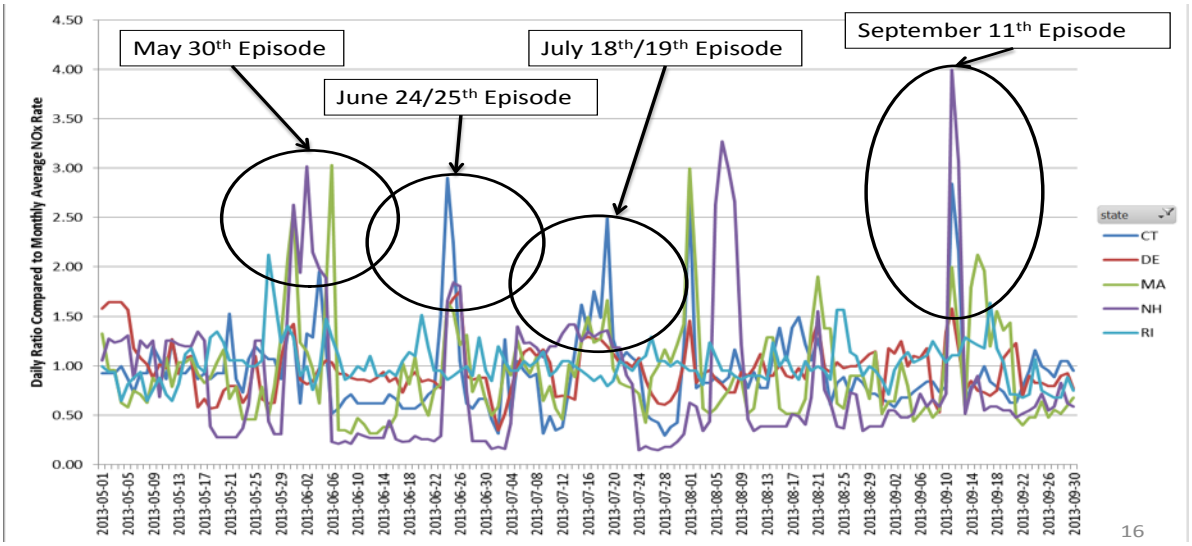
We urge EPA to reconsider both it state caps and units allocations to assure that the unit allocations are truly allocations that can be achieved with existing controls by the 2017 ozone season.

10. To the extent that regional NOx caps are appropriate at all, they should be applied as ozone season caps and not on any shorter time period.

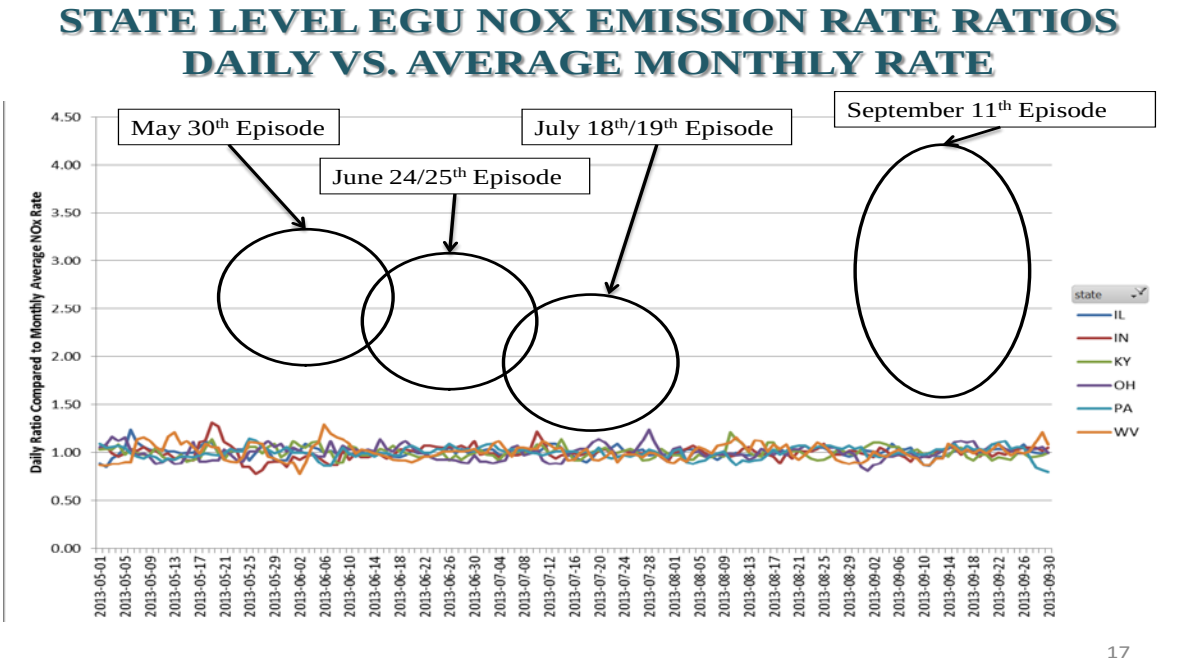
EPA proposes to implement these new NOx reductions through the CSAPR EGU NOx ozone season trading program. 80 Fed. Reg. 75741. EPA state that it has historically implemented EGU NOx emission on an ozone season basis without objection. 80 Fed. Reg. 75712. EPA notes however that officials from the Ozone Transport Region have asked EPA to consider additional peak day limits on EGU NOx emissions. 80 Fed. Reg. 75716.

MOG opposes any suggestion that it would be appropriate to impose and EGU NOx limits in a transport rule on any time scale shorter than the ozone season. EPA notes that during the course of its various rulemakings on the regulation of EGU emissions, it has received "no significant adverse comments in any of these proposals regarding the rules' focus on ozone season EGU NOx reductions to address interstate ozone transport". 80 Fed. Reg. 75712. While MOG has certainly objected to the several EPA actions to impose EGU NOx controls to address interstate transport, it has never done so because those limits were to be imposed on an ozone season basis.

To the extent that OTC officials seek controls on peak days, we believe they may find that those shorter term controls should be applied on local – and not regional – sources. As MOG pointed out in its testimony at the New Jersey Clean Air Council Hearing held on April 14, 2015 (which is attached and identified as Exhibit 12 and which can be found at: http://www.state.nj.us/dep/cleanair/PPP/2015/Flannery.pdf) a close examination of the high ozone days in 2013 indicates that at the time of that event, the cumulative NOx emissions from EGUs in the Connecticut, Delaware, Massachusetts New Hampshire and Rhode Island were more than double their normal monthly emission rate as shown below:



In contrast, there was no increase in EGU NOx emission rates from the states of Illinois, Indiana, Kentucky, Ohio, Pennsylvania and West Virginia during those events as shown below:



The need for shorter term controls on EGU NOx emissions is not a matter to be addressed in a regional transport rule. If the OTR believes that there is need in that region for shorter term controls

limits, we respectfully suggest that look to local authority to address those issues or the provisions of Section 184(c)(1) of the Clean Air Act that were are discussed in detail elsewhere in these comments.

11. EPA has proposed the possibility of shifting generation but has not assessed the legal or technical merit of that approach.

EPA's proposal lists a number of so-called widely used EGU NO_x control strategies, including shifting generation to units with lower NO_x emission rates within the same state. (80 Fed. Reg. 75706, 75731). While EPA states that its proposed rule "does not require or impose any specific technology standards to demonstrate compliance, it does not adequately explain how shifting generation to lower NO_x emitting EGUs could be implemented, does not provide a detailed cost analysis for this mitigation strategy, and does not consult with power authorities, such as the Federal Energy Regulatory Commission ("FERC"), in determining the impact shifting generation may have on the power sector. *Id*.

In *Delaware Dept. of Natural Res. and Envtl. Control v. Envtl. Prot. Agency*, the United States Court of Appeals for the District of Columbia held that the EPA was required to seek input from FERC when implementing the *National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; New Source Performance Standards for Stationary Internal Combustion Engines* final rule, when it justified the rule "on the basis of supporting system reliability." *Delaware Dept. of Natural Res. and Envtl. Control v. Envtl. Prot. Agency*, 785 F.3d 1, 18 (D.C. Cir. 2015). Respondents argued that "grid reliability is not a subject of the Clean Air Act and is not the province of the EPA" and that the EPA should have sought input from FERC during the rulemaking process. *Id*. EPA argued that its authority to regulate engines on the basis of grid reliability came from 42 U.S.C. § 7412(d), which instructs EPA to "consider the cost of achieving emission reductions." *Id*. The court opined that the EPA's reliance on grid reliability was not "the product of agency expertise" and, on remand, instructed the EPA to "solicit input from FERC, as necessary." *Id*.

Here, EPA states that "shifting generation to lower NO_x emitting EGUs would be a cost-effective, timely, and readily available approach for EGUs to reduce NO_x emissions . . . ."; yet, the EPA fails to include an adequate analysis of how shifting generation could be implemented for those entities that have yet to employ this option, and fails to include a cost-analysis for those who may elect to implement this mitigation strategy. 80 Fed. Reg. at 75732. Further, the EPA fails to include input from FERC as to the overall impact this mitigation strategy could have on the power sector, something that falls directly within the purview of FERC, and is not something that is the "product of [EPA's] expertise."

12. EPA adjustments to the basic parameters of the CAMx model to speed up computer processing time has resulted in changes in the accuracy of the model that have not been evaluated by EPA.

When the Cross State Air Pollution Rule (CSAPR) Notice of Data Availability (NODA) modeling platform was transferred from EPA to Alpine Geophysics, LLC (Alpine), the first activity

conducted by Alpine was to confirm that the Comprehensive Air Quality Model with Extensions (CAMx) model was giving approximately the same computational results on the Alpine computer system as on the EPA system. CAMx has very complex model code and the model very often gives small concentration differences based on the computer, compiler and parallelization options chosen by the user. These differences were expected to be small (sub part per trillion) for ozone.

When the model results on the Alpine computer system were compared to the simulation run on the EPA computer system the differences were much larger than expected. Alpine Geophysics examined these difference for MOG in a report entitled "Review of CAMx HMAX Configuration in Cross State Air Pollution Rule Air Quality Modeling" attached and identified as Exhibit 13 (and which can also be found at: http://www.midwestozonegroup.com/files/ReviewofCAMxHMAXConfigurationinCrossStateAirPollutionRuleAirQualityModeling.pdf). On the day selected for this analysis, the EPA simulation predicted higher ozone concentrations than the Alpine simulation over much the western domain with noted lower predictions modeled around the Big Bend area of Texas, in and around Phoenix, and Santa Fe. Lower concentrations are seen in portions of the Midwest and eastern U.S. with concentrated higher predictions in Chicago, Louisville (KY), the New York City metro area, and other metro areas in the southeast. Peak differences demonstrated on this particular day as high as 2.8 ppb.

Since the noted differences in daily ozone concentrations were larger than expected, Alpine contacted EPA and requested a copy of the source code that EPA used to perform the simulations. The code was promptly delivered and upon inspection it was discovered that EPA had altered a parameter in the code. CAMx includes a feature called "Super Stepping". Super stepping is a technique to relax certain numeric limits in the horizontal advection scheme to maximize model computation speed at the expense of a certain degree of numeric accuracy and can reduce the accuracy of the vertical transport solution, especially in high wind conditions over complex terrain.

As distributed, the CAMx model sets a default super stepping parameter (HMAX) to 2000 m. This defines the altitude below which peak winds are used in the calculation of the timestep. Lowering HMAX results in using winds at lower altitudes to define the timestep, and since these winds are usually much slower than winds aloft, timestep increases and computation time decreases. When super stepping is not invoked, the peak winds over the entire domain depth are used to calculate timestep. EPA had modified the code to set HMAX to 20 m, potentially reducing the accuracy of the vertical transport solution over the entire modeling domain. The CAMx model developers put in the 2000 m parameter as an appropriate balance between numeric accuracy and computational efficiency.

EPA staff was contacted about this issue and it was confirmed that the code modification was made to make the model run faster and no analysis had been performed to determine the impact of the change on the numeric accuracy of the model.

The model performance evaluation presented in the air quality modeling TSD1 used the modified (HMAX = 20 m) version of CAMx, so this version of the model was evaluated against the observations when EPA made the conclusion that it was appropriate to use the modeling platform for

air quality planning purposes. It is unknown what the impact of the change would have on the relative response to emission changes, or if the model concentration difference could change the conclusions about which monitors may be violating the NAAQS, or be in danger of violating the NAAQS.

As a result of Alpine's communication with EPA and findings in their limited comparison of the original and modified versions of CAMx, they believe that the ozone concentration data generated using the modified version of the source code may have had impact on the conclusions of CSAPR modeling, including the associated attainment and significant contribution calculations.

13. EPA's failed to conduct model performance evaluation for the critical days selected for the proposed rule and the ozone concentrations selected are inappropriate for the monitors being evaluated.

As part of its review of the EPA data behind the proposed transport rule, Alpine Geophysics has prepared a report entitled "Model Performance Review at Monitors with Complex Meteorology Land-Water Interfaces" which is attached and identified as Exhibit 14 (and which can also be found at: http://www.midwestozonegroup.com/files/ModelPerformanceReviewatMonitorswithComplexMeteorologyLand-WaterInterfaces.pdf).

In that report, Alpine notes that EPA ozone attainment modeling guidance states that "[t]he most important factor to consider when establishing grid cell size is model response to emissions controls. Analysis of ambient data, sensitivity modeling, and past modeling results can be used to evaluate the expected response to emissions controls at various horizontal resolutions for both ozone and PM2.5 and regional haze. If model response is expected to be different (and presumably more accurate) at higher resolution, then higher resolution modeling should be considered. If model response is expected to be similar at both high and low(er) resolution, then high resolution modeling may not be necessary. *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)*" (emphasis added)

In its modeling in support of the proposed rule, EPA simulated a national domain using a 12km grid resolution domain wide. While this makes running a national, regional simulation easier from a technical perspective, it ends up neglecting the important issue of the complex meteorology and/or land-water interfaces in or near the nonattainment or maintenance monitors of interest. Photochemical modeling along coastlines is complex for two reasons. Firstly, the temperature gradients along land/water interfaces can lead to localized on-shore/off-shore flows; and secondly the photochemical model formulation spreads the emissions in a grid cell throughout the full grid volume of the cell.

Given the importance of certain monitors located in areas of complex meteorology, an analysis was undertaken by Alpine to examine the performance of the model when compared against observations, and to examine how the model results are used in the attainment test calculation to

determine estimated future attainment status. Figures 1 and 2 set forth below present two unique areas in the eastern U.S. that are challenged by these complex meteorology land-water interfaces. For each monitor, Alpine has reviewed the EPA published model performance evaluation (MPE) metrics for ozone and compared them to additional MPE metrics from the same modeling platform.

Figure 1. Connecticut monitors located on land/water interface.

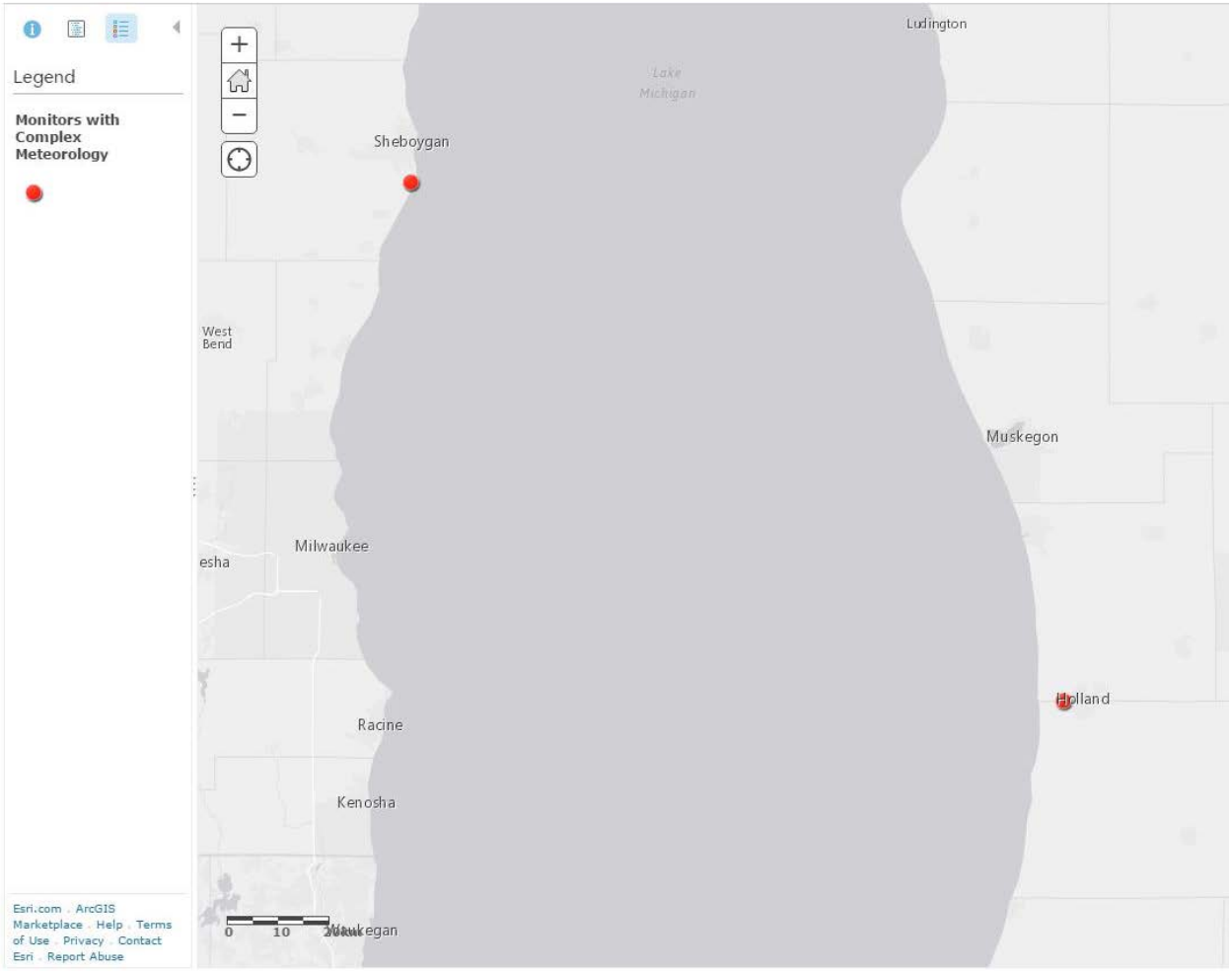


Figure 2. Wisconsin and Michigan monitors located on land/water interface. 3

In examining each of these monitors Alpine notes that a portion of the grid cell is located over or adjacent to a water body. Studies indicate that air quality forecast models typically predict large summertime ozone abundances over water relative to land in the Great Lakes region and that meteorology around the Long Island Sound is distinctly unique; both warranting individualized attention and the fine grid resolution required to best account for these issues.

Additionally, the 3x3 neighborhood of grid cells used in determining the design values of the relative response factor (RRF) extends into the water bodies. Under current guidance, the top ten modeled days within this 3x3 matrix are used in determining this RRF for each monitor. In this analysis Alpine reviewed the performance of the days selected for use in the RRF calculation for the grid cells determined to have been used in the attainment test.

Six monitors were initially identified for this review and are listed in the report with EPA's performance metrics for days observed at or above 60 ppb as documented in the air quality TSD (AQTSD). EPA notes that the performance evaluation was conducted comparing observed concentration data with the modeled concentration data simulated in the grid cell in which the monitor was located. In reviewing this table, considering all days observed at or above 60 ppb, both the NMB and NME fall within the thresholds identified above. Based on this broad indicator of model performance (all days observed at or above 60 ppb) the model appears to be performing adequately.

It is also important to understand how the model is performing on the days that are being used in the attainment demonstration. As suggested in the draft EPA modeling guidance, and used in the CSAPR proposed rule, only the top 10 days with the highest modeled concentration in the vicinity of the monitoring site are considered.

To review this important issue, Alpine generated the performance metrics for these three example monitors using the days selected in the MATS attainment test, and for days selected for the MATS attainment test with the associated grid cell concentration actually used in the RRF calculation (max concentration in the 3x3 grid).

As is seen from this report, the MDA8 concentration value used to represent each monitor-day in the performance evaluations is always lower and generally significantly lower than the maximum grid cell used in EPA's RRF calculation. This difference ranges from a low of 3.17 ppb (at Fairfield on July 6, 2011) to 29.84 ppb (at Sheboygan on July 30). The impact of this change results in poorer performance on these days at these monitors and in RRFs weighted to concentrations calculated over the water bodies and not to the grid cells and land-based grids more representative of the monitor's conditions.

Performance metrics have also been calculated for the 10 RRF days revealing that the monitor-sited concentrations have much lower bias and error values than the over-water concentrations. And while it is recognized that the base year grid cell and future year grid cell will be paired (as used in the relative sense), the resulting RRF could show more or less responsiveness in emissions changes relative to the ozone concentrations at each associated monitor. The report also notes that while the EPA performance evaluation and metrics are based on the ability of the model to

simulate observed concentrations where the monitor is located, in each example presented, the highest concentrations are dominantly selected from over-water locations. Based on these results and on EPA's own guidance related to finer grid cell size selection for areas demonstrating a combination of complex meteorology, strong gradients in emissions sources, and/or land-water interfaces in or near the nonattainment area(s), Alpine finds that the ozone concentrations selected at these land/water boundary locations are insufficiently accurate, in both bias and error, to be considered as representative of the daily concentrations observed at each monitor and for the ten days selected for the RRF calculation.

It is Alpine's conclusion that this poor performance will have a direct impact on the future year attainment demonstration and significant contribution calculations that use these values as their basis.

14. Given the limitations of air quality modeling, EPA should select a significance level greater than 1%.

The CAA includes no specifics regarding establishment of a significance level applicable to interstate transport. CAA Section 110(a)(2)(d) simply requires that:

> "(2) Each implementation plan submitted by a State under this chapter shall be adopted by the State after reasonable notice and public hearing. Each such plan shall—
> …
> (D) contain adequate provisions—
> (i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—
> (I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or
> (II) interfere with measures required to be included in the applicable implementation plan for any other State under part C of this subchapter to prevent significant deterioration of air quality or to protect visibility,
> (ii) insuring compliance with the applicable requirements of sections 7426 and 7415 of this title (relating to interstate and international pollution abatement);…"

There is no further guidance under the CAA to define "amounts [of emissions] which will contribute significantly to nonattainment in, or interfere with maintenance by, any other state with respect to any such primary or secondary ambient air quality standard …." EPA established the 1% significance level in its June 11, 2011 promulgation of CSAPR (76 Fed. Reg. 48211, 48236) and has done so again in this proposal (80 Fed. Reg. 75714).

As was pointed out earlier in these comments, there are serious concerns about the performance of EPA's model particularly with respect to all of the nonattainment monitors which coincidentally are located on a land-water interface which significantly complicates the accuracy of

the model.

Given these and other uncertainties about the accuracy of EPA's modeling, we strongly urge that the significance level established in CSAPR and in this proposal be reconsidered and be increased to take account of these modeling limitations. In addition, setting a higher significance level is a useful approach for assurance that there is no over-control of emissions from upwind states.

15. In its attempt to apply a 1% significance level to this proposal, EPA improperly determined that a 1% significance level would be 0.75 ppb rather than the correct value of 0.759 ppb.

As stated above, MOG urges that EPA select a significance level that is greater than 1%. Even if EPA elects to stay with a 1% significance level, we believe that EPA has incorrectly determined what the significance level should be to implement the applicable NAAQS.

While EPA acknowledges that for there to be a violation of the applicable NAAQS, design values must be "greater than or equal to 76 ppb" (80 Fed. Reg. 75725), EPA proposes to set that significance level in this rule-making at a level of 0.75 ppb (80 Fed. Reg. 75728). This calculation is obviously incorrect in that a concentration of 75.9 ppb would be considered attainment under the applicable NAAQS and 1% of that concentration is 0.759 ppb.

To appreciate the importance of this error, one need only note that Kentucky is being treated in this proposal as being a significant contributor to a nonattainment area on the basis of predicted concentration of 0.75 ppb. 80 Fed. Reg. 75727. Had EPA set the significance level at the correct level of 0.759 ppb (based on a 1% significance level), Kentucky would not have a significant impact on any nonattainment area.

We urge that the error be corrected before the rule is finalized.

16. EPA has correctly determined that monitoring data should be used in making determinations about which areas should be considered nonattainment.

EPA has correctly proposed to take air quality monitoring data into account in making determinations about the existence of areas that have nonattainment receptors. Specifically EPA states:

> As the EPA is not replacing an existing transport program in this rulemaking proposal, we are proposing to consider current monitored data as part of the process for identifying projected nonattainment receptors for this rulemaking. Accordingly, in this rulemaking, the EPA is proposing to return to our prior practice of comparing our modeled nonattainment projections to current monitored air quality. For the purposes of this rulemaking, the EPA proposes to identify as nonattainment receptors those monitors that both currently measure nonattainment and that the EPA projects will be in nonattainment in 2017.

80 Fed. Reg. 75724 (December 3, 2015).

MOG is strongly in favor of basing this rule on the best and most recent data available. This is particularly the case with respect to direct measurement of air quality through the nation's network of air quality monitors. As we stated elsewhere in these comments, EPA modeling is based on a 2011 base case which simply does not offer an adequate assessment of current air quality in the nation. It is therefore critical to inform the decision about identifying air quality problem areas with data reflecting the direct measurement of air quality, particularly given the certain reductions in emissions that will occur for the foreseeable future. To do otherwise is invite the absurd result of having a monitor such as Harford Maryland be considered nonattainment because of its modeling prediction on 81.3 ppb when it actually has monitored air quality data for 2012-2014 which shows it to be in attainment with a design value of 75.0. 80 Fed. Reg. 75727.

17. EPA's approach for addressing maintenance areas is fatally flawed.

a. EPA's conclusion that all non-attainment areas should be considered maintenance areas is inconsistent with applicable case law.

EPA's reliance on the CSAPR methodology to address "interference with maintenance" is not only inconsistent with the Clean Air Act, but also inconsistent with both the U.S. Supreme Court and D.C. Circuit decisions on CSAPR. The CSAPR methodology is not reasonable in its application, results in reach beyond the Clean Air Act and therefore must be revised. EPA provides the following statement in the NODA on "interference with maintenance,"

> . . . as part of the approach for identifying sites with projected future maintenance problems, the highest (i.e., maximum) ambient design value from the 2011-centered 5-year period (i.e., the maximum design values from 2009-2011, 2010, 2010-2012, and 2011–2013) was projected to 2017 for each site using the site-specific RRFs. Following the CSAPR approach, monitoring sites with a maximum design value that exceeds the NAAQS, *even if the average design value is below the NAAQS,* are projected to have a maintenance problem in 2017. In this regard, nonattainment sites are also maintenance sites because the maximum design value at nonattainment sites is always greater than or equal to the 5-year weighted average. *Monitoring sites with a 2017 average design value below the NAAQS,* but with a maximum design value that exceeds the NAAQS, are considered maintenance-only sites. These sites are projected to have a maintenance problem, but not a nonattainment problem."

80 Fed. Reg. 46271, 46274 (August 4, 2015).

It is proposed CSAPR update, EPA stated:

> Moreover, as all nonattainment receptors are also maintenance receptors because the maximum design value will always be equal to or exceed the average design value, it is reasonable to control all sites consistent with the level of control necessary to reduce maintenance concerns.

80 Fed. Reg. 75730 (December 3, 2015).

The U.S. Supreme Court in *EPA v. EME Homer City Generation, LP*, 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." 134 S.Ct. at 1604, Ftn 18.

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 . . ." *Id.* at 1064.

> ". . . the Good Neighbor Provision . . . requires EPA to eliminate amounts of upwind pollution that "interfere with maintained" 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 [the nonattainment language of the Good Neighbor Provision]. 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 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." *Id.* at 1604, ftn 18.

It is noteworthy that the Supreme Court provides that lacking a dispositive statutory instruction to guide it, EPA's decision on the designation of significant contribution must meet the reasonableness test of the *Chevron* decision for filling the gap left open by Congress. *Id.* at 1604. The 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." *Id.* at 1606.

As proposed by EPA, use of a modeled maximum design value, when the average is below the NAAQS to define contribution, results in a conclusion that any modeled contribution is deemed to be 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 Generation 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." 696 F.3d. at 22. "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." *Id*. EPA has not justified its proposal as a necessary to avoid interference with maintenance.

b. EPA's approach in this proposal for identifying and addressing maintenance areas is inconsistent with the manner in which the agency addresses maintenance areas in other applications.

In a stated effort to account for historical variability in air quality at a receptor, EPA offered the following proposal for determining identifying maintenance receptors for purposes of this proposal:

> "… EPA assesses the magnitude of the maximum projected design value for 2017 at each receptor in relation to the 2008 ozone NAAQS and, where such a value exceeds the NAAQS, EPA determines that receptor to be a ''maintenance'' receptor for purposes of defining interference with maintenance in this proposal, consistent with the method used in CSAPR and upheld by the D.C. Circuit in *EME Homer City II*.81 That is, monitoring sites with a maximum design value that exceeds the NAAQS are projected to have a maintenance problem in 2017."

80 Fed. Reg. 75724 (December 3, 2015)

As stated above, however, we do believe that EPA the approach being advanced by EPA is consistent with the holding of the D.C Circuit which called for "a carefully calibrated and commonsense supplement to the "contribute significantly" requirement". *EME Homer v. EPA*, August 21, 2012.

It is significant to us and should be instructive to EPA that a careful process has existed for many years related to the identification and management of maintenance areas.

Indeed, Section 175A of the Clean Air Act provides:

> "(a) Plan revision
> 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."

Moreover, the agency's principal guidance on the management of maintenance areas is set forth in "Procedures for Processing Requests to Redesignate Areas to Attainment", John Calcagni memorandum, 4 September 1992, 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 what 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."

This guidance has been applied in several specific circumstances including the Denver Metropolitan Area where the submitted plan offered the following statement:

> "As required by CAA Section 175A(a), each request for redesignation shall be accompanied by a SIP revision which provides for maintenance of the NAAQS for at least 10 years after redesignation. Following EPA guidance and policy (September 4, 1992 EPA memorandum from John Calcagni to EPA regional offices), this maintenance demonstration is made by comparing projected 2006 and 2013 emissions with the attainment year 1993 emissions. If 2006 and 2013 emissions are less than 1993 emissions, then maintenance is demonstrated."

Ozone Redesignation Request And Maintenance Plan For the Denver Metropolitan Area, January 2001.

Similarly the plan submitted for Washoe County offered the following statement:

> "A key element of this maintenance plan is the demonstration of how Washoe County will remain in compliance with the 8-hour ozone standard for the 10-year period following the effective date of designation as attainment. Washoe County's effective date of designation is June 15, 2004, Therefore this maintenance plan projects attainment through 2014."

Maintenance Plan for the Washoe County 8-Hour Ozone Attainment Area, April 2007.

Given the clear statutory and regulatory directive for the management of maintenance areas, we urge EPA to apply the same approach to this proposed transport rule. As is set forth below, and as

is discussed elsewhere in these comments, we have provided the current design values for all 21 problem monitors along with EPA's future year project for each area identified in the proposal:

			Ozone DVs (ppb)	
State	**County**	**Monitor**	**2013-15**	**2025 NAAQS**
Connecticut	Fairfield	90010017	81	70.9
Connecticut	Fairfield	90013007	83	73.3
Connecticut	Fairfield	90019003	84	74.3
Connecticut	New Haven	90099002	78	72.2
Kentucky	Jefferson	211110067	70	70.1
Kentucky	Oldham	211850004	69	66.8
Maryland	Baltimore	240053001	68	66.6
Maryland	Harford	240251001	71	73.8
Michigan	Allegan	260050003	76	70.0
Michigan	Wayne	261630019	69	69.5
New Jersey	Camden	340071001	69	67.4
New Jersey	Gloucester	340150002	73	68.9
New Jersey	Middlesex	340230011	72	66.9
New Jersey	Ocean	340290006	72	67.7
New York	Queens	360810124	69	71.5
New York	Richmond	360850067	74	71.8
New York	Suffolk	361030002	72	75.7
Ohio	Hamilton	390610006	70	68.8
Pennsylvania	Allegheny	420031005	73	71.2
Pennsylvania	Philadelphia	421010024	72	69.9
Wisconsin	Sheboygan	551170006	77	71.1

See Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone, September 2015, p. 2A-42 which can be found at: http://www3.epa.gov/ozonepollution/pdfs/20151001ria.pdf.

Inasmuch as all of the problem areas, including all of the maintenance areas, will be in attainment with the 2008 NAAQS in 2015, it is inappropriate for EPA to finalize the adoption of this rule. Given the near and longer term attainment status of the maintenance monitors, any additional emission reductions called for under EPA's proposal would result in over-control and be prohibited.

c. EPA inappropriately proposes not to allow monitoring data to informed decisions about which areas should be considered maintenance areas and instead to rely exclusively on modeling data.

EPA proposes to take an approach to identify maintenance areas that is fundamentally different from that used to identify nonattainment areas. Specifically EPA offers the following explanation of how it will identify maintenance areas:

> Consistent with the CSAPR methodology, monitoring sites with a projected maximum design value that exceeds the NAAQS, but with a projected average design value that is below the NAAQS, are identified as maintenance-only receptors. In addition, those sites that are currently measuring clean data, but are projected to be nonattainment based on the average design value and that, by definition, are projected to have a maximum design value above the standard are also identified as maintenance-only receptors. We are not proposing that monitored data have any effect on the EPA's determination of maintenance receptors using the CSAPR method since even those receptor sites that are not currently monitoring violations are still subject to conditions that may allow violations to reoccur and therefore have future maintenance concerns.

80 Fed. Reg. 75724 (December 3, 2015).

In comparison, EPA very properly proposes to identify nonattainment areas taking into account monitoring data. That monitoring data is, of course, vital to an assessment of both nonattainment and maintenance areas. EPA fails to offer an adequate explanation of why that monitoring data should not be considered.

We urge that EPA to consider monitor data when identifying maintenance areas. As set forth in the chart above, reliance on monitoring data illustrates the extensive nature of the attainment that does exist at these locations.

d. EPA has incorrectly given maintenance areas the same weight and status in the development of this proposal as it has given to nonattainment areas.

EPA's proposal applies inappropriately applies the nonattainment are significance test to maintenance area and provides the same weight to the development of controls programs to address maintenance areas as it does nonattainment areas. We object to this proposals both because maintenance areas are not subject to the same "significance" test as applies to nonattainment areas and because maintenance areas do not require the same emission reduction response as nonattainment areas.

As was stated by the U.S. Supreme Court opinion in *EPA v. EME Homer*, April 29, 2014:

> "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 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."

Excerpt from D.C. Circuit opinion in *EME Homer v. EPA,* August 21, 2012:

> "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."

Rather than to recognize the distinction between "significance' and "interference" as urged by the Courts, EPA has treated the two as though they are the same. We urge EPA to reconsider this approach and to develop an appropriate test for "interference" with maintenance and to develop an alternative emission reduction approach that accounts for the fact that maintenance areas are already in attainment and cannot justify the same level of emission reductions as might be called for with respect to nonattainment areas.

18. The new modeling work for that EPA has indicated will be performed in support of the final rule should be made the subject of a NODA, so that the public can be informed of that data and be allowed to comment on its appropriateness and significance.

To the extent that EPA proposes a transport rule on the basis of emission inventory and modeling data that are different from that included in the proposed rule, those data should also be made available for public comment. This point is even more significant given EPA statement (80 Fed. Reg. 75720) that EPA will not take earlier NODA comments into account until issuance of final rule. MOG submitted significant comments in response to the NODA and is entitled to have these results considered in addition to the comments it is submitting in response to this proposal.

Equally significant is that EPA states (80 Fed. Reg. 75730) in this proposal that it has not yet considered the air quality implication of the results of the latest version of its emission inventory as set forth in IPM 5.15 (which includes consideration of the Clean Power Plan) with all states expected to be linked. As stated elsewhere in these comments. IPM 5.15 predicts some 93,000 few tons of

NOx emissions in 2017 as compared with the results that are the basis for the proposal being advanced by EPA. These results will certainly improve overall air quality and can be anticipated to significantly reduce the concentration of upwind state impacts on downwind problem areas. Indeed, EPA concedes that final modeling results could change the states implicated by the rule. 80 Fed, Reg. 75710. EPA also offers the following comment on this point:

> "The EPA notes that the evaluation of cost, NOx reductions, and ozone improvements for the final rule could show different results for different states. For example, one or more states could fully address their good neighbor obligation based on ozone season NOx control requirements represented by one cost level while one or more other states would not fully address their good neighbor obligation at that level and would have ozone season NOX control requirements based on a more stringent cost level in order to fully address or make further progress toward partially addressing their good neighbor obligation."

80 Fed. Reg. 75738 (December 3, 2015).

In light of the significant differences in emission projections from EGU sources that are expected when EPA considers this more recent emission inventory and in light of the holding of the DC Circuit (796 F.3d 118) that the CSAPR remand would provide the opportunity for the submission of new data, we believe EPA has a duty to make its new results available for comment before the rule is finalized.

19. Had EPA conducted source apportionment analysis of source categories rather than of total emissions from upwind states, it would have found that EGUs have little or no impact on downwind air quality problem areas.

To assist MOG in preparing these comments, Alpine Geophysics conducted an assessment of the impact on downwind air quality of specific source sectors within the upwind states. The Alpine report is entitled "Independent, Sector-Specific Source Apportionment Modeling of the 2017 Cross State Air Pollution Rule Modeling Platform" and is attached to these comments and identified as Exhibit 15 and can be found at: http://www.midwestozonegroup.com/files/IndependentSector-SpecificSourceApportionmentModelingofthe2017CrossStateAirPollutionRuleModelingPlatform.pdf.

Similar to EPA's methodology documented in the air quality TSD (http://www3.epa.gov/crossstaterule/pdfs/AQModeling.pdf) for the Cross State Air Pollution Rule (CSAPR), Alpine performed nationwide, state, source category-level ozone source apportionment modeling using the CAMx OSAT technique to quantify the contribution of 2017 base case NOx and VOC emissions from major source categories in each region to projected 2017 ozone concentrations at ozone monitoring sites.

Two key and important differences in Alpine's modeling compared to EPA's CSAPR modeling are the selection using the Ozone Source Apportionment Technology (OSAT) technique instead of OSAT/ Anthropogenic Precursor Culpability Assessment (APCA) technique and the use

of the released version of CAMx, rather than the EPA modified version with the altered HMAX parameter previously discussed in these comments.

Alpine's selection of OSAT over OSAT/APCA is a result of the purpose and intended use of the model results. According to the model's documentation, the OSAT technique provides a more robust picture of what emissions sources are contributing to ozone formation since it specifically apportions ozone to all source categories, including the "uncontrollable" (e.g., biogenics in EPA's modeling). This allows for a separation of attribution for anthropogenic from biogenic contribution to a downwind monitor's modeled concentration. Under some chemical regimes the APCA technique apportions biogenic emissions to anthropogenic sources when biogenic emissions react with anthropogenic sources and therefore is typically recommended in the development of control strategies. The primary purpose for Alpine's simulation was to develop a region and source category specific contribution to each monitor and therefore OSAT was selected as the preferred approach.

Additionally, and as discussed earlier in these comments, Alpine's modeling did not alter the HMAX default value of 2000 m which had been changed by EPA to reduce computer run times but results is less accurate predictions. Accordingly, the Alpine model configuration provides a more numerically accurate solution.

In the source apportionment model run, Alpine tracked the ozone formed from each of the following contribution categories (i.e., "tags"):

☐ Regions–NOx and VOC emissions from each state or state group tracked individually using the additional source category "tags" listed below;

- o Biogenic/Fires;
- o On-Road Mobile;
- o Non-Road Mobile/Stationary Area;
- o EGU Point; and
- o Non-EGU Point;

☐ Boundary and Initial Concentrations – concentrations transported into the modeling domain (e.g., principally international transport but also including stratospheric intrusion, and domain initialization conditions);

☐ Canada, Mexico, and overwater domains – anthropogenic emissions from sources in the portions of Canada and Mexico included in the modeling domain and from sources in the Pacific and Atlantic Oceans or from the Gulf of Mexico or Great Lakes.

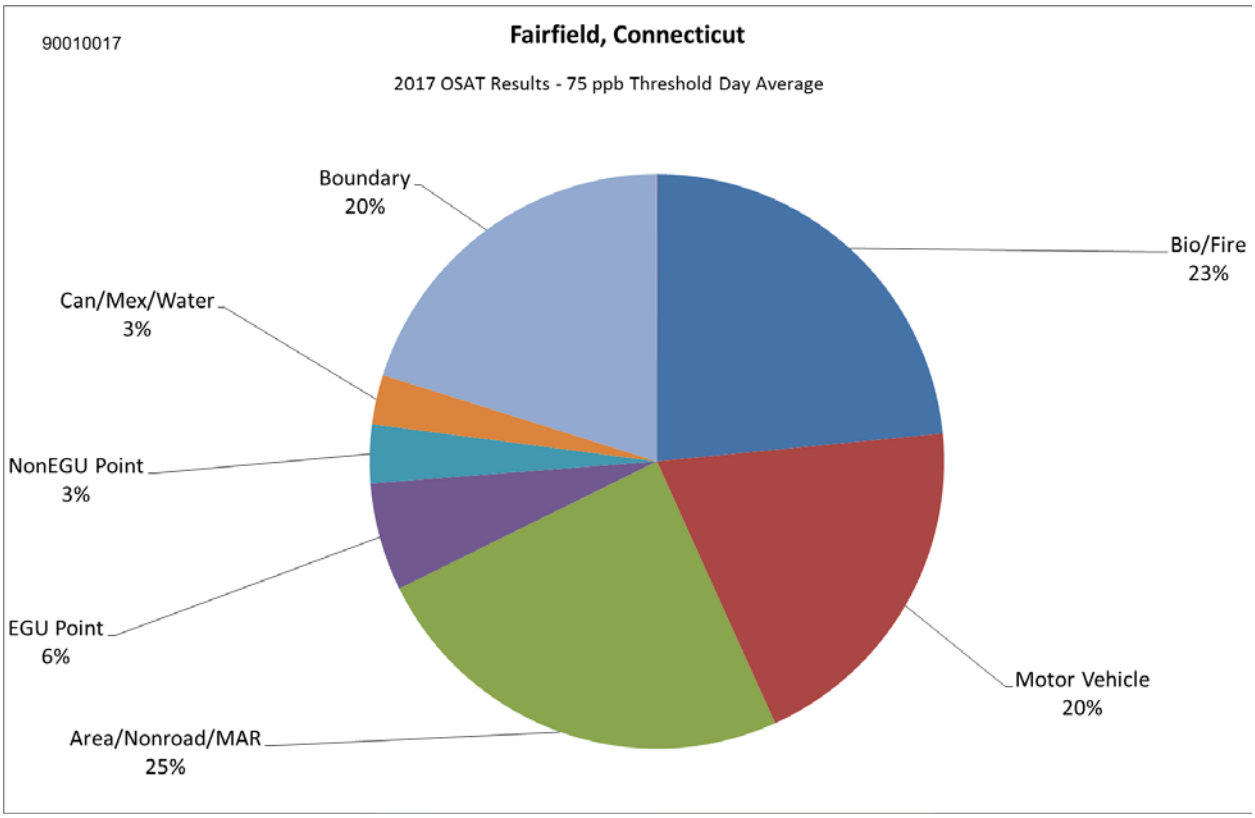
The contribution modeling provided contributions to ozone from NOx and VOC emissions in each region and source category as noted above. This differed from EPA's modeling in that Alpine's analysis provides finer category-specific contribution resolution for components in many eastern states compared to the "all-state" contribution method applied in CSAPR. For example, Alpine has determined the relative contribution of Ohio's onroad mobile source sector emissions on ozone concentrations at downwind monitors instead of just Ohio's total anthropogenic contribution to that same monitor. In this regard, Alpine demonstrates what the relative magnitude of category-based emissions is compared to individual monitor concentrations in contrast to just regional or state total contributions.

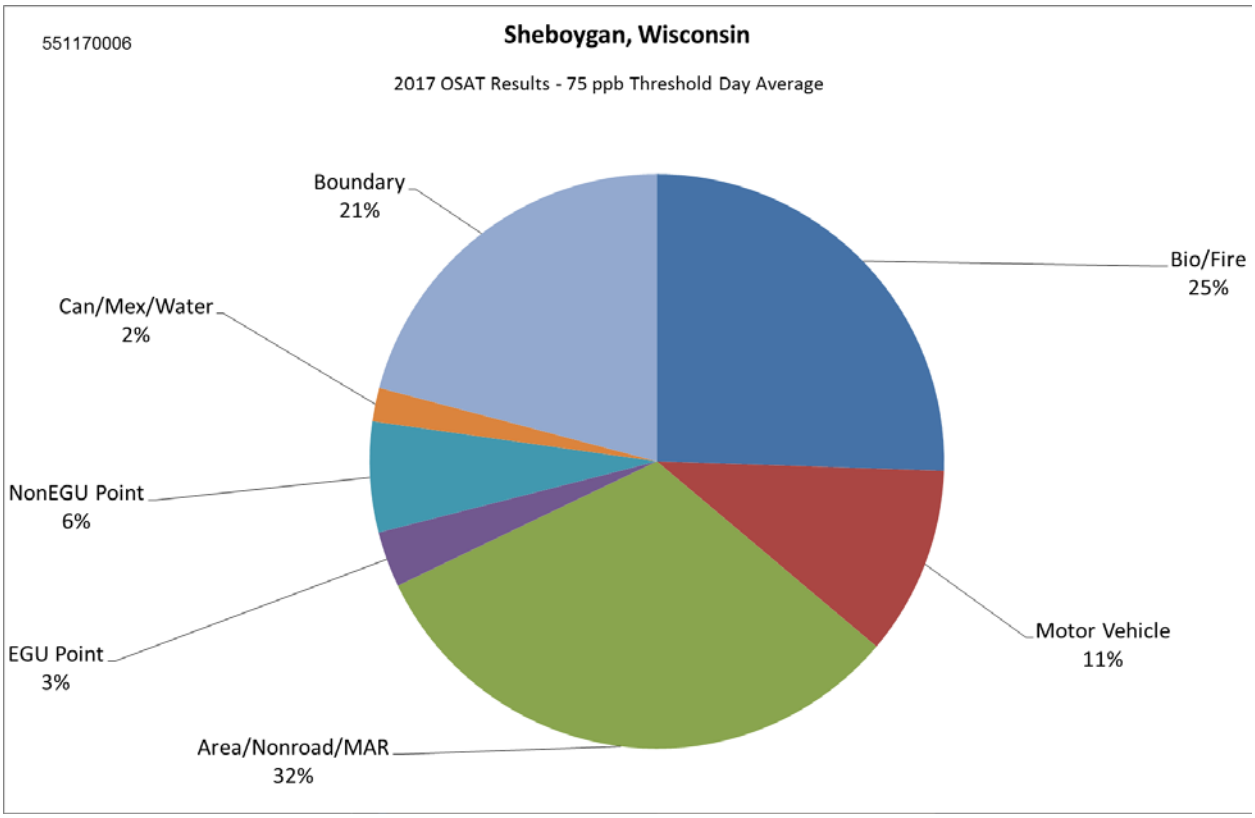
The following table provides OSAT output for an example monitor using a 75 ppb reporting threshold. In this table, Alpine provide both the tabular results (scaled to CSAPR average 2017 design values), as well as tag-specific contributions based on the relative contribution analysis. Each grid cell represents the ozone concentration contribution of NOx and VOC emissions for each of the regions (rows) and source categories (columns) in the table. A regional total contribution is found near the end of each row and a category total contribution is found at the bottom of each column. Additionally, in the last column of each row, Alpine has calculated a regional percent contribution total relative to the CSAPR design value. In other words, it provides the relative percent ozone contribution from each region to the monitor's total concentration.

Monitor 090010017 **Fairfield, Connecticut**

2017 OSAT Results (Modeled ppb) -- 75 ppb Threshold										
Region	**Bio/Fire**	**Motor Vehicle**	**Area/NR /MAR**	**EGU Point**	**NonEGU Point**	**Can/Mex /Water**	**Boundary**	**Initial**	**Total**	**% of Total**
BC	0.00	0.00	0.00	0.00	0.00	0.00	15.24	0.00	15.24	20%
IC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0%
CT	4.55	2.06	3.31	0.02	0.03	0.00	0.00	0.00	9.97	13%
DE	0.12	0.13	0.15	0.05	0.05	0.00	0.00	0.00	0.51	1%
MD	0.65	0.54	0.72	0.19	0.17	0.00	0.00	0.00	2.27	3%
NJ	2.26	4.64	4.60	0.43	0.32	0.02	0.00	0.00	12.26	16%
NY	3.21	2.42	3.62	0.33	0.18	0.02	0.00	0.00	9.77	13%
PA	1.97	1.75	2.08	1.62	0.54	0.00	0.00	0.00	7.96	10%
VA/DC	0.83	0.68	0.65	0.17	0.15	0.00	0.00	0.00	2.47	3%
NEast	0.04	0.04	0.06	0.00	0.01	0.00	0.00	0.00	0.14	0%
IL	0.25	0.17	0.28	0.19	0.11	0.00	0.00	0.00	0.99	1%
IN	0.19	0.23	0.21	0.25	0.10	0.00	0.00	0.00	0.98	1%
MI	0.20	0.24	0.23	0.20	0.08	0.04	0.00	0.00	0.99	1%
OH	0.39	0.66	0.47	0.27	0.17	0.00	0.00	0.00	1.95	3%
WI	0.11	0.11	0.10	0.03	0.04	0.00	0.00	0.00	0.37	0%
WV	0.17	0.07	0.17	0.12	0.07	0.00	0.00	0.00	0.60	1%
KY	0.15	0.13	0.14	0.11	0.04	0.00	0.00	0.00	0.58	1%
NC	0.19	0.12	0.14	0.10	0.04	0.00	0.00	0.00	0.60	1%
TN	0.08	0.10	0.06	0.02	0.02	0.00	0.00	0.00	0.27	0%
SOUTH	0.24	0.24	0.18	0.07	0.10	0.00	0.00	0.00	0.83	1%
AR	0.10	0.04	0.05	0.03	0.02	0.00	0.00	0.00	0.24	0%
MO	0.16	0.11	0.11	0.04	0.01	0.00	0.00	0.00	0.42	1%
OK	0.13	0.06	0.11	0.05	0.06	0.00	0.00	0.00	0.42	1%
TX	0.19	0.12	0.22	0.06	0.06	0.01	0.00	0.00	0.67	1%
WEST	1.09	0.36	0.62	0.24	0.15	0.01	0.00	0.00	2.47	3%
Can/Mex	0.54	0.00	0.25	0.00	0.00	2.02	0.00	0.00	2.81	4%
Total	**17.78**	**15.00**	**18.54**	**4.60**	**2.49**	**2.12**	**15.24**	**0.03**	**75.80**	**100%**

The charts set out below from the same Alpine report graphically illustrates how little EGU emissions from all states contribute to the ozone concentrations at monitors in the two critical nonattainment areas in the East. Similar graphics for other monitors appears in the body of the Alpine report itself.


90010017
Fairfield, Connecticut
2017 OSAT Results - 75 ppb Threshold Day Average
Boundary
20%
Bio/Fire
23%
Can/Mex/Water
3%
NonEGU Point
3%
EGU Point
6%
Motor Vehicle
20%
Area/Nonroad/MAR
25%


551170006
Sheboygan, Wisconsin
2017 OSAT Results - 75 ppb Threshold Day Average
Boundary
21%
Bio/Fire
25%
Can/Mex/Water
2%
NonEGU Point
6%
EGU Point
3%
Motor Vehicle
11%
Area/Nonroad/MAR
32%

20. Source apportionment modeling also reveals that the modeling approach taken by EPA results in an over-prediction of ozone concentration at many of the most critical monitors.

In a report prepared by Alpine Geophysics for MOG entitled "Source Apportionment Scenario Modeling Results and Comparison to the 2017 Cross State Air Pollution Rule Modeling Platform" which is attached and identified as Exhibit 16 (and which can be found at: http://www.midwestozonegroup.com/files/SourceApportionmentScenarioModelingResultsandComparisontothe2017CrossStateAirPollutionRuleModelingPlatform.pdf.), Alpine addressed EPA's modeling may have over-predicted significant contribution and attainment – the critical factors at the heart of the merit of EPA's proposal and whether the proposal calls for more reductions from upwind states than may be needed to achieve attainment in all downwind problem areas or to eliminate significant contribution or interference with maintenance.

With respect to significant contribution, Alpine's data identifies many circumstances in which EPA's predictions of significant contribution are in error. This is most dramatically illustrated by the fact that West Virginia would no longer be linked to any of the problem monitors in Connecticut (as it is under EPA's analysis).

With respect to predictions of ozone concentrations at the problem monitors (i.e. attainment status), Alpine concluded the OSAT analysis generally predicts lower ozone concentration in 2017 than is the case under EPA estimates. Specifically, Alpine found the following results:

Lakes regions - 0.5 ppb lower (range from 0.2 to 0.8 ppb);
New York metro and Long Island area (including Connecticut) - 0.4 ppb lower (range 0.2 to 0.6 ppb);
Philadelphia metro area - 0.3 ppb lower (exception at Gloucester where value is 0.2 ppb higher than CSAPR);
Baltimore region - averaging about 0.2 ppb lower; and
Ohio valley monitors - unchanged (+/- 0.1 ppb).

In addition to the IPM-based control cases and proposed budget analyzed by EPA, we noted earlier in these comments that there are incremental on-the-way controls planned for implementation prior to 2017 by multiple states in the eastern proposal-impacted region that have not been included in the EPA base case modeling for the rule. These additional controls, as applied to EGUs and non-EGU sources, will have an impact on the ozone concentrations simulated at many of the analyzed monitors, especially those in the Ozone Transport Region (OTR). These programs will be discussed further elsewhere in these comments.

21. The air quality improvements related to the emission reduction programs that EPA failed to consider are significant and indicate that EPA's proposal has resulted in over control.

In an effort to assess the air quality improvements that will result from the implementation of emission reduction program that will be implemented by 2017, Alpine Geophysics was asked by MOG to assess the PA RACT II program. In a report entitled "Impact Analysis of Pennsylvania RACT II Rule on Downwind Monitor Ozone Concentrations" attached to these comments and

identified as Exhibit 17 (which can be found at: http://www.midwestozonegroup.com/files/ImpactAnalysisofPennsylvaniaRACTII.pdf) Alpine quantified significant ozone air quality improvement resulting from this program alone.

Alpine notes in its report that time and resource limitations (in particular the amount of time needed to set up, run the CAMx model, and analyze the results for even a single model run) constrained by the significantly short comment period of the rule[11], precluded the use of full air quality modeling for use in establishing relationships between emission reductions and ozone concentration changes. Given this constraint Alpine has developed a technique for scaling modeled results to account for these additional reductions.

Alpine then applied to its technique what the EGU emissions in Pennsylvania will be in 2017 as estimated by Olympus Power in a report entitled "Estimation of Pennsylvania RACT II Rule on Pennsylvania Ozone Season NOx Emissions from Electric Generation Units" which is attached to these comments and identified as Exhibit 8 (and which can be found at: http://www.midwestozonegroup.com/files/PARACTNOx.pdf). As can be seen from that report, Olympus Power has estimated ozone season NOx emissions from the Pennsylvania electric generating units after the implementation of RACT of 27,010 tons during the ozone season in 2017.

Alpine estimates that the impact of a reduction in emissions to that level would result in a significant reduction in ozone concentrations in the Northeast, particularly in combination with the several other control programs that will also be in effect. The following highlights the magnitude of these reductions at the four Connecticut monitors of concern to EPA:

Fairfield 017

Base Case 5.14	78.4 ppb
PA EGU RACT II	77.6 ppb

Fairfield 007

Base Case 5.14	77.1 ppb
PA EGU RACT II	76.1 ppb

Fairfield 003

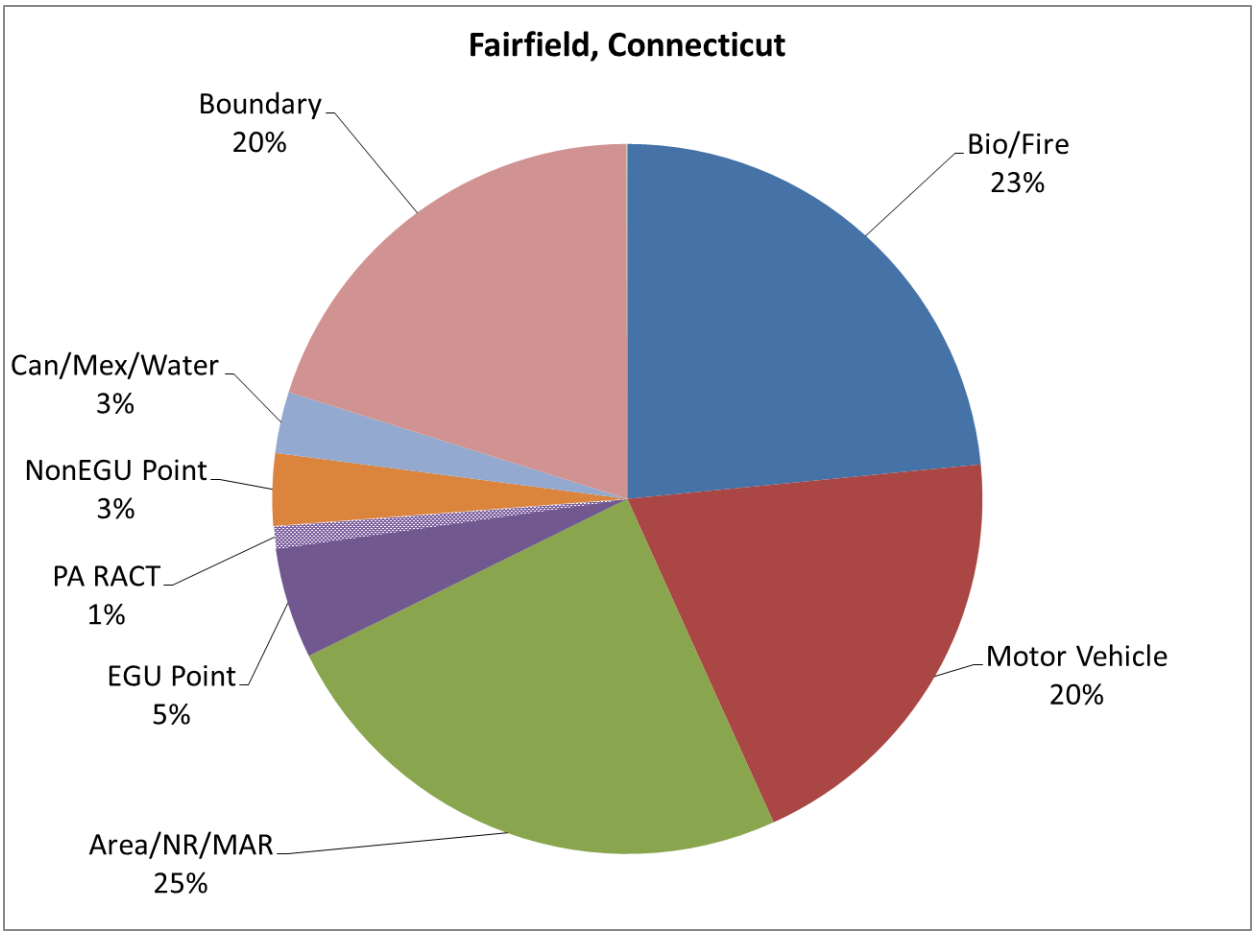
Base Case 5.14	78.0 ppb
PA EGU RACT II	77.0 ppb

New Haven 002

Base Case 5.14	77.2 ppb
PA EGU RACT II	76.5 ppb

The results related to the Fairfield 017 monitor as displayed in the following graph as a means of further illustrating the significance of these reductions.

11 Please note our objection to the shortness of the comment period related to this proposal as set forth elsewhere in these comments.



These results again raise the question about whether accounting for the additional reductions related to the NEOTC measures we have identified, as well on the Connecticut RACT controls and reductions in NY, NJ and CT HEDD emissions will be sufficient to bring even the Connecticut monitors into attainment and thus eliminate the need for the CSAPR update that has been proposed.

22. MOG's urges that EPA assess the comments it filed on the related NODA before this rule is finalized.

Even though EPA concedes that it has not yet addressed any of the comments filed on the NODA, MOG notes that its comments were significant and substantive on both legal and technical grounds. We urge that these comments be seriously considered before any rule is finalized. These comments are incorporated into the comments by reference and are attached and identified as Exhibit 18 and may be found at: http://midwestozonegroup.com/files/NODA_Comments_Final.pdf.

23. EPA's proposed trading limitations demonstrate traditional command and control themes that are unjustified. MOG objects to the presumption imbedded in the proposal that the electric sector warrants negative management.

EPA provides for a new source set aside to preserve allocations for new units, generally defined as those units that commenced commercial operation on or after January 15, 2015. The proposal would set-aside 2 percent of the total state budget, plus the projected amount of emissions from planned units. If unallocated, the set-asides are redistributed to unretired existing units before the compliance deadline. 80 Fed. Reg. 75743. Budgets should acknowledge the existing fleet and allocations must be to existing sources first, particularly in light of the investments the industry has committed toward transformation. It is not apparent that a new source set aside needs to be robust in light of the retirements that will be forthcoming.

The proposed rule mirrors the previous rule variability limit, which defines the amount by which state emissions may exceed the level of the budgets in a given year to account for variability in EGU operations. 80 Fed. Reg. 75744. The assurance provisions include penalties that are triggered when the state emissions as a whole exceed the assurance level. 80 Fed. Reg. 75745. The 3- to -1 allowance surrender penalty on excess tons that are greater than the assurance level represents the heavy-handed nature of EPA's program. EPA has many enforcement tools for failure to meet the ozone season assurance level, it is not apparent a self implementing penalty of this magnitude is appropriate.

EPA asserts that the transformation of the electric sector will likely result in considerable banking of NOx allowances and therefore additional restrictions on withdrawal are warranted. 80 Fed. Reg. 73746. "Unrestricted use of the bank in this situation could allow emissions to exceed the state budgets, up to the assurance level, year after year." Id. Accordingly, EPA proposes to limit withdrawal of banked allowances starting in 2017 at a surrender ratio such as two-for-one or even as robust as four-for-one. EPA's multiple layers of conservatism communicate its inability to follow any model other than command-and-control. Rather than celebrate the transformation, this proposal represents a reach for a punitive calculation. MOG does not support the assumption that without a surrender ratio the air quality benefits and industry changes will reverse.

EPA also proposes to artificially reduce the issuance of allowances for the first three years of program implementation. MOG questions whether this effort would not be an over control designed to mask the partial nature of this proposed plan.

EPA proposes to restrict the trading of NOx allocations generated under different programs (1997 ozone NAAQS and 2008 ozone NAAQS). 80 Fed. Reg. 75748. Again, the presumption is that the electric sector will seek a path that is designed to undermine air quality improvements. The surrender rate of 2.5-to-1 has very little justification and represents an arbitrary value. MOG urges the agency to reassess its less than innovative proposal. MOG reminds EPA of its enforcement authorities that already exist within the CAA.

EPA solicits comment on its efforts to level the playing field for those allowances generated at $3,400 ton versus those generated at $1,300 a ton of NOx emitted. It is not apparent that a 2.5 –to-1 ratio addresses ambient air quality goals and therefore its premise is not supported by MOG.

24. To the extent that EPA's proposed CSAPR update addresses the issues raised in the 176A petition filed by several Northeast state, that petition should be denied.

The interplay of ozone NAAQS, the ozone transport rule (CSAPR) and petitions asserting ozone transport impacting neighboring states also warrants comment. This proposal comes at a time when a 176A petition is pending, but that petition is premised upon historical information and is not relevant to whether a new health-based ozone standard is justified. Since that petition the Supreme Court has remanded CSAPR to the D.C. Circuit and the stay of this rule has been lifted. Implementation is in process and guidance on the matter is forthcoming.

On December 9, 2013, a Clean Air Act §176A petition was jointly filed by nine Northeast states – Connecticut Delaware, Maryland, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island and Vermont (Petitioners) Section 176A, a product of the 1990 Clean Air Act Amendments, allows EPA to establish, by rule, a transport region whenever the Administrator has reason to believe that the interstate transport of pollutants from one or more states contributes significantly to a violation of a NAAQS in another state or states.

Petitioners' Section 176A petition seeks to expand the Northeast Ozone Transport Region (OTR) to include the states of Illinois, Indiana, Kentucky, Michigan, North Carolina, Ohio, Tennessee, Virginia and West Virginia. It alleges that the targeted upwind states have failed to fulfill all Clean Air Act requirements because their air pollution control programs do not require the installation of controls as stringent as required by the OTR and because air pollution from the upwind states is transported into the OTR, thus contributing to violations of the 2008 National Ambient Air Quality Standard for ozone within the OTR states.

The Petitioners hope that the petition, if granted, will subject the targeted states to more stringent requirements in the form of revised State Implementation Plans for VOC and NOx emissions, including but not limited to additional requirements for enhanced Inspection and Maintenance of mobile sources, nonattainment New Source Review, and Reasonably Available Control Technology. Those opposed to Petitioners' action question the technical basis for the petition, noting that it relies so heavily on data published no more recently than 2005.

The petition does not have any air quality merit and is political in nature. Petitioners offer no analysis of air quality measurements in the OTR and instead rely on outdated computer modeling published in 2005 to assert the nonattainment status of the region. Air quality is significantly improving in much of the OTR making it unnecessary to impose additional controls. The significant reduction in emissions projected by EPA to occur over the next several years will result in continued improvement in air quality throughout the OTR. For other monitors in the OTR, source apportionment analysis indicates that any additional controls should be local in nature.

As confirmed by the analysis of the State of Maryland, NAAQS violations in OTR occur during periods of stagnation and recirculation when no interstate transport occurs. High ozone readings in OTR in 2013 occurred at the same time as the peaking of emission rates of sources in the OTR (and not in the target states).

Emission reductions by EGUs in the Midwest and Southeast are greater than reductions that have occurred in the Northeast. Petitioners offer no evidence of significant contribution other than

EPA's 2005 modeling that was based on what turned out to be an incorrect premise that emissions from EGUs in the target states would be 13% higher than they actually were in the year of the analysis (2012). Target state EGU NOx emissions in 2012 are 23% below EPA CAIR Phase I cap levels (2009-2014) and 7% below Phase II (2015).

Petitioner criteria for selecting new members of the OTR have no support in Clean Air Act. Emission reductions by EGUs in the Midwest and Southeast are greater than reductions that have occurred in the Northeast. Petitioners offer no evidence of significant contribution other than EPA's 2005 modeling that was based on what turned out to be an incorrect premise that emissions from EGUs in the target states would be 13% higher than they actually were in the year of the analysis (2012).

Finally, EPA's recently released transport rule guidance moots the need for the granting of this petition. EPA OAQPS Director Steve Page memorandum to EPA Regional Air Directors dated January 22, 2015, titled "Information on the Interstate Transport 'Good Neighbor' Provision for the 2008 Ozone National Ambient Air Quality Standards (NAAQS) under Clean Air Act (CAA) Section 110(a)(2)(D)(i)(I)."

25. EPA should set an alternative compliance price to provide for greater flexibility in implementing the rule, particularly in the initial years.

EPA's proposal is premised on the assumption that trading will be available to reduce the cost of the program. At the heart of its proposal is the assumption that the emission reductions it proposes can be achieved at an upper-end cost of $1,300 per ton.

We recommends that EPA consider identifying what it considers to be the upper end of the cost effectiveness test and providing that a source could make a compliance payment on a voluntary basis, rather than to achieve emission reductions which would otherwise be required of the source. Any such payment would be made to a fund dedicated to promoting the reduction of ozone precursor emissions.

Beyond the concept of using any such fund to create an alternative to compliance with the state caps or unit allocations set forth in the proposal, we urge that such alternative compliance payment be established so that once made, the payment would be all that would be needed to comply.

Such an alternative compliance payment was used previously by the agency as part of the program to implement the ozone and particulate matter National Ambient Air Quality Standards. There, EPA allowed a source, facing costs higher than had been anticipated by EPA, to pay a set annual amount per ton to fund cost-effective emission reductions. See: Presidential Documents, "Memorandum of July 16, 1997, Implementation of Revised Air Quality Standards for Ozone and Particulate Matter," 62 Fed. Reg. 38,421 (July 8, 1997).

The development of a default mechanism, such as a voluntary alternative compliance payment, would offer considerable assurance that sources would be able to comply with program

mandates at reasonable costs and with the maximum degree of flexibility.

26. EPA's assumptions about the timing of the implementation of control measures are unreasonable and inappropriate.

EPA's proposal creates a significant near term change in the design specifications for SCR catalyst and SCR operation. EPA appears to have overlooked the direct relationship between mercury removal required for MATs compliance and aggressive flue gas denitrification that would be required for existing SCR to comply with this proposal. Aggressive denitrification requires high injection rates of ammonia and full utilization resulting in a lower oxidation rate of mercury across the SCR layers of catalyst leading to decreased capture of mercury in FGD systems.

Coal-fired generators with SCR's catalyst have set their design specifications for catalyst based on the existing MAT's and CSAPR Phase II rules since 2012. Many owners over the last three years have procured SCR catalyst to achieve high mercury oxidation rates for MATs compliance while maintaining existing NOx emission rates in accordance with existing permit limits and CSAPR NOx regulations. The proposed rule and its nine month implementation period do not allow sufficient time to change to re-specify and procure catalyst to meet the CSAPR update rule and MATs requirements. Catalyst lead time is approximately one year after order placement.

27. In spite of multiple requests for addition time to prepare comments on this proposal, EPA allowed only a 60 day comment period which is wholly inadequate to address the multitude of technical errors in its proposal.

Shortly following the initial publication of this proposal, MOG and others requested EPA to extend the comment period to at least 90 days. EPA rejected that request in favor of extending the comment by two weeks for total of 60 days.

As we have stated repeatedly in these comments, the extent and complexity of the technical and related issues raised by EPA's proposal are so extensive that they cannot be adequately addressed in such a limited time-period. MOG has identified numerous flaws in EPA's analysis. Even more significant is the fact that we have identified numerous other flaws that must also be investigated and for which there is inadequate time.

We recommend that EPA conduct additional modeling and analysis to address the deficiencies we have identified and that once that is done, EPA should provide for an additional comment period be authorized to allow for thoughtful public and stakeholder input that could not be provided with respect to the current comment period.

28. Conclusion.

EPA has already indicated that it will be conducting additional air quality modeling in support of the final version of its proposed update to CSAPR. We recommend that as apart of that, or any other, analysis of interstate transport issues, EPA should carefully address the significant concerns that are raised by these comments. Principal among these concerns are the deficiencies in

the modeling platform, the failure to apply the most recent air quality and emissions data available and the failure to apply appropriate policy and legal considerations to the analysis. An essential part of this further review must necessarily include making the results available for public review and comment in advance of the finalization of the rule.

MOG appreciates the opportunity to submit these comments on the proposed CSAPR update.