Indiana ENERGY Association

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April 14, 2016

Douglas Aburano, Chief
Attainment Planning and Maintenance Section
Air Programs Branch (AR-181)
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, IL 60604

RE: Docket No. EPA-R05-OAR-2011-0969;
U.S. EPA Proposed Disapproval of Indiana Interstate Transport Requirements for the 2008 Ozone NAAQS

Dear Mr. Aburano:

These comments are provided on behalf of the Indiana Energy Association ("IEA") in response to the March 16, 2016 proposed rule of the United States Environmental Protection Agency (EPA) to disapprove elements of State Implementation Plan (SIP) submissions from Indiana regarding the infrastructure requirements of Section 110 of the Clean Air Act (CAA) for the 2008 ozone National Ambient Air Quality Standards (NAAQS). (81 Fed. Reg. 14026, March 16, 2016).

IEA is an association of energy companies, electric, thermal, and natural gas, that provide Indiana consumers with affordable and reliable energy, benefiting families and businesses across the Hoosier state. Our mission is to advocate policies that promote the general welfare of the energy industry to enhance its role in improving the economy and quality of life in Indiana. Since 2000, emissions from the Indiana electric power industry are down approximately 22% percent for carbon dioxide, 69% percent for sulfur dioxide, and nearly 70% percent for nitrogen dioxide. We are investing heavily in new technologies to continue to reduce emissions, ranging from the construction of one of the world's cleanest coal-fired power plants to the largest airport-based solar farms in the country. IEA member companies deliver electricity and gas service to 4,000,000 Hoosiers. More than 10,000 people are directly employed by IEA member companies in our state.

For reasons that will be stated in the comments, IEA urges that EPA withdraw its proposed disapproval and instead find that Indiana is not significantly contributing to or interfering with attainment of the 2008 ozone NAAQS, and is, therefore, eligible to have its infrastructure SIP approved.

## I. Regulatory Background.

The CAA regulatory time line in this regard is tortured. Both the federal and state administrative agencies struggle with effective implementation of the NAAQS and the Good Neighbor Provision. The chain of events from 2011 to 2016 represent an evolving strategy for managing attainment, nonattainment, maintenance and state collaboration among themselves and with EPA. The IEA urges EPA to withdraw its disapproval of Indiana's infrastructure SIP submittal as flawed based on the technical validity of its attainment modeling for the 2008 ozone NAAQS.

In its proposal, EPA provides that, "The statute imposes on states the duty to make these SIP submissions, and the requirement to make the submissions is not conditioned upon EPA's taking any action other than promulgating a new or revised NAAQS." 81 Fed. Reg. 14026. With minimal guidance or data from EPA, Indiana Department of Environmental Management ("IDEM") submitted its infrastructure SIP on December 12, 2011. IDEM represents that the submittal was developed in consultation with U.S. EPA Region 5.

Just a few months prior to the IDEM SIP submittal, EPA had just finalized its August 2011 CSAPR Transport Rule for the 1997 annual $PM_{2.5}$ NAAQS, the 1997 ozone NAAQS, and the 2006 24-hour $PM_{2.5}$ NAAQS.

A year later, on August 21, 2012, the U.S. Court of Appeals for the District of Columbia Circuit issued the opinion in *EME Homer City Generation, L.P. V. EPA*, 696 F.3d 7 (D.C. Cir. 2012)[1], which vacated CSAPR because it resulted in requiring upwind states to reduce emissions by more than their own significant contribution to a downwind state's nonattainment and it did not allow the State the initial opportunity to implement the required reduction with respect to sources within their borders.

In its proposal with respect to the Indiana SIP, EPA provides that, "In light of the uncertainty created by that ongoing litigation [referencing the 2012 *EME Homer City* decision of the D.C. Circuit], EPA elected at the time [of issuance of its September 13, 2013 Guidance] to not provide additional guidance on those requirements." Id. at 14026, Footnote 1. EPA reminds the reader that, "As guidance is neither binding, nor required by statute, whether EPA elects to provide guidance on a particular section has no impact on a state's CAA obligations." Id. Without EPA guidance, IDEM is left with the Court's caution about over-control in transport analyses.

Almost two years after the IDEM submittal, on September 13, 2013, EPA apparently voluntarily issued "Guidance on Infrastructure State Implementation Plan (SIP) Elements under Clean Air Act sections 110(a)(1) and 110(a)(2)" ("2013 Guidance"). Additionally on January 22, 2015, EPA issued partial guidance to assist states with preparing SIP revisions to address the requirements of CAA 110(a)(2)(D)(i)(I) for the 2008 ozone NAAQS. This proposed rule directs

[1] The U.S. Supreme Court further clarified in the appeal of the *EME Homer* D.C. Circuit decision, that despite the lack of EPA guidance, states are required to meet their good neighbor requirements. *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1600-01 (2014).

the reader to the December 3, 2016 proposed Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS ("CSAPR Update"), 80 Fed. Reg. 75706, December 3, 2015.

On February 1, 2016, IDEM filed timely, and extensive, comments and modeling assessments in response to the EPA's CSAPR Update proposed rule.

On March 16, 2016 this proposed rule disapproving IDEM's submittal was published.

The IDEM SIP submittal that is the subject of this proposed disapproval provides that "Section 110(a)(2)(H) requires SIPs to provide for the revision of the plan from time to time as may be necessary to take account of revisions of a national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of attaining the standard ... "

Pursuant to 40 CFR Subpart F - Procedural Requirements for Requirements for Preparation, Adoption, and Submittal of Implementation Plans (40 CFR 51.100 – 105), states may revise the plan submittals from time to time and EPA shall initiate a process of review of such revision. IDEM represents in its SIP submittal that it continues to update and implement needed revisions to Indiana's SIP as necessary to meet the NAAQS. The February 1, 2016, comments filed by IDEM are strong evidence of a proactive agency working to assimilate the same uncertainty referenced by EPA. EPA was uncertain about the scope of the air transport law, and therefore cannot be certain about its proposed disapproval of the Indiana infrastructure SIP.

## II. Connecticut Comments.

The docket for the Indiana SIP contains a comment letter from the State of Connecticut – the only comment letter submitted by any state on Indiana's submittal. The Connecticut letter, dated September 17, 2013, cites the modeling of the Ozone Transport Commission and EPA and asserts that additional reductions of upwind emissions will be required in order for Connecticut to sufficiently address transported emissions and attain the ozone NAAQS. *See attached,* Exhibit A.

Six months after its comment on the proposed Indiana infrastructure SIP, Connecticut Department of Energy and Environmental Protection ("DEEP") provided a presentation on April 14, 2015[2], in which the agency identified specific concerns about interstate transport of air pollutants from other OTC states, as opposed to long range transport for states as far away as Indiana, 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). Specifically, on slide 10 of that presentation, the Connecticut DEEP states (emphasis added):

> "High electric demand day emissions are part of the persistent ozone attainment problems in the OTC
> - High NOx emissions at a time with the highest ozone forming potential
> - Reductions are a key to attaining the ozone NAAQS"

[2] New Jersey Clean Air Council Hearing, April 14, 2015, *See attached,* Exhibit B.

Set forth in Figure 1 below, Connecticut highlights the emission reductions which it expects from New Jersey's HEDD rule.

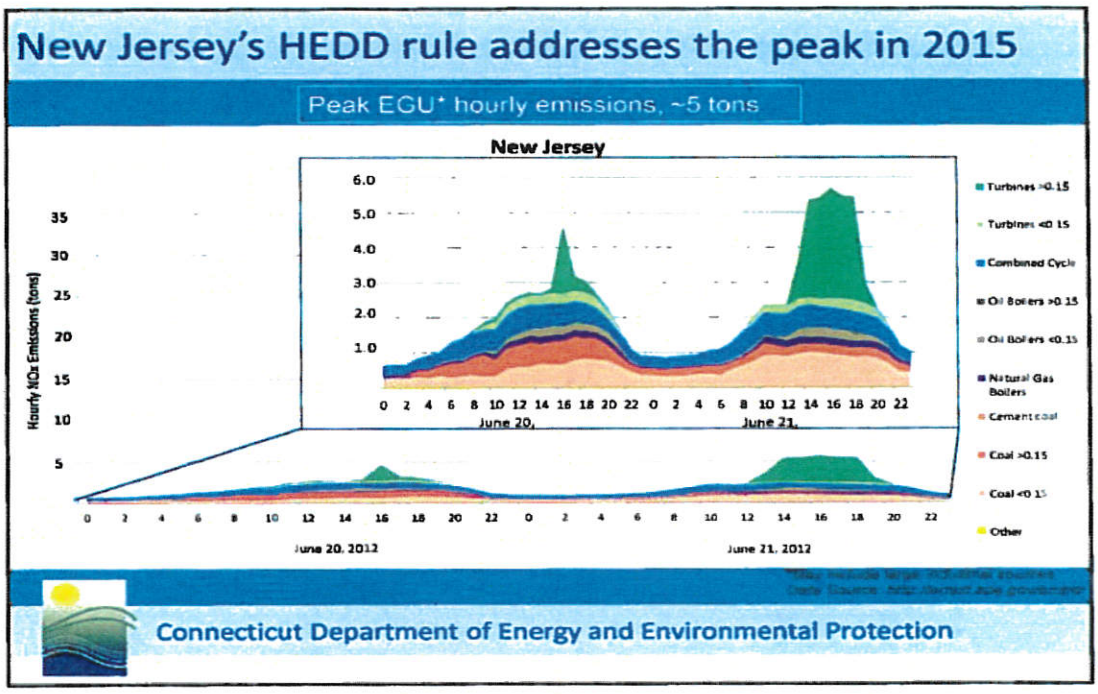


Figure 1. Connecticut DEEP, slide 12, New Jersey Clean Air Council Hearing, April 14, 2015

On July 17, 2014, and in conjunction with the development of a final RACT SIP revision, Connecticut DEEP offered the following additional comments about the several local sources that must be addressed to resolve their ozone problems:

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

CT RACT Analysis, at pp. 28 and 32. *See attached,* Exhibit C.

> To reach attainment in the NY-NJ-CT nonattainment area, HEDD [high energy demand days] 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 wile 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 ton 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 obligations of attainment of the ozone NAAQS as expeditiously as possible."

Id. at pp. 25 and 27 (emphasis added).

On June 15, 2015 Connecticut submitted its *Connecticut State Implementation Plan for Clean Air Act Section 110(a) Infrastructure Elements: Prohibitions on Interstate Air Pollution* ("Good Neighbor SIP") in which the state confirms more in-state and local controls are necessary for Connecticut to meet its obligations as follows:

> Based on current design values in Connecticut, DEEP anticipates that EPA will soon begin the administrative process necessary to "bump-up" the NY/NJ/CT nonattainment area to the next worse classification with respect to the 2008 ozone NAAQS . . This planning process will likely require DEEP to assess additional control measure and their ability to provide for expeditious attainment throughout each nonattainment area. The resulting suite of current and possible new control programs (including RACT for municipal waste incinerators and other major sources) will apply statewide and serve the dual purpose of meeting CAA requirements for Connecticut's nonattainment areas and further reducing Connecticut's statewide contribution to interstate transport in the New York and New Jersey portions of the multistate area as all as in other downwind areas.

pp. 11-12 (emphasis added). *See attached,* Exhibit D. Connecticut's RACT obligation and EPA's administration of RACT is unequivocal as recently confirmed by the U.S. Supreme Court in its March 28, 2016 denial of cert related to the case, *Sierra Club v. EPA*, 78 F.3d 299 (6th Cir.

2015). The Sixth Circuit has now issued two rulings: *Wall v. EPA*, 265 F. 3d 426 (2001) [statutory obligation to include RACT in attainment SIPs for ozone] and *Sierra Club v. EPA, id* [statutory obligation to include RACT in attainment SIPs for PM2.5 NAAQS] clarifying that Congress intended for all SIPs to include provisions to require the implementation of RACT measures regardless of whether needed to bring about attainment.

On April 6, 2016, following the publication of the proposed disapproval of Indiana's infrastructure SIP submittal, Connecticut DEEP issued its Notice of Decision regarding new RACT controls in which it stated that DEEP will move forward with a proposed regulation concerning Municipal Waste Combustors. *See attached,* Exhibit E. On the same day, the Connecticut DEEP Hearing Officer's Report on that rulemaking responded to comments from USEPA and noted that the RACT controls on Municipal Waste will "help Connecticut attain and maintain the ozone NAAQS." *See attached,* Exhibit F.

In conclusion, Connecticut, *by its own admission*, has an ozone air quality problem that cannot be resolved without placing additional controls on sources within its own borders and on sources within the NY-NJ-CT non-attainment area. Any attempt to impose additional controls on upwind states (such as Indiana) without addressing the air quality benefits of these local controls *first*, runs the risk of over-control that is prohibited under the Clean Air Act[3]. Any suggestion by the State of Connecticut that there is a valid basis for disapproving the Indiana SIP is, therefore, unfounded.

## III. Alleged Contributions to Downwind Ozone Nonattainment – 2008 NAAQS.

Prongs One and Two of EPA's proposed disapproval relate to attainment and maintenance of the 2008 ozone NAAQS. EPA proposal disapproval, and its disagreement with IDEM's submittal, rests in great part on the modeling and technical data that was used to support the CSAPR Update. A closer look at that data suggests that a contrary view is more appropriate and that there is no basis to conclude that Indiana would be expected to significantly contribute to the nonattainment of or interfere with the maintenance of the 2008 ozone NAAQS in 2017.

### A. When updated air quality data is applied to EPA's modeling results for 2017, all non-attainment and maintenance problem areas downwind of Indiana are eliminated with the exception of monitors in Connecticut.

In its CSAPR Update proposal, EPA determined an area to be in nonattainment in 2017 if the average of the three design values (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. 80 Fed. Reg. 75725. As will be set forth below, we believe that the approach used by EPA is fatally flawed because it does not take into account the most recent air quality data available to use – namely 2014 and 2015. EPA recognized in the CSAPR Update the importance of using recent data (80 Fed. Reg. 75721) but did not do so then and has not done so in connection with its proposed disapproval of the Indiana infrastructure SIP.

[3] *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.

EPA's Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze 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." Emphasis added.

In work performed for the Midwest Ozone Group and made available to IEA, Alpine Geophysics has prepared 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 Update. This study 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. *See attached,* Exhibit G.

As noted in this study, meteorological data published by the National Oceanic and Atmospheric Administration (NOAA), for the years of 2011 through 2015 have shown relatively consistent precipitation amounts in the eastern states with a noted wet year in 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. 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 in response to new regulatory programs. 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 "alternate, equally plausible" approach for consideration.

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. With this shift in base year design values, 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.

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 demonstrated in this study, with the exception of three monitors in Fairfield, Connecticut, all remaining monitors in the eastern U.S. show attainment in 2017 including the monitor at Sheboygan, WI as shown Figure 2 below:

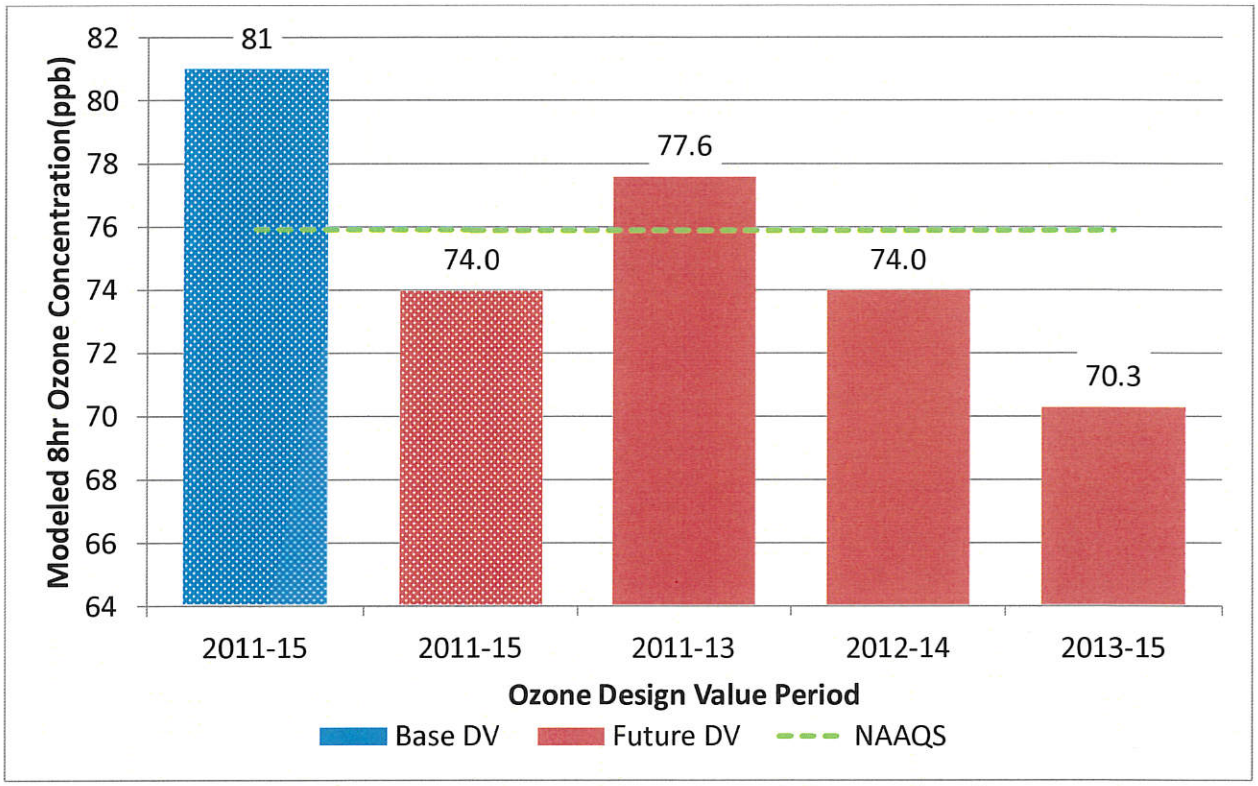


Figure 2. Alternative Analysis of Sheboygan Wisconsin Attainment and Maintenance Status.

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 inasmuch as none of three 3-year design values in the time period 2011-15 exceeded the 2008 NAAQS.. The other 6 maintenance sites are monitors are all below 75.9 ppb for the two most recent sets of 3-year design values raising serious questions about whether, even under EPA's maintenance area test, those monitor should continue to be considered maintenance areas.

As to the Fairfield County Connecticut monitors that are not shown to be brought into attainment by this analysis, we will discuss later in these comments the significant modeling platform corrections and updated emission reductions that, if addressed, are likely to show that even those monitors will be in attainment in 2017.

**B. In addition to the impact of current air quality data, there are a variety of policy and legal factors which demonstrate that emissions from Indiana sources do not interfere with downwind maintenance areas**

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

EPA's reliance in its CSAPR Update analysis 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.* In this instance, EPA has not justified its proposed disapproval of Indiana's infrastructure SIP as necessary to avoid interference with downwind maintenance areas.

**(2) 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 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 the IEA, 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.

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. Inasmuch as EPA itself estimates that all of these areas, including all of the maintenance areas, will be in attainment with the 2008 NAAQS 10 years from now, it is inappropriate for EPA to disapprove the Indiana SIP as having the potential to interfere with maintenance areas since none currently exist. Given the near and longer term attainment status of the maintenance monitors, any additional emission reductions in Indiana to address maintenance areas would result in over-control and be prohibited.[4]

### C. EPA's data is not sufficient to demonstrate that Indiana emissions significantly contribute to the nonattainment of the Connecticut monitors

#### (1) EPA's own data shows that Indiana does not significantly contribute to all of Connecticut's non-attainment monitors.

In the CSAPR Update, EPA finds that Indiana does significantly contribute to two non-attainment monitors in Fairfield, Connecticut (90013007 and 90019003) 80 Fed. Reg. 75728, December 3, 2015). Significantly, however, EPA determined that Indiana was not a significant contributor to any of the neighboring non-attainment monitors including others in Fairfield County.

#### (2) EPA's findings of significant contribution for the other nonattainment monitors in Connecticut were inappropriately made on the basis of over-water data – an action that has been rejected by the Courts.

Alpine Geophysics has prepared a report entitled "Model Performance Review at Monitors with Complex Meteorology Land-Water Interfaces" in which it 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. *See attached,* Exhibit H. If model response is expected to be different (and presumably more

[4] *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.

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 CSAPR Update, 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 3 and 4 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 3.** Connecticut monitors located on land/water interface.

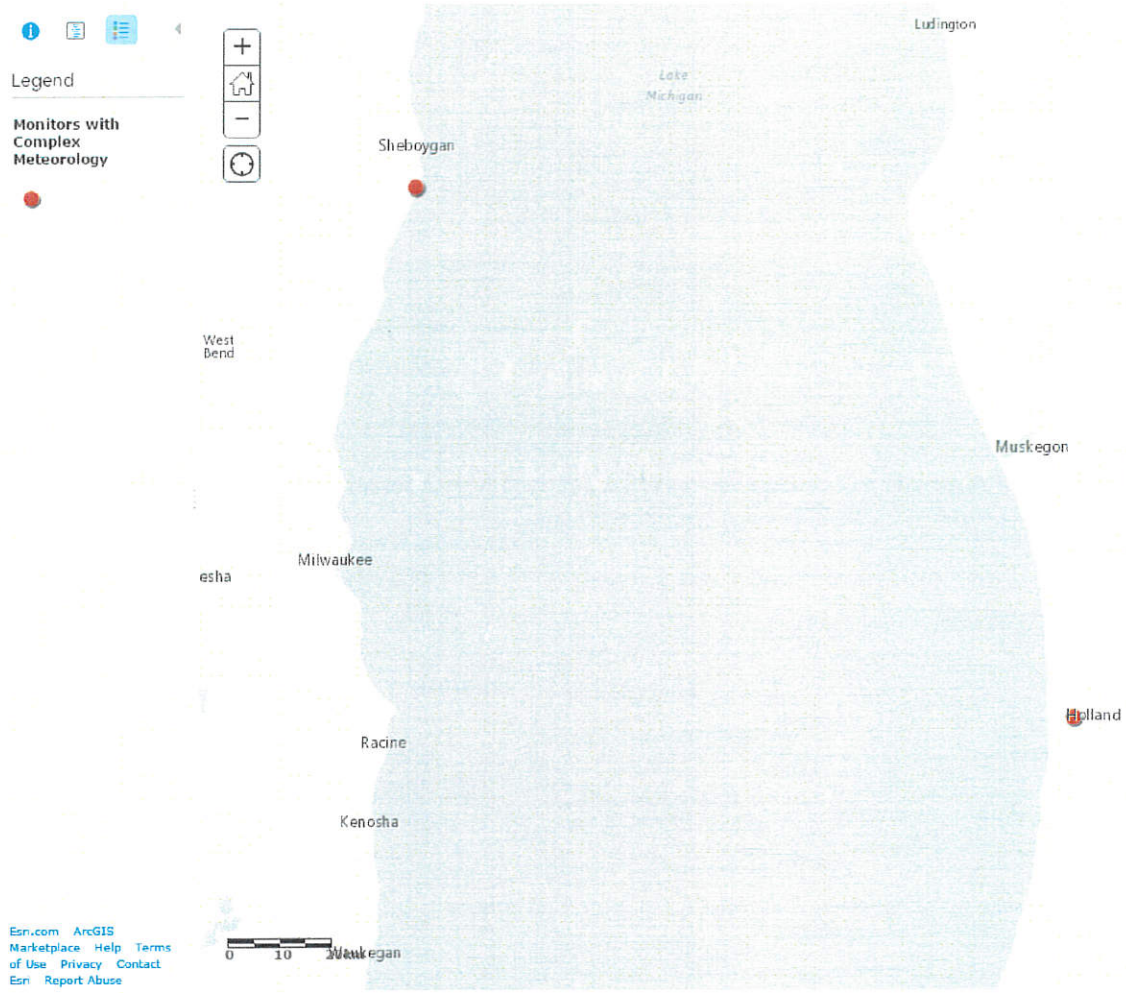


**Figure 4.** Wisconsin and Michigan monitors located on land/water interface. 3

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 Table 3 of this report set out below, 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.

**Table 3.** 10 Days Selected for MATS RRF Calculation at Example Monitors

| | | | | MDA8 Ozone Conc. (ppb) | | | Delta ppb |
|---|---|---|---|---|---|---|---|
| Monitor | Mon | Day | Year | Obs. | 3x3 Center | 3x3 Max | (Max - Center) |
| 90013007 | 6 | 9 | 2011 | 84 | 106.79 | 122.21 | 15.42 |
| | 7 | 21 | 2011 | 65 | 102.08 | 114.90 | 12.82 |
| | 6 | 8 | 2011 | 95 | 83.44 | 112.78 | 29.34 |
| | 7 | 11 | 2011 | 88 | 103.31 | 106.48 | 3.17 |
| | 7 | 22 | 2011 | 87 | 78.48 | 102.61 | 24.13 |
| | 7 | 6 | 2011 | 79 | 96.69 | 100.40 | 3.71 |
| | 7 | 18 | 2011 | 82 | 84.76 | 98.08 | 13.33 |
| | 7 | 17 | 2011 | 72 | 79.96 | 90.80 | 10.84 |
| | 8 | 1 | 2011 | 67 | 69.00 | 86.68 | 17.68 |
| | 7 | 23 | 2011 | 68 | 70.08 | 86.13 | 16.05 |
| 260050003 | 7 | 24 | 2011 | 60 | 106.09 | 131.52 | 25.43 |
| | 7 | 2 | 2011 | 64 | 90.88 | 119.11 | 28.23 |
| | 6 | 7 | 2011 | 95 | 100.81 | 110.39 | 9.58 |
| | 6 | 8 | 2011 | 97 | 98.62 | 107.17 | 8.55 |
| | 7 | 11 | 2011 | 74 | 85.91 | 103.07 | 17.16 |
| | 7 | 31 | 2011 | 62 | 76.93 | 99.48 | 22.55 |
| | 7 | 20 | 2011 | 94 | 86.33 | 97.63 | 11.30 |
| | 7 | 18 | 2011 | 67 | 85.88 | 93.39 | 7.51 |
| | 9 | 1 | 2011 | 85 | 77.84 | 93.01 | 15.17 |
| | 7 | 10 | 2011 | 75 | 73.27 | 87.95 | 14.68 |
| 551170006 | 7 | 17 | 2011 | 97 | 80.72 | 99.20 | 18.48 |
| | 9 | 1 | 2011 | 111 | 81.21 | 96.49 | 15.28 |
| | 5 | 30 | 2011 | 67 | 88.29 | 94.14 | 5.85 |
| | 7 | 30 | 2011 | 72 | 63.78 | 93.62 | 29.84 |
| | 6 | 7 | 2011 | 84 | 82.28 | 91.59 | 9.31 |
| | 7 | 10 | 2011 | 84 | 70.68 | 91.37 | 20.69 |
| | 7 | 20 | 2011 | 80 | 61.92 | 87.31 | 25.39 |
| | 7 | 23 | 2011 | 66 | 79.26 | 87.00 | 7.74 |
| | 5 | 22 | 2011 | 63 | 75.21 | 86.86 | 11.65 |
| | 7 | 5 | 2011 | 62 | 60.29 | 83.63 | 23.34 |

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.

**Table 4.** 2011 Ozone Model Performance Statistics for 10 Days Selected for MATS RRF Calculations

| Monitor | State | County | Simulation | Obs Mean (ppb) | Model Mean (ppb) | Mean Bias (ppb) | Mean Error (ppb) | Normalized Mean Bias (NMB) | Normalized Mean Error (NME) | Fractional Bias | Fractional Error |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 90013007 | Connecticut | Fairfield | 3x3 center | 78.70 | 87.46 | 8.76 | 12.77 | 11.13 | 16.23 | 10.1 | 16.6 |
| | | | 3x3 maximum | 78.70 | 102.11 | 23.41 | 23.41 | 29.74 | 29.74 | 25.9 | 30.9 |
| 260050003 | Michigan | Allegan | 3x3 center | 77.30 | 88.26 | 10.96 | 14.27 | 14.17 | 18.46 | 13.9 | 21.4 |
| | | | 3x3 maximum | 77.30 | 104.27 | 26.97 | 26.97 | 34.89 | 34.89 | 30.1 | 40.2 |
| 551170006 | Wisconsin | Sheboygan | 3x3 center | 78.60 | 74.37 | -4.23 | 13.59 | -5.39 | 17.29 | -4.6 | 17.0 |
| | | | 3x3 maximum | 78.60 | 91.12 | 12.52 | 15.42 | 15.93 | 19.62 | 16.3 | 21.7 |

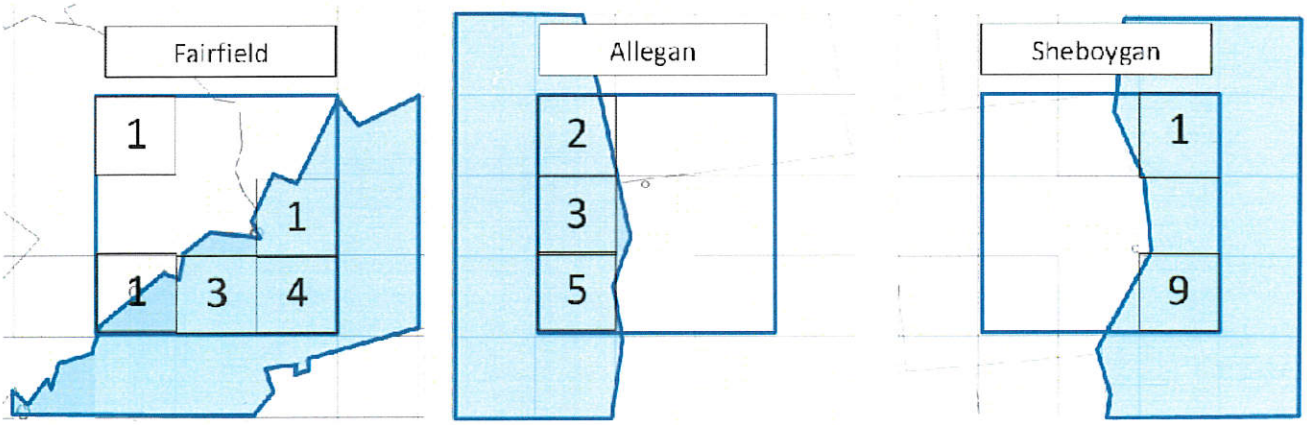


**Figure 7.** Number of times grid cell concentration was selected for RRF calculation for example monitors; Fairfield, Allegan, Sheboygan (L to R). Water boundaries highlighted in blue.

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.

It is also significant that in the case of each of remaining Connecticut non-attainment monitors, the data that was relied upon by EPA taken from over water particularly given the D.C. Circuit's vacatur of EPA's inclusion of Wisconsin in the NOx SIP Call based on deficiencies in the rulemaking record in which the court held that "the agency does not show on the record that Wisconsin's ozone contribution affects any onshore state non-attainment." *Michigan v. EPA*, 213 F.3d 663, 681 (D.C. Cir. 2000).

These data are additional indictors that the modeling results being relied upon by EPA to propose disapproval of the Indiana SIP overstate the ozone concentration in these critical downwind monitors and compel the conclusion that they cannot be used to disapproved the Indiana SIP without resulting in over-control that is prohibited by applicable case law.

**D. In addition to the emission reduction programs considered by EPA, many other programs exist that would significantly improve Connecticut's ozone air quality in 2017 and likely bring its monitors into attainment.**

**(1) EPA itself recognizes that moving to its IPM 5.15 inventory will reduce further Indiana's emissions and improve air quality in Connecticut and elsewhere**

EPA ran a series of IPM emission scenarios published in the document "Ozone Transport Policy Analysis Proposed Rule TSD". 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 is approximately 93,000 higher than latest on-the-books estimates expected by EPA. For Indiana, this results in 1,414 fewer tons of NOx than the CSAPR Update modeling assumed. The changes will lower both ozone concentrations in Connecticut (and elsewhere) as well as Indiana's contributions to downwind states.

**(2) The Pennsylvania RACT program alone will significantly improve Connecticut's ozone concentrations**

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 assessed the PA RACT II program. In a report entitled "Impact Analysis of Pennsylvania RACT II Rule on Downwind Monitor Ozone Concentrations" Alpine quantified

significant ozone air quality improvement resulting from a 27,010 reduction in EGU NOx emissions compared with 44,551 tons of actual CAMD ozone season emissions in 2014 – a 39% reduction. *See attached,* Exhibit I. 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.

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 |

These results underscore the likelihood that accounting for the additional reductions related to non EGU emission reductions associated with PA RACT and reductions in NY, NJ and CT HEDD emissions (that Connecticut DEEP says must be addressed if attainment is to be achieved) as well as reductions from implementation of the NEOTC measures and Connecticut RACT controls to be discussed in the following section will be sufficient to bring even the Connecticut monitors into attainment.

**(3) Other known emission reduction programs will further improve Connecticut's 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 (previously addressed) various NEOTC measures, and a variety of other programs.

With respect to NEOTC programs, we have been advised by the State of Maryland 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. *See attached,* Exhibit J.

| OTC Model Control Measures | Regional Reductions (tons per year) | Regional Reductions (tons per day) |
|---|---|---|
| Aftermarket Catalysts | 14,983 (NOx)<br>3,390 (VOC) | 41 (NOx)<br>9 (VOC) |
| On-Road Idling | 19,716 (NOx)<br>4,067 (VOC) | 54 (NOx)<br>11 (VOC) |
| Nonroad Idling | 16,892 (NOx)<br>2,460 (VOC) | 46 (NOx)<br>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 with respect to action on Indiana's SIP is limited by several factors, including being prohibited from forcing an upwind state to impose emission reductions that would be more than would be necessary to eliminate nonattainment in downwind areas – *i.e., a* prohibition against over-control.

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. When the emission reductions related to the move to IPM 5.15 are considered along with emissions reductions that are mandated by Connecticut RACT and the HEDD emissions that are so critical to Connecticut's attainment status it is clear that Indiana will not have significant contribution to downwind nonattainment because there is not likely to be

any nonattainment. We urge that EPA approve the Indiana SIP inasmuch as Indiana's emissions are not likely to significantly contribute to or interfere with downwind problem areas.

### E. Accounting for international emissions alone are likely to be enough to eliminate concern about Connecticut's remaining non-attainment

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 related to the CSAR Update, 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" 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 2017 ozone contribution transport NODA data 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.

Given the significant impact that international emissions have on downwind problem areas, including the problem monitors in Connecticut, EPA is obligated to conclude that emissions from Indiana will not be significantly contributing to or interfering with any of those problem areas and accordingly that that the Indiana SIP should not be disapproved.

## IV. Relationship to Visibility SIP Obligations

As EPA notes, IDEM submitted its infrastructure SIP provisions to EPA on December 12, 2011, and clarified its SIP submittal in a May 24, 2012 letter. *See* 81 Fed. Reg. at 14,026. At the time IDEM submitted and clarified its SIP provisions, the CAIR emission allowance trading programs were in effect both for sulfur dioxide and for annual and ozone-season nitrogen oxide requirements for EGUs located in Indiana, as was EPA's "CAIR=BART" rule for EGUs' sulfur dioxide and nitrogen oxide emissions subject to CAIR, as that rule was promulgated in July 2005 and codified at 40 C.F.R. § 51.308(e)(4). CSAPR was not scheduled to take effect and replace CAIR until January 1, 2012, and, before it took effect, the D.C. Circuit stayed CSAPR on December 30, 2011, directing EPA "to continue administering" CAIR in lieu of CSAPR while litigation challenges to CSAPR were pending. Order, *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 and consolidated cases (D.C. Cir. Dec. 30, 2011), at 2. That directive was consistent with the D.C. Circuit's decision in *North Carolina v. EPA*, 550 F.3d 1176 (D.C. Cir. 2008) (per curiam), *modifying North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008) (per curiam), in which the D.C. Circuit held that, in order to "at least temporarily preserve the environmental values covered by CAIR," CAIR would remain in effect until superseded by a valid replacement rule. 550 F.3d at 1178. Consistent with the D.C. Circuit's decisions and directives, CAIR remained in effect -- in Indiana as well as in the other states subject to CAIR -- through the end of 2014 and was not replaced by CSAPR until January 1, 2015.

Likewise, EPA's CAIR=BART rule, as codified at 40 C.F.R. § 51.308(e)(4), remained in effect until the superseding "CSAPR=BART" provision of section 51.308(e)(4) took effect on August 6, 2012 -- well after IDEM had submitted and clarified its section 110(a)(2)(D)(i) SIP provisions for the 2008 ozone NAAQS. *See* 77 Fed. Reg. 33,642, 33,643 (June 7, 2012) (establishing an August 6, 2012 effective date for EPA regulatory actions). Indeed, IDEM submitted and clarified those SIP provisions before the EPA Administrator on May 30, 2012, signed the EPA rule that revised section 51.308(e)(4) and that included a limited disapproval of Indiana's CAIR=BART SIP. *See id.* at 33,656 (showing that the rule was signed on May 30, 2012). Accordingly, the SIP was submitted in full compliance with relevant Clean Air Act requirements governing regional haze and interstate visibility transport and therefore should be fully approved.

If EPA nonetheless concludes, however, that it should disapprove IDEM's SIP submittal, EPA should make clear in its final rulemaking action that IDEM would not thereby become subject to any additional obligation to submit a SIP to satisfy prong four, as the CSAPR=BART FIP that EPA promulgated for Indiana in June 2012, *see* 77 Fed. Reg. at 33,643, satisfies that prong for Indiana in the absence of an EPA-approved FIP. *See* 81 Fed. Reg. at 14,029 (noting that in its June 7, 2012 rule, EPA "issued FIPs [for Indiana and other states] that allowed CSAPR to meet the regional haze requirements for EGUs").

## V. Conclusion

In conclusion, it is clear that that the data relied upon by EPA to support its proposal to disapprove the Indiana infrastructure SIP is fatally flawed and, in light of more recent statements by Connecticut and others, does not sustain the agency's position. The alternative analysis conducted by Alpine Geophysics demonstrates that downwind problems areas will be eliminated in 2017 except for certain monitors in Connecticut that must be addressed *first* through local controls before seeking reductions from upwind sources. Given the fact that Indiana's emissions (by EPA's own estimate) are not significant contributors to certain of these monitors and the remaining monitors will continue to experience significant improvement in ozone air quality in 2017, we urge that EPA approve the Indiana infrastructure SIP as submitted. EPA should conclude that a fair assessment of all available data supports approval of the Indiana infrastructure SIP as demonstration that emission from Indiana sources are not significantly contributing to or interfering with any downwind problem areas.

Very truly yours,

Timothy J. Rushenberg
Vice President
Indiana Energy Association