Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

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U.S. Environmental Protection Agency
Docket ID Number: EPA-HQ-OAR-2018-0225

RE: Determination Regarding Good Neighbor Obligations for the 2008 Ozone National Ambient Air Quality Standard

Dear Docket Administrator:

The Connecticut Department of Energy and Environmental Protection (DEEP) welcomes the opportunity to comment in opposition to EPA's proposed determination [83 FR 31915, 10JUL18] that the Cross-State Air Pollution Rule Update (CSAPR Update) [81 FR 74504, 26OCT16] fully addresses obligations for the 2008 ozone National Ambient Air Quality Standards (NAAQS) under Clean Air Act (CAA) section 110(a)(2)(D)(i)(I) regarding interstate transport of ozone and its precursor pollutants for twenty states in the eastern United States covered by the CSAPR Update. DEEP submits these written comments as supplement to our oral comments made at the hearing held by EPA on this proposal in Washington, D.C. on August 1, 2018.

The CSAPR Update final notice clearly states that time constraints precluded EPA from fully addressing the requirements of CAA section 110(a)(2)(D)(i)(I) in the rule. EPA's objective was to find inexpensive emissions reductions that could be implemented by the start of the next ozone season – which was only months away.[1] Motivated to obtain emissions reductions prior to the July 20, 2018 attainment date for downwind states, EPA limited its focus in the CSAPR Update to immediately achievable emissions reductions from large electric generating units (EGUs) which were not optimizing existing controls. Recognizing that it had not completed a thorough analysis, EPA committed to seek further reductions from EGU and non-EGU sources so that states could fully address their transport obligations under CAA section 110(a)(2)(D)(i)(I), the good neighbor provision.[2]

EPA's then-recent promulgation of the more stringent 2015 ozone standard recognized that the 2008 standard was insufficient to protect public health and welfare. In light of this, EPA's approach to expedite emission reductions through the CSAPR Update was arguably reasonable given the circumstances. However, rather than complete the process of providing a full remedy for interstate transport, EPA – in this current action – instead further delays

[1] From the CSAPR Update at 81 FR 74521: "Given the time constraints for implementing NOx reduction strategies, the EPA believes that implementation of a full remedy that includes emission reductions from EGUs as well as other sectors may not be achievable for 2017. However, a partial remedy is achievable for 2017 and therefore this rule focuses on these more immediately available reductions."

[2] From the CSAPR Update at 81 FR 74522: "… EPA expects that a full resolution of upwind transport obligations would require emission reductions from sectors besides EGUs, including non-EGUs, and further EGU reductions that are achievable after 2017. Given the approaching July 2018 attainment deadline for the 2008 ozone NAAQS, developing a rule that would have covered additional sectors and emission reductions on longer compliance schedules would have required more of the EPA's resources over a longer rulemaking schedule to fully address. … EPA is still in the process of developing information regarding available emission reductions from non-EGUs. Had the EPA waited to promulgate FIPs until that information was fully developed, we could not have assured emission reductions by 2017, in time to assist downwind states to meet the July 2018 attainment deadline. Accordingly, the EPA reasonably concluded that it was most prudent to promulgate a first step to address interstate transport for the 2008 ozone NAAQS that achieves those immediate reductions while addressing any remaining obligation that might be achievable on a longer timeframe in a separate rulemaking. The EPA intends to continue to collect information and undertake analyses for potential future emission reductions at non-EGUs that may be necessary to fully quantify states' interstate transport obligations in a future action."

attainment while making no further effort to provide any relief to downwind states for the ongoing, documented interstate transport of ozone precursors that are significantly contributing to nonattainment in Connecticut, to the detriment of the health and welfare of our residents and to our state's economy.

EPA justifies its position based on its expectation that there will be no remaining nonattainment or maintenance receptors in the eastern United States in 2023. As explained below, this expectation is both flawed and irrelevant. Moreover, the proposal forecloses the opportunity to obtain meaningful regional emissions reductions that could advance attainment of the standard. Therefore, Connecticut opposes the proposal and urges EPA to reconsider its position.

Regarding the selection of 2023 as the base year for Good Neighbor SIPs

The CAA requires each state to adopt a plan prohibiting any source or emissions activity within its borders from contributing significantly to nonattainment, or interfering with maintenance by, any other state with respect to a NAAQS. These plans are to be adopted within three years of the promulgation of a new or revised NAAQS and well before the earliest attainment date. For the 2008 ozone standards, the good neighbor plans were to have been adopted in 2011. Nonattainment areas were expected to reach attainment beginning in 2015 with the expectation that upwind states would already have prohibited any significant contribution to nonattainment or maintenance of the standard.

The CSAPR Update established linkages for determining significant contribution using 2017 modeled data. EPA is now proposing to use 2023 modeled data to establish these linkages. EPA argues that this later date is justified because CAA section 110 uses the phrase "… will contribute significantly…" making the good neighbor provision necessarily forward-looking. A second argument EPA makes is that "… four years would be an expeditious timeframe to coordinate the planning and completion of any mitigation efforts …" to region-wide controls on EGUs [83 FR 31929] and coincidently, "… that an expeditious timeframe for installing sector – or region-wide controls on non-EGU sources may collectively require four years or more [83 FR 31931]."

EPA's argument that the good neighbor provision is forward-looking neglects the obvious fact that it is looking forward from a point prior to the initial attainment dates for the downwind states. These dates are now well in the past. Connecticut's current attainment date for the 2008 standard is July 20, 2018. EPA cannot possibly believe it is acceptable under the CAA to base linkages to significant contributions to nonattainment on modeled data that is six years beyond the downwind area's expected attainment year.

EPA's argument for using 2023 as an evaluation year is based on the claim that it is not practical to implement the necessary regional control strategy within four years. EPA imagines that building the necessary control equipment to correct for the magnitude of nonattainment caused by transport would strain available resources for construction cranes and skilled labor. However, EPA's modeling of 2023 projects that, outside of California, all areas are in attainment without the need for vast air pollution control construction activities. With their premise negated, EPA does not then reassess the basis for selecting 2023 to consider an earlier year with less extensive reductions. Instead EPA ends the process concluding that no eastern state *will contribute* to nonattainment. Thus, EPA avoids any further consideration of fulfilling statutory good neighbor obligations.

EPA's approach also negates the CAA good neighbor provision as it would apply to marginal areas. EPA's general argument that it would take at least four years to implement any program of ozone precursor emissions reductions implies that even a timely submitted good neighbor SIP could not reasonably implement controls by the initial attainment dates for downwind marginal nonattainment areas which follow the SIP submittal date by just two years. Moreover, coupled with EPA's always forward-looking approach and tolerance for delay, any state could argue that if a state's attainment date is less than four years away, it would have no good neighbor obligations. This is the approach EPA advocates here to justify the close out.

EPA's forward looking approach rewards upwind state inaction by allocating future year emission reductions obtained throughout the modeling region to the upwind states to satisfy their good neighbor obligations. Over two million tons of nitrogen oxide emission reductions were modeled to have occurred from 2017 to 2023. Nearly half of these emission reductions occurred outside the boundaries of the 20 CSAPR Update states (see Table 1). EPA is essentially reallocating emissions reductions from states like Connecticut, where emission reductions are considered feasible at costs exceeding $13,000 per ton,[3] to contributing states from which EPA would not require emission reductions in excess of $1,400 per ton. EPA seems to find it reasonable that Connecticut should bear these costs despite the fact that more than ninety percent of Connecticut's nonattainment is due to transport.[4]

Table 1. EPA modeled emission reductions of nitrogen oxides (NOx) projected to occur from 2017 to 2023. Nearly half of the domain-wide reductions necessary to show attainment by 2023 are reallocated to benefit the 20 states directly affected by the proposal to close out the CSAPR Update.

	Modeled NOx Emissions Reduced from 2017 to 2023	
	Annual (tons)	Average Summer Day (tons)
Domain-wide	2,059,097	5,978
20 CSAPR Update States	1,136,235	3,258
Reallocated	922,862	2,897

EPA's use of 2023 for determining linkages to significant contributions is not relevant to any attainment date for the 2008 standard, is contrary to the CAA and should be rejected. EPA's failure to hold upwind states accountable based on the linkage of nonattainment to their significant contribution is a failure of EPA to carry out its duties under CAA section 301 to promulgate regulations which assure fairness and uniformity in enforcing the Act. Unfortunately, even now, nearly forty years after the CAA was last amended, EPA is still working on guidance to establish these linkages.[5] At this late date, EPA should retain its approach started with the CSAPR Update and obtain a full remedy to transport based on 2017 model results.

Regarding the reliability of the modeling data

EPA relies on a very narrow margin of compliance in concluding that attainment of the 2008 ozone standard is expected by 2023. The maximum predicted ozone concentration at Connecticut's Westport monitor is 75.9 parts per billion (ppb). This is just one tenth of one part per billion from a maximum value of 76 ppb, the nonattainment value that would trigger good neighbor obligations for interfering with maintenance.

EPA guidance for SIP modeling recommends evaluating evidence to determine if a particular modeling approach is valid for assessing future attainment status.[6] The slight margin by which EPA is proposing to exempt upwind states from any future obligations to remedy transport certainly merits such an evaluation.

EPA used a similar modeling approach to project ozone concentrations for 2017 as it uses for 2023. Actual data for 2017 is now available to evaluate the model. As shown in Table 2 below, EPA's model consistently under-predicted the 2017 design values. At critical receptors, under-predictions were approximately 6 ppb ozone. EPA predicted only two monitors to be nonattainment while actual data showed that eight monitors were nonattainment. These projections were released less than one year prior to the modeled year. It is unlikely that performance will improve for a modeling approach that projects out nearly six years. Nor is it likely that performance of the model is reliable to within one tenth of a ppb.

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[3] Regulations of Connecticut State Agencies section 22a-174-22e(h).

[4] DEEP, *8-Hour Ozone Attainment Demonstration for the Connecticut Portion of the New York-Northern New Jersey-Long Island (NY-NJ-CT)Nonattainment Area Technical Support Document,* August, 2017.

[5] Tsirigotis, Peter to Regional Air Division Directors, Memorandum *"Information on the Interstate Transport Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I)"*, March 27, 2018.

[6] EPA, *"Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze"*, December 2014.

Table 2. EPA modeled ozone design value concentrations projected for 2017 at Connecticut monitors compared with actual ozone design values for 2017.

Monitor ID	Town	EPA CSAPR Update Modeled Projections for 2017			2017 Actual from Monitored Data	
		Attainment status	Average design value	Maximum design value	Design value	Attainment status
090019003	Westport	nonattainment	76.5	79.5	83	nonattainment
090099002	Madison	nonattainment	76.2	79.2	82	nonattainment
090013007	Stratford	maintenance	75.5	79.7	83	nonattainment
090010017	Greenwich	maintenance	74.1	76.6	79	nonattainment
090011123	Danbury	attainment	71.6	73.1	77	nonattainment
090110124	Groton	attainment	70.8	74.1	76	nonattainment
090070007	Middletown	attainment	69.5	70.9	79	nonattainment
090090027	New Haven	attainment	66.8	70.1	77	nonattainment
090131001	Stafford	attainment	65.7	67.1	71	attainment
090031003	East Hartford	attainment	65.1	66.2	72	attainment
090050005	Cornwall	attainment	61.4	62.0	72	attainment

Nationally, the model under-predicted in the critical ozone transport region. Figure 2 shows the extent of under-prediction in the eastern half of the United States.

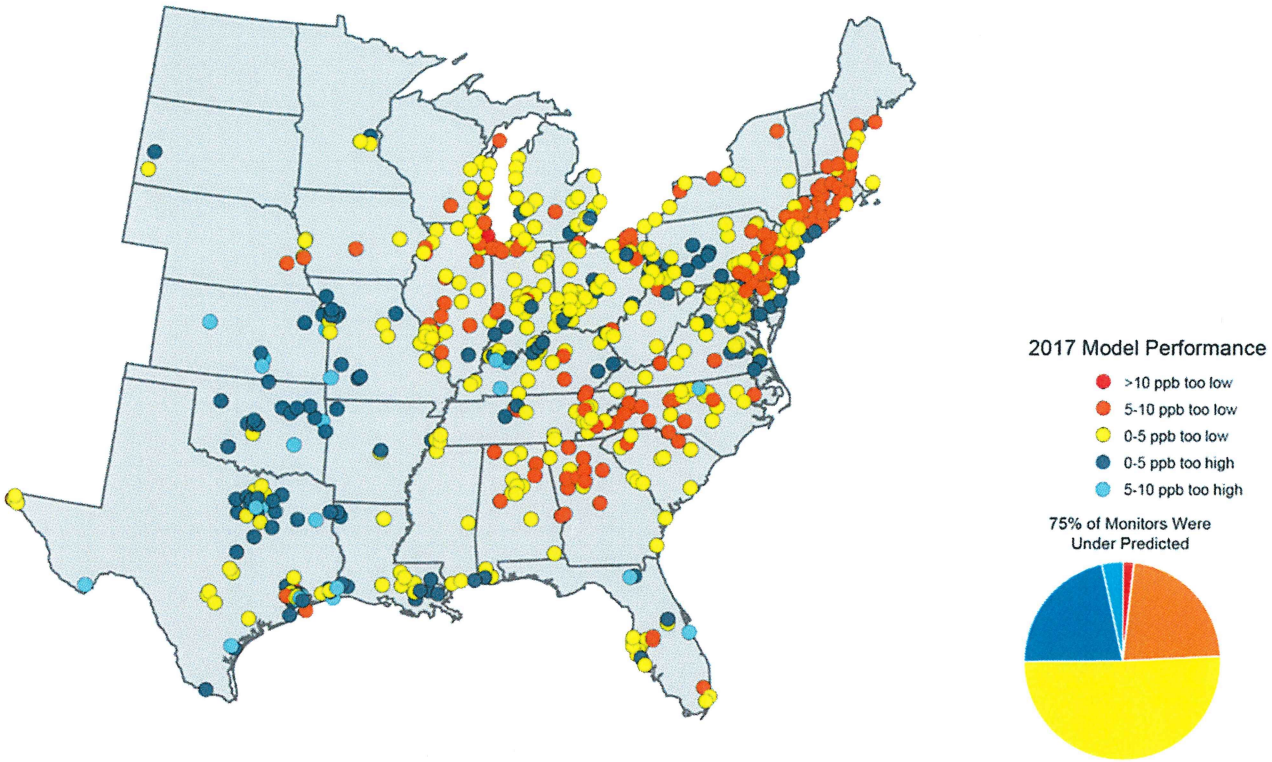

Figure 2. The difference in modeled average design values projected by EPA for 2017 in the CSAPR Update with the actual design values for 2017. The model tended to under-predict actual design values.

EPA should weigh its results against modeling approaches conducted by the Ozone Transport Commission (OTC) and others. A comparison of modeling results at critical monitoring sites conducted by the OTC shows that the CAMx model used by EPA under-predicts maximum ozone concentrations when compared to the CMAQ model (see Table 3).[7]

Table 3. Comparison of OTC CMAQ and CAMx Modeled design values projected for 2023 at select monitors.

Monitor ID	County	Site	2023 Gamma CMAQ (ppb)	2023 Gamma CAMx (ppb)
090019003	Fairfield	Sherwood Island Westport	81.1	71.9
360850067	Richmond	Susan Wagner HS	76.9	71.1
240251001	Harford	Edgewood	74.1	71.8
090010017	Fairfield	Greenwich Point	72.3	69.5
090013007	Fairfield	Lighthouse-Stratford	73.7	70.6
361030002	Suffolk	Babylon	71.4	72.0
090099002	New Haven	Hammonasset Madison	69.7	69.9
360810124	Queens	Queens College 2	68.8	69.4
361192004	Westchester	White Plains	69.5	68.1
340150002	Gloucester	Clarksboro	69.1	67.5
090011123	Fairfield	Danbury	68.0	66.3

Confidence in EPA's modeling is further diminished when one considers that emissions reductions which might have been expected from federal rules – the glider rule, new source performance standards and control techniques guidelines for the oil and gas sector -- currently face weakening, repeal, or delay. EPA should assure that projected emission reductions are enforceable in state plans or federal rules.

Model results are approximations based on best guesses of future conditions and errors should always be expected. Therefore, a margin of safety should be applied when interpreting modeling results sufficient to give confidence that the actions taken based on the model are justified. EPA's modeling is not sufficiently conservative to give confidence that attainment is assured even as late as 2023. In giving undue confidence to their modeling results, EPA relinquishes the opportunity to plan long term ozone mitigation strategies and to provide readily available and cost effective relief to the millions of Americans who are currently exposed to harmful effects of ozone.

Appropriate control strategies for inclusion in good neighbor SIPs were recommended in a statement by the Ozone Transport Commission.[8] To assure earliest attainment of the 2008 ozone standard, EPA should act on these recommendations based on contributions previously assessed in the CSAPR Update. There is no valid reason for using any year beyond 2017 for determining a state's significant contribution to nonattainment of the 2008 ozone NAAQS.

Recognizing the need to also address the 2015 ozone standard in a timely manner, EPA should take immediate steps to implement national control measures to reduce emissions from non-EGU stationary sources and mobile sources including heavy duty on-road and non-road engines while ensuring states enforce EGU emissions limits on timeframes consistent with the averaging time of the standard.

If you have any questions please contact Mr. Richard A. Pirolli, Director of Bureau of Air Management, Planning and Standards Division at (860) 424-3450.

Sincerely,

Robert E. Kaliszewski
Deputy Commissioner

[7] OTC White Paper, *Photochemical Air Quality Modeling Application for Assessment of Attainment and Significant Contribution*, August, 2018.
[8] https://otcair.org/upload/Documents/Formal%20Actions/GoodNeighSIPResolu_Final.pdf