



**OHIO VALLEY ELECTRIC CORPORATION**

3932 U. S. Route 23  
P. O. Box 468  
Piketon, Ohio 45661  
740-289-7200

WRITER'S DIRECT DIAL NO:  
740-289-7299

December 14, 2020

[A-and-R-Docket@epa.gov](mailto:A-and-R-Docket@epa.gov)

Environmental Protection Agency  
EPA Docket Center (EPA/DC)  
Mail Code 28221T  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

**Submitted Electronically**

**RE: Docket ID No. EPA-HQ-OAR-2020-0272**

Dear Sir or Madam:

Enclosed please find the comments of the Ohio Valley Electric Corporation (OVEC) on the *Revised Cross State Air Pollution Update Rule for the 2008 Ozone NAAQS*, proposed rule, published at 85 Fed. Reg. 68964 (October 30, 2020). The comments are being electronically submitted to the [A-and-R-Docket@epa.gov](mailto:A-and-R-Docket@epa.gov). Please include these comments in the official docket for this rulemaking.

If you have any questions concerning these comments, please contact me at (740) 289-7299 or by email at [mbrown@ovec.com](mailto:mbrown@ovec.com). OVEC appreciate the opportunity to participate in this rulemaking effort.

Sincerely,

A handwritten signature in black ink that reads "J. Michael Brown". The signature is written in a cursive, flowing style.

J. Michael Brown  
Environmental Safety & Health Director  
Ohio Valley Electric Corporation

jmb:klr

Enclosure

cc: [Hooper.Daniel@epa.gov](mailto:Hooper.Daniel@epa.gov)

**Comments of the Ohio Valley Electric Corporation on the  
Revised Cross State Air Pollution Update Rule for the 2008 Ozone NAAQS**  
85 Fed. Reg.68964 (October 30, 2020)

Docket ID No. EPA-HQ-OAR-2020-0272

On September 13, 2019, the United States Court of Appeals for the District of Columbia Circuit remanded to the Environmental Protection Agency (EPA) the 22-state program known as the Cross-State Air Pollution Rule Update (CSAPR Update) for the 2008 Ozone National Ambient Air Quality Standards (NAAQS). *Wisconsin v. EPA*, 938 F.3d 303 (D.C. Cir. 2019) (*Wisconsin*). The court did not determine that EPA's CSAPR Update program was no longer a reasonable regional approach to the problem of interstate transport of ozone precursor emissions. Also, the court did not overturn EPA's technical conclusions about the appropriate and cost-effective level of NOx controls for electric generating units (EGUs) equipped with selective catalytic reactors (SCR) that could reasonably be implemented through optimizing the operation of those controls.

What the court did identify as a flaw in EPA's justification for the program was its failure to assure that the significant contributions by upwind states would be eliminated by the earliest applicable attainment date for the 2008 ozone NAAQS in 2021. And based on EPA's assertion that the rule was a "partial" remedy for any significant contributions from upwind states, the court ordered EPA to examine whether its conclusion that operation of non-catalytic controls (SNCR) on EGUs was, in fact, not cost-effective, and whether additional reductions could be implemented at combustion sources other than EGUs (non-EGU sources) to further reduce upwind contributions of NOx that affected downwind nonattainment areas.

The Revised CSAPR Update proposal is EPA's response to the decision in *Wisconsin* and related cases that questioned the adequacy of EPA federal implementation plan to address interstate transport of NOx emissions. This proposed rule is flawed on both a technical and legal basis. For the reasons explained in more detail below, OVEC respectfully requests that the agency withdraw its proposed rule and complete an accurate and well-informed analysis consistent with the remand instructions from the court in the *Wisconsin* case. Such an analysis must include: (1) a full and fair evaluation of whether there is any residual nonattainment with the 2008 NAAQS; (2) reassessment of reasonable contribution thresholds and source-specific analysis of EGU contributions to any residual nonattainment; (3) consideration of all effective measures to control local sources and expedited implementation of additional reasonable local measures to address any nonattainment or maintenance issues; and (4) realistic assessment of the achievability and cost of additional reductions and their impact on electric reliability in the upwind states.

### **Ohio Valley Electric Corporation Description**

Ohio Valley Electric Corporation (OVEC) and its wholly-owned subsidiary, Indiana-Kentucky Electric Corporation (IKEC), collectively referred to herein as OVEC, own and operate two coal-fired electric generating stations - the Kyger Creek Station located in Gallia County, Ohio, and the Clifty Creek Station, is located in Jefferson County, Indiana. The Kyger Creek Station contains

five (5) generating units with a total nameplate capacity of 1,086.3 MWs, and the Clifty Creek Station contains six (6) generating units with a total nameplate capacity of 1,303.56 MWs. All eleven units at the two Generating Stations are equipped with emission controls designed to allow both facilities to operate while in compliance with all currently applicable state and federal environmental regulations, and ten of the eleven units are equipped with SCRs. The electricity generation from these units is provided for the benefit of our sponsor companies through offering into the PJM regional transmission organization, or to the sponsors so they can meet their internal load demands.

All eleven of OVEC's generating units are directly affected by air quality requirements including any regulations implementing the ozone NAAQS. OVEC seeks the development of technically and legally sound air pollution rules; however, as pointed out in OVEC's comments below as well as within the extensive comments prepared by MOG and others, EPA's proposed CSAPR Update revisions are fatally flawed to the extent that they seek to impose any new controls on coal-fired EGU sources in any upwind states for the purpose of addressing Good Neighbor requirements of the Clean Air Act with respect to the 2008 ozone NAAQS.

### **Participation in Organizational Comments**

OVEC is a member of the Indiana Utility Group (IUG), and the Ohio Utility Group (OUG). Through our state utility groups, we also participate in and support the work conducted by the Midwest Ozone Group (MOG). Given the above, we support and incorporate the comments on the proposed Revised CSAPR Update offered by those organizations in their entirety by reference herein. In particular, OVEC specifically asks the agency to be deliberate in considering the highly detailed technical analysis and modeling information in the MOG comments that refutes many of the fundamental premises underlying EPA's proposal, and are referenced throughout these comments. In particular, OVEC requests EPA consider and address the material errors contained and referenced herein that adversely impact the Indiana state NO<sub>x</sub> budget.

### **EPA's Findings of Future Downwind Nonattainment Are Flawed**

As detailed in Section 2 of the MOG Comments, numerous flaws in EPA's technical analysis call into question its findings of future downwind nonattainment. The air quality model used is incapable of accurately assessing monitors at a land-water interface, such as the Connecticut monitors identified by EPA. Moreover, EPA did not even perform modeling for the year 2021, but instead unreasonably assumed that it could perform a linear interpolation from air quality modeling previously performed for the years 2016 and 2023 to arrive at an accurate representation for 2021. This assumption is incorrect. Even if such interpolations were acceptable, however, the air quality data relied on is influenced by known exceptional events that overstate ozone design values. In addition, EPA fails to account for international emissions, which have a far greater impact on the projected nonattainment and maintenance monitors than the interstate NO<sub>x</sub> emissions from the EGU sources affected by the proposed rule.

To remedy these flaws, EPA must conduct accurate air quality modeling using a more refined 4-kilometer grid, exclude data influenced by exceptional events, and account for the influence of international emissions. Given the magnitude of the recognized impacts from exceptional events

and international emissions, such modeling is unlikely to show nonattainment, and should be made available for public comment prior to finalizing this proposal.

### **EPA Should Conduct Source Apportionment and/or Raise the Threshold for Significant Contribution**

EPA's proposal mistakenly presumes that further optimization of SCR controls is both achievable and will have a beneficial impact on downwind air quality. But EPA's own analysis suggests that as NAAQS become more stringent, a threshold for significant contribution from a neighboring state of one percent of the applicable standard may be inappropriate. Higher thresholds of either 1 or 2 parts per billion (ppb) have been endorsed in the agency's own guidance documents.<sup>1</sup>

As the analysis conducted by MOG has shown,<sup>2</sup> raising the significance threshold to 1 ppb would remove only 5% of the upwind contributions from two affected states. Raising the threshold to 2 ppb would remove 25% or less of the upwind contributions from five additional states. Such an adjustment would concentrate emission reductions in the areas where they have the greatest impact on air quality.

Had EPA conducted any source apportionment analysis, the case for increasing the stringency of the program for EGU emissions would have become even less compelling. In the seven states whose contributions are less than 2 ppb at any downwind monitor, EGU emissions are responsible for 0.28 ppb or less of the total ozone concentrations at the downwind monitor. As the study performed for MOG demonstrates, further reducing EGU emissions in states with such minor contributions are among the least effective measures to improving air quality.<sup>3</sup>

### **Local Controls Are More Effective in Addressing Nonattainment and EPA Neglected to Assess All On the Books Controls Within the OTC**

States within the Ozone Transport Region are significant contributors to the nonattainment monitors, and Ozone Transport Commission (OTC) member states have been working collectively to improve air quality in the region. However, as EPA itself has acknowledged,<sup>4</sup> local source emissions have a greater impact per ton on ozone concentrations at the affected monitors than emissions in upwind states. Chief among the causes for high ozone concentrations are the higher mobile source emissions in the New York City area, "behind the meter" generation sources, peaking units, and other unique sources in the Tri-State area. A report from the OTC Stationary and Area Source Committee confirmed the large number of combustion turbines with extremely high emission rates operating within the local area.<sup>5</sup> EPA has identified several examples of local

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<sup>1</sup> [https://www.epa.gov/sites/production/files/2018-09/documents/contrib\\_thresholds\\_transport\\_sip\\_subm\\_2015\\_ozone\\_memo\\_08\\_31\\_18.pdf](https://www.epa.gov/sites/production/files/2018-09/documents/contrib_thresholds_transport_sip_subm_2015_ozone_memo_08_31_18.pdf)

<sup>2</sup> *MOG Comments*, pp. 56-62.

<sup>3</sup> <http://www.midwestozonegroup.com/files/IndependentSector-SpecificSourceApportionmentModelingofthe2017CrossStateAirPollutionRuleModelingPlatform.pdf>

<sup>4</sup> [http://www.midwestozonegroup.com/files/2018\\_05\\_14\\_EPA\\_OAQPS\\_-\\_Analysis\\_of\\_O3\\_Trends\\_in\\_the\\_East\\_in\\_Relation\\_to\\_Interstate\\_Transport.pdf](http://www.midwestozonegroup.com/files/2018_05_14_EPA_OAQPS_-_Analysis_of_O3_Trends_in_the_East_in_Relation_to_Interstate_Transport.pdf)

<sup>5</sup> [http://www.midwestozonegroup.com/files/MOG\\_OTC\\_SAS\\_Public\\_09212018.pdf](http://www.midwestozonegroup.com/files/MOG_OTC_SAS_Public_09212018.pdf)

sources whose emissions should be addressed, including simple cycle combustion turbines, municipal waste combustors, and distributed generation resources. While New York has proposed to take steps toward controlling these sources, the proposed implementation dates are in 2023 and later, not prior to the attainment date for the affected monitors.

As noted by the court in *Wisconsin*, a downwind state may not flout the attainment deadline, or procrastinate until the deadline approaches. *Wisconsin*, 938 F.3d at 316-317. Rather, those states have the first-order obligation to attain the NAAQS as expeditiously as possible.

In addition to requiring New York and others to expedite the implementation of future measures, EPA must consider the totality of actions taken to control local sources before determining whether there will be future nonattainment that must be addressed by upwind states. A complete listing of such measures is recorded in the comments filed by MOG.<sup>6</sup> EPA's modeling must include these measures and assess their impacts, and be made available for public comment prior to finalizing this proposal.

### **The Revised CSAPR Update Requirements Are Infeasible and Threaten Electric Reliability**

MOG's Comments include a technical report that assesses the feasibility of "optimizing" existing SCR controls to achieve and maintain emission rates of 0.08 pounds per million Btu during the ozone season beginning in 2021.<sup>7</sup> As reflected in that report, EPA's analysis is fundamentally flawed. First, EPA analyzed data representing the entire 22-state CAPR region, not the 12 states affected by the Revised CSAPR Update proposal. The 12 states affected by this proposal contain a much higher percentage of units firing bituminous coals. These higher sulfur coals also have inherently higher NOx emission rates. Attempting to increase NOx removal by injecting additional ammonia has adverse impacts on ammonia slip and increases deposits of ammonium bisulfate on downstream equipment. Load-following operations at these units may also increase NOx emission rates, as ammonia flow must be reduced to prevent catalyst deposits.

EPA's costing methodology does not use the incremental cost of lowering NOx from the third-lowest ozone season rate to a target with margin - which affects the 90% threshold significantly. The alternative analysis conducted for MOG calculates a marginal incurred cost at the 90% threshold of \$2,816 /ton, exceeding EPA's estimate by 75%.

As discussed in the MOG technical report, there are four maintenance and operation activities for existing SCR process equipment required to achieve high NOx removal. These four maintenance and operating actions are (a) tuning of ammonia injection grid hardware, (b) replacement and repair of cleaning hardware such as acoustic horns and sootblowers, (c) cleaning of installed catalyst to remove accumulated fly ash, and (d) replacement or addition of catalyst. As discussed in detail in the MOG technical report, three of these four activities require extended planning or procurement that, with rare exceptions, will not be able to be implemented within the 6-week

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<sup>6</sup> *MOG Comments*, pp. 37-47.

<sup>7</sup> *MOG Comments*, Ex. B.

period from the March 15 issuance date of the final rule to the May 1 beginning of the 2021 ozone season.<sup>8</sup>

In addition to these technical limitations, EPA has proposed to constrain the availability of banked allowances by converting Group 2 allowances to a limited number of Group 3 allowances. EPA proposes to convert the Group 2 allowances banked during 2017-2020 by sources within the 12 states included in the Group 3 program into no more than 21,022 allowances that can be used in the Group 3 program.<sup>9</sup> EPA maintains that this limited ability to rely on banked allowances is necessary to maintain the program, but this limited bank provides no greater flexibility than the assurance provisions. The assurance provision was designed to accommodate only normal year-to-year variability caused by weather, unit outages, and other changes in electricity demand. They are insufficient to assure a smooth transition toward the significant reductions below 2019 emission levels required by the Revised CSAPR Update proposal. Given the realities affecting the ability of sources to actually achieve the 2021 and 2022 budgets within the period allowed under the rule, a mechanism similar to the compliance supplement, an in-lieu fee, or a more generous conversion of Group 2 banked allowances should be provided.

EPA also announced a dramatic change in the way retired units are treated for the future years (beyond 2021) in the proposed rule.<sup>10</sup> EPA would account for scheduled fleet turnover by eliminating emissions from units scheduled to retire and adding emissions for new units coming online. Although EPA states that this does not amount to the imposition of a more stringent standard on the affected units within a state that is exactly what results from this change in policy.

Indiana is a state that is particularly adversely impacted. EPA adjusts for six separate unit retirements and Indiana's ozone season state budget is reduced by over 2500 tons in a single year. By 2024, total ozone season NOx emissions in Indiana are reduced by 43% from 2019 levels. This corresponds with a precipitous drop in energy production from 38.4TWh in 2023 to 33.8 TWh in 2024 as a direct result of the assumed unit retirements in Indiana.<sup>11</sup> The changed policy affecting unit retirements means that existing units will not be able to "make up" the generation formerly supplied by other covered units, particularly in the later years of the program. In fact, sufficient resources may not be available unless currently planned projects receive timely and complete approvals. Eliminating those emissions from the program has dramatic adverse impacts on states where multiple unit retirements occur simultaneously.

### **Common Stack Error**

Indiana and Kentucky are also adversely impacted by agency errors in the revised CSAPR Update designed to address emissions from multiple units on common stacks. These errors in the proposed rule directly and adversely impact the future NOx ozone season state budget calculations within Indiana. As the MOG comments outline, the states of Kentucky and Indiana

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<sup>8</sup> *Id.*

<sup>9</sup> *85 Fed. Reg. 69018*

<sup>10</sup> *85 Fed. Reg. 68964 at 69007-8*

<sup>11</sup> *EPA-HQ-OAR-2020-0272-005, Appendix F*

feature numerous “common stack” generating stations in which the stack gas from an SCR-equipped unit is blended with that of a unit not equipped with SCR controls. In almost all cases, EPA incorrectly infers a higher NO<sub>x</sub> emission rate to the SCR-equipped units. The result of this error is compounded because it also results in EPA assigning a lower NO<sub>x</sub> rate to the unit without an SCR. As a consequence, this arbitrarily and artificially lowers the NO<sub>x</sub> budget for a state. OVEC requests EPA apply the correct NO<sub>x</sub> emission rates for both SCR- and non-SCR-equipped units on common stacks and correspondingly apply the resultant state NO<sub>x</sub> budget increases.

Absent EPA starting this rulemaking effort over or at least correcting these errors in budget calculations, the scope and nature of the proposed CSAPR Update rule has the potential to materially and significantly adversely impact OVEC’s ability to run its SCR controlled units starting with the 2021 Ozone Season relative to historical capacity factors. The details of how OVEC may be materially adversely impacted are based, in part, on the significant proposed ozone season budget cuts at the unit level basis for the two OVEC generating stations, even if SCR performance is at the theoretically optimal level at all times, there is an inadequate budget allocated at the unit level for OVEC to run all units relative to historical capacity factors. As such, the state budget cuts can place OVEC into a situation where we are unable to meet contractual obligations to generate electricity for the benefit of our sponsoring companies in the event our capacity is constrained due to these identified errors in state budget allocations - particularly if a viable trading program is not available. Even if there is a viable trading program, other constraints such as state assurance levels, may prevent OVEC from operating consistent with historical capacity factors beginning with the 2021 ozone season as a result of both erroneous assumptions in unit retirements and modeling as well as the common stack error identified within the proposed rule that result in the inappropriate reductions of NO<sub>x</sub> budgets within the two states in which we operate - particularly Indiana’s state budget. OVEC refers to the comments specifically submitted by MOG for more detailed comment and analysis on both of these state budget errors.

Although EPA states that this does not amount to the imposition of a more stringent standard on the affected units within a state that is exactly what occurs as a result of this change in policy. MOG comments provide specific and detailed examples of how this directly and disproportionately adversely impacts Indiana’s Ozone Season state budget. Specifically, the result of removing from the state budget all of the emissions associated with a retired unit in the year of its retirement without allowing any flexibility for other affected units to “make up” the generation from that unit is unreasonable and becomes a constraint on generation. According to Appendix A to EPA’s Ozone Transport Policy Assessment, over the period from 2021 to 2024, EPA’s calculated “baseline NO<sub>x</sub> emissions rate” for Indiana units during the ozone season is reduced from 0.089 #/mmBtu in 2021 to 0.064 #/mmBtu in 2024. This level of control far exceeds the purported basis of EPA’s proposal to “cap” emissions from SCR controlled units at 0.08 #/mmBtu.

The different way in which EPA is proposing to address assumed unit retirements in Indiana also results in other impacts. Specifically, the changed policy affecting unit retirements means that existing units will not be able to “make up” the generation formerly supplied by other covered units, particularly in the later years of the program.

In addition, the assumption that new units will always emit fewer tons than a retiring unit is simply not valid. While that might have been true once, many of the coal units have become load

following, and CSAPR budgets already self-adjust by basing allocations on the most recent 5-year period, resulting in a new baseload unit being allowed to emit more than a retiring unit.

OVEC urges EPA to reject this new policy on unit retirements and re-evaluate the success of the program based on the requirements currently in place for the entire 22-state CSAPR region. Allowing retired units to continue receiving allocations for a limited period after ceasing operations will not diminish the need to optimize SCR controls, given the levels of generation projected for 2021-2014 in EPA's own analysis. See Table Appendix F-1, Ozone Transport Policy Assessment. Eliminating those emissions from the program has dramatic adverse impacts on states such as Indiana where multiple unit retirements are anticipated to occur simultaneously.

## **Conclusion**

EPA proposed CSAPR Update revisions are flawed on both a technical and legal basis. For the reasons explained in more detail herein, OVEC respectfully requests that the agency withdraw its proposed rule and complete an accurate and well-informed analysis consistent with the remand instructions from the court in the *Wisconsin* case. Alternatively, OVEC requests that EPA correct the errors identified within the draft rule prior to final rulemaking. Specifically, we ask that EPA correct material errors in the inventories, modeling and technical assumptions it has made in the proposed rule - in particular, those errors in state budget determinations associated with common stacks and with the inappropriate and unlawful manner in which the subtraction of emissions from retired units was addressed. It is critical that EPA use the best monitoring and modeling data with accurate emission inventories. It is also critical that EPA use accurate SCR performance assumptions based on factors that include the boiler design and SCR performance reflective of post MATS SCR operations to assess what budget reductions, if any, are necessary from the EGU sector to accomplish the underlying purpose EPA cites for initiating this rulemaking.

Finally, OVEC also requests that any changes as a result of the re-examination of this proposed rule should be made available for public comment prior to the issuance of any final rule.

OVEC appreciates the opportunity to participate in this rulemaking and urges EPA to carefully consider these comments. Please contact J. Michael Brown at (740) 289-7299 or [mbrown@ovec.com](mailto:mbrown@ovec.com) if you need any additional information regarding these comments.