

assumption that upwind power plants will voluntarily run emissions controls, contrary to the documented record that plants do not run their controls unless they are legally required to do so. 2015 - 2017

Furthermore, EPA's 2023 target for achieving the 2008 ozone standard is an arbitrary target without any basis in the Clean Air Act, seemingly designed to excuse upwind power plants from taking action now to reduce their ongoing contribution to pollution in New York and other locations. EPA does not even bother identifying a legal basis for the 2023 target. In fact, New York was most recently required to achieve compliance with the ozone NAAQS in July 2018, a requirement that is not being met largely due to the 75-95% of New York's ozone that originates out-of-state.² EPA is now obligated to reclassify the New York-Northern New Jersey-Long Island, NY-NJ-CT nonattainment area (hereafter NYMA) to serious nonattainment, which would extend the attainment deadline to July 2021 – with compliance based on ozone levels in 2018-2020, well before the 2023 target date assumed by EPA. Absent additional emission reductions in upwind states, it is extremely unlikely that the NYMA will attain the 2008 ozone NAAQS by that 2021 deadline given the attainment margin of 0.1 parts per billion (ppb) in 2023 that EPA predicts under this proposal.³ Simply put, EPA's 2023 target date is an arbitrary construct that allows upwind coal-fired power plants to continue polluting without using even the most rudimentary pollution controls.

The additional delay in attaining the 2008 ozone NAAQS in the NYMA will further compromise the health of millions of New York residents. Ozone pollution causes a range of respiratory symptoms and aggravates existing conditions such as asthma and lung disease, and likely causes increased mortality and cardiovascular effects. EPA determined in 2015 that the 2008 NAAQS, at a level of 75 ppb, was no longer considered "requisite to protect public health with an adequate margin of safety, as required by the CAA..."⁴ New York's ongoing struggle to attain an outdated health standard intensifies the need for relief from upwind states.

New York and the other NYMA states have already implemented more control measures than most, if not all, of the states in the eastern United States, and many of these controls have been implemented at a much higher cost than the estimated costs for available controls in the upwind states. For example, in New York, the most recently available cost data estimates that the marginal cost of additional NOx reductions is

² "updated_2023_modeling_dvs_collective_contributions.xls" workbook released with "Information on the Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I)" Memorandum from Peter Tsirigotis, Director, EPA OAQPS, to Regional Air Division Directors. March 27, 2018.

³ "Supplemental Information on the Interstate Transport State Implementation Plan Submissions for the 2008 Ozone National Ambient Air Quality Standards under Clean Air Act Section 110(a)(2)(D)(i)(I)." Memorandum from Steven D. Page, Director, EPA OAQPS, to Regional Air Division Directors. October 27, 2017.

⁴ "National Ambient Air Quality Standards for Ozone," Final Rule. Published October 26, 2016; effective December 28, 2015. 80 FR 65294.

more than \$5,000 per ton of NO_x removed.⁵ In contrast, the marginal cost of additional controls EPA has used to determine cost-effectiveness in the CSAPR Update was \$800 per ton of NO_x removed estimated to optimize existing and operating selective catalytic reduction (SCR) units and \$1,400 per ton of NO_x removed estimated to turn on idled existing SCR units. The inequity of control requirements between upwind and downwind states will continue to grow with this proposed action as New York, which will have no more coal-fired power by 2020, is forced to impose additional in-state controls on other sources and consumer products to offset the burden of transported pollution from upwind coal-fired plants.

Finally, EPA should stop subjecting New York and other downwind states to a regulatory form of three card monte, under which it has rejected the requests of New York and other downwind states for action under other provisions of the Clean Air Act based on the availability of the remedy under Section 110(a)(2)(D) that is the basis of CSAPR. In the past year, EPA has denied requests for action under Section 176A (to add States to the Ozone Transport Region) and Section 126 petitions, claiming that its admittedly incomplete CSAPR remedy will fully address interstate air pollution. But now, rather than strengthening CSAPR to provide the complete remedy needed, EPA claims its work is done – because the air will somewhat mysteriously become clean enough on its own by 2023.

Respectfully, EPA should avoid such delusional thinking, grounded in inaccurate assumptions and an arbitrary target date, and do the job required by the Clean Air Act – require upwind states to adhere to their good neighbor obligations and reduce the pollution they allow unabated from coal-fired power plants. EPA should impose more stringent and enforceable control measures that will ensure attainment of the 2008 ozone NAAQS in the NYMA as expeditiously as possible, but no later than the serious nonattainment area compliance deadline of July 20, 2021.

Thank you for your attention and consideration of these views.

Sincerely,



Basil Seggos
Commissioner

Attachment

⁵ New York State DEC, *DAR-20 Economic and Technical Analysis for Reasonably Available Control Technology (RACT)* (Aug. 8, 2013), available at <https://www.dec.ny.gov/chemical/91851.html>

Detailed comments on EPA's methodology

EPA's Proposed Rule is based on a critically flawed modeling analysis that purports to show that there will be no remaining nonattainment or maintenance receptors in the eastern United States in 2023. The inaccuracies in EPA's projection modeling include the following:

Unenforceable Control Assumptions

In Step 1 of its analysis, EPA presumes that certain emission reductions will occur, and thus air quality will improve in the future to such a degree that no area in the eastern United States will endure ozone nonattainment or maintenance issues. Many of these claims of emission reductions are dubious and are unlikely to occur without enforceable provisions. EPA's approach is contrary to the fundamental principle behind the statutory obligation that State Implementation Plans (SIPs) must "include enforceable emission limitations" and "contain adequate provisions prohibiting...any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national ambient air quality standard."¹ By declaring future air quality as attaining the National Ambient Air Quality Standards (NAAQS) without requiring the very measures by which that prediction was made, EPA subverts the text and meaning of Clean Air Act (CAA) section 110(a)(2).

EPA's modeling assumed, with no basis in federally enforceable permit limits, that certain electric generating units (EGUs) would operate existing selective catalytic reduction (SCR) units, or install new state-of-the-art nitrogen oxide (NOx) controls, in 2023. Furthermore, EPA assumes –relying solely on historically unreliable Department of Energy predictions² – additional emission reductions in its analysis. In reality, actual emissions data from EPA's Air Markets Program show that, of the 72 Cross-State Air Pollution Rule (CSAPR) region EGUs for which EPA assumed optimized SCR operation (i.e., an emission rate of 0.1 lb/mmBtu),³ over half – 37 units – operated with a NOx emission rate greater than 0.1 lb/mmBtu in the 2017 ozone season, which was the first implementation year for the CSAPR Update (see enclosure).⁴ In some cases, actual emissions of individual units were more than 1,000 tons higher than if they had operated according to EPA's 0.1 lb/mmBtu control assumption – for example, unit 1 at the W.H. Zimmer Generating Station in Ohio emitted 1,432 tons more than if it emitted at the 0.1 lb/mmBtu level, and unit 3 at the Paradise Fossil Plant in Kentucky emitted an additional 1,338 tons.

¹ Clean Air Act sections 110(a)(2)(A) and 110(a)(2)(i)(I), respectively

² U.S. Energy Information Administration's "Annual Energy Outlook Retrospective Review," Table 1 – "AEO Reference Case Projection Results." Available at <https://www.eia.gov/outlooks/aeo/retrospective/>

³ "2023en_Engineering_Analysis_Unit_File.xls" workbook released with October 27, 2017 Page Memorandum

⁴ Figures ignore two units that had no 2016 or 2017 emissions; five units with 2017 heat input less than 1,000,000 mmBtu, which suggests inconsistent operation not conducive to SCR control; and one unit with no apparent match in the Air Markets Program Data.

EPA claims in its Proposed Rule that it does not need to include enforceable commitments in its projections, stating "...not all of the factors influencing the EPA's modeling projections are or can be enforceable limitations on emissions or ozone concentrations. However, the EPA believes that consideration of these factors contributes to a reasonable estimate of anticipated future ozone concentrations." Enforceability of control measures is a consistent requirement throughout the CAA, whether it be for redesignation to attainment⁵ or an attainment SIP.⁶ Notably, EPA denied New York's 2008 ozone NAAQS good neighbor SIP, in part, because "the submission did not demonstrate that the emission rates at which [EGUs] in the state operated were the result of enforceable emission limits or other mandatory programs such that the emission rate would not increase."⁷ EPA appears to have changed its approach regarding the requirement for enforceable measures without reasonable explanation.

In this case, where over half the units are documented to exceed EPA's assumed rate, the erroneous nature of EPA's rate assumption could not be more clear. Moreover, there will be no more of an incentive for facility owners to operate their SCR controls in 2023 than in 2017. Ozone season NOx emissions in 2017 were 23,000 tons below the cap, and as of the date of these comments, 2018 emissions are on pace to be 51,000 tons below the cap. Given the overabundance of NOx allowances, EGUs can be expected to continue to operate without optimized SCR controls.

The CSAPR program, which allows for banking of allowances, purchasing of allowances to cover excess emissions, and long-term emissions averaging, can be effective at reducing regional emissions when considering a longer timeframe, but does not assure controls will be operated on hot, hazy, and humid summer days when the need for controls is greatest. Despite implementation of the CSAPR Update, the fourth-highest eight-hour ozone concentrations in the NYMA in 2017 and 2018 have continued to exceed the 2008 ozone NAAQS.⁸

Ozone season NOx allowances were valued at only \$270 per ton as of August 10, 2018,⁹ which is considerably lower than the cost estimates in the now two-year-old CSAPR Update, which EPA reaffirms in its Proposed Rule without any updated analysis: \$800 per ton estimated to optimize existing and operating SCR units and

⁵ Section 107(d)(3)(E)(iii)

⁶ Section 172(c)(6)

⁷ "Partial Approval and Partial Disapproval of Air Quality Implementation Plans; New York; Interstate Transport Infrastructure SIP Requirements for the 2008 Ozone NAAQS," Final Rule. Published August 26, 2016. 81 FR 58850. Emission rates in the New York analysis were based on actual emissions that were projected forward reasonably assuming no change in operation. EPA's 2023 modeling, in contrast, is projecting lower future emissions rates and assuming changes in operations without any requirement to do so, many of which have not actually occurred.

⁸ New York State DEC, *High Ozone Values During 2018*, available at <http://www.dec.ny.gov/chemical/38377.html>

⁹ Argus Air Daily, Issue 18-154, August 10, 2018

\$1,400 per ton estimated to turn on idled existing SCR units.¹⁰ Allowance prices never exceeded the \$800 per ton threshold during the 2017 ozone season or the 2018 ozone season to date. Absent permanent and enforceable emission limits, it is unreasonable to assume that units will operate already-installed controls, rather than just purchasing cheaper allowances.

Uncertainty in Model Performance

Under the 4-step approach, EPA attempts to determine future air quality through the use of projection inventories and predictive air quality modeling. While this is valid in attempting to compare the potential efficacy of proposed control strategies and other emission reduction scenarios, EPA uses the model results to predict actual air quality in future years. In this way, EPA overly relies on a single analysis using the Comprehensive Air Quality Model with Extensions (CAMx) to determine future air quality. EPA completely ignores, however, a similar, equally valid regulatory model it has developed for the same purpose, the Community Multiscale Air Quality Modeling System (CMAQ),¹¹ which shows far different results. EPA has not explained or justified its choice of the CAMx model over the CMAQ model.

DEC modeling using the CMAQ platform showed major differences in projected ozone levels when compared to the CAMx model that was used by EPA to support the proposal. Projected design values using CMAQ were up to 9.2 ppb higher – more than 10 percent of the standard – for northeastern region monitors when using the MARAMA 2023 (gamma2) emissions inventory. The greatest differences were at coastal receptors, such as the Susan Wagner (NY) and Westport (CT) monitors – the latter being the current design value monitor for the NYMA nonattainment area. DEC's modeling results are enclosed.

To verify the accuracy of CMAQ modeling at these receptors, DEC projected 2017 design values from a 2011 baseline at the Westport (83 ppb) and Susan Wagner (78 ppb) monitors. The results compare favorably to the actual measured 2017 design values of 83 ppb and 76 ppb, respectively. This lends further credibility to the CMAQ modeling results for 2023 and warrants further analysis by EPA prior to finalization of this proposal.

In a separate action, EPA faulted New York for “not provid[ing] any information to explain why the [Ozone Transport Commission (OTC)] CMAQ modeling results for the Westport, Connecticut and Susan Wagner, New York monitoring sites are dissimilar to

¹⁰ “Cross State Air Pollution Rule Update for the 2008 Ozone NAAQS,” Final Rule. Published October 26, 2016. 81 FR 74541: “The EPA identifies \$800 per ton as a level of uniform control stringency that represents optimizing existing SCR controls that are already operating to some extent...The EPA identifies \$1,400 per ton as a level of uniform control stringency that represents turning on idled SCR controls.”

¹¹ “CMAQ provides detailed information about the concentrations of air pollutants in a given area for any specified emissions or climate scenario. Since 1998, when the first version was released, CMAQ has been used to evaluate potential air quality policy management decisions. The model provides reliable information for decision makers about the estimated impacts of different air quality policies.” EPA's CMAQ Fact Sheet, June 2017, available at <https://www.epa.gov/cmaq/cmaq-fact-sheet>

other near-by sites or why the CMAQ modeling provides a more representative ozone projection for these two sites compared to the EPA and OTC CAMx based modeling results.”¹² This frankly is EPA’s responsibility and not New York’s. CMAQ was developed, validated, and approved for SIP use by EPA, and as a community air quality model it has been through an intensive performance evaluation. OTC and New York have followed EPA modeling guidance in conducting its projections and CAMx comparison. Before EPA can conclude in the Proposed Rule that ozone design values in 2023 attain by only the narrowest of margins – 0.1 ppb – it must conduct its own analysis of the emission response difference between CMAQ and CAMx since both models were developed by EPA and run by New York consistent with EPA guidance. Because the greatest differences in model performance were witnessed at coastal-area monitors, EPA should also review its methodology for the land/water interface in calculating future design values – for example, whether the water grid cells should be included in the calculation, ignored, or averaged. Given the model disparities, it is crucial to project ozone concentrations at these monitors accurately.

Use of 2023 as a Projection Year

In selecting 2023 as the future year for which new controls could reasonably be expected to be installed, EPA ignores what can be done for the next attainment date for the NYMA (i.e., July 20, 2021). Moreover, since whether or not a state has attained is determined by looking at the three years prior to the deadline, EPA cannot ignore those years in determining whether an upwind state “will contribute” to downwind nonattainment or interfere with maintenance. By failing to assess air quality within an appropriate timeframe, EPA functionally sets an artificial attainment date for the NYMA so that upwind areas are not burdened by controls. This unduly burdens the NYMA because if the area does not attain the standard – as is expected – EPA will be required to reclassify the area to severe nonattainment which brings additional programmatic and emission reductions requirements to the nonattainment area.

EPA argues in its Proposed Rule that future-year projections are appropriate for resolving good neighbor obligations based on its interpretation of the phrase “will contribute” in CAA section 110(a)(2)(D)(i).¹³ This interpretation is inconsistent with the plain meaning of section 110 and arbitrary and capricious, particularly in light of EPA’s past practice. EPA ignores CAA section 110(a)(2)(d)(i)’s use of the word “emitting,” which includes protection against current emissions from upwind sources that are significantly contributing to a downwind areas inability to attain a NAAQS. By ignoring the plain language of the CAA and the fact that once emissions from an upwind area

¹² “Air Plan Approval; Kentucky; 2008 Ozone NAAQS Interstate Transport SIP Requirements,” Final Rule. Published July 17, 2018, effective August 16, 2018. 83 FR 33753.

¹³ CAA section 110(a)(2)(D)(i)(I) reads (emphasis added): “Each implementation plan submitted by a State under this Act shall be adopted by the State after reasonable notice and public hearing. Each such plan shall contain adequate provisions prohibiting, consistent with the provisions of this title, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard.

transport into a downwind nonattainment area in high enough amounts¹⁴ that upwind source is significantly contributing to nonattainment in that downwind area, EPA is denying downwind states a vital tool in their battle against upwind pollution transport. Additionally, CAA section 126(b) is directly linked to section 110(a)(2)(D)(i); it provides that a state "may petition the Administrator for a finding that any major source or group of stationary sources *emits or would emit* any air pollutant in violation of the prohibition of section 110(a)(2)(D)(i)" (emphasis added). Here, EPA is focusing solely on future air quality, ignoring the current situation. The above clauses confirm that *current* air pollution transport cannot be ignored. Indeed, EPA denied New York's 2008 ozone good neighbor SIP, in part, because "the submission used a projection year (2020) to model downwind air quality that is two years beyond the July 11, 2018 [sic] moderate area attainment date for the 2008 ozone NAAQS."¹⁵

Further, while EPA has emphasized the selection and modeling of 2023 based on a reasonable expectation of the timing needed for installation of new controls, it has consistently failed to state that the optimization it has assumed to support the proposal's conclusions can be addressed through the present application of federally enforceable permit conditions. These enforceable conditions would ensure that the optimization occurs in the time frame needed to address the significant contribution from upwind sources to downwind nonattainment well in advance of the July 20, 2021 attainment deadline for serious areas. This proactive approach for enforceable commitments by the 2021 attainment deadline is necessary to determine what emission reductions are possible, rather than waiting until 2023 to see whether such assumptions have been realized. EPA in the past has shown a greater urgency to have controls in place; for example, with the CSAPR Update, it examined controls available for 2017 implementation in time to assist with moderate nonattainment areas' 2018 attainment deadline.

Rule Reconsiderations, Rollbacks and Petition Denials

EPA's projection modeling did not account for rule changes that EPA is currently considering that could occur by 2023. For example, the Trump administration's plan to roll back clean car standards and EPA's proposal to eliminate the cap on glider trucks, which have the potential to emit 20 to 40 times the NO_x of new trucks, will lead to more ozone pollution.^{16,17} Likewise, the proposed rollback of the Clean Power Plan (CPP) will result in increased NO_x emissions from coal-fired plants that will operate more than would be expected under the CPP.

¹⁴ EPA has identified that CSAPR uses a screening threshold of 1 percent of the NAAQS to identify contributing upwind states. "Determination Regarding Good Neighbor Obligations for the 2008 Ozone National Ambient Air Quality Standard," 83 FR 31923.

¹⁵ "Partial Approval and Partial Disapproval of Air Quality Implementation Plans; New York; Interstate Transport Infrastructure SIP Requirements for the 2008 Ozone NAQS," Final Rule. Published August 26, 2016, effective September 26, 2016. 81 FR 58850.

¹⁶ "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks," Notice of Proposed Rulemaking. Published August 24, 2018. 83 FR 42986-43500.

¹⁷ "Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits," Proposed Rule. Published November 16, 2017. 82 FR 53442.

EPA has also followed circular logic when acting on petitions submitted by states seeking relief from ongoing ozone pollution transport from upwind states. In denying a CAA section 176A petition brought by nine ozone transport region states, EPA stated that an expansion of the OTR "would not be the most efficient or effective way to address the remaining interstate transport issues for the 2008 ozone NAAQS in states currently included in the OTR."¹⁸ EPA went on to tout the flexibilities provided by the good neighbor provision and CAA section 126(b), noting that the latter would "provide[] states with an additional opportunity to bring to the EPA's attention specific instances where a source or a group of sources in a specific state may be emitting in excess of what the good neighbor provision would allow."¹⁹ Yet EPA in recent months has denied a CAA section 126(b) petition brought by Connecticut, and has proposed denial of petitions brought by Delaware and Maryland.^{20, 21}

Enclosures

¹⁸ "Response to December 9, 2013, Clean Air Act Section 176A Petition from Connecticut, Maryland, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island and Vermont," Notice of final action on petition. Published and effective November 3, 2017. 82 FR 51250.

¹⁹ *Ibid*, 82 FR 51242.

²⁰ "Response to June 1, 2016 Clean Air Act Section 126(b) Petition from Connecticut," Notice of final action on petition. Published and effective April 13, 2018. 83 FR 16064.

²¹ "Response to Clean Air Act Section 126(b) Petitions from Delaware and Maryland," Notice of proposed action on petitions. Published June 8, 2018. 83 FR 26666.