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June 21, 2022

U.S. Environmental Protection Agency
EPA Docket Center
Docket ID No: EPA-HQ-OAR-2021-0668

Submitted via the Federal eRulemaking Portal: [https:// www.regulations.gov/](https://www.regulations.gov/)

Re: Comments on EPA's Proposed Federal Implementation Plan Addressing Regional Ozone Transport for the 2015 Ozone National Ambient Air Quality Standard; 87 Fed. Reg. 20,036 (Apr. 6, 2022)

Dear Sir/Madam:

On behalf of the Commonwealth of Kentucky, the Energy and Environment Cabinet (Cabinet) respectfully submits the following comments in response to EPA's proposed action in the April 6, 2022 Federal Register, soliciting comments on the proposed Federal Implementation Plan Addressing Regional Ozone Transport for the 2015 Ozone National Ambient Air Quality Standard. After careful review and consideration, the Cabinet finds that the proposed rulemaking is rushed and based on inaccurate air quality modeling. Additionally, the Cabinet finds it is more appropriate to implement local controls to reduce NOx emissions prior to imposing reductions on emissions from other states.

The Cabinet appreciates the opportunity to comment on this proposed rule and requests EPA's consideration of our comments. If you have any questions regarding the comments provided, please contact Mr. Michael Kennedy, Director, Division for Quality at (502) 782-6997 or Michael.Kennedy@ky.gov.

Sincerely,

A handwritten signature in cursive script, appearing to read "Rebecca W. Goodman".

Rebecca W. Goodman
Secretary

Enclosure

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(1) Environmental Justice considerations and the impact to Kentucky citizens

EPA is not following its own policy in evaluating this proposed rule regarding environmental justice. “The EPA defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA further defines the term fair treatment to mean that “no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or **programs and policies** [emphasis added].”¹ In regards to the proposed rule, “For the proposed rule, we employ two types of analytics to respond to the above three questions: Proximity analyses and exposure analyses.”² In other words, EPA only evaluated environmental justice concerns in regards to exposure of the potential populations to any environmental harm, and only in regard to those that are within the local area of the emission sources. State, local, and tribal agencies already evaluate the potential harm to local communities as part of their mission; protecting human health and the environment is part of the regulatory process in issuing air quality permit. EPA’s claim of “evaluating” sources of emissions for local impacts to satisfy the environmental justice requirements of its own policy is disappointing.

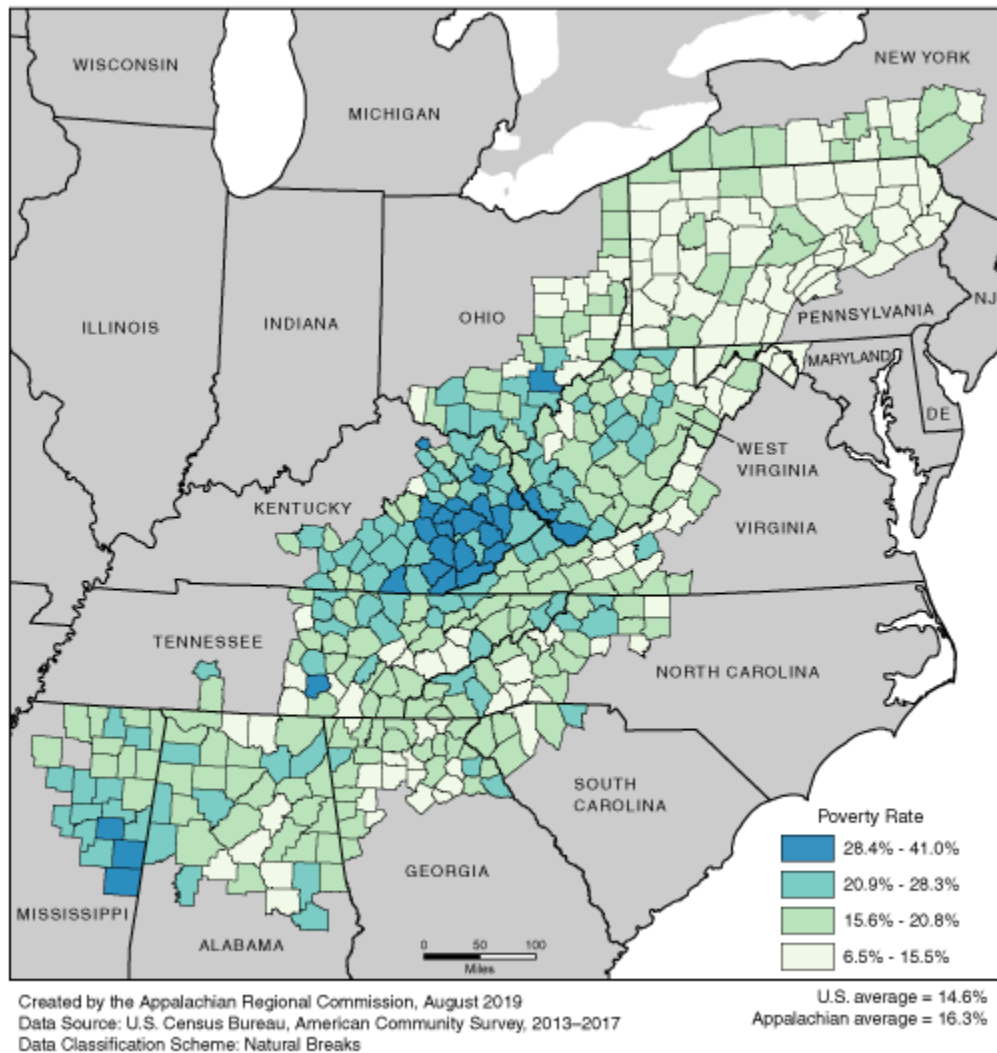
However, in its ill-conceived effort to address downwind ozone, EPA fails to consider the “fair treatment” of citizens in upwind states due to the implementation of this proposed “Good Neighbor” rule. In proposing this NO_x reduction program, EPA only considers the potential health benefits in downwind states, turning a blind eye to the impact of the cost of implementation in the upwind states, including Kentucky. Kentucky citizens and communities that are already struggling to provide the most basic needs for families will bear the burden of higher energy prices if this proposed rule is implemented. These areas are some of the most distressed and disadvantage communities in Kentucky, the Appalachian Region, and the nation.

¹ 87 Fed. Reg. 20,153

² Ibid

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Figure 1 – Poverty Rates in Appalachia, 2013 – 2017



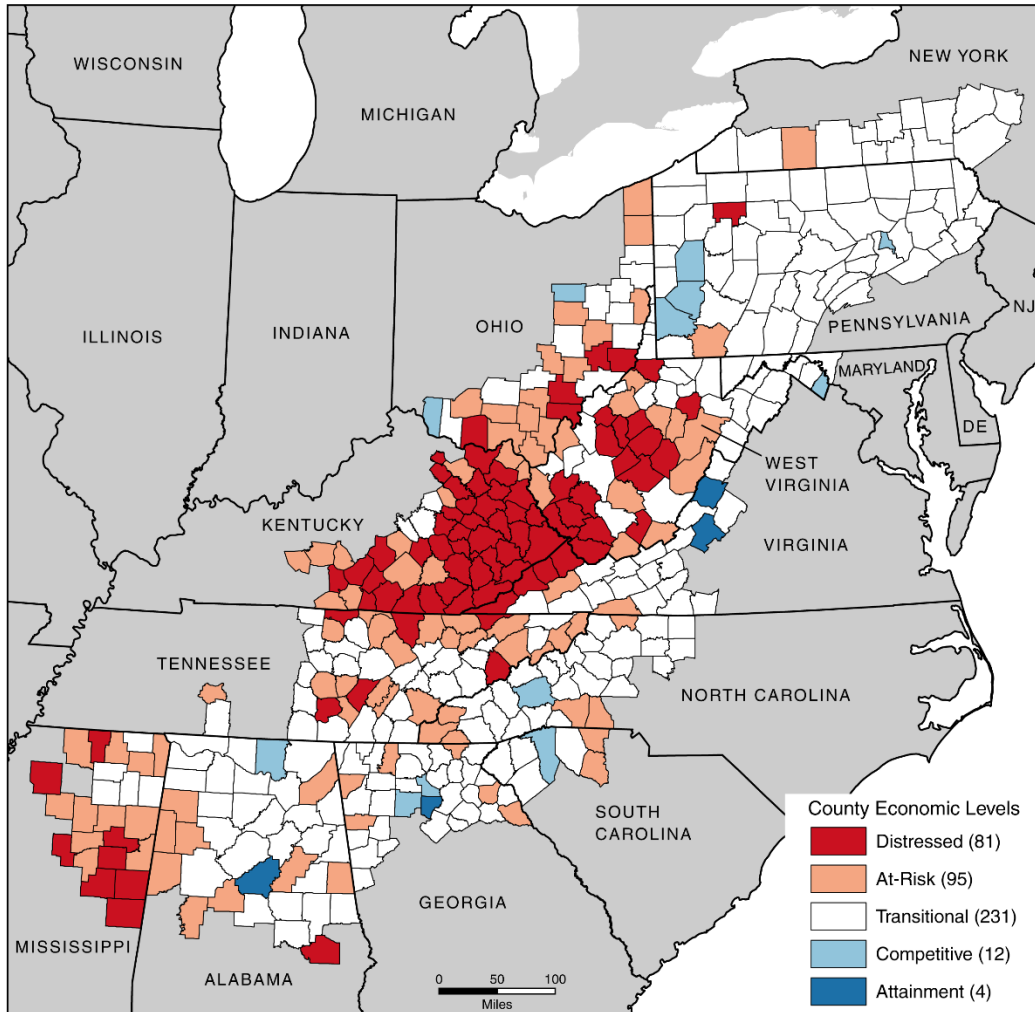
Source: <https://www.arc.gov/map/poverty-rates-in-appalachia-2013-2017/>

The poverty level for this area of Kentucky is nearly **183% of the U.S. average poverty level**. In fact, for 2019, the per capita market income for Appalachian Kentucky was \$21,329 – just 45% of the U.S. average.³

³ <https://data.arc.gov/reports/>

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Figure 2 – Economic Status in Appalachia, Fiscal Year 2022



Created by the Appalachian Regional Commission, June 2021; Revised November 15, 2021 Effective October 1, 2021 through September 30, 2022
 Data Sources:
 Unemployment data: U.S. Bureau of Labor Statistics, LAUS, 2017–2019
 Income data: U.S. Bureau of Economic Analysis, LAPI, 2019
 Poverty data: U.S. Census Bureau, American Community Survey, 2015–2019

Source: <https://www.arc.gov/map/county-economic-status-in-appalachia-fy-2022/>

According to the Appalachian Regional Commission, “Distressed” counties are the most economically depressed counties. They rank in the worst 10 percent of the nation’s counties. “At-Risk” counties are those at risk of becoming economically distressed. They rank between the worst 10 percent and 25 percent of the nation’s counties. For Eastern Kentucky, Distressed and At-Risk counties account for 51 of the 54 counties in the Kentucky portion of the Appalachian Region. These disadvantaged communities simply cannot afford an increase in electricity rates, which will occur with the implementation of this proposed rule. Citizens in Kentucky will be

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forced to choose between their most basic needs - food, medicine, health care, or electricity - with no hope for relief in the immediate future. EPA is forcing those that live in these distressed and at-risk areas into impossible circumstances, and blatantly ignoring its own definition of “fair treatment” in regards to this rule.

Many of Kentucky’s electricity providers are cooperatives. These cooperatives are non-profit companies owned by its rate payers. There is no large, for-profit corporation behind these electricity providers to support the cost for required additional controls. In fact, for one area of Kentucky serviced by a cooperative, EPA’s implementation of this rule will cause rate payers to essentially pay for a system for a “third” time. They paid for it when it was originally constructed; they paid for it when state-of-the-art emission controls were voluntarily installed; and, without the necessary allowance allocations for the units to provide electricity during ozone season, the rate payers will pay for power to be provided from an outside supplier, instead of receiving power from the facility that they own.

In order to recover the cost of billions of dollars spent for state of the art emission controls to comply with the proposed rule, utilities and industries will have to raise prices. Kentucky’s citizens simply cannot afford increased costs for electricity and goods. EPA’s lack of consideration of the impact of this rule to citizens residing in upwind states, especially those in distressed communities, is contrary to the very idea of environmental justice. Reducing needed allocations for utilities, imposing additional controls on both utilities and industry, and raising the electricity rates of citizens already burdened for no demonstrated downwind environmental benefit is unconscionable. EPA is creating energy inequity for citizens that reside in states with subject EGUs. With this proposed rule, EPA is harming the very citizens it vows to protect.

(2) Inclusion of Kentucky as subject to the proposed Federal Implementation Plan

Kentucky’s final 2015 8-hour Ozone National Ambient Air Quality Standard (NAAQS) Infrastructure State Implementation Plan (I-SIP) was transmitted to EPA on January 9, 2019, and included the interstate transport requirements. EPA did not take action on the submittal until February 2022, well past the statutory deadline to make a determination. As noted in Kentucky’s April 25, 2022 comments to EPA, Kentucky does not agree with the proposed SIP disapproval.⁴ Upon availability of new modeling information (“2016v2”) and EPA’s decision to not allow the use of a 1 part per billion (ppb) threshold for contribution to downwind monitors, EPA should have issued a SIP Call to allow Kentucky, and other impacted states, the opportunity to address changes when new modeling became available.

Regarding the proposed rule for a Federal Implementation Plan (FIP), EPA proposes to find that NO_x emissions from Kentucky sources significantly contribute to downwind nonattainment or

⁴ Letter from Michael Kennedy to Daniel Blackman, April 25, 2022, Docket ID No. EPA-R04-OAR-2021-0841

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interfere with maintenance of downwind monitors for the 2015 ozone National Ambient Air Quality Standard (NAAQS).⁵ Kentucky does not agree with EPA's finding that NO_x emissions from Kentucky sources interfere with attainment or maintenance of downwind receptors.

(3) Availability and time allotted for review and comment of Proposed Rule

Unlike previous transport rules, this proposed rule contains a significant change with the addition of new industries potentially subject to NO_x reductions and considerable costs for compliance. Given the sheer volume (over 200 documents and spreadsheets) of information to be reviewed, 75 days is not adequate to both review the documentation and provide meaningful comments. Local, state, and tribal agencies, as well as the regulated community and especially citizens, do not have the same resources available as a federal agency like EPA, and need significantly more time than 75 days to be able to provide adequate and meaningful comments. In addition, there are instances in the proposed rule where EPA asks for comment or input on adding additional sources, additional requirements, alternative control mechanisms, etc. The current comment period is not adequate to provide meaningful comment on EPA's proposed FIP for EGU and non-EGU sources, nor is it adequate to evaluate other possible sources of NO_x emissions and potential impacts. The proposed consent decree schedule effectively expedites EPA's normal process for proposing a rule of such significance.

While Kentucky appreciates EPA providing the signed rule in March 2022, prior to publication in the Federal Register, significant parts of the supporting documentation and data that form the basis of the proposed rule, were not made available in the docket until after publication of the proposed rule in the Federal Register. Kentucky strongly recommends that EPA either extend the time to provide comments, or re-propose the rule at a later date.

EPA has stated that it is "committed to implementing the good neighbor provision as expeditiously as practicable and by the applicable attainment dates for downwind areas. If finalized as proposed, the rule would result in substantial reductions of summertime ozone concentrations and would provide important environmental and public health benefits. EPA believes that granting the prior requests by extending the comment period to June 21, 2022, enhances the public's ability to provide meaningful feedback on the proposed rule while allowing the Agency to proceed with timely development of the final rule, and that providing an extension to the comment period beyond the previously extended June 21, 2022, date would delay that development."⁶ In accordance with the Clean Air Act (CAA), EPA has two years to implement a FIP after issuing SIP disapprovals or findings of failure to submit. However, EPA was not timely in reviewing and acting on state SIP submittals for the 2015 ozone transport provisions. As a result, EPA is effectively punishing states and sources by rushing

⁵ 87 Fed. Reg. 20,038

⁶ Letter from Joseph Goffman to Senator Shelly Moore Capito, June 3, 2022

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implementation of a FIP prior to the beginning of the 2023 ozone season. Assuming that EPA meets the proposed consent decree timelines and finalizes SIP disapprovals and findings of failure to submit by December 2022, EPA has until December 2024 to finalize and implement a FIP. It is inappropriate for EPA to rush the implementation of the proposed FIP. Considering the sweeping impact of this proposed rule, over multiple sources and sectors, and numerous states, Kentucky strongly recommends that EPA extend the comment period.

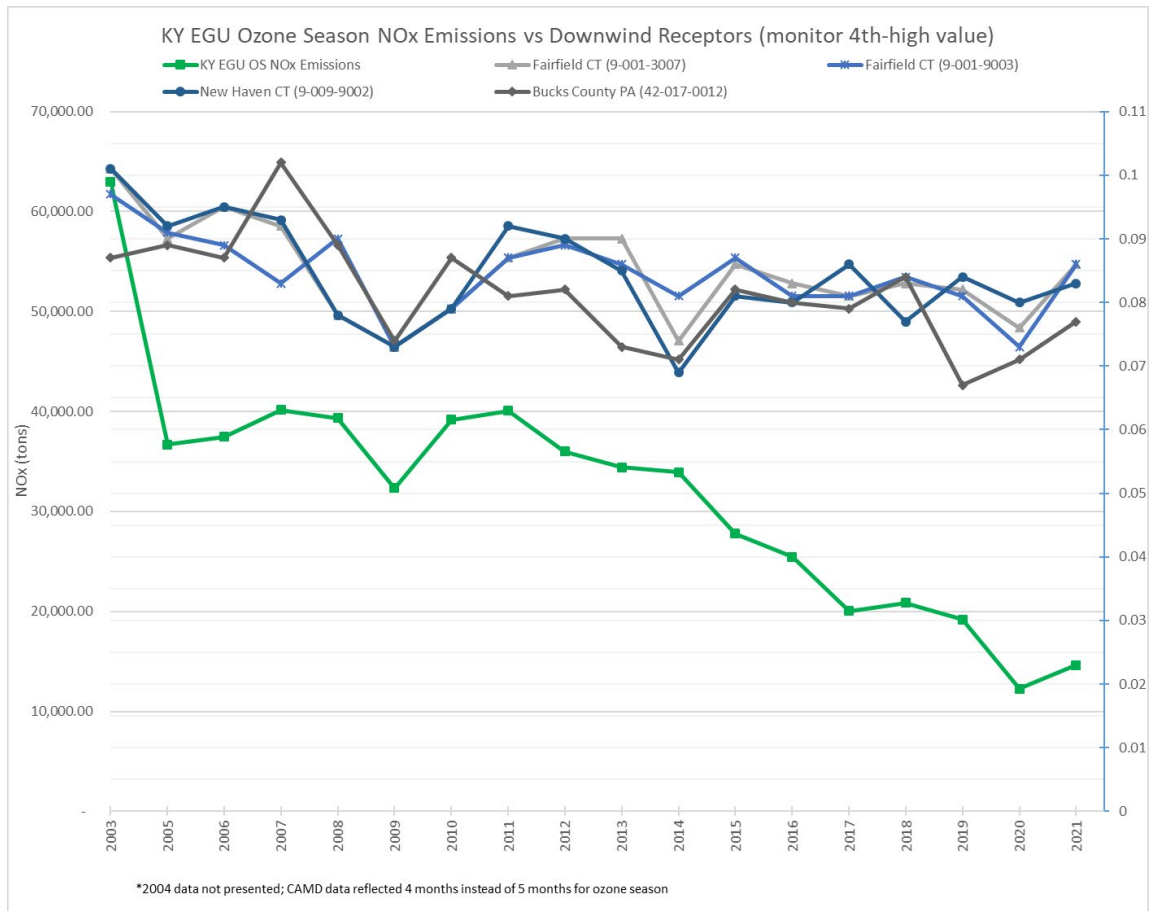
(4) Adequacy of models for predicting impacts to downwind monitors from upwind emissions

For over 25 years, EPA has relied on modeling to develop ozone season interstate transport rules as a way to help downwind states achieve attainment and maintenance of the ozone standards. Kentucky utilities have been included in these rules, with significant reductions in NO_x emissions from EGUs imposed every year. EPA's use of their IPM model makes assumptions about the operation of EGUs in Kentucky, frequently in error. Many times, IPM has included units that are retired and have no emissions, or it has inappropriately retired units that have no plans to do so. Still, Kentucky utilities have continued to meet the ozone season NO_x budgets imposed by EPA. Specific to this proposed rule, EPA's IPM model base case indicates that 1,017 MW of Kentucky capacity will be idled for 2023. There are no plans by any Kentucky utility to idle any of the units identified by the IPM model.

Even as Kentucky EGUs have met their increasing emission reduction obligations, downwind monitors have not reached attainment. A comparison of Kentucky EGU ozone season NO_x emissions and the four downwind monitors identified in the proposed rule, as impacted by greater than 1% of the 2015 ozone NAAQS from Kentucky sources, are shown below. EGU Ozone Season NO_x emissions were obtained from EPA's Air Markets Division database. Monitoring site ozone 3-year design values and 4th highest ozone season readings were obtained from EPA's Air Quality System (AQS).

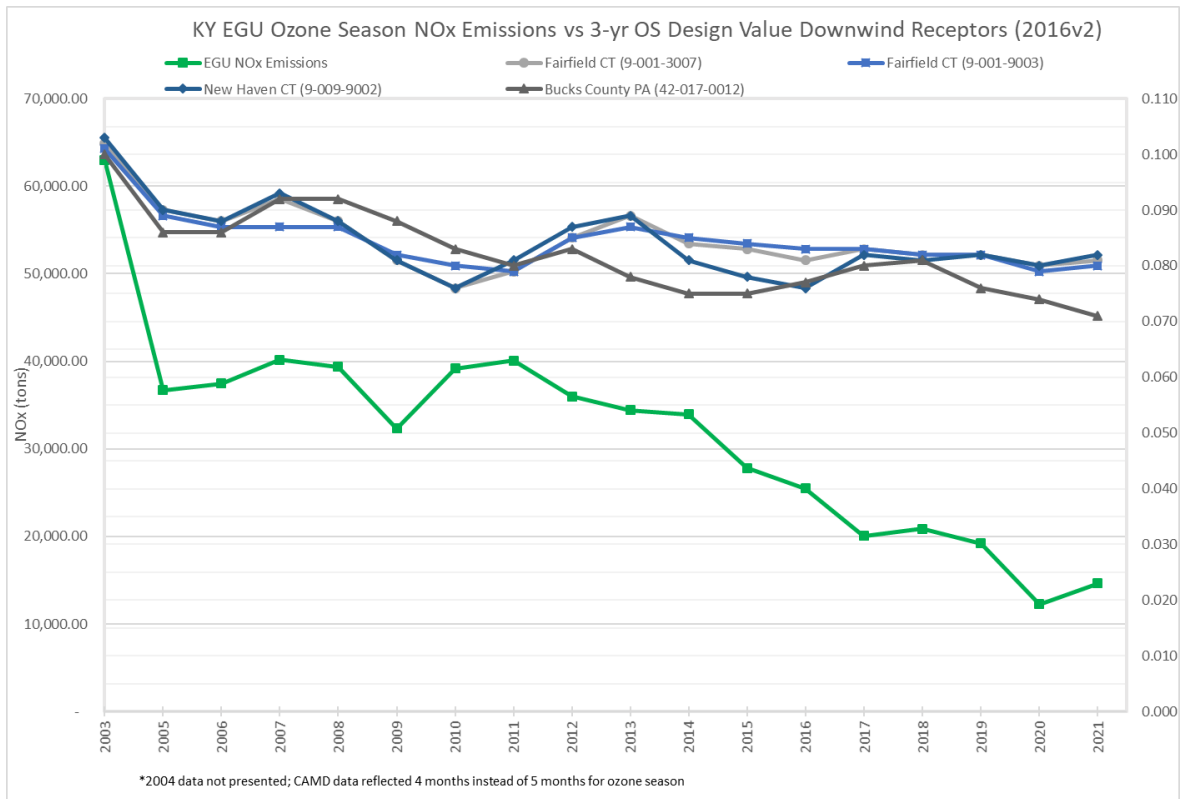
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Figure 1 – Comparison of KY EGU Ozone Season NOx Emissions (tons) vs Downwind Monitor Ozone Season 4th high reading (ppm)



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Figure 2 – Comparison of KY EGU Ozone Season NO_x Emissions (tons) vs Downwind Monitor Ozone Season 3-year Design Value (ppm)



Since 2003, Kentucky EGUs have reduced ozone season NO_x emissions by over 76%. In that same time period, none of the downwind monitors linked to Kentucky in the proposed rule have achieved attainment or maintenance status. Furthermore, beginning in 2014, those monitors’ design values have remained relatively flat, while Kentucky EGU NO_x emissions continued to decrease over 56%. While EPA’s modeling continues to identify contributions from Kentucky that exceed EPA’s threshold of 1% of the ozone NAAQS, the emissions data and downwind air monitoring values indicate that Kentucky EGU ozone season NO_x emissions have very little, to no, impact on the measured concentrations and design values at the linked downwind monitors.

EPA provided the *Air Quality Modeling Technical Support Document, Federal Implementation Plan Addressing Regional Ozone Transport for the 2015 Ozone National Ambient Air Quality Standards Proposed Rulemaking* (Modeling TSD) as a support document for the proposed rule, explaining the evaluation of the modeling platform predictions compared to actual observed values for the 2016 ozone season. Specifically, in evaluating the ability of the model to replicate the 2016 observed monitored values, EPA states, “the model performance statistics indicate that

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the MDA8 ozone concentrations predicted by the 2016v2 CAMx modeling platform closely reflect the corresponding MDA8 observed ozone concentrations in each region of the 12 km U.S. modeling domain. The acceptability of model performance was judged by considering the 2016v2 CAMx performance results in light of the range of performance found in recent regional ozone model applications.”⁷ EPA then goes on to state, “The model performance results, as described in this document, demonstrate that the predictions from the 2016v2 modeling platform correspond closely to observed concentrations in terms of the magnitude, temporal fluctuations, and geographic differences for MDA8 ozone concentrations.”⁸

In reviewing the model performance statistics provided in the Modeling TSD, the mean error in predicting the maximum daily 8-hour average ozone concentration for every region was over 6 ppb. Considering that the 2015 ozone NAAQS is 70 ppb, and that EPA applied a 1% contribution threshold (0.7 ppb) to identify upwind states as significantly contributing to downwind states’ ozone problems, a mean error of 6 ppb for the model does not “correspond closely” enough to the observed values at the monitors. Further, requiring the implementation of reductions in ozone season NOx emissions in those upwind states, at the cost of billions of dollars and based on this model, is unacceptable.

The use of modeling results for screening purposes, to determine where additional data collection and evaluation may be needed, is a common practice in many areas, and in general, makes sense. However, using modeling results to implement sweeping emissions controls, costing billions of dollars, potentially resulting in electric grid instability, potential loss of jobs, and significant negative economic impacts, is irresponsible.

Kentucky recommends that EPA re-evaluate the use of their model for determining projected future year ozone design values and upwind state contributions to linked downwind monitors. Kentucky also recommends that EPA re-evaluate the use of a 1% contribution threshold as “significant” to downwind monitors. Given the substantial reductions in ozone season NOx emissions in Kentucky EGUs, very little, if any, improvement is demonstrated at downwind monitors. For this proposed rule, EPA states explicitly that only one monitor will come into attainment by 2023, and only four total by 2026 as a result of this proposed FIP.⁹

Additionally, Kentucky strongly recommends EPA look more closely at local sources and local control of ozone season NOx emissions, as well as the impact of NOx emissions from on-road mobile emissions sources, as those are the major contributors of NOx emissions to monitors that struggle with attainment and maintenance.

⁷ U.S. EPA Office of Air Quality Planning and Standards, *Air Quality Modeling Technical Support Document, Federal Implementation Plan Addressing Regional Ozone Transport for the 2015 Ozone National Ambient Air Quality Standards Proposed Rulemaking*, 36

⁸ *Ibid*, 37

⁹ US EPA, Office of Air and Radiation, Ozone Transport Policy Analysis Proposed Rule TSD, February 2022, 47

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(5) Identification of newly impacted monitors without opportunity for States to review and develop an appropriate SIP submittal

EPA is proposing a transport FIP using newly updated modeling data, specifically the 2016v2 platform, which was not previously made available via the Notice of Data Availability (NODA) process and publication in the Federal Register. On April 30, 2021, based on the 2016v1 modeling platform, EPA published the final Revised Cross State Air Pollution Rule Update for the 2008 Ozone NAAQS, identifying two nonattainment receptors and one maintenance receptor as linked to Kentucky. Kentucky was not afforded the opportunity to evaluate the potential linkages or provide additional information regarding these potential linkages concerning the 2008 ozone NAAQS. Less than 12 months later, EPA published the proposed rule addressing transport for the 2015 ozone NAAQS. In this proposed rule, EPA has identified two new receptors (New Haven, CT and Bucks County, PA) as being impacted by Kentucky emissions, but not impacting the previously identified maintenance receptor (Madison, CT). EPA identified these changes to linked downwind receptors using the 2016v2 modeling platform. However, Kentucky was not afforded the opportunity to evaluate the potential impact of emissions for the new areas prior to EPA's proposal of a FIP.

In view of the change in linked downwind receptors and the addition of states that are now linked as contributing, Kentucky recommends that EPA formally publish the 2016v2 modeling using the NODA process and provide states with adequate time to review the inputs to the modeling and provide corrections prior to EPA performing modeling. Additionally, in the spirit of cooperative federalism, Kentucky should be afforded the opportunity to submit a revised SIP based on a review of the 2016v2 platform, as well as the documents, data, and modeling associated with the new platform. EPA should not finalize a proposed FIP until modeling has been corrected and updated, and states have had an opportunity to both review, and use the model to develop and submit a revised transport SIP.

(6) EPA's use of revised modeling data not available to states prior to the deadline for the 2015 ozone Infrastructure SIP submittal

At the time of Kentucky's final 2015 ozone I-SIP submittal, there were several guidance documents from EPA, as well as modeling data, available to review and use for the Interstate Transport demonstration. Specifically, two memos from EPA's Office of Air Quality Planning and Standards (OAQPS), dated March 27, 2018,¹⁰ and August 31, 2018,¹¹ were available. EPA provided updated modeling information with the March 27, 2018 memo for states to consider in developing their Interstate Transport SIPs. Kentucky used the information provided in EPA's

¹⁰ Peter Tsigotis, 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), EPA OAQPS Memorandum, March 27, 2018

¹¹ Peter Tsigotis, Analysis of Contribution Thresholds for Use in CAA section 110(a)(2)(D)(i)(I) Interstate Transport State Implementation Plan Submissions for the 2015 Ozone National Ambient Air Quality Standards, EPA OAQPS Memorandum, August 31, 2018

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March 27, 2018 memo, associated modeling, and the recommended 1 ppb contribution threshold from the August 31, 2018 memo to evaluate the impacts of Kentucky emissions on downwind monitors. The result, using Step 2 of EPA’s framework, was that one maintenance monitor, located in Harford County, MD, was identified to be evaluated for potential impact downwind.

In this proposed rule, EPA is taking actions based on the 2016v2 modeled data that was not made available to states until well past the statutory deadline for both I-SIP submittals, and EPA’s deadline for taking action on those submittals. Based on the 2016v2 model, some of the downwind monitors linked to Kentucky have changed. Kentucky was not afforded any opportunity to review or develop a SIP addressing the two new monitors allegedly impacted by Kentucky’s emissions. In the spirit of cooperative federalism, Kentucky would appreciate and expect the opportunity to submit a revised SIP utilizing the 2016v2 platform and modeling, rather than having a FIP immediately imposed.

(7) Errors in the modeling and assumptions for the 2016v2 platform

In addition to not formally notifying state, local, and tribal agencies, as well as the regulated community and citizens, of the revised model availability through the NODA process, EPA did not correct the errors in the 2016v2 model that were identified and submitted through informal comments received by December 21, 2021. Multiple parties submitted comments and information identifying errors in EPA’s assumptions, many about EGU data specifically. EPA did not incorporate those corrections in the model prior to developing a FIP, and instead used the erroneous data as the basis for the proposed rule.

The Midwest Ozone Group provided detailed information and discussion regarding EPA’s use of erroneous top ten “high ozone days” in their comments regarding EPA’s disapproval of Kentucky’s 2015 ozone transport SIP. Specifically, EPA’s top ten “high ozone days” from the 2016 base year included days from 2016 that were specifically excluded for determining design values for three Connecticut monitors due to an EPA approved exceptional event demonstration. These are the same three downwind Connecticut monitors now linked to Kentucky upwind emissions. These excluded days should not have been included in the modeling if they were excluded for Connecticut in determining ozone season design values and violations. The resulting projected future year concentrations based on the inclusion of these days likely overestimate any upwind contribution from Kentucky, as well as whether or not Kentucky continues to be linked to those downwind monitors.¹²

Additionally, these same three Connecticut monitors are located directly on the Connecticut coastline in the Long Island Sound. EPA is aware of issues with the land-water interface in the

¹² Letter from Kathy G. Beckett to Daniel Blackman, April 25, 2022, *Re: Air Plan Disapproval; Kentucky; Interstate Transport Requirements for the 2015 8-Hour Ozone National Ambient Air Quality Standards*; Docket ID No. EPA-R04-OAR-2021-0841, 40-46

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modeling raised by various Metropolitan Jurisdictional Organizations over the past few years. The continued use of this modeling, with the inclusion of these errors, is very concerning to Kentucky. These issues, and others, are detailed in comments submitted by the Midwest Ozone Group in response to EPA's disapproval of Kentucky's transport provisions in the 2015 Ozone I-SIP.¹³

In projecting emissions for non-EGU sources in the 2016v2 modeling platform, EPA included facilities that were not operating. EPA used 2019 emissions where available, but also used previous years' emissions information when necessary and projected those emissions to future years. "A draft set of projected 'ptnonipm' emissions were reviewed and compared to recent emissions data from 2017 through 2019. In cases where the recent and projected emissions were substantially different, the 2023 emissions were instead taken from a recent year of emissions and were then projected from 2023 to later future years."¹⁴ Specifically, EPA identifies a Kentucky source, "AK Steel Corp," and the use of 2018 emissions projected to future years in the modeling platform 2016v2.¹⁵ In fact, this facility has not operated since 2019.

Kentucky recommends that EPA withdraw the proposed rule, correct the emission inventories used in the modeling and provide a corrected emissions inventory to states for review. Once the inventories are correct, EPA should perform new photochemical modeling using the identified corrections, and provide notification of the availability of the revised modeling using the NODA process. Once the new modeling is complete and the state, local, and tribal agencies, including the regulated community have had the opportunity to review, EPA should finalize the modeling.

(8) Use of the Air Quality Assessment Tool instead of revised modeling

EPA has established photochemical air quality modeling as the basis for determining downwind ozone impacts from upwind NO_x emissions. Photochemical modeling has been applied in every ozone transport rule that EPA has developed since the NO_x Budget Trading program began in 1998. The timing for this proposed FIP to address interstate transport requirements for the 2015 ozone standard is the outcome of a proposed consent decree.¹⁶ As such, it appears that EPA used numerous shortcuts to evaluate the data in order to meet the timeline rather than developing a sound and fair transport rule. In discussing the impact of costs at various thresholds, EPA specifically states, "Air quality modeling would be the optimal way to estimate the air quality impacts at each cost threshold level from EGUs and non-EGUs emissions reductions. However,

¹³ Ibid

¹⁴ US EPA, Office of Air and Radiation, *Technical Support Document (TSD): Preparation of Emissions Inventories for the 2016v2 North American Emissions Modeling Platform*, February 2022, 181

¹⁵ Ibid, 182

¹⁶ See Consent Decree, *Downwinders at Risk et al. v. Regan* (No. 21-cv-03551, N.D. Cal.)

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due to time and resource limitations EPA was unable to use photochemical air quality modeling for all but a few emissions scenarios.”¹⁷

Additionally, “EPA recognizes that AQAT is not the equivalent of photochemical air quality modeling but in the Agency’s view is adequate to this purpose.”¹⁸ Again, in comparing different scenarios, EPA recognizes that they have not evaluated the information as they should, “The results of this comparison, which are relatively similar, demonstrate that, considering the time and resource constraints faced by the EPA, the AQAT provides reasonable estimates of air quality concentrations for each receptor, and can provide reasonable inputs for the multi-factor assessment and over-control assessment.”¹⁹

Although EPA has used this assessment tool in the prior CSAPR rules, those prior rules did not include such a significant reduction in NO_x emissions from non-EGU sources or contain required controls that could lead to early retirement of needed EGUs. Given the potential cost and significant impact of the proposed rule on both EGU and non-EGU industries, assessments that are “adequate” and “reasonable” do not provide sufficient technical and scientific certainty to justify such a monumental undertaking. Kentucky recommends that EPA withdraw the rule and consider other methods for determining upwind states’ contributions to downwind issues, timing for EGU controls and emission reductions, and potentially impacted non-EGU industries.

(9) Identification of non-EGU Sources

In selecting non-EGU sources to evaluate, EPA reviewed emissions from industries in the upwind states that were linked as contributing to downwind receptors in the projected year of 2023. Based on the inventory of facilities in the upwind states, EPA developed an analytical framework and screening assessment to assist in determining the industries, emissions, and costs for controlling emissions from non-EGU sources beginning in 2026. In using these tools, EPA did not follow its own 4-step framework in determining contributions from upwind states to downwind receptors.

Using the projected 2023 inventory from the 2016v2 modeling, EPA used a threshold of NO_x emissions greater than or equal to 100 tons per year (tpy), to identify industries that are estimated “to have the greatest ppb impact on downwind air quality.”²⁰ From there, EPA “determined which of the most impactful industries and emissions units had the most emissions reductions that would make meaningful air quality improvements at the downwind receptors at a marginal

¹⁷ US EPA, Office of Air and Radiation, *Ozone Transport Policy Analysis Proposed Rule TSD*, February 2022, 32

¹⁸ Ibid

¹⁹ Ibid, 58

²⁰ EPA Technical Memorandum, *Screening Assessment of Potential Emissions Reductions, Air Quality Impacts, and Costs from Non-EGU Emission Units for 2026*, February 28, 2022, 2

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cost threshold we determined using underlying control device efficiency and cost information.”²¹ EPA further separated the industries into Tier 1 and Tier 2, with Tier 2 being further reduced to only “impactful boilers.” The selection of these industries as having an impact on downwind receptors is not based on actual data. EPA has not provided data regarding the contribution of these upwind industries to downwind receptors. Without determining the contribution from upwind non-EGUs to downwind receptor issues of nonattainment or maintenance, EPA is over-controlling the emissions of upwind states. The U.S. Supreme Court specifically detailed that EPA does not have the authority to require states to reduce emissions beyond the amount needed to bring downwind states into attainment.²²

EPA identifies NO_x reductions for Kentucky only for the natural gas pipeline transportation industry.²³ However, Kentucky has multiple sources, including non-EGU boilers, glass manufacturers, and iron/steel facilities that will be negatively impacted by this proposal. No information is provided by EPA regarding reductions of NO_x emissions from these other Kentucky facilities in the cost analysis, nor does EPA acknowledge any reductions in NO_x emissions from these other industries.

Further, if EPA’s model has adequately identified the Kentucky non-EGU sources, there should be no need for EPA to request information on additional sources for possible inclusion in the proposed rule, as that would be over-controlling upwind states, although EPA states that the rule as proposed constitutes a full remedy. Kentucky does not agree with EPA’s selection of industries and emission units for non-EGU NO_x reductions. Without a specific list of sources, it is impossible for Kentucky to identify which non-EGU sources are subject to the proposed rule. The data for non-EGU sources is limited and the reductions are not likely to make an impact to downwind monitors. Kentucky recommends EPA remove the inclusion of upwind non-EGU sources from the rule.

(10) Identification of NO_x control strategies for non-EGUs

EPA provided a significant volume of background and supporting information regarding potential control equipment for the non-EGU industries covered by the proposed rule. However, prior to issuing the proposed rule, EPA did not request additional information regarding NO_x emissions, actual operations, and potential control strategies from those industries, instead relying on state regulations and permits for control scenarios, without verifying that they were successful or installed. EPA also relied on existing supporting documentation, many of which are decades old and based on data collected for the 1998 NO_x SIP Call.

²¹ Ibid

²² *EPA v. EME Homer City Generation L.P.*, 572 U.S. 489, 134 S. Ct. 1584 (2014)

²³ Ibid, 12

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Specific to Selective Catalytic Reduction (SCR) controls, EPA made assumptions about the availability of vendors that could provide the equipment. At the time that SCRs were first installed as NO_x controls, some decades ago, there were plenty of vendors available. However, SCR specific technology is old and the majority of sources requiring SCRs installed them long ago. Given EPA's selection of SCR as a control strategy for multiple industries in the proposed rule, and the potential number of subject units, EPA has significantly underestimated the availability of equipment and vendors. The lack of available vendors and equipment will hinder facilities in complying with the extremely short deadlines that EPA proposes in this rule.

Additionally, EPA has selected NO_x control scenarios for non-EGUs that are not appropriate or technically feasible. As an example, EPA has identified SCRs as a NO_x control technology for the Iron and Steel Mills and Ferroalloy Manufacturing industry. EPA bases the proposed NO_x emission limits for individual units and operations in the steel industry using very little available data and mostly assumptions. Specific to electric arc furnaces (EAFs), EPA has not evaluated or considered the actual day-to-day operation process, which is generally a batch-type process, and is not suited for SCR controls. A review of the RACT/BACT/LAER Clearinghouse found that there are no examples for SCR used to control NO_x emissions from EAFs. The proposal to add SCR as a control device for EAFs is not based on technical or engineering data. Kentucky recommends that EPA provide sound technical information for this, and all proposed non-EGU NO_x controls, prior to imposing unattainable emission standards on industries across the nation.

(11) Identification of NO_x control costs for non-EGUs

To develop potential control strategies and costs, EPA used the Control Strategy Tool (CoST). As stated by EPA, CoST was not created to be used for unit-specific/engineering analysis, but for "illustrative control strategy analyses."²⁴ However, EPA used CoST to develop estimates for annual control costs for non-EGUs and provides those estimates in the screening assessment. Tables 4 and 4a in the "Screening Assessment Memo" detail the ozone season reductions and annual total costs, as well as average annual cost per ton for impacted states and industries.²⁵ While intended to show a potential cost for installing controls in the industries identified in the proposed rule, there will be some facilities and units where the cost to install the proposed controls will greatly exceed EPA's illustrative analyses.

As an example specific to Kentucky, Table 4a lists an ozone season reduction of 2,291 tons of NO_x at an annual cost of \$28,700,000, and an average annual cost of \$5,213 per ton NO_x reduced.²⁶ While the per ton amount may be considered by EPA to be a reasonable cost, the underlying, but silent implication is that facilities will have to run these controls year-round

²⁴ Ibid, 7

²⁵ Ibid, 12-14

²⁶ Ibid

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rather than only during ozone season. Considering this cost from an ozone season perspective, which is the sole purpose of the proposed rule, the calculated cost per ton EPA provides is not reflective of ozone season reductions. EPA is proposing to require these non-EGU facilities to install controls to reduce ozone season NO_x emissions, not annual NO_x emissions. However, EPA is well aware that facilities will operate the controls year-round, as these required controls do not lend themselves to readily be shut down at the end of ozone season and then restarted at the beginning of the next ozone season. Therefore, EPA has misrepresented the cost associated for non-EGU NO_x controls. Using the above values, a reduction of 2,291 tons of NO_x during ozone season will cost Kentucky non-EGUs \$28,700,000 dollars annually, or **\$12,527 per ton** of ozone season NO_x reduced. The ozone season per ton cost for non-EGUs is significantly higher than the estimated \$11,000 per ton costs for EGUs. This cost is unacceptable and potentially detrimental to many industries.

Kentucky finds that the cost for non-EGU entities to reduce ozone season NO_x emissions exceeds any appropriate cost threshold, especially considering a reduction of only 2,291 tons of ozone season NO_x from Kentucky industries. Kentucky strongly recommends that EPA withdraw the proposed rule and eliminate any and all requirements pertaining to reduction of ozone season NO_x emissions from non-EGUs. Or, as has been previously suggested in these comments, limit the review of NO_x emitting sources to local sources closer to the monitor in question, rather than using modeled information and assessment tools.

(12) Effect of Cumulative Rulemakings

A significant number of both EGU and non-EGU sources in Kentucky will be impacted by the proposed rule. Any proposed regulation that requires the control or capture of carbon/Greenhouse Gas (GHG) emissions has the potential to increase NO_x emissions. This was identified by EPA in the proposed Clean Power Plan.

On June 10, 2021, EPA announced the decision to reconsider the December 2020 decision to retain the 2012 fine particulate matter (PM) NAAQS.²⁷ Tightening the PM NAAQS will likely require facilities to add more control equipment to maintain or reduce particulate matter emissions, in order for states to attain or maintain a more stringent PM NAAQS. This is additional costs incurred for facilities, on top of any costs to comply with the proposed rule.

EPA recently issued a draft “white paper” that discusses GHG emissions from natural gas units.²⁸ While Kentucky supports the reduction of GHG emissions, potential increases in NO_x emissions from GHG controls will present problems for facilities that are subject to the strict

²⁷ <https://www.epa.gov/newsreleases/epa-reexamine-health-standards-harmful-soot-previous-administration-left-unchanged>

²⁸ U.S. EPA, Office of Air and Radiation, *Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Combustion Turbine Electric Generating Units*, April 21, 2022

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limits of this proposed FIP. Cumulative impacts from EPA rules may force EGUs to shut down units that are necessary for grid stability and reliability. In addition, potential changes to the EPA's Effluent Guidelines and the Coal Combustion Residuals rulemakings will have additional impacts to the electricity sector.

Kentucky recommends that EPA re-evaluate the timing and necessity in the promulgation of multiple rules that impact the same facilities in the same time frames, as well as the potential cost and benefits of overlapping rules.

(13) Changes to air quality permitting implemented by the proposed rule

The CAA clearly delineates between SIP requirements for meeting the NAAQS in Title I of the CAA and Air Quality Permitting requirements in Title V of the CAA. However, in this proposed rule, EPA disregards the permitting programs implemented by states, as well as its own rulemaking processes for New Source Performance Standards and the associated Emission Guidelines for existing sources, as well as other source and pollutant emission standards. By subjecting specific EGUs and non-EGUs industries, equipment, and processes to the proposed "daily backstop" emission rates during ozone season, EPA circumvents the permitting programs and regulations implemented by states to determine applicable permitted emission standards.

The New Source Performance Standards (NSPS) essentially function as a "technological floor," ensuring that any new or modified source in a particular source category achieves minimum standards. Conversely, Best Achievable Control Technology (BACT) is defined as an:

"emissions limitation, based on the maximum degree of reduction for each pollutant subject to regulation under the Act which would be emitted from any proposed major source or major modification which [the permitting agency], on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant."²⁹

All New Source Review (NSR) permit applications must include proposed emission limits based on the results of any BACT or Lowest Achievable Emissions Rate analysis conducted. The permit applicant must implement the most stringent BACT, or demonstrate the best alternative. The permitting agency must find and agree, that the technical considerations, or energy, environmental, or economic impacts justify a conclusion that the best technology would be a better alternative.

²⁹ See 40 C.F.R. § 52.21(b)(12), CAA § 169(3), 42 U.S.C.A. §7479(3)

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States use Prevention of Significant Deterioration (PSD) and NSR permitting programs to evaluate the construction of new facilities and potential impacts to ambient air quality. These programs are rigorous and are designed to ensure that emissions from new facilities use BACT in order to prevent negative impacts to ambient air quality. In this proposed rule, EPA is effectively setting new BACT standards without providing demonstrated, sound, technical and engineering information for the application of control technologies. Additionally, EPA is eliminating states' use of case-by-case analysis, which allows for consideration of energy, environmental, and economic impacts and other costs in evaluating controls. The emission limits for non-EGU processes in the proposed rule are essentially changes to existing permitting regulations, as any future units will be also subject to the same restrictions. Kentucky recommends that EPA remove the proposed operational emission limits from the rule.

(14) EPA is creating energy policy through rulemaking

In the proposed rule, EPA is requiring installation of specific controls on EGUs for the 2027 ozone season. From the Regulatory Impact Analysis (RIA) for the proposed rule, "In addition, beginning in the 2027 ozone season, coal facilities greater than 100 MW lacking SCR controls and certain oil/gas steam facilities greater than 100 MW that lack existing SCR controls located in these 23 states must meet daily emission rate limits, effectively forcing affected units to install new SCR controls, find other means of compliance, or retire."³⁰ Here, EPA plainly states coal-fired EGUs that cannot comply with the prescribed control device requirements, or find another means for complying with the daily emission rate of the proposed rule, must shut down. By imposing these limits, EPA is dictating which EGUs will continue to operate and which ones will be shuttered.

For Kentucky, EPA is prescribing change that significantly impacts the ability of its EGUs to provide steady, reliable electricity to its citizens and industry. As proposed in the rule, approximately 3,600 MW in Kentucky will need to be replaced or install controls. Many of these units are nearing retirement, making the options for compliance limited, of which EPA is aware. Most likely, the proposed rule will leave these assets stranded. Without immediate replacement, this creates a significant gap in the supply-demand balance for electricity and will stress the grid, especially during the summer peak demand times. One regional operator for Kentucky has already indicated a shortage in capacity for 2022. The potential loss of additional capacity and generation will only cause the shortage to expand and grow in severity.

EPA's assumption regarding generation shifting is flawed and the ability to replace potential generation lost simply cannot meet EPA's proposed timeline. Several units in Kentucky that

³⁰ *Regulatory Impact Analysis for Proposed Federal Implementation Plan Addressing Regional Ozone Transport for the 2015 Ozone National Ambient Air Quality Standard*, ES-7 – 8.

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would be used for generation shifting have existing permitted emission limits. In order for those units to be used in generation shifting, and given the short notice for doing so, those units would have to operate in violation of their Kentucky Title V permit. Allocations to existing units have been reduced for future years based on EPA's flawed assumptions for generation shifting. In order to overcome the capacity shortage, Kentucky EGUs would have to construct new units, which cannot be accomplished in EPA's proposed timeline. EPA has not given adequate consideration to the implication of generation shifting and the regulatory requirements necessary to allow those units to operate in that capacity.

This proposed rule jeopardizes the reliability of the electricity grid. EPA's extremely short timelines for installing controls or replacing generation from its "third-party global engineering consulting firm" report are not applicable to Kentucky and many other states. A review of the top two boilers in the nation, and application of those assumptions to all EGUs, is irresponsible. In its haste to propose a rule, EPA failed to perform a thorough engineering analysis to determine the best path forward for all states and citizens.

(15) Economic impact to the "Group 3 States" subject to proposed rule

EPA's requirement for control devices on non-EQU processes and equipment ensures that any new unit constructed in one of the 23 "Group 3 States" is also subject to the restrictions. This additional requirement puts those states at a significant economic disadvantage. With this proposed rule, EPA is effectively making economic policy for states, choosing which states will enjoy increased economic growth and potential high paying jobs, and ensuring that the "Group 3" states will not.

By including the implementation of daily backstop emission rates for both EGUs and non-EGUs in the proposed rule, EPA is restricting economic development and potential job growth in Kentucky. Facilities that would be subject to the emissions controls and daily backstop rates proposed in this rule would be unlikely to consider Kentucky a viable location, instead potentially choosing to locate in a state that is not subject to the proposed rule.

This proposed rule punishes manufacturing states like Kentucky. Low cost electricity is an incentive for industries looking to expand and has provided Kentucky with over \$11 billion in investments and new jobs, including two new electric vehicle battery plants. In a time when more emphasis is being placed on American independence from reliance on other countries for goods, this rule inhibits the ability of manufacturing states to be competitive in attracting new businesses. Given the implication of potential, similar future rules, that may include other states, companies may not even choose to locate in a non-FIP state, but choose a different country for their business.