COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC JOINT APPLICATION OF	**)**	
KENTUCKY UTILITIES COMPANY AND	**)**	
LOUISVILLE GAS AND ELECTRIC	**)**	
COMPANY FOR CERTIFICATES OF	**)**	
PUBLIC CONVENIENCE AND NECESSITY	**)**	**CASE NO. 2022-00402**
AND SITE COMPATIBILITY	**)**	
CERTIFICATES AND APPROVAL OF A	**)**	
DEMAND SIDE MANAGEMENT PLAN AND	**)**	
APPROVAL OF FOSSIL FUEL-FIRED	**)**	
GENERATING UNIT RETIREMENTS	**)**	

REBUTTAL TESTIMONY OF PHILIP A. IMBER DIRECTOR, ENVIRONMENTAL AND FEDERAL REGULATORY COMPLIANCE KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY

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I. INTRODUCTION

Q. Please state your name, position, and business address.

A. My name is Philip A. Imber. I am the Director of Environmental and Federal Regulatory Compliance for Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively, "Companies") and an employee of LG&E and KU Services Company, which provides services to KU and LG&E. My business address is 220 West Main Street, Louisville, Kentucky 40202.

Q. Did you provide direct testimony on behalf of the Companies in this matter?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the contention by Ms. Emily S. Medine, witness for the Kentucky Coal Association, that environmental regulatory developments since my direct testimony have undermined the Companies' proposed plans or their analyses supporting those plans. She cites three developments: the finalization of the U.S. Environmental Protection Agency's ("EPA") Good Neighbor Plan, the litigation over EPA's Good Neighbor Plan, and EPA's proposed rule on performance standards for greenhouse gas emissions from existing and new gas units. My testimony will summarize these three developments, explain why none of them require any change in the Companies' plans, and explain why none of them merit any revision in the analyses supporting such plans.

II. EPA'S GOOD NEIGHBOR PLAN

Q. Have there been developments in EPA's rulemaking concerning the interstate transport of emissions from Kentucky?

A. Yes. I have previously described how Congress granted EPA authority under the Clean Air Act to establish National Ambient Air Quality Standards ("NAAQS") to regulate and reduce certain emissions, including authority to regulate interstate emissions that contribute to ozone concentrations in downwind states. Each time EPA promulgates or revises the NAAQS, the Clean Air Act requires each state to address "good neighbor" obligations by ensuring its State Implementation Plan ("SIP") contains adequate provisions to prohibit emissions that significantly contribute to nonattainment or interfere with maintenance of the NAAQS in other states. EPA is then obligated to review and approve or disapprove that SIP submission. When EPA disapproves a SIP submission (or finds that a state failed to submit a complete SIP submission), EPA is then obligated by the Clean Air Act to take action and promulgate a federal implementation plan ("FIP").

At the time I submitted my direct testimony in this matter, EPA had proposed to disapprove the good neighbor SIPs submitted by several states, including Kentucky, with respect to the 2015 ozone NAAQS, and instead implement a FIP that would reduce emissions from Kentucky and the other identified states. On February 13, 2023, EPA published a final action fully or partially disapproving the good neighbor SIPs submitted by 21 states—including Kentucky—for the 2015 ozone NAAQS (the SIP Disapproval Action). On March 15, 2023, EPA issued a FIP covering these 21 states—including Kentucky—known informally as the Good Neighbor Plan. EPA's stated purpose in issuing the rule was to reduce emissions of nitrogen oxide that contribute to ground-level ozone (or "smog"). EPA stated that this action would provide benefits such as "improving air

quality, saving lives, and improving public health in smog-affected downwind states and communities."[1]

Q. With respect to Kentucky and the Companies, were there any significant differences between EPA's proposed Good Neighbor Plan and the final Good Neighbor Plan?

A. No. The implications are the same. The major differences between the proposed rule and the final rule were already factored into the Companies' resource modeling performed prior to release of the final rule. As I have previously explained, the proposed Good Neighbor Plan "would effectively require non-SCR equipped coal units to cease operating, or operate only at very minimal levels, during each year's ozone season beginning in 2026."[2] The Companies assumed in the Resource Assessment that they could avoid the cost of installing Selective Catalytic Reduction ("SCR") on Mill Creek 2 and Ghent 2 in 2026 if they were replaced by the 2028 ozone season.[3] Although the final Good Neighbor Plan does include somewhat relaxed compliance requirements relative to the proposed rule, the Companies' original resource modeling had already assumed much of the eventual relaxation. That is why the final Good Neighbor Plan does not extend the timeline of the Companies' CPCN requests in this proceeding. Instead, the final rule makes clear that the Companies will have to rely on the allocation market beginning in 2027 absent some form of physical compliance for Mill Creek Unit 2 and Ghent Unit 2 (i.e., installing SCRs, not operating during the ozone season, or retirement). As I have already explained, the Companies

[1] EPA's "Good Neighbor Plan" Response to Comply with Stay Orders Pending Judicial Review: Overview Fact Sheet (hereinafter, EPA Interim Final Rule Fact Sheet) at 1, found at EPA Response to Judicial Stay Orders | US EPA.
[2] Imber Direct Testimony at page 4, lines 6-8.
[3] Exhibit SAW-1 at 18 ("To achieve Good Neighbor Plan compliance, the Companies assumed in the Resource Assessment that non-SCR-equipped coal units such as these could not operate during the ozone season beginning in 2026 unless the units were scheduled to be replaced. Specifically, the Companies assumed they could avoid the cost of installing SCR in 2026 if the non-SCR-equipped unit was replaced by the 2028 ozone season.").

cannot expect to rely upon allocations as a means of compliance.[4] Thus, Ms. Medine's contention that changes between the proposed and final Good Neighbor Plan require adjustment to the Companies' plans or additional analyses is therefore incorrect. Any significant changes in the Good Neighbor Plan have already been considered.

Q. What is the current status of EPA's Good Neighbor Plan?

A. Various states and private parties are challenging EPA's SIP Disapproval Actions in several courts and have filed for partial stays of those actions with respect to the SIPs submitted by particular states. After the Good Neighbor Plan's signature date, four courts granted motions staying the SIP Disapproval action as to Arkansas, Louisiana, Minnesota, Mississippi, Missouri, Oklahoma, Nevada, Texas, and Utah pending review on the merits. On July 25, 2023, the U.S. Court of Appeals for the Sixth Circuit joined the other circuits and stayed the SIP Disapproval Action as to Kentucky.

Q. What is the impact of these stays on the Good Neighbor Plan?

A. The obligations and compliance schedule set by the Good Neighbor Plan for sources in Kentucky and other states are temporarily suspended pending the outcome of the litigation or until further motion. In the interim, Kentucky is subject to previously established requirements to mitigate interstate air pollution with respect to Ozone NAAQS and is being placed in a modified trading group with only Louisiana.

Q. Have the stays issued by the courts caused EPA to abandon or reconsider its Good Neighbor Plan?

A. No. EPA has continued to move forward with the Good Neighbor Plan in 13 other states while respecting the stays entered by various courts. In doing so, EPA has stated that the

[4] Response to AG Data Request 2-3.

stay of the Good Neighbor Plan for the subject states "will remain in effect ***until EPA takes subsequent action upon the resolution of litigation***" over EPA's Disapproval Actions.[5] For remaining states, EPA explains, "the Good Neighbor Plan will go into effect on August 4, 2023."[6] This demonstrates EPA's objective to defend the Good Neighbor Plan and proceed with its implementation whenever possible—despite the litigation developments to date.

With respect to Kentucky, EPA has also made its commitment to achieving meaningful emission reductions from Kentucky sources of NOx and other precursors of ozone. In testimony and argument to the U.S. Court of Appeals for the Sixth Circuit, EPA has explained its commitment to reducing emissions from Kentucky that EPA believes contribute to ozone concentrations in downwind states. For example, EPA states:

- "The Good Neighbor Provision addresses the serious problem of upwind states' emissions significantly contributing to downwind air-quality problems. … Though its emissions impact multiple downwind states, Kentucky proposed to do nothing to limit its emissions" beyond controls already in place.[7]

- "[I]n addition to its public health benefits, the timing of the Good Neighbor Plan was designed to potentially relieve regulatory burdens faced by downwind nonattainment areas and comply with prior rulings."[8]

- This is a "matter[] of important public health protection."[9] "[T]he impacts of Kentucky's failure to address its role in poor air quality are occurring now, affecting millions of citizens and imposing unfair regulatory burdens on those downwind."[10]

[5] EPA Interim Final Rule Fact Sheet at 1 (emphasis added).
[6] *Id.*
[7] EPA's Consolidated Response in Opposition to Petitioners' Motions for a Stay Pending Review, Commonwealth of Kentucky et al. v. EPA, Cir. Nos. 23-3216, 23-3225 (Doc. 32-1) (6th Cir., June 23, 2023) (hereinafter, "EPA Brief") at 37.
[8] *Id.* at 37-38.
[9] *Id.* at 38.
[10] *Id.* at 39.

A sworn declaration provided by EPA to the U.S. Court of Appeals for the Sixth Circuit supports these claims with the testimony of a high-ranking EPA official. The following are relevant excerpts of her testimony in the record before the Sixth Circuit:

- Emission reductions under the Good Neighbor Plan "will deliver substantial public health and environmental benefits," which EPA values at $13 billion per year.[11] Without these reductions, "significant contributions to harmful levels of air pollution across the United States" would continue,[12] and "many Americans could suffer illness and premature death."[13]

- In addition, these emission reductions "will help many downwind areas make substantial progress toward coming into compliance with the 2015 ozone NAAQS."[14] The interstate transport of emissions "undermine[s] the planning efforts for downwind areas that are impacted by the upwind states' emission, increasing their regulatory burdens."[15] These downwind areas "face continuing violating ozone levels and ratcheting, mandatory ozone-nonattainment requirements."[16] "These ratcheting statutory requirements have obvious implications for industrial expansion, economic development, and tax base in nonattainment areas."[17]

- According to EPA, emissions from Kentucky "are impacting air quality hundreds of miles away."[18] "Kentucky's emissions are linked to designated ozone nonattainment areas in five states"—Michigan, Ohio, New York, New Jersey and Connecticut.[19] Those states are obligated "to attain the NAAQS . . . by the statutory attainment date of August 2, 2024."[20] These states, says EPA, should not "face an attainment deadline with no relief from the significant contribution from upwind sources,"[21] which EPA believes to include Kentucky.[22]

These submissions by EPA to the Sixth Circuit cannot be ignored; they demonstrate EPA's commitment to defend the Good Neighbor Plan vigorously. Moreover, EPA's

[11] Declaration of Rona Birnbaum, Commonwealth of Kentucky et al. v. EPA, No. 23-3216 (6th Cir., June 16, 2023 (Doc. 32-3) (hereinafter, "Birnbaum Decl.") ¶ 10.
[12] *Id.* ¶ 16.
[13] *Id.*
[14] *Id.* ¶ 11.
[15] *Id.* ¶ 83.
[16] *Id.* ¶ 87.
[17] *Id.* ¶ 94.
[18] *Id.* ¶ 15.
[19] *Id.* ¶ 88.
[20] *Id.*
[21] *Id.* ¶ 92.
[22] *Id.* ¶ 96

defense of the Good Neighbor Plan makes clear that it has a policy objective of achieving emission reductions from Kentucky in order to help neighboring states attain the NAAQS for ozone. EPA's declaration of such policy objectives makes it reasonable to believe EPA would pursue this policy via revisions to its Good Neighbor Plan once the litigation is over or via means other than the Good Neighbor Plan should that avenue be blocked by the courts.

III. ASSESSMENT OF THE GOOD NEIGHBOR PLAN LITIGATION

Q. How have the pending challenges to EPA's Good Neighbor Plan affected the Companies' resource planning?

A. The Companies have followed the litigation closely. Although how the Sixth Circuit may ultimately rule remains unclear, the outcome of this litigation is not likely to have any effect on the generation decisions at issue in this proceeding for two reasons. First, even if Kentucky won, it would not mean the demise of the Good Neighbor Plan. Second, EPA has other means of pursuing emission reductions from Kentucky—even while the litigation is pending—independent of the Good Neighbor Plan. Ms. Medine does not acknowledge either of these facts, which illustrates why the pending litigation in the Sixth Circuit does not merit any change in the Companies' plans.

Q. How might the Sixth Circuit litigation not impact the Good Neighbor Plan?

A. The issue in the Sixth Circuit litigation is the validity of EPA's disapproval of Kentucky's SIP, not the validity of the Good Neighbor Plan. Kentucky's key arguments against EPA's SIP disapproval are: (1) EPA relied on modeling produced after Kentucky issued its SIP and of which Kentucky had no notice; and (2) EPA's reliance upon a "significant contribution" threshold that is different from that used by Kentucky in developing its SIP. If Kentucky is right on these points, the likely result is a remand to EPA for application of

the correct procedure and use of the correct standard, not an order requiring EPA to approve the Kentucky SIP.

The result of EPA's review of the SIP on remand could result in EPA reaching the same conclusion again: disapproving the SIP and imposing the Good Neighbor Plan again based on the 1% "significance" threshold. (As noted above, EPA is proceeding with implementation of the Good Neighbor Plan in every state where it is not stayed.) Indeed, the stay order recently issued by the Sixth Circuit focused on the procedural issue raised by Kentucky, without suggesting that EPA could not reach the same result if it followed the notice and comment procedures faithfully. As the Court said:

> ***EPA may have valid policy reasons for continuing to evaluate upwind contribution at the one percent of its ambient air quality threshold***; nevertheless, "[t]he reasoned agency decision making that the [CAA] demands does not allow the EPA to keep moving the finish line." … "[A]gencies should provide regulated parties 'fair warning of the conduct [a regulation] prohibits or requires.'"[23]

Nothing in the Sixth Circuit's decision would prevent EPA from requiring states to use the 1% "significance" threshold if EPA could justify it and adopt it through rulemaking, nor does anything prevent EPA from using the same modeling again on remand if it can justify doing so and follows proper procedure.

For all these reasons, the Sixth Circuit litigation is not likely to have any effect on the generation decisions at issue in this proceeding.

[23] Commonwealth of Kentucky et al. v. EPA, Cir. Nos. 23-3216, 23-3225 (Doc. 39-2) (6th Cir., July 25, 2023) (hereinafter, "Order") at 7-8 found at 39 – Order Denying Motion to Transfer and Granting Motion to Stay.pdf (ky.gov). (emphasis added) (quoting *New York v. EPA*, 964 F.3d 1214, 1223 (D.C. Cir. 2020) and *Christopher v. SmithKline Beecham Corp.,* 567 U.S. 142, 156 (2012)).

Q. You testified that EPA has other means by which it could require Kentucky to achieve the same NOx emission reductions as those required by the Good Neighbor Plan. Please explain.

A. EPA has other powers under the CAA that it could use to require the same sort of emissions reductions from Kentucky that it seeks with the Good Neighbor Plan. For example, if the EPA determines that a SIP is inadequate under the CAA based upon its more recent modeling, EPA has the authority under the CAA to "require the State to revise the plan as necessary to correct such inadequacies" under what is colloquially referred to as EPA's "SIP call" authority.[24]

Both Kentucky and EPA acknowledged this provision in their stay briefing. Kentucky contends that a SIP call instead of SIP disapproval is mandatory when EPA relies on new modeling not available to the states.[25] In contrast, EPA contends that this is a "discretionary authority" that is "wholly distinct from EPA's mandatory duty to promulgate a FIP upon disapproval of a SIP submission."[26] Regardless of these differing views, both parties agree that the SIP call tool is available to EPA no matter how the pending case turns out. In fact, there is nothing that requires EPA to wait until resolution of the Sixth Circuit litigation before issuing a SIP call to Kentucky concerning compliance with the ozone NAAQS.

If one accepts EPA's sworn statements on the necessity of emission reductions from Kentucky (see above) – and there is no reason to question EPA's candor concerning its

[24] 42 U.S.C. § 7410(k)(5).
[25] Motion by the Commonwealth of Kentucky for a Stay Pending Review, Commonwealth of Kentucky et al. v. EPA (6th Cir. No. 23-3216, May 23, 2023 (hereinafter, "Kentucky Motion) at 8, found at DN 24 Motion for Stay Pending Review (with Exhibits).pdf (ky.gov).
[26] EPA Brief at 4 n.1.

objectives – then there is good reason to believe EPA would likely make use of the SIP call to pursue similar emission reductions if the Sixth Circuit litigation drags out (or if EPA loses). As noted above, implementation of the Good Neighbor Plan in 13 other states will begin in August 2023. If EPA proceeded with a SIP Call for Kentucky, it would tie any such proceeding to the same 2015 ozone NAAQS at issue in the Good Neighbor Plan and coordinate any requirements with the Good Neighbor Plan's compliance schedule.

Q. Is a SIP call EPA's only alternative to the Good Neighbor Plan for pursuing emission reductions from Kentucky?

A. No. Section 126 allows states to petition EPA to require emission reductions in other states that are contributing to their non-attainment problems, including any ozone non-attainment. Connecticut, New York, Maryland, and others involved in the Sixth Circuit litigation have recently used Section 126 petitions to pursue reductions in power plant emissions.[27] For example, New York and Maryland currently have Section 126 petitions pending before EPA that seek emission reductions from upwind states, including Kentucky.[28] Notably, the pending New York petition specifically alleges the Mill Creek and Ghent facilities are among those contributing to ozone nonattainment in New York.[29] EPA could act on these pending Section 126 petitions at any time. Given that New York and Maryland (and the other amici states) got involved in the Sixth Circuit litigation, they

[27] The State of New York, joined by Connecticut, Delaware, Maryland, Massachusetts, New Jersey, and the District of Columbia filed an amicus brief in support of EPA in the Sixth Circuit litigation brought by Kentucky. Brief for States of New York, et al. as Amici Curiae in Support of Respondents, Commonwealth of Kentucky et al. v. EPA (6th Cir. Nos. 23-3216, 23-3225, June 16, 2023) (Doc. 35) (hereinafter, State Amici Brief)

[28] See https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202304&RIN=2060-AV04 (NY petition pending reconsideration); https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202304&RIN=2060-AV05 (Maryland petition pending reconsideration).

[29] Petition of the State of New York Pursuant to Section 126 of the Clean Air Act: (Posted May 11, 2018) https://www.regulations.gov/document/EPA-HQ-OAR-2018-0170-0004

will likely pressure EPA to act on the Section 126 petitions if they worry about the direction that litigation is heading. Their concerns with Kentucky's emissions are not going away.

Q. Does Ms. Medine discuss how things would likely end up following a Sixth Circuit remand or the other ways that EPA can get the sought-after emission reductions in the meantime?

A. Not at all, and that is a fundamental flaw in her approach. Although Ms. Medine notes the "potential" demise of EPA's Good Neighbor Plan in the courts,[30] she completely overlooks the policy commitment EPA has made to reducing Kentucky's emissions, the likelihood that it would reach the same decisions on remand, and the other tools at EPA's disposal to achieve the same results. For all these reasons, none of the developments relating to the Good Neighbor Plan identified by Ms. Medine require a change in the Companies' plans.

Q. Given the stay of the Good Neighbor Plan in Kentucky, would it be prudent to delay retirement of Mill Creek 2 and Ghent 2 until the litigation concludes?

A. No. EPA has stated that the emission reductions associated with the Good Neighbor Plan are urgently needed.[31] EPA keyed the timing of these reductions to fixed deadlines established for achieving the 2015 ozone NAAQS and to the time needed for retrofit of SCR to achieve the needed reductions.[32] If challenges to the rule are unsuccessful, one can expect EPA to retain the Good Neighbor Plan compliance deadlines that fall after the date of the Court's decision, particularly the 2026 deadline for aggressive emission reductions using SCR. If those challenges are successful, one can expect EPA to act quickly on remand in order to reach the same point in 2026.

[30] Medine Testimony, page 6, line 7
[31] EPA Brief at 37-39, Birnbaum Decl. ¶¶ 11, 15, 16, 83, 87, 88, 94, 95 and 96 (discussed above).
[32] EPA Brief at 37-38.

Delaying the Companies' requested CPCN pending the results of litigation would therefore be imprudent. The results would be great uncertainty and unacceptable risk regarding the Companies' ability to maintain low-cost, reliable service, particularly during ozone seasons (i.e., summers) beginning in 2027.

Even if these deadlines could somehow be met despite a delay in the requested CPCN, the rest of EPA's regulatory agenda will not stand still. The Good Neighbor Plan is not the only regulatory requirement Mill Creek 2 and Ghent 2 face. Notwithstanding the Good Neighbor Plan's requirements, Mill Creek Unit 2 has entirely an independent and sufficient retirement justification. Emissions from Mill Creek Unit 2 are also subject to 2015 Ozone NAAQS local attainment standards determined by EPA and implemented by Louisville Metro Air Pollution Control District ("LMAPCD"), an air pollution control district created under KRS Chapter 77 and established by resolution of the Jefferson County Fiscal Court, now Louisville Metro. Responsibilities of LMAPCD include issuing and enforcing permits for sources of air pollution and monitoring the ambient air to ensure that it meets federal air quality standards. Mill Creek Unit 2 operates pursuant to a LMAPCD air permit.

The geographic area consisting of Bullitt, Jefferson, and Oldham counties in Kentucky and Clark and Floyd counties in Indiana ("Greater Louisville") is an EPA attainment area for purposes of air pollution emissions. Originally designated as a marginal non-attainment area for the 2015 Ozone NAAQS, the Greater Louisville failed to achieve attainment status by the August 31, 2021 attainment deadline and was redesignated by EPA as a moderate non-attainment area. LMAPCD applied to the EPA in September 2022 for a redesignation of the Greater Louisville area to be designated as achieving attainment

status (based on 2019-2021 air quality data). The redesignation request was based on LMAPCD's projections for maintaining attainment on NOx reductions from the retirement of Mill Creek Units 1 and 2.[33] But EPA indicated this June that the application will not be approved based on 2023 air quality data, keeping the Greater Louisville area in non-attainment status. As a moderate non-attainment area, the next deadline to achieve attainment is August 2024. If the Greater Louisville area does not reach attainment by this date, EPA will redesignate the area as serious non-attainment.

As of the filing of my testimony, currently available information indicates that the Greater Louisville area will not reach attainment by August 2024 (based on 2021-2023 air quality data), and EPA can be expected to redesignate the Greater Louisville area as serious non-attainment by the end of 2024. Mill Creek Unit 2 is the largest source of NOx in the Greater Louisville attainment area. Notwithstanding the litigation involving the Good Neighbor Plan, based on currently available information and past interactions with LMAPCD, LG&E fully expects LMAPCD to target further substantial emission reductions from Mill Creek Unit 2 going forward in order to achieve attainment status with the 2015 Ozone NAAQS by August 2024. LMAPCD and EPA have the authority to enforce such reductions as soon as practicable but no later than 2026. This is especially so given the General Assembly's resolutions directing LMAPCD to eliminate the use of reformulated gas requirement for purposes of achieving attainment of NAAQS standards.[34] This will likely reduce the Companies' ability to operate Mill Creek Unit 2 in the ozone season independent of any Good Neighbor Plan-related constraints, likely making physical

[33] 2022-09-02 Redesignation Request.pdf (ky.gov) at page 36.
[34] House Joint Resolution 37 directing the Energy and Environment Cabinet to adopt revisions to the state air quality implementation plan to remove the reformulated gas requirement for Jefferson County and applicable parts of Oldham and Bullitt Counties. (23RS HJR 37 (ky.gov))

compliance of some kind necessary in both the short term (likely through reduced ozone season operations) and the long term (through SCR, permanent ozone season non-operation, or retirement).

EPA's semi-annual regulatory agenda identifies a number of near-term regulatory changes that have the potential to drive retirement decisions for existing coal plants, including pending rulemakings for more stringent revised NAAQS for various pollutants, revisions to regional haze plans, new water discharge rules for power plants, new solid waste disposal rules for power plants.[35]

These additional regulatory initiatives have the potential to require the same result even absent the Good Neighbor Plan. Given EPA's declared policy objective of achieving emission reductions from sources in Kentucky and other states, it is reasonable to believe that EPA will continue to pursue these alternatives regardless of whether the Good Neighbor Plan is sustained by the courts or fails.

Q. Ms. Medine argues that because the Companies relied upon the proposed Good Neighbor Plan in determining their proposed resource portfolio, including unit retirements, the potential demise of that rule requires a change in plans. How do you respond?

A. Of the seven units the Companies propose to retire by 2028, the Good Neighbor Plan affects only two: Mill Creek Unit 2 and Ghent Unit 2. The other five proposed retirements, including Mill Creek Unit 1 and Brown Unit 3, have entirely independent and sufficient retirement justifications that the Companies' other witnesses have fully explained. And, as discussed above, Mill Creek Unit 2 has entirely an independent and sufficient retirement

[35] See https://www.reginfo.gov/public/do/eAgendaMain. A summary of these pending rulemakings is attached hereto as Appendix A.

justification due to LMAPCD's expected additional substantial emission reductions from Mill Creek Unit 2 in the Greater Louisville attainment area. Finally, as discussed above, EPA has other powers under the CAA that it could use to require the same sort of emissions reductions from Kentucky that it seeks with the Good Neighbor Plan.

Q. In sum, does the stay of the Good Neighbor Plan affect the prudence of the Companies' proposed resource portfolio from an environmental compliance perspective?

A. No, it does not for at least two reasons. First, even with the stay of the Good Neighbor Plan, there is no reason to expect any extension of any compliance deadline once these cases are resolved. Rather, given EPA's statements regarding the urgent need for these reductions described above, there is good reason to believe that compliance deadlines would not be changed significantly with the principal compliance requirements taking effect in the 2026-2027 timeframe.

Second, as I noted in my direct testimony, the Companies cannot depend upon the NOx allocation market to comply with the requirements of the Good Neighbor Plan.[36] Rather, the Companies would be required to self-comply with the Good Neighbor Plan, which means matching annual projected emissions with annual projected allocations.[37] The Good Neighbor Plan phases in emissions reductions consistent with SCR technology in the 2026-2027 ozone season. EPA states that this phase-in is necessary to give utilities the time necessary to install the required controls or pursue alternative strategies.[38] This is true for the Companies as well.

[36] Imber Direct Testimony at page 4, lines 11-18
[37] Id.
[38] EPA Br. at 35.

Q. Finally, the intervenors suggest that developments concerning the Good Neighbor Plan require revision to the Companies' analyses. How do you respond?

A. When it comes to the Companies' resource planning, none of the developments concerning the Good Neighbor Plan represent a material change. First, as I explained above, the differences between the Good Neighbor Plan as proposed and as finalized were not significant, and were largely incorporated already in the Companies' analyses.[39] Second, for the reasons stated above, the results of the Good Neighbor Plan litigation in the Sixth Circuit are not likely to change EPA's view on the need for emission reductions from Kentucky or to prevent EPA from obtaining them if it follows proper procedure. Third, those same emission reductions could be obtained by EPA via the SIP Call provisions in the statute or by the affected states under Section 126 of the Clean Air Act—no matter how the Sixth Circuit litigation plays out. At best, Ms. Medine asserts that there is only a "potential" that the Good Neighbor Plan does not survive. Whatever the odds of its survival may be, they do not outweigh the probability that EPA, the affected states, or both will take other actions to secure the same emission reductions from power plants in Kentucky over the same timeframe mandated by the NAAQS.

IV. NSPS GREENHOUSE GAS PROPOSAL

Q. EPA has also issued its New Source Performance Standards ("NSPS") greenhouse gas proposal since you delivered your direct testimony. Does anything in that proposal require different estimates for the cost of the natural gas combined cycle units ("NGCCs") proposed by the Companies as Ms. Medine contends?

[39] Response to AG Data Request 2-3.

A. No. EPA's greenhouse gas proposal does not undermine the Companies' cost estimated for the NGCC units in its CPCN. EPA in its proposal identifies hydrogen co-firing as the best system of emission reduction for intermediate load gas-fired electric generating units beginning in 2032. On that basis, EPA proposed a performance standard of 1,000 lbs. CO_2 per megawatt/hour for those units beginning in that year. According to Ms. Medine, the Companies failed to consider the costs of implementing hydrogen co-firing for intermediate load NGCCs.[40] But the New Source Performance Standards provisions of the CAA state that "nothing in this section shall be construed to authorize the Administrator to require . . . any new . . . source to install . . . any particular technological system of continuous emission reduction."[41] Rather, the CAA allows a source to comply with a new source performance standard using any means or technique that achieves compliance.[42]

As explained previously, the NGCCs at issue will be designed to meet the 1,000 lbs. CO_2 per megawatt/hour standard ***without*** hydrogen co-firing.[43] That the new NGCCs will likely be able to meet the 1,000 lbs. CO_2 per MWh standard without hydrogen co-

[40] Medine Testimony at pages 15-16.
[41] CAA section 111(b)(5).
[42] Consistent with these statutory provisions, EPA has acknowledged that new gas-fired units may manage their emissions in order to achieve compliance without utilizing hydrogen co-firing. "Additionally, to better capture emission rate requirements as a function of annual capacity factor, model plants were allowed to switch to lower utilization levels in subsequent years and no longer co-fire hydrogen even if they selected hydrogen co-firing in earlier run years." U.S. EPA, Integrated Proposal Modeling and Updated Baseline Analysis (Docket ID No. EPA-HQ-OAR-2023-0072) at 5.
[43] See PSC 1-98 (pdf page 176) ("The proposed new NGCC units are expected to have CO_2 emission rates of 119 lbs./MMBtu. This equates to 739 lbs./MWh based on a summer heat rate at maximum operating level.") and LFUCG 2-14 (pdf page 22) ("The New Source Performance Standard for the proposed new NGCC is 1,000 lbs CO_2 / gross MWh or 1,030 lbs CO_2 / net MWh on an annual basis. The annual CO_2 emissions rate is a function of the number of start-ups, the utilization of evaporative cooling, the utilization of duct firing, the load profile of the unit, and ambient conditions. The performance guarantees in the request for proposals will include the new source performance standard and a shorter-term guarantee of 116.98 lbs CO_2/MMBtu. Emissions rates for the proposed NGCC units were modeled at 119 lbs/MMBtu.").

firing is supported by the operating history of Cane Run Unit 7 (also an NGCC unit), which typically operates at an emission rate below 800 lbs. CO_2 per megawatt/hour.[44]

As a result, even if EPA's rule were finalized as proposed—and I note that the proposal asks for comment on a wide range of topics including the nature of the "best systems" of emission reduction for combustion turbines, the degree of emission limitation that is achievable with those systems, the dates by which those requirements should take effect, and so on—there would be no additional cost for air pollution controls to allow the NGCC units to comply with the proposed standard if operated as an intermediate load unit. Ms. Medine's contention that EPA's NSPS proposal requires the Companies' cost estimates to include hydrogen co-firing is simply wrong.

V. CONCLUSION

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

[44] Imber Direct Testimony at page 6.