

COMMONWEATH 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 AND)
SITE COMPATIBILITY)
CERTIFICATES AND APPROVAL OF A)
DEMAND SIDE MANAGEMENT PLAN)
AND APPROVAL OF FOSSIL FUEL-)
FIREED GENERATING UNIT)
RETIREMENTS)

CASE NO. 2022-00402

SIERRA CLUB'S REPLY BRIEF

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INTRODUCTION

At issue in this case is a sliver of LG&E/KU's extensive coal-fired generation portfolio. Brown 3, Ghent 2, Mill Creek 1, and Mill Creek 2 all are increasingly uneconomic for consumers, particularly in light of new environmental compliance requirements, and face ever stronger economic and legal headwinds. Additionally, these units are just getting old: they are all at or near the fifty to sixty years of life that a coal unit lasts under the most favorable of conditions. LG&E/KU customers deserve a planned transition to new future generation, to ensure affordability and reliability going forward in light of economic and legal realities.

LG&E/KU experienced rolling blackouts in winter 2022. As these proceedings have demonstrated, those blackouts were due in part to the failures of coal-fired generation—including one unit at issue here, Brown 3. Had LG&E/KU's coal-fired units not experienced significant correlated outages, LG&E/KU customers would not have lost power. Post-hearing data provided by LG&E/KU shows that coal-fired generation correlated outages are not an anomaly for the utility: the Companies have experienced significant forced outages for coal units during cold weather repeatedly, over the course of years. Moreover, for these four units the risk of mechanical failures and outages will only increase as they age. Geographic and portfolio diversity, not seeking to put ever more weight on aging units, is the solution to LG&E/KU reliability concerns. To this end, Sierra Club continues to urge the Commission to immediately open an independent investigation into whether RTO membership will benefit LG&E/KU customers.

Fundamentally, this case has not changed since opening briefs were filed. The Attorney General has attempted to introduce significant extra-record evidence, which should be rejected. And the Attorney General and Kentucky Coal Association have both misinterpreted provisions of K.R.S. § 278.264, the new retirement proceeding statute, to create retirement hurdles that do not exist. But retirement remains warranted, for the same fundamental reasons as before: affordability and

reliability for LG&E/KU customers. For the same reasons, the solar power and battery storage that LG&E/KU requests should be approved, but the two NGCCs should not. The excess capacity from two NGCCs is not needed for LG&E/KU customers, and an investigation into capacity savings from joining an RTO has the potential to obviate any capacity need that one 620-MW NGCC might fill for the Companies.

I. The Commission Should Approve the Proposed Retirements of Brown 3, Ghent 2, and Mill Creek 1 and 2.

A few of the parties in their initial briefs ask the Commission to reject the retirement of all of the coal units at issue (the Attorney General and Kentucky Coal Association) or one of them (KIUC). The Attorney General and Kentucky Coal Association essentially ask the Commission to ignore the declining economics, environmental regulation, and reliability risks facing Brown 3, Ghent 2, and Mill Creek 1 and 2, and require the Companies to operate these units for the long haul, no matter the costs and risks. Their hope that all environmental regulation might go away is akin to a gambler betting everything on drawing a royal flush, the best possible hand. The Companies and the Commission must plan for meeting LG&E/KU customers' needs on a range of future scenarios and at a reasonable cost, to responsibly ensure that customers receive reliable electricity at affordable rates. Brown 3, Ghent 2, and Mill Creek 1 and 2 are aging and facing enormous environmental headwinds. To protect consumers from these economic, legal, and reliability risks, the units should be retired as proposed. KIUC, rather than arguing that the Companies should install selective catalytic reduction ("SCR") technology on Ghent 2 and operate it for decades,¹ makes the narrower argument that the Companies should be required to operate Ghent 2 in non-ozon season until 2035. That suggestion would increase customers' costs and should likewise be rejected.

¹ See Kollen Dir. Test. at 6 ("... I recommend that the Commission direct the Companies to continue operating Ghent 2 either year-round with the addition of an SCR or during the seven non-ozon months without the addition of an SCR.").

The Commission should approve the retirements of Brown 3, Ghent 2, and Mill Creek 1 and 2 as proposed because those retirements are part of the least-cost, least-risk plan to serve customers' needs.

a. The Evidence Does Not Support KIUC's Suggestion that Ghent 2's Retirement Will Increase Costs for Customers.

In its initial brief, KIUC asserts that two elements of K.R.S. § 278.264—the requirements that a generating unit's retirement not harm customers through “incur[ring] any net incremental costs” and that “cost savings will result to customers” from the retirement—“will be violated” by the Ghent 2 retirement. KIUC Br. at 11-12. That statement is not supported by credible evidence, and the Commission should not deny retirement of Ghent 2 on this basis.

First, KIUC acknowledges that keeping Ghent 2 open during the seven-month non-ozone season “would *only* cost approximately \$6.5 million per year” for the period 2029-2035. KIUC Br. at 13 (emphasis added). But the Companies' modeling significantly risks understating the costs for non-ozone season operation. The Companies' modeling did not assume a 20% capacity factor limitation starting in January 2030, as will be required if the greenhouse gas performance standards are finalized as proposed. *See* Sierra Club Br. at 63-65. Further, as Sierra Club explained in our opening brief and as we explain again below, several other environmental requirements pose a risk of increasing Ghent 2's cost of operation outside ozone season, including EPA's proposed revision to the ELG Rule, if that unit is not retired as proposed. *See* Sierra Club Br. at 44 (SCR may be required at Ghent 2 under Section 126), at 49-52 (SO₂, NO_x, and particulate matter emission reductions at Ghent 2 may be required under the regional haze program), and at 54-60 (further ELG compliance costs required at Ghent 2). In any event, reducing system costs by \$6.5 million per year through Ghent 2's retirement indisputably meets the requirements for cost savings and no harm to ratepayers in § 278.264.

Second, KIUC speculates that off-system sales “*might* completely off-set the \$6.5 million added cost” of retaining Ghent 2 beyond 2028 for non-ozone season operations. KIUC Br. at 14 (emphasis added). KIUC’s speculation is based on comparing the Companies’ forecast of PJM on-peak energy market prices in 2025 to 2027 to the Companies’ projection of fuel cost for all of its coal units in 2030, plus an added cost for variable O&M that lacks any citation to the record. KIUC Br. at 14. Putting aside the mismatched temporal data and the lack of Ghent-specific fuel costs, KIUC’s math does not show a likelihood that off-system sales would in fact off-set the cost of retaining Ghent 2. Off-system sales do not occur based on yearly average costs and a three-year average of on-peak prices. Off-system sales, especially for a utility that does not belong to a regional transmission organization (“RTO”), must involve administratively finding a willing buyer at a specific price for a specified hour (or hours). KIUC’s math exercise also does not account for the issue that Ghent 2, like any coal unit, cannot be turned on with the flip of a switch to respond to an hourly price signal. There is no credible evidence that, at the hours Ghent 2 might be available, there would be a willing buyer at any particular specific price.

Next, KIUC speculates that Ghent 2 “*might* be part of a least-cost solution for Kentucky Power’s ratepayers.” KIUC Br. at 15 (emphasis added). KIUC provides no credible evidence to support this speculation, other than the fact that Kentucky Power is procuring generation. KIUC Br. at 15. Changing the ownership of Ghent 2, though, will not change the fundamental economics or environmental compliance risk facing that unit.² As KIUC acknowledges with respect to the other proposed coal retirements, “power plants with significantly reduced operating capabilities because of environmental restrictions provide less reliability, less resilience, and fewer economic benefits to customers.” KIUC Br. at 7. That fundamental reality does not change, regardless of which utility is

² See Hr. Video (Aug. 22, 2023) at 6:58:44-6:59:00 (Sierra Club cross-examination of Mr. Bellar) (acknowledging that RTO membership does not change the environmental compliance obligations facing Ghent 2).

responsible for Ghent 2 costs. Further, whether the Companies and Kentucky Power could reach an agreement that benefits both utilities' customers is pure speculation, and there is no such evidence in this case, in which Kentucky Power is not a party.

Last, KIUC makes the blanket assertion that the Companies “provided no evidence regarding how the value of the Ghent 2 asset could be maximized.” KIUC Br. at 15. This statement is false. The Companies modeled the installation of SCR on Ghent 2 and found retention of that unit not a reasonable part of a least-cost, least-risk system for their customers.³ Then, to address KIUC’s own recommendation, the Companies modeled the operation of Ghent 2 without an SCR to 2035 during non-ozone season, and again found that “the ... impact of operating the unit in just the non-ozone season through 2034 will always increase the [Present Value of Revenue Requirement], regardless of the fuel price scenario and [coal-to-gas] ratio.”⁴ Simply put, KIUC’s arguments should be rejected: the Companies have thoroughly explored options for retaining Ghent 2 and continue to find cost savings for their customers through this unit’s proposed retirement.

b. Mill Creek 1, Mill Creek 2, Brown 3, and Ghent 2 Should Be Retired Because They Are Increasingly Uneconomic and Face Significant Environmental Compliance Costs and Risk.

The Commission should approve the retirements of Mill Creek 1 and 2, Ghent 2, and Brown 3, notwithstanding the assertions of the Attorney General and Kentucky Coal Association. These units are increasingly uneconomical to operate and face significant capital and associated environmental compliance costs. Indeed, EPA’s final Good Neighbor Plan will require LG&E/KU to cease operating Mill Creek 1 and 2 and Ghent 2 from May through September every summer, or spend **\$346 million** to install selective catalytic reduction (“SCR”) equipment at all three units.⁵ And

³ See LG&E/KU Exh. SAW-1, Table 13.

⁴ Sinclair Reb. Test. at 12.

⁵ Corrected LG&E/KU Exh. SB4-1 (filed Sept. 8, 2023) (reflecting stay-open SCR capital costs for Mill Creek 1 and 2, and Ghent 2); Exh. SC-7 (outlining costs associated with EPA’s proposed wastewater

Brown 3 has the “highest operating costs” of any generation resource in the Company’s fleet and “will require a \$26 million overhaul in 2027 to operate safely beyond 2028.”⁶ To address those risks, the Companies evaluated numerous retrofit or replacement options, all of which demonstrate that retiring all four units is the least-cost, least-risk option for customers.⁷ And if additional, impending environmental compliance costs are considered—costs which LGE/KU did *not* include in their retirement or retrofit analysis—it is clear that retiring those units will save captive ratepayers hundreds of millions of dollars.

The Kentucky Attorney General opposes those retirements, but fails to meaningfully address, let alone refute, the Companies’ retirement analysis or the environmental risks facing Mill Creek 1 and 2, Ghent 2, and Brown 3. Instead, the Attorney General urges the Commission to essentially wish away EPA’s “ongoing” and “proposed” regulatory policies. Att’y Gen. Br. at 24. But hope is not a viable environmental compliance strategy,⁸ and the record makes clear that, one way or another, Mill Creek 1 and 2, Ghent 2, and Brown 3 will incur significant environmental compliance and carbon costs in coming years. To avoid unnecessarily passing those risks to captive ratepayers, the Commission should reject the Attorney General’s arguments and approve the retirement of Mill Creek 1 and 2, Ghent 2, and Brown 3, for several reasons.

First, although the Attorney General correctly points out that EPA’s Good Neighbor Plan is temporarily stayed pending litigation, Att’y Gen. Br. at 24, neither the Good Neighbor framework nor Kentucky’s obligation to reduce its contribution to downwind nonattainment is going away. As an initial matter, EPA’s Good Neighbor Plan is not a novel approach to dealing with interstate air

regulations); *see also* Supplemental Attachment to KCA-DR-4.5 (outlining potential costs associated with EPA’s proposed carbon regulations).

⁶ LG&E/KU Exh. SAW-1 at 4 of 104 (May 2023 Update).

⁷ *Id.* at 32 of 104.

⁸ *See* Sinclair Rebuttal Testimony at 2.

pollution.⁹ In fact, it is an extension of the same analytical framework and trading regime that has been in existence for more than 25 years,¹⁰ and which the Supreme Court has upheld as an “efficient and equitable” solution to the problem of interstate pollution. *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 519 (2014).

Moreover, the current judicial challenges are unlikely to result in the wholesale invalidation of the rule because Kentucky’s challenges are essentially procedural in nature. Indeed, as Mr. Imber explains,¹¹ Kentucky argues only that (1) the state had no notice of EPA’s updated modeling showing that Kentucky significantly contributes to failing downwind air quality, and must therefore reduce emissions, and (2) Kentucky would have preferred to use a different contribution threshold.¹² But if Kentucky prevails on those points, the Clean Air Act remedy is to remand the rule to EPA for further notice and comment, not invalidation. Although Kentucky advocates for a different contribution threshold, the U.S. Supreme Court previously upheld EPA’s use of that very same threshold. *EME Homer City Generation, L.P.*, 572 U.S. at 496. Moreover, Kentucky does not actually dispute that it exceeds *either* threshold with EPA’s updated modeling. Thus, while the ultimate rule may change slightly, “there is no question that EPA will continue to regulate” nitrogen oxide pollution to reduce downwind ozone pollution.¹³

Second, contrary to the Attorney General’s suggestion, the Supreme Court’s decision in *West Virginia v EPA*, 142 S. Ct. 2587 (2022), has no bearing on the validity of the Good Neighbor Plan.

⁹ Hr. Video (Aug. 25, 2023) at 3:33:48 - 3:34:43 (Sierra Club cross-examination of Mr. Imber).

¹⁰ Hr. Video (Aug. 25, 2023) at 3:32:45 - 3:34:50 (Sierra Club cross-examination of Mr. Imber); *see also* “Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals,” 76 Fed. Reg. 48,208 (Aug. 8, 2011); “CSAPR Update for the 2008 Ozone NAAQS,” 81 Fed. Reg. 74,504 (Oct. 26, 2016); “Revised CSAPR Update for the 2008 Ozone NAAQS,” 86 Fed. Reg. 23,054 (April 30, 2021); “Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule),” 70 Fed. Reg. 25,162 (May 12, 2005).

¹¹ Imber Reb. Test. at 7.

¹² *Id.*

¹³ Hr. Video (Aug. 25, 2023) at 3:34:40-45 (Sierra Club cross-examination of Mr. Imber).

In that case, the Supreme Court addressed a “narrow” question: whether EPA’s now-defunct “cap-and-trade” program for reducing carbon emissions—which effectively required sources to “shift” to cleaner forms of energy generation—was within the agency’s authority under Section 111(d) of the Clean Air Act. *Id.* at 2615-16. The Court concluded that it was not, based on Congress’s “conspicuous[]” and “repeated[]” decision declining to allow EPA to use such cap-and-trade programs as a “system of emission reduction” under Section 111(d). *Id.* at 2610. In so holding, however, the Court noted that “Congress went out of its way to amend the NAAQS statute to make absolutely clear” that EPA “could use” cap-and-trade programs to ensure compliance with the National Ambient Air Quality Standards under Section 110(a)(2) of the Clean Air Act. *Id.* at 2615. And that is precisely what the Good Neighbor Plan does. Thus, *West Virginia* does not suggest any “curtailment” of EPA’s authority: it does the opposite, and makes clear that the Good Neighbor Plan fits comfortably within the agency’s authority to protect downwind air quality.

Moreover, the Attorney General’s speculation about the outcome of potential, future challenges to EPA’s carbon regulations does not support continuing to operate LG&E/KU’s already uneconomical coal units. Unlike the generation-shifting, cap-and-trade regulations at issue in *West Virginia*, the agency’s recently-proposed unit-specific carbon reduction requirements fit comfortably within the agency’s authority under Section 111(d). Indeed, the Court made clear that “source-specific” measures that “plants could undertake to burn coal more cleanly” are “similar in kind to those that EPA had previously identified as the [best system of emission reduction] in other Section 111 rules,” *id.* at 2593, and therefore permissible. As explained in Sierra Club’s opening brief, EPA’s recently proposed, statutorily required CO₂ emission limits would require existing coal-burning EGUs, like Mill Creek 1 and 2, Ghent 2, and Brown 3, to reduce their individual emissions according to unit-specific operations. While the stringency of EPA’s carbon regulations may ultimately change, the agency’s obligation to impose meaningful CO₂ emission limitations at existing

units like Mill Creek 1 and 2, Ghent 2, and Brown 3 is *not* going away.¹⁴ And it would be risky to customers to continue spending millions of dollars on those already uneconomic units based on the remote possibility that a future Supreme Court might override its own precedent, and invalidate the same kinds of “basic, source-focused” pollution reduction measures that the Court has previously upheld. *West Virginia*, 142 S. Ct. at 2611 n.2.

Finally, contrary to the Attorney General’s suggestion, it would actually be “foolish” for the Commission or Companies to *ignore* the mounting environmental and capital cost risks at Mill Creek 1 and 2, Ghent 2, and Brown 3. Att’y Gen. Br. at 25. As noted, EPA’s Good Neighbor Plan will require LG&E/KU to cease operating Mill Creek 1 and 2 and Ghent 2 from May through September every year, or spend \$346 million to install SCR pollution control technology at those units.¹⁵ And Brown 3 “will require a \$26 million overhaul in 2027 to operate safely beyond 2028.”¹⁶ But even if the Good Neighbor Plan were invalidated (which, as discussed, is unlikely), Mill Creek 1 and 2, Ghent 2, and Brown 3 would—and will—face a suite of additional and independent EPA regulations that will impose the same or even greater costs.

¹⁴ Under the Clean Air Act, EPA must review and, if appropriate, revise its CO₂ emission standards for new EGUs at least every eight years, 42 U.S.C. § 7411(b)(1)(B); and under section 111(d), EPA must likewise establish emission guidelines covering “any existing source for any air pollutant” when it establishes new source standards, 42 U.S.C. § 7411(d)(1). EPA last promulgated CO₂ performance standards for new fossil fuel-fired EGUs on October 23, 2015, 80 Fed. Reg. 64,510 (Oct. 23, 2015), and therefore the agency has a statutory duty to review and update those standards by October 23, 2023.

¹⁵ LG&E/KU Exh. SAW-1 at 4 of 104 (May 2023 Update); Corrected LG&E/KU Exh. SB4-1 (filed Sept. 8, 2023) (reflecting stay open SCR capital costs for Mill Creek 1 and 2, and Ghent 2); Exh. SC-7 (outlining costs associated with EPA’s proposed wastewater regulations); *see also* Supplemental Attachment to KCA-DR-4.5 (outlining potential costs associated with EPA’s proposed carbon regulations).

¹⁶ LG&E/KU Exh. SAW-1 at 4 of 104 (May 2023 Update).

1. Mill Creek 1 and 2

As explained in Sierra Club’s opening brief, Sierra Club Br. at 42-49, even if the Good Neighbor Plan were invalidated or did not ultimately require Mill Creek 1 and 2 to install SCR technology, the Clean Air Act’s independent Section 126, “reasonably available control technology,” or regional haze provisions will likely require the *very same* controls, at a cost of \$220 million.¹⁷ Moreover, installation of controls to comply with the regional haze program cannot be avoided by operating the Mill Creek units only seasonally, as some intervenors have suggested. And if Jefferson County is ultimately designated as being in nonattainment for EPA’s proposed revisions to the national particulate matter air standards, sources within the metro area, including Mill Creek 1 and 2, will be required to install and operate reasonably available control technology for particulate matter, thereby increasing the cost to operate those units.¹⁸

And even were Mill Creek to somehow avoid SCR requirements altogether, those units will still continue to incur costs to comply with the still-effective Cross State Air Pollution Rule, EPA’s good neighbor rule governing interstate ozone pollution under the 2008 ozone NAAQS. Those costs are significant. As explained in Sierra Club’s opening brief, assuming recent emissions and NOx allowance prices under the CSAPR program, the continued operation of Mill Creek 1 and 2 could each “easily” require approximately \$4.5 million annually, “if not more.”¹⁹ Thus, regardless of the implementation of the Good Neighbor Plan, the operation of Mill Creek 1 and 2 is “absolutely” going to continue to be limited by the still-effective CSAPR program,²⁰ and will expose Kentucky customers to significant costs.

¹⁷ See Corrected LGE Ex. SB4-1 (filed Sept. 8, 2023) (reflecting stay-open SCR capital costs for Mill Creek 1 and 2).

¹⁸ Hr. Video (Aug. 25, 2023) at 4:36:00 - 4:37:03 (Sierra Club cross-examination of Mr. Imber).

¹⁹ Hr. Video (Aug. 25, 2023) at 3:38:00-3:39:20 (Sierra Club cross-examination of Mr. Imber).

²⁰ Hr. Video (Aug. 25, 2023) at 3:39:20-3:40:05 (Sierra Club cross-examination of Mr. Imber).

Even if Mill Creek 1 and 2 were not facing cost-prohibitive Clean Air Act compliance risks, the continued operation of each unit also risks requiring up to \$23 million in retrofit costs to comply with the Clean Water Act’s pollution discharge limitations.²¹ Moreover, continuing to operate Mill Creek 1 and 2 has the potential to require up to \$25 million in retrofits to comply with EPA’s separate and independent cooling water rules under the Clean Water Act.²²

Finally, as explained in Sierra Club’s opening brief, LG&E/KU’s May 2023 retirement analysis establishes that installing SCR technology at Mill Creek 1 or 2 and operating either through the end of the 2050 analysis period is *never* lower cost than retiring and replacing either unit.²³ Thus, even assuming that those units can operate until 2050 without any carbon compliance costs, retrofitting the Mill Creek units with SCR would cost more than retiring and replacing them. EPA’s cost analysis, however, demonstrates that installing carbon capture and sequestration (“CCS”) technology—which would be required under EPA’s recently-proposed carbon regulations to operate the units past 2030—would cost \$34-\$35 per ton of CO₂ removed, even with anticipated federal tax credits.²⁴ In short, there is no plausible scenario where continuing to operate Mill Creek 1 or 2 is the least-cost option for LG&E/KU customers.

²¹ Imber Rebuttal at 14; Aug. 25, 2023 Hr’g Tr. at 5:40:02 - 5:54:49 (Imber Cross); Corrected LG&E?KU Exh. SB4-1 (filed Sept. 8, 2023) (reflecting stay-open SCR capital costs for Mill Creek 1 and 2, and Ghent 2); *see also* Exh. SC-7 at 16 and 45 (EPA Memorandum, Generating Unit-Level Costs and Loadings Estimates by Regulatory Option for the 2023 Proposed Rule – DCN SE10381, EPA Docket No. EPA-HQ-OW-2009-0819-9686).

²² Corrected LGE Ex. SB4-1 (filed Sept. 8, 2023) (reflecting stay-open SCR capital costs for Mill Creek 1 and 2, and Ghent 2), <https://psc.ky.gov/pscecf/2022-00402/duncan.crosby%40skofirm.com/09082023123535/05 -- Clean Corrections to Page 26 of Exhibit SB4-1 -- Fossil Fuel Retirement Assessment.pdf>.

²³ LG&E/KU Resp. to Staff 5-2 at 9 of 22; *see also* 2022 Resource Assessment at 26 (May 2023 Update to SAW-1), Attachment 2 to Response to JI-2 Question No. 60(a). *Id.* at 9.

²⁴ 88 Fed. Reg. 33,240, 33,359 (May 23, 2023); EPA Doc. EPA-HQ-OAR-2023-0072-0061_attachment_3, which can be found at https://downloads.regulations.gov/EPA-HQ-OAR-2023-0072-0061/attachment_3.xlsx. At the hearing in this matter, the Commission took administrative notice of EPA’s cost calculations. Hr. Video (Aug. 25, 2023) at 6:52:50-55.

2. Ghent 2

Like Mill Creek 1 and 2, Ghent 2 faces significant environmental compliance costs, independent of the Good Neighbor Plan. Indeed, even if the Good Neighbor Plan is vacated, the Clean Air Act’s wholly independent Section 126, “reasonably available control technology,” and regional haze provisions will likely require the Companies to spend \$126 million to install and continuously operate SCR technology at Ghent 2.²⁵ And even if Ghent 2 were to avoid SCR installation requirements altogether, the unit would continue to incur costs—on the order of \$4.5 million annually—to comply with the still-effective Cross State Air Pollution Rule. And like Mill Creek 1 and 2, Ghent 2 is facing several million dollars in retrofit costs to comply with the Clean Water Act’s pollution discharge limitations.²⁶

Moreover, as with the Mill Creek units, LG&E/KU’s May 2023 analysis demonstrates that installing an SCR on Ghent 2 is more expensive than retiring the unit unless Ghent 2 can continue to operate until “at least 2049—all assuming no CO₂ pricing or other constraint.”²⁷ But EPA’s proposed 111(d) rule, if finalized, makes clear that Ghent 2 *cannot* operate until 2049 without installing CCS technology.²⁸ In light of EPA’s analysis showing that CCS at Ghent 2 would cost \$26 per ton removed (even when accounting for the Inflation Reduction Act’s tax credits), retrofitting Ghent 2 to add SCR technology would be more expensive than retiring the unit under all scenarios. Like Mill Creek, there is no reasonably likely scenario where continuing to operate Ghent 2 is the

²⁵ Imber Reb. Test. at 10-14.

²⁶ Imber Reb. Test. at 14; Aug. 25, 2023 Hr’g Tr. at 5:40:02 - 5:54:49 (Imber Cross); Corrected LGE Ex. SB4-1 (filed Sept. 8, 2023) (reflecting stay open SCR capital costs for Mill Creek 1 and 2, and Ghent 2); *see* Exh. SC-7 at 16 and 45 (EPA Memorandum, Generating Unit-Level Costs and Loadings Estimates by Regulatory Option for the 2023 Proposed Rule – DCN SE10381, EPA Docket No. EPA-HQ-OW-2009-0819-9686).

²⁷ *See* 2022 Resource Assessment at 26 (May 2023 Update to SAW-1), Attachment 2 to Response to JI-2 Question No. 60(a).

²⁸ LG&E/KU Resp. to Staff 5-2 at 8 of 22.

least cost option for Kentucky customers. As discussed above, KIUC's assertions to the contrary are simply inaccurate.

3. **Brown 3**

Although Brown 3 may not be required to install new pollution control technology under the Good Neighbor Plan, it is already “the Companies’ coal unit with the highest operating costs and will require a \$26 million overhaul in 2027 to operate safely beyond 2028.”²⁹ Thus, any additional costs will only make the continued operation of that unit more unfavorable (i.e., costly), relative to retirement.

As explained in Sierra Club’s opening brief, Brown 3 faces significant environmental compliance risks. Under EPA’s regional haze program, Brown 3 risks being required to reduce SO₂ emissions. Although Brown 3 has a flue gas desulfurization system, the unit’s emission rate is typically twice as much as EPA has deemed presumptively reasonable, and six times the rate that modern flue gas desulfurization systems are capable of achieving. *See* Sierra Club Br. at 51. Although the cost to upgrade Brown 3’s SO₂ pollution controls are uncertain, LG&E/KU Witness Imber conceded that the unit would likely face additional costs if it were required to reduce emissions under the Regional Haze Rule. Brown 3 is also facing millions of dollars in retrofit costs to comply with the Clean Water Act’s pollution discharge limitations.³⁰

And, as with the Mill Creek and Ghent units, EPA’s proposed 111(d) rule, if finalized, makes clear that Brown 3 *cannot* operate past 2030 without reducing CO₂ emissions; the cost of installing CCS technology at Brown 3 could be as high as \$31 per ton, even when accounting for the Inflation

²⁹ LG&E/KU Exh. SAW-1 at 4 of 104 (May 2023 Update).

³⁰ Imber Reb. Test. at 14; Aug. 25, 2023 Hr’g Tr. at 5:40:02 - 5:54:49 (Imber Cross); Corrected LG&E/KU Exh. SB4-1 (filed Sept. 8, 2023) (reflecting stay open SCR capital costs for Mill Creek 1 and 2, and Ghent 2); *see* Exh. SC-7 at 16 and 45 (EPA Memorandum, Generating Unit-Level Costs and Loadings Estimates by Regulatory Option for the 2023 Proposed Rule – DCN SE10381, EPA Docket No. EPA-HQ-OW-2009-0819-9686).

Reduction Act’s tax credits. Thus, like the other coal units at issue in this proceeding, there is essentially no scenario where continuing to operate Brown 3 is economically and legally viable.

4. Summary of Environmental Risks for Mill Creek, Ghent, and Brown

As discussed in Sierra Club’s opening brief, while there may be some uncertainty over the precise costs for Mill Creek, Ghent, and Brown to comply with future environmental regulations, it is *not* reasonable to assume that the Companies can continue operating those units indefinitely with *zero* environmental compliance costs. Just as the Good Neighbor Plan will impose costs on the continued operation of LG&E/KU’s coal units, these other rules are also expected to have moderate to significant impacts on the costs of operating Mill Creek 1 and 2, Ghent 2, and Brown 3, and therefore have the potential to independently “drive” retirement decisions.³¹ Further, the costs of complying with some of these regulations were *not* included in LG&E/KU’s modeling, and including these costs only increases the benefits to customers of retiring the units as proposed. In other words, regardless of the fate of the Good Neighbor Plan, Mill Creek 1 and 2, Ghent 2, and Brown 3 cannot continue to operate without significant costs to consumers—costs that could be avoided by retiring those units.

Table 1. Summary of Additional Environmental Compliance Risks for Mill Creek 1, Mill Creek 2, Ghent 2, and E.W. Brown 3 (\$Millions).

Technology	Rule(s)	Timeline	Mill Creek 1	Mill Creek 2	Ghent 2	E.W. Brown 3
Continued \$/ton NOx	CSAPR	Ongoing	\$4.5	\$4.5	\$4.5	
Selective Catalytic Reduction (SCR)	-Good Neighbor Plan ³² -Clean Air Act Section 126	2026, no later than 2028	\$110	\$110	\$126	

³¹ Imber Reb. Test. at 14.

³² Ex. SAW-1 at 4 of 104; *see also* Corrected LGE Ex. SB4-1 (filed Sept. 8, 2023) (reflecting stay-open SCR capital costs for Mill Creek Unit 1, Mill Creek Unit 2, and Ghent Unit 2).

	-2008 ozone NAAQS -2015 ozone NAAQS -Regional Haze -PM _{2.5} NAAQS					
Flue Gas Desulfurization (FGD)	-Regional Haze -PM _{2.5} NAAQS				Potential costs to achieve modern SO ₂ emission rate ³³	
Bottom ash, FGD, leachate elimination	2020 Clean Water Act: Effluent Limitations Guidelines ³⁴	2023	\$8			
	2023 Proposed Limitations ³⁵	2029	\$9.2	\$6.5	\$1.8	
Cooling water retrofits	Clean Water Act: Section 316b ³⁶	2026	\$25			
Carbon Capture and Sequestration ³⁷	Clean Air Act: Section 111(d)	2030	\$34/ton	\$35/ton	\$26/ton	\$31/ton

³³ Aug. 25, 2023 Hr'g Tr. at 5:24-26 (Imber Cross).

³⁴ Corrected LGE Ex. SB4-1 (filed Sept. 8, 2023), https://psc.ky.gov/pscecf/2022-00402/duncan.crosby%40skofirm.com/09082023123535/05_-_Clean_Corrections_to_Page_26_of_Exhibit_SB4-1_-_Fossil_Fuel_Retirement_Assessment.pdf.

³⁵ See Ex. SC-7 at 11, 16 (EPA estimates that the costs to eliminate flue gas desulfurization wastewater at Mill Creek Unit 1 would be approximately \$6 million under the 2023 preferred alternative, and \$2.5 million at Unit 2); *Id.* at 45 (EPA estimates the cost to comply with the proposed discharge limitations for leachate wastewater will be approximately \$3.2 million at Unit 1 and \$3.9 million at Unit 2); *Id.* at 32 (EPA estimates the cost to eliminate bottom ash wastewater at Ghent Unit 2 will be approximately \$1.8 million under the preferred alternative).

³⁶ Corrected LGE Ex. SB4-1 (filed Sept. 8, 2023), https://psc.ky.gov/pscecf/2022-00402/duncan.crosby%40skofirm.com/09082023123535/05_-_Clean_Corrections_to_Page_26_of_Exhibit_SB4-1_-_Fossil_Fuel_Retirement_Assessment.pdf.

³⁷ All costs include the Inflation Reduction Act's 45Q Credit.

c. LG&E/KU's Coal-Fired Generation Was One Source of Rolling Blackouts During Winter Storm Elliott, Suffers from Correlated Outages, and Is Not the Solution to Reliability Concerns.

Contrary to the Attorney General's and the Kentucky Coal Association's assertions,³⁸ coal-fired generation had significant failures during Winter Storm Elliott and was one cause of LG&E/KU's rolling blackouts. As discussed repeatedly at the hearing in this case and as documented in Sierra Club's opening brief, Sierra Club Br. at 71-76, LG&E/KU had rolling blackouts due to a 317-MW shortfall. At that time, 822 MW total of coal-fired generation was offline due to mechanical failures, 390 MW of those due specifically to cold weather. Had this coal-fired generation that was unavailable due to mechanical failures—due to unreliability—instead been available, LG&E/KU would not have had rolling blackouts.

The Attorney General's statement that “[t]he freezing of a single valve, on a single gas transportation main, forced the rolling blackouts,” Att’y Gen. Br. at 20, does not provide a complete picture of the *three* causes of rolling blackouts: coal-fired generation failures, gas-fired generation failures, and LG&E/KU's inability to access power from a regional transmission organization. Had any one of these three events not occurred, including better performance of coal-fired generation during the winter weather, LG&E/KU's customers would not have lost power. In fact, roughly the same amount of coal-fired generation as gas-fired generation was offline when customers were without power. *See* Sierra Club Br. at 71-76. *All* fossil fuel-fired generation failed Kentuckians during Winter Storm Elliott—including coal.

Currently, LG&E/KU's capacity is roughly 80% coal-fired generation. And LG&E/KU's coal-fired units—including the coal units at issue in this case—are aging. As LG&E/KU Witness Sinclair explained, a “typical life” for a coal unit is fifty to sixty years.³⁹ LG&E/KU's aging coal

³⁸ Att’y Gen. Br. at 20-21; Ky. Coal Ass’n Brief at 9-10.

³⁹ Hr. Video (Aug. 28, 2023) at 1:12:15 (10:16 AM) (Ky. Coal Ass’n cross-examination of Mr. Sinclair).

plants require more maintenance as they reach the end of their life cycles.⁴⁰ Brown 3 is 52 years old; Mill Creek 1 is 51; Mill Creek 2 is 49; Ghent 2 is 46.⁴¹ It is unlikely that the Companies will be able to count on these four aging units' 1,499 MW of winter capacity⁴² in future weather events that place extreme stress on the Companies' system. In fact, Winter Storm Elliott demonstrates the danger in doing so. Brown 3 was derated by 62 to 76 MW due to non-weather-related mechanical issues, specifically excess slagging due to combustion process instrumentation failures, at the Companies' time of peak need.⁴³ Brown 3's mechanical failures equaled roughly 20% of the 317 megawatts that the Companies needed to prevent or to cushion the blow of rolling blackouts. By December 25, Brown 3 was offline completely.⁴⁴ Had that happened just two days earlier, the Companies would have had an additional 354 missing megawatts, causing more LG&E/KU customers to lose power.⁴⁵ With all four units at issue in these proceedings currently in the terminal stage of their life cycles, roughly 1,500 MW of the Companies' winter capacity is now or will shortly be an uncertain provider in times of need. As LG&E/KU witnesses have repeatedly stated in these proceedings, "hope is not a strategy"; nor is wishful thinking.

The uncertainty of generation under stress from these units near the end of their mechanical life cycles is all the more problematic in light of LG&E/KU's own data on correlated outages. As we outlined in our opening brief, the Companies' post-hearing data shows very high levels of forced outages on days with extreme winter weather. Sierra Club Br. at 77-79. Moreover, that post-hearing data shows significant forced outages of *coal* generation due to cold weather in 2014, 2015, 2018, and

⁴⁰ *Id.*

⁴¹ LG&E/KU Exh. SB4-1 at 6.

⁴² *Id.*

⁴³ Hr. Video (Aug. 22, 2023) at 5:44:00 (2:35 PM) (Sierra Club cross-examination of Mr. Bellar).

⁴⁴ Hr. Video (Aug. 22, 2023) at 6:19:15 (3:11 PM) (Sierra Club cross-examination of Mr. Bellar).

⁴⁵ LG&E/KU Exh. SB4-1 at 6 (Brown 3's winter capacity is 416 MW). This calculation presumes a 62 MW derate on December 23, the lower end of the Brown 3 derates prior to going offline completely on December 25.

2022. In 2014, 29% of cold weather outages (980 MWh) were outages of coal-fired generation; in 2015, 42% (2,273 MWh); and in 2018, 70% (1,314 MWh).⁴⁶ **In 2022, the year that LG&E/KU had rolling blackouts, 57% of forced outages during cold weather were forced outages of coal generation (4,131 MWh).**⁴⁷ Coal is, plainly, a significant component of LG&E/KU's problem of correlated outages in extreme weather.

Keeping lights on for LG&E/KU customers during extreme weather thus requires more nimble solutions—geographic and portfolio diversity—in light of the challenges faced by LG&E/KU's aging, coal-heavy system. The continued operation of Mill Creek 1 and 2, Brown 3, and Ghent 2 does not provide these benefits and is not a solution to LG&E/KU's reliability concerns, particularly given the significant risk of correlated outages in extreme weather as these units continue to age. Further, as explained in our opening brief, Winter Storm Elliott demonstrates the reliability benefits of RTO membership for Kentucky customers. Sierra Club Br. at 96-98. LG&E/KU and TVA customers faced rolling blackouts, but PJM customers did not. The differing experiences of Kentucky utility customers during Winter Storm Elliott, and particularly LG&E/KU's load shed, provides significant reason to open the investigation into RTO membership that Sierra Club has requested. *Id.* at 112-114.

II. Pursuant to Kentucky Regulation, the Commission Cannot Consider the Many Extra-Record Documents that the Attorney General Attempts to Silently Introduce.

The Attorney General makes many factual assertions and references to documents that are not a part of the voluminous record in these proceedings; the Commission cannot consider any such documents, which constitute improper evidence introduced after the close of testimony. 807 KAR

⁴⁶ LG&E/KU Resp. to Sierra Club Post-Hearing Data Request 1(c) (attachment).

⁴⁷ *Id.*

5:001, § 11(4) provides: “Unless so ordered by the commission, the commission shall not receive in evidence or consider as part of the record a book, paper, or other document for consideration in connection with the proceeding after the close of testimony.” As the Commission has previously explained, “To the extent that a party in its brief refers to or quotes from a document that is located outside the record after the close of testimony, it is seeking to introduce a portion of that document into the closed record.”⁴⁸ Where a party has quoted documents not part of the record in its post-hearing brief, the Commission has held, the party runs afoul of § 11(4).⁴⁹ Such material cannot be considered: the Commission has stricken portions of a post-hearing brief that “sought to introduce evidence after the close of testimony.”⁵⁰

The Attorney General had ample opportunity to introduce into the record of this case, and submit for evidentiary testing, the sources that the Office belatedly proffers in the post-hearing brief for factual assertions. For example, the Attorney General quotes a statement by a Manhattan Institute faculty fellow on the merits of renewable energy technology. Att’y Gen. Br. at 13 n. 25. This individual did not testify in these proceedings, and this statement was not otherwise entered into evidence to be subject to evidentiary testing from all parties. The Commission therefore cannot and should not consider it.

Many citations in the Attorney General’s brief are citations to documents not in the record. Pursuant to 807 KAR 5:001, § 11(4), the Commission cannot consider any of them. These citations that cannot be part of the Commission’s deliberations include, but are not limited to, citations to:

- A Fox News article and an article from Mining.Com, Att’y Gen. Br. at 6 n. 7;

⁴⁸ *In re Application of Jessamine-South Elkhorn Water District for a Certificate of Public Convenience and Necessity to Construct and Finance a Waterworks Improvement Project Pursuant to KRS 278.020 and 278.300*, Case No. 2012-00470 (Ky. PSC Apr. 30, 2013), at 2-3.

⁴⁹ *Id.* at 3.

⁵⁰ *Id.* at 5.

- A Mining Review article and a Daily Caller article, Att’y Gen. Br. at 7 n. 9;
- A CNN article, Att’y Gen. Br. at 7 n. 11;
- A Wall Street Journal article and an OilPrice.com article, Att’y Gen. Br. at 7 n. 12;
- A National Rural Electric Cooperative Association webpage, Att’y Gen. Br. at 8 n. 16;
- A Manhattan Institute faculty fellow’s statement, Att’y Gen. Br. at 13 n. 25, 14 n. 29, and 14 n. 30;
- An E&E News article, Att’y Gen. Br. at 15 n. 33;
- A Utility Dive article, Att’y Gen. Br. at 15 n. 35;
- A Politico article, Att’y Gen. Br. at 15 n. 36;
- Testimony of the president and CEO of NERC before the United States Senate Committee on Energy and Natural Resources, Att’y Gen. Br. at 16 n. 38 and accompanying text;
- Testimony of FERC Commissioners before the U.S. Senate Energy and Natural Resources Committee, Att’y Gen. Br. at 17 nn. 40-41 and accompanying text;
- A report titled “Energy Transition in PJM, Resource Retirements, Replacements & Risks,” Att’y Gen. Br. at 42 & accompanying text.

The brief cites much more extra-record evidence.⁵¹ None of it may be considered by the Commission. And the Attorney General’s associated statements, untethered to any factual evidence, should carry no weight with the Commission in its decisional process.

⁵¹ Sierra Club can provide a list of all citations to extra-record evidence in the Attorney General’s brief but believes this suffices to make the point.

III. Solar Generation and Battery Storage are Dispatchable Under K.R.S. § 278.264(2)(a)(1).

In any case, and particularly with the extra-record citations stripped from the Attorney General's brief, the Attorney General's fact-free assertions about renewable generation should carry no weight with the Commission. For example, at one point the Attorney General asserts—with no citation—that “Kentucky’s climate is not conducive to sustained, high capacity solar or wind generation, thus making these resources less cost-competitive and less reliable.” Att’y Gen. Br. at 16. There is no evidence in the record to support that proposition. Again, the Attorney General had numerous opportunities to introduce such evidence were the statement true. Moreover, a majority of RFP responses that the Companies received “were for solar PPAs or solar PPAs with battery storage options.”⁵² This result would be highly unlikely if Kentucky’s climate in fact did not support high-capacity solar generation.

The Kentucky Coal Association’s definition of “dispatchable” is overly limiting: “dispatchable” encompasses solar generation and battery storage. As explained in Sierra Club’s opening brief, Sierra Club Br. at 15-17, although the dispatchability requirement rules out such generation sources as behind-the-meter solar panels, where generated power cannot be sent by the utility to other customers, dispatchability plainly does not rule out resources that generate or store power that the utility then sends to other customers. If the legislature had sought to require fossil fuel-fired generation to be replaced only with fossil fuel-fired resources, it plainly could have said so. *See* K.R.S. § 278.264 (repeated use of the phrase “fossil fuel-fired”). Similarly, if the legislature

⁵² Wilson Dir. Test. at 11:3-4.

wanted fossil fuel-fired generation to be replaced with what are sometimes referred to as “firm” or “firm dispatchable” rather than “intermittent” resources, it could have done so.⁵³

The legislature chose to require, instead, that the replacement generating capacity “is dispatchable.” K.R.S. § 278.264(2)(a)(1). Again, that definition is meaningful: it rules out generating capacity such as behind-the-meter solar (or any type of behind-the-meter generation, from wind to nuclear reactors) where the power generated cannot be sent by the utility to the broader electric grid. But, as both PJM’s definition and the definition of the Indiana Utility Regulatory Commission indicate, “dispatchable” has the technical meaning in common industry usage of “can follow dispatch instructions between economic minimum and economic maximum.”⁵⁴ Technical terms in Kentucky statutes are given their technical meaning. § 446.080(4). That definition of dispatchability plainly encompasses any source that provides such power to the broader electric grid, regardless of the fuel used. As the Companies suggest, *any* fuel source and *any* generating unit may be temporarily unavailable—gas (or coal) may not arrive, or the sun may not be out, or the unit may experience a mechanical failure.⁵⁵ Again, the legislature did not use terms such as “intermittent” or “fossil fuel-fired” in delineating the dispatchability requirement, terms that would have more strongly indicated an intent to disfavor renewable rather than behind-the-meter generation.

Further, “dispatchable” in § 278.264(2)(a)(1) encompasses battery storage, for very similar reasons: the common technical interpretation within the industry is that batteries are dispatchable capacity sources. As Joint Intervenors Witness John Wilson explains, “industry practice is to recognize the contribution of battery storage to reliability as a capacity asset,” and there is no

⁵³ See Hr. Video (Aug. 23, 2023) at 8:02:30 (Sierra Club cross-examination of Mr. Stuart Wilson) (Mr. Wilson discussing the difference between “dispatchable intermittent resources” and “non-dispatchable intermittent resources”).

⁵⁴ LG&E/KU Exh. SB4-1 at 7 (quoting PJM Glossary and Indiana Utility Regulatory Commission, both of which share the same definition).

⁵⁵ *Id.* (“[A] functioning solar facility in full sun and a combustion turbine that is online and has adequate fuel supply and pressure are equally dispatchable . . .”).

meaningful distinction between the dispatchability of energy from battery storage and the dispatchability of energy not stored in a battery.⁵⁶ In fact, “from a strictly technical point of view, batteries do generate electricity through chemical processes” because “[e]lectricity cannot truly be stored in the same way that water or vegetables may be stored in a container for future use.”⁵⁷ The capacity contribution of battery “storage” to the grid and its function in the system in the same way as sources of generation based on independent fuels—dispatching, or sending, electricity—mean that batteries too are dispatchable within the meaning of § 278.264.

The Attorney General and Kentucky Coal Association argue that a public comment in this litigation by a single state senator, months after the enactment of §§ 278.262 and 278.264, clarifies the legislature’s intent as to the meaning of the statutes. Att’y Gen. Br. at 35-36; Ky. Coal Ass’n Br. at 7. As Joint Intervenors note, however, legislative intent is determined from statutory language, not a legislator’s subsequent comments as to the legislature’s intent. Joint Intervenors’ Br. at 45. “In construing a statute the courts refuse to consider testimony about the intent of the legislature by members of the legislature which enacted it.” *Bd. of Trustees of Judicial Form Retirement Sys. v. Att’y Gen. of Commonwealth of Ky.*, 132 S.W. 3d 770, 786 (Ky. 2003) (quoting 2A Norman J. Singer, *Sutherland Statutory Construction* § 48.16 (6th ed. 2000)). *See also Jefferson Cty. Bd. of Educ. v. Fell*, 391 S.W. 3d 713, 723 (Ky. 2012) (citing *Bd. of Trustees of Judicial Form Retirement Sys.* and expressing concern with “the nuances and biases that might appear in extra-statutory materials such as . . . a single legislator’s post-enactment comments”). The Senate President had opportunities to provide specific language as the legislation was pending, if he wished to clarify its meaning. A legislator’s post-hoc public comments are not an appropriate statutory interpretation source for the Commission, as confirmed by Kentucky case law.

⁵⁶ John Wilson Dir. Test. at 6:5-6, 8:1-9:3.

⁵⁷ *Id.* at 8:18-19, 8:22-9:1.

IV. An Immediate Inquiry Into RTO Membership Is Appropriate.

Sierra Club continues to urge the Commission to immediately open an independent investigative inquiry into whether LG&E/KU customers would be best served by the utility joining an RTO, as we did in our opening brief. Sierra Club Br. at 112-114. LG&E/KU's brief demonstrates openness on the part of the Companies to exploring RTO membership. LG&E/KU Br. at 13-14, 24. And the possibility of avoided capacity cost savings for consumers makes an inquiry appropriate now, at a time when the CPCNs for one or two NGCCs may be deferred or revisited.

The Attorney General appears to conflate avoided capacity savings from RTO membership with the market purchase of power. Att'y Gen. Br. at 34-35. Lexington/Louisville and Sierra Club Witness Andrew Levitt's testimony explains that, under current PJM constructs, LG&E/KU can realize significant avoided capacity costs for customers by joining the RTO. *See* Sierra Club Br. at 93-98 (summarizing Witness Levitt's arguments). This is because geographic diversity, portfolio diversity, and increased capacity for solar essentially make LG&E/KU's current capacity go farther. *Id.* at 93-96. For example, pooling resources across many states means that in extreme weather, Kentucky is not an island reliant on an ever-escalating reserve margin but instead can draw on neighbors not experiencing such extreme weather for support. *Id.* at 96-98. Witness Levitt notes that a modest capacity shortfall of 200 to 450 MW "can be met with supplemental market purchases or with fewer new resource MWs."⁵⁸ This is in any event significantly less than the 1,240 MW of NGCCs that the Companies propose to build, and less than one 620 MW NGCC. The Companies could meet this future need with an absence of wasteful duplication in a way that does not constitute a severe overbuild now.

⁵⁸ Levitt Dir. Test. at 26:374-375.

V. Interpretations of the New Retirement Proceedings Statute Advanced In Some Other Briefs Are Inaccurate.

The Kentucky Coal Association suggests that stranded costs are reason to deny retirement approval under the no harm to ratepayers requirement of K.R.S. § 278.264(2)(b). Ky. Coal Ass’n Br. at 13-14, 16. This cannot be the case, because the same statute specifically provides for stranded asset recovery: Section 278.264(2) contemplates the Commission approving “stranded asset recovery” if the statutory requirements are met. Further, if the Commission did have concerns regarding stranded asset recovery, the Commission could approve the retirements on conditions as to evaluation of cost recovery from ratepayers in future proceedings or limitations on cost recovery. *See* § 278.264(1) (providing that the condition may “approv[e] with conditions” an application for retirement).

The Kentucky Coal Association further suggests that the utilities have failed to account for indirect costs related to the economics of retirement of the specified units and a shift to new means of securing the necessary generation capacity. Ky. Coal Ass’n Br. at 18-19. That list of costs, however, does not include countervailing indirect benefits to LG&E/KU customers from retirement of these units. As discussed in Sierra Club’s opening brief, LG&E/KU did not account for the cost savings to customers from the public health benefits of retiring Mill Creek 1, Mill Creek 2, Brown 3, and Ghent 2. Sierra Club Br. at 31-32. The Companies agree that the public health benefits resulting from coal-fired units’ retirement have economic benefits and that it is possible to undertake estimating those economic benefits to customers.⁵⁹ Directionally, these economic benefits from better air quality for LG&E/KU customers and Kentuckians more broadly supports retirement of the coal-fired units. In no event should the Commission add to one side of the ledger with indirect costs, as the Coal Association suggests, and not to the other.

⁵⁹ Hr. Video (Aug. 28, 2023) at 3:18:00 (1:26 PM) (Sierra Club cross-examination of Mr. Sinclair).

Both the Kentucky Coal Association and the Attorney General fail to account for basic principles of legal causation in their evaluation of the requirement that retirement not be “the result of” federal financial incentives. § 278.264(2)(b); *see* Ky. Coal Ass’n Br. at 16-17, Att’y Gen. Br. at 35-36. Their analyses suffer from two failures: (1) failing to disaggregate the retirement proceeding and the CPCN proceeding and (2) failing to evaluate, on its own, the reason for the retirement decision. As explained at length in Sierra Club’s opening brief, Sierra Club Br. at 28-31, the analysis is straightforward here: the Companies are retiring the units due to concerns regarding environmental compliance, as they have consistently said since before the enactment of SB4. That is a regulatory stick rather than a carrot, so there is no question that the retirements at issue here are not the result of federal financial incentives.

Finally, the Kentucky Coal Association mistakenly takes existing loss of load expectation (LOLE) as the baseline for evaluating reliability rather than using an objective baseline. As Sierra Club explained in our opening brief, Sierra Club Br. at 17-22, reliability in § 278.264(2)(a)(2) is a pass-or-flunk standard. The question is not whether the reliability of the system has changed relative to the arbitrary standard of whatever loss of load expectation or reserve margin existed for a given utility at the time of SB4’s passage. Instead, it is whether the system is reliable—whether it “ha[s] adequate electric generation capacity to safely deliver electric energy in the quantity, with the quality, and at a time that the utility customers demand.” § 278.262(2). As explained in our opening brief, that is an objective standard rooted in properties of the grid, not a subjective determination for each utility based on its particular reserve margin or loss of load expectation on March 29, 2023 when the statute was enacted. Sierra Club Br. at 17-22.

Following the approval of the retirements of Mill Creek 1, Mill Creek 2, Brown 3, and Ghent 2, LG&E/KU will retain large amounts of coal-fired generation. The addition of solar generation

and battery storage in particular and any future portfolio more broadly—whether that proposed by the Companies, that proposed by Witness Sommer, or a portfolio that joins an RTO in lieu of any fossil fuel-fired capacity additions—will add diversity to the sources of generation that supply LG&E/KU customers. That said, for the reasons stated in Sierra Club’s opening brief, Sierra Club Br. at 107-113, the Commission should in no event issue a CPCN for *two* NGCCs, which would be a severe overbuild. And denial or deferral of a CPCN for one NGCC while the Commission investigates whether LG&E/KU may obtain capacity savings through RTO membership is warranted. *Id.*

This case is not about whether LG&E/KU should continue to have *any* coal-fired generation: it plainly will. The question before the Commission is whether Brown 3, Ghent 2, Mill Creek 1, and Mill Creek 2 should retire over the next few years in light of their expense, risk of further expense due to environmental compliance requirements, and risk of future unreliability due to increasing age. The fundamental touchstone must be affordability and reliability for LG&E/KU’s customers. To ensure that LG&E/KU customers are not burdened with heavy and unnecessary expenses and have reliable access to power, retirement of all four units is warranted. As to what comes next, the Commission should immediately open an investigation into whether RTO membership will benefit LG&E/KU’s customers to determine whether avoided capacity savings are possible, before approving the hefty expenditures on the gas plants at issue in the CPCN, while moving forward with the solar generation and battery storage.

CONCLUSION

The Commission should approve retirements for all seven units; approve the new solar generation and solar PPAs; approve the battery storage; and immediately open an investigation into whether LG&E/KU should join an RTO.

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CERTIFICATE OF SERVICE

This is to certify that the foregoing copy of Sierra Club's post-hearing reply brief in this action is electronically transmitted to the Commission on October 4, 2023, and that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding.

/s/ Joe F. Childers
Joe F. Childers