

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY)	
POWER COMPANY FOR APPROVAL OF A)	
CERTIFICATE OF PUBLIC CONVENIENCE)	
AND NECESSITY FOR ENVIRONMENTAL)	CASE NO.
PROJECT CONSTRUCTION AT THE)	2021-00004
MITCHELL GENERATING STATION, AN)	
AMENDED ENVIRONMENTAL COMPLIANCE)	
PLAN, AND REVISED ENVIRONMENTAL)	
SURCHARGE TARIFF SHEETS)	

ORDER

On February 8, 2021, Kentucky Power Company (Kentucky Power), pursuant to KRS 278.020(1) and KRS 278.183, filed an application requesting a Certificate of Public Convenience and Necessity (CPCN) to construct projects at the Mitchell Generating Station (Mitchell) to comply with federal environmental regulations, approval of Kentucky Power's 2021 Environmental Compliance Plan (2021 Plan), and to amend its Environmental Surcharge tariff (Tariff E.S.). Kentucky Power stated that the proposed projects and amendments allow Kentucky Power to include the cost of projects to comply with recent revisions to the federal Coal Combustion Residuals Rule (CCR) and Effluent Limitations Guidelines (ELG) and that the proposed projects are necessary to continue to operate Mitchell after 2028 through its planned retirement date of 2040.¹ KRS 278.183 establishes a six-month statutory deadline to process environmental surcharge applications. Thus, the Commission must enter its Order no later than August 6, 2021.

¹ Application at 5–8.

Kentucky Power proposed that its amended Tariff E.S. become effective for bills rendered on and after September 28, 2021.

The following parties requested and were granted intervention: the Attorney General of the Commonwealth of Kentucky, by and through the Office of Rate Intervention (Attorney General); Kentucky Industrial Utility Customers, Inc. (KIUC); and Sierra Club. The Attorney General and KIUC (Attorney General/KIUC) jointly sponsored discovery requests, witness testimony, and briefs. Pursuant to a procedural schedule established on February 12, 2021, and amended on March 10, 2021, Kentucky Power responded to two rounds of discovery from Attorney General/KIUC and Sierra Club and to four rounds of discovery from Commission Staff; Attorney General/KIUC and Sierra Club filed their respective witness testimony and responded to one round of discovery; and Kentucky Power filed rebuttal testimony. The hearing scheduled for June 15–17, 2021, was canceled,² with the matter being submitted for a decision on the written record. Kentucky Power filed a memorandum brief on June 15, 2021. Attorney General/KIUC and Sierra Club filed their respective response briefs on June 24, 2021. Kentucky Power filed a reply brief on July 1, 2021. This matter now stands submitted for a decision based on the written record.

LEGAL STANDARD

KRS 278.020 - CPCN

The Commission's standard of review of a request for a CPCN is well settled. In accordance with KRS 278.020(1), no utility may construct or acquire any facility to be

² A public comment period was held on June 15, 2021, to accept telephonic public comments as requested by Sierra Club. However, no telephonic public comments were received. A significant number of written public comments were received and filed in the case record.

used in providing utility service to the public until it has obtained a CPCN from this Commission. To obtain a CPCN, a utility must demonstrate a need for such facilities and an absence of wasteful duplication.³

“Need” requires:

[A] showing of a substantial inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed or operated.

[T]he inadequacy must be due either to a substantial deficiency of service facilities, beyond what could be supplied by normal improvements in the ordinary course of business; or to indifference, poor management or disregard of the rights of consumers, persisting over such a period of time as to establish an inability or unwillingness to render adequate service.⁴

“Wasteful duplication” is defined as “an excess of capacity over need” and “an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties.”⁵ To demonstrate that a proposed facility does not result in wasteful duplication, we have held that the applicant must demonstrate that a thorough review of all reasonable alternatives has been performed.⁶ The fundamental principle of reasonable least-cost alternative is embedded in such an analysis. Selection

³ *Kentucky Utilities Co. v. Pub. Serv. Comm’n*, 252 S.W.2d 885 (Ky. 1952).

⁴ *Id.* at 890.

⁵ *Id.*

⁶ Case No. 2005-00142, *Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky* (Ky. PSC Sept. 8, 2005).

of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication.⁷ All relevant factors must be balanced.⁸

KRS 278.183 – Environmental Surcharge

KRS 278.183 provides that a utility shall be entitled to the current recovery of its costs to comply with the federal Clean Air Act as amended and those federal, state, or local environmental requirements that apply to coal combustion wastes and by-products from facilities utilized for the production of energy from coal.

Pursuant to KRS 278.183(2), a utility seeking to recover its environmental compliance costs through an environmental surcharge must first submit to the Commission a plan that addresses compliance with the applicable environmental requirements. The plan must also include the utility's testimony concerning a reasonable return on compliance-related capital expenditures and a tariff addition containing the terms and conditions of the proposed surcharge applied to individual rate classes.

Within six months of submission, the Commission must render a decision that considers and, if the plan and rate surcharge are found reasonable and cost-effective for compliance with the applicable environmental requirements, approves the compliance plan and rate surcharge. The Commission must also establish a reasonable return on compliance-related capital expenditures and approve the application of the surcharge.

⁷ See *Kentucky Utilities Co. v. Pub. Serv. Comm'n*, 390 S.W.2d 168, 175 (Ky. 1965). See also Case No. 2005-00089, *Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for the Construction of a 138 kV Electric Transmission Line in Rowan County, Kentucky* (Ky. PSC Aug. 19, 2005).

⁸ Case No. 2005-00089, *East Kentucky Power* (Ky. PSC Aug. 19, 2005), Order at 6.

BACKGROUND

Kentucky Power distributes and sells retail electric service to approximately 165,000 customers in 20 counties and wholesale electric service to two municipalities in eastern Kentucky.⁹ Kentucky Power filed its last environmental compliance plan in 2019.¹⁰

Kentucky Power owns a 50 percent undivided interest in Mitchell, which is located in Moundsville, West Virginia, with Wheeling Power Company (Wheeling Power), another American Electric Power (AEP) affiliate.¹¹ Wheeling Power filed a similar CPCN and environmental compliance plan with the West Virginia Public Service Commission,¹² which will be discussed below. Relevant here, Kentucky Power and Wheeling Power operate Mitchell under the Mitchell Operating Agreement,¹³ which does not contain any terms that address a situation in which there is a conflicting decision between the

⁹ Application at 2.

¹⁰ Case No. 2019-00389, *Electronic Application of Kentucky Power Company for Approval of an Amended Environmental Compliance Plan and a Revised Environmental Surcharge* (Ky. PSC May 18, 2020).

¹¹ See Case No. 2012-00578, *Application of Kentucky Power Company for (1) A Certificate of Public Convenience and Necessity Authorizing the Transfer to the Company of an Undivided Fifty Percent Interest in the Mitchell Generating Station and Associated Assets; (2) Approval of the Assumption by Kentucky Power Company of Certain Liabilities in Connection with the Transfer of the Mitchell Generating Station; (3) Declaratory Rulings; (4) Deferral of Costs Incurred in Connection with the Company's Efforts to Meet Federal Clean Air Act and Related Requirements; and (5) All Other Required Approvals and Relief* (Ky. PSC Oct. 7, 2013).

¹² West Virginia Public Service Commission Case No. 20-1040-E-CN, *Application for a Certificate of Public Convenience and Necessity for the Internal Modifications at Coal Fired Generating Plants Necessary to Comply with Federal Environmental Regulations* (filed Dec. 23, 2020).

¹³ Kentucky Power's Response to Commission Staff's First Request for Information (Staff's First Request) (filed Mar. 26, 2021), Item 1.

Kentucky PSC and West Virginia PSC. Kentucky Power asserted that any conflicting decision would be addressed with both Commissions to determine how to proceed.¹⁴

Also relevant here, Kentucky Power's 2020 peak demand was 925 MW.¹⁵ Kentucky Power's share of Mitchell's total capacity is 780 MW.¹⁶ Kentucky Power also owns a 285 MW natural gas-fired unit, Big Sandy Unit 1, in Lawrence County, Kentucky, and obtains 393 MW of capacity and associated energy under the Rockport Unit Power Agreement (Rockport UPA), which expires December 7, 2022.¹⁷ Once the Rockport UPA expires, Kentucky Power will have a total capacity of 1,065 MW. If Mitchell is retired in 2028, Kentucky Power would have only the 285 MWs of capacity from Big Sandy Unit 1.¹⁸

2021 PLAN AND CPCN

Compliance and Construction Options

Kentucky Power explained that the proposed projects are necessary to comply with 2020 revisions to the federal CCR rules, which regulate the handling, storage, and disposal of CCR materials, and federal ELG rules, which regulate wastewater discharges at coal-fired electric generating facilities.¹⁹ Kentucky Power further explained that the CCR rules revisions required Kentucky Power to begin closing the Mitchell ash pond by April 11, 2021, and that Kentucky Power requested an extension of that deadline from the

¹⁴ Kentucky Power's Response to Commission Staff's Third Request for Information (Staff's Third Request) (filed June 2, 2021), Item 2.

¹⁵ Application at 3.

¹⁶ Application at 2. Mitchell has a total capacity of 1560 MW, with Wheeling Power receiving 780 MW and Kentucky Power receiving 780 MW.

¹⁷ Application at 2–3. Kentucky Power stated that it will not renew the Rockport UPA.

¹⁸ Application at 3.

¹⁹ Direct Testimony of Gary O. Spitznogle (Spitznogle Direct Testimony) (filed Feb. 28, 2021) at 3.

EPA to October 17, 2023.²⁰ Kentucky Power maintained that, without the proposed CCR compliance projects, it would be required to cease coal-fired operations at Mitchell in 2023 ahead of the October 17, 2023 deadline.²¹ Regarding the revised ELG rules, Kentucky Power explained that, without the proposed ELG compliance projects, it would have to terminate coal-fired operations and retire Mitchell by December 31, 2028.²²

Kentucky Power modeled two options to address CCR and ELG Rules compliance. The first option, identified by Kentucky Power as Project 22 (Case 1) would install equipment to comply with CCR and ELG Rules, which would allow Mitchell to operate through 2040. The second option, Case 2,²³ would comply with the CCR Rule only, resulting in the retirement of Mitchell by December 31, 2028, and requiring Kentucky Power to obtain replacement capacity sooner than currently planned.

In support of the CPCN, Kentucky Power asserted that the proposed project is required in order to allow Mitchell to operate until 2040 by complying with CCR and ELG Rule revisions and because, without Mitchell, Kentucky Power would have inadequate capacity to provide service. Kentucky Power asserted that Case 1 is the least cost, technically feasible option to maintain adequate capacity. In support of Case 1, Kentucky Power explained that it will have a significant capacity shortfall if Mitchell is retired in 2028. Kentucky Power determined that it could not retire Mitchell to avoid CCR compliance because it cannot replace the 780 MW committed into the PJM capacity market through

²⁰ Spitznogle Direct Testimony at 8.

²¹ *Id.*

²² *Id.*

²³ Kentucky Power referred to the first option as Project 22, Case 1, or CCR and ELG option. Kentucky Power referred to the second option as Case 2 or CCR-only.

2022 and could not procure replacement capacity to serve its native load by 2023.²⁴ The results of Kentucky Power's modeling show compliance costs for Case 1 and Case 2 of \$67 million and \$18 million respectively.²⁵ Kentucky Power maintained that if Case 1 is selected over Case 2 the projected net present value revenue requirement (NPVRR) savings of \$20-27 million without a carbon commodity price.²⁶ Kentucky Power calculated incremental NPVRR costs of \$6 million associated with Case 1 with a carbon commodity price.²⁷

Case 1

Case 1 includes projects to modify Mitchell's dry ash handling system and wastewater ponds and install a FGD biological treatment system with ultrafiltration. For the CCR project, Kentucky Power will remove ash from the existing ponds, over-excavate the ponds, install a new liner system in the footprint of the existing bottom ash pond to accept current CCR and non-CCR wastewater streams, and install a chemical treatment system for non-CCR wastewater streams.²⁸ For the ELG project, Kentucky Power will modify the bottom ash handling systems to stop the discharge of bottom ash transport water, which includes the installation of submerged grind conveyor systems, a new ash bunker, and a new FGD biological treatment system with ultrafiltration.²⁹ Kentucky Power proposed to construct the projects in stages, with compliance with the ELG by April

²⁴ Direct Testimony of Brett Mattison (Mattison Direct Testimony) (filed Feb. 28, 2021) at 8.

²⁵ Direct Testimony of Mark A. Becker (Becker Direct Testimony) (filed Feb. 28, 2021) at 4, Table 1.

²⁶ *Id.*

²⁷ *Id.*

²⁸ Direct Testimony of Brian D. Sherrick (Sherrick Direct Testimony) (filed Feb. 28, 2021) at 4-5.

²⁹ *Id.* at 5.

2025.³⁰ The projected completion date for the dry ash handling system is May 2023; the wastewater ponds on November 2023; and the FGD system by April 2024.³¹

The total estimated cost of Case 1 is \$133.5 million, with \$131.5 million in capital, \$1.8 million in other charges, and \$166,000 in asset retirement obligation costs; of the \$133.5 million, Kentucky Power's share would be \$66.75 million.³² Kentucky Power stated that the annualized first year revenue requirement for Case 1 is \$1,449,677; the estimated annual revenue requirement once all stages are in service is \$8,166,153.³³ Kentucky Power does not plan to issue debt or equity to finance the construction because it will fund the construction through operating cash and internally generated funds.³⁴

Case 2

Case 2 consists only of the projects described above that would comply with the revised CCR Rule, which would result in Mitchell being retired as of December 31, 2028. The total estimated capital cost for CCR-only compliance is \$35.1 million, of which Kentucky Power would be responsible for \$17.55 million.³⁵ Kentucky Power stated the estimated annualized first year revenue requirement is \$561,052; once Case 2 projects are fully in service in 2024, the estimated annual revenue requirement is \$3,246,750.³⁶

³⁰ Application at 7.

³¹ *Id.*

³² *Id.*

³³ *Id.* at 12.

³⁴ *Id.* at 11.

³⁵ Sherrick Direct Testimony at 11.

³⁶ Direct Testimony of Lerah M. Scott (Scott Direct Testimony) (filed Feb. 28, 2021) at 8.

These costs exclude the cost of capacity that Kentucky Power will need to obtain once Mitchell is retired.

Assumptions in Economic Analysis

Kentucky Power evaluated both Case 1 and Case 2 over three scenarios: base fuel costs with carbon pricing, base fuel costs without carbon pricing, and low fuel costs. The alternative to compliance for Case 1 and Case 2 was retiring Mitchell and replacing its capacity. Kentucky Power forecasted the replacement capacity using the Energy Information Administration’s (EIA) major utility scale estimates and capacity-only, one-year purchase power agreements (PPAs) based on the PJM capacity market.³⁷ Kentucky Power assumed that production tax credits for wind resources would expire in 2025. Kentucky Power expected to incur approximately \$500 million of replacement capacity costs in 2028 if it cannot be delayed by making investments to comply with the ELG Rule.³⁸ Kentucky Power asserted that the optimal replacement resources were including in its modelling, which are summarized in the following table.³⁹

Kentucky Power’s Optimal Replacement Capacity Additions Through the Retirement Year – Nameplate Megawatts					
	Gas Combustion Turbine	Cumulative Solar	Cumulative Wind	Capacity Only PPA	Total
Case 1 – Additions from 2021-2040*					
Base with Carbon	480	450	400	300	1,630
Base No Carbon	480	300		400	1,180
Low No Carbon	480	300		400	1,180
Case 2 – Additions from 2021-2028					
Base with Carbon	480		400	150	1,030
Base No Carbon	480			200	680

³⁷ Becker Direct Testimony at 14-16.

³⁸ *Id.* at 8.

³⁹ *Id.* at 17, Table 4.

Low No Carbon	480		200	680
*Case 1 additions through 2040 include replacements for both Mitchell and Big Sandy 1. Big Sandy is assumed to retire in 2030. Case 2 additions through 2028 only include replacements for Mitchell				

Attorney General/KIUC's witness, Lane Kollen, testified that Kentucky Power's modeling assumed a levelized cost for energy and capacity of approximately \$55.00/MWh.⁴⁰ Kentucky Power asserted that Mr. Kollen did not make a like-for-like comparison because he compared 20-year solar PPAs to Kentucky Power's proposed 30-year solar PPA, and thus Mr. Kollen's analysis should be disregarded. Sierra Club's witness, Rachel Wilson, testified that Kentucky Power uses a solar PPA price of \$57.58/MWh, reportedly based upon U.S. EIA data, and that this cost assumption is higher than the levelized cost of energy of \$33.68/MWh in EIA's 2021 Annual Energy Outlook.⁴¹ Kentucky Power claimed that Wilson's assertion that \$26.00/MWh is a more reasonable projected cost understated the actual value and was "particularly hard to believe given extreme demand for solar panel components."⁴² However, as documented in the evidence of record, the Commission recently approved a 20-year energy and capacity solar PPA with levelized costs between \$27.30/MWh to \$29.30/MWh, and a 20-year solar PPA with levelized energy costs of \$27.82/MWh.⁴³ Further, according to the

⁴⁰ Direct Testimony of Lane Kollen (Kollen Direct Testimony) (filed June 7, 2021) at 14 and Exhibit LK-1. Kollen's calculation is derived from Kentucky Power's Response to Sierra Club's Second Request for Information (Sierra Club's Second Request) (filed May 5, 2021), Item 5(c).

⁴¹ Direct Testimony of Rachel Wilson (Wilson Direct Testimony) (filed May 12, 2021) at 21.

⁴² Rebuttal Testimony of Mark A. Becker (Becker Rebuttal Testimony) (filed June 9, 2021) at R4–R5.

⁴³ Kollen Direct Testimony at 14–16 and Exhibit LK-13; and Attorney General/KIUC's Response Brief at 4–5.

updated version of the EIA report cited by Kentucky Power, the levelized cost of energy for solar resources is \$31.30 without tax credits, and \$29.04 with tax credits.⁴⁴

Kollen testified that Kentucky Power did not consider that retirement of Mitchell in 2028 will provide recognition of the abandonment loss for tax purposes. Kollen calculated that the NPV of the abandonment loss would be approximately \$28.8 million.⁴⁵ However, Kentucky Power explained that it provided incorrect information as the basis for that calculation and that correcting the errors results in a tax benefit of \$8.5 million.⁴⁶

Kentucky Power assumed that solar investment tax credits (ITC) would be 0 percent after 2024; however, Kollen explained that the current law allows for a permanent 10 percent ITC for resources that go into service after 2023.⁴⁷ Kollen further stated that this error is less relevant given that solar PPAs are significantly less expensive than the assumed cost of new utility-owned solar generation. Kentucky Power also assumed that wind resources production tax credits (PTC) would cease in 2024; however, Kollen stated that 60 percent PTC are available for projects that go into service by 2026. Kollen testified that this error overstates both cases by the same amount and that wind resources do not have sufficient capacity factors when located inside Kentucky Power's service territory.⁴⁸

⁴⁴ U.S. Energy Information Administration, Levelized Costs of New Generation Resources in the Annual Energy Outlook 2021 (https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf).

⁴⁵ Corrected Supplemental Direct Testimony of Lane Kollen (Kollen Supplemental Testimony) (filed June 15, 2021) at 4.

⁴⁶ Kentucky Power's Amended Response to the Attorney General/KIUC's Second Request for Information (filed June 30, 2021), Item 6.

⁴⁷ Kollen Direct Testimony at 21.

⁴⁸ *Id.* at 22–23.

Sierra Club's witness, Rachel Wilson, performed an alternative analysis that resulted in savings of \$194 million without carbon pricing to savings of \$341 million with carbon pricing if Mitchell is retired in 2028 without ELG compliance.⁴⁹ The main difference in the assumptions between Kentucky Power's modelling and Wilson's modelling was the cost of solar, wind, and battery storage replacement resources. Wilson testified that Kentucky Power's assumptions for these resources are significantly higher than EIA estimates and are not consistent with the modelling performed by other utilities.⁵⁰ Wilson used the National Renewable Laboratory's 2020 Advanced Technology Baseline (NREL ATB 2020) because it incorporates a variety of data points.⁵¹

Kentucky Power argued that Wilson's proposed plan would require Kentucky Power to acquire large amounts of generating capacity and incorrectly accounted for the required capacity amount by including additional capacity requirements if Mitchell operates until 2040.⁵² Kentucky Power also challenged Wilson's replacement capacity cost inputs and NVPRR calculation methodology.⁵³

Kollen and Wilson also argue in their respective testimonies that, although Kentucky Power's modelling did not include future environmental regulations, it is reasonable to assume that coal plants will be subject to carbon pricing and more stringent environmental regulations before 2040.⁵⁴

⁴⁹ Direct Testimony of Rachel Wilson (Wilson Direct Testimony) (filed May 12, 2021) at 6.

⁵⁰ *Id.* at 18–19.

⁵¹ *Id.* at 17.

⁵² Kentucky Power's Brief at 28.

⁵³ *Id.* at 27–29.

⁵⁴ Kollen Direct Testimony at 27 and Wilson Direct Testimony at 43.

Flexibility of Case 2

The Attorney General and KIUC's witness, Lane Kollen, stated that Case 2 provides greater flexibility and opportunity for a potential new owner of Kentucky Power,⁵⁵ citing a recent announcement by AEP that it plans to divest itself of Kentucky Power.⁵⁶ Kollen suggested that a new owner will have a different asset base, cost structure, and customer base, that would therefore lead to significantly different alternatives and outcomes than those proposed by Kentucky Power in this case.⁵⁷ In addition, Kollen noted that a potential new owner would not be subject to the AEP Transmission Agreement, which would in turn likely result in lower transmission costs for Kentucky Power's customers.⁵⁸ Kollen concluded that even if Kentucky Power remains a subsidiary of AEP, Case 2 provides Kentucky Power and the Commission the greatest flexibility to assess Kentucky Power's economic options and resource mix,⁵⁹ while still being able to meet its PJM reserve requirements.⁶⁰

Kentucky Power refuted the assertions made by Kollen, stating that they are both speculative and incorrect.⁶¹ Kentucky Power stated that AEP has not "made the decision to divest the Company"⁶² but is instead conducting a strategic review of its Kentucky

⁵⁵ Kollen Direct Testimony at 7.

⁵⁶ *Id.*

⁵⁷ Joint Response Brief of the Attorney General and KIUC at 13.

⁵⁸ *Id.*

⁵⁹ *Id.* at 14

⁶⁰ *Id.*

⁶¹ Initial Brief of Kentucky Power at 35.

⁶² Kollen Direct Testimony at 7.

assets that it expects to conclude by the end of 2021.⁶³ Kentucky Power stated that it is unknown at this time whether the review will result in a sale of Kentucky Power.⁶⁴ Kentucky Power's witness and President and Chief Operating Officer, Brent Mattison, stated in his rebuttal testimony that it would be inappropriate and potentially harmful for the Commission to make decisions in this case based on the hypothetical result of AEP's strategic review,⁶⁵ instead stating such decisions should be based on known and measurable facts and evidence.⁶⁶ Kentucky Power stated that when considering such facts and evidence, Case 1 is the best compliance option.⁶⁷

Kentucky Power went on to state that Case 1 provides greater future flexibility in that the authorization of both CCR and ELG environmental compliance projects would allow Kentucky Power greater flexibility and optionality in optimizing its generation resource portfolio.⁶⁸ Kentucky Power asserted that limiting compliance projects to only CCR and retiring Mitchell in 2028 could result in a capacity shortfall with a short deadline to determine, obtain approval for, and acquire replacement resources.⁶⁹

Decommissioning Rider

⁶³ Rebuttal Testimony of Brent Mattison (Mattison Rebuttal Testimony) (filed June 9, 2021) at 5.

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ Initial Brief of Kentucky Power at 35.

⁶⁸ Mattison Rebuttal Testimony at 5.

⁶⁹ *Id.*

Attorney General/KIUC's witness, Lane Kollen, proposed that the Commission could seek to "flatten" the recovery of the remaining net book value in the consideration of Case 2 by using a modified version of Kentucky Power's existing Decommissioning Rider⁷⁰ in response to Kentucky Power's assertion that there could be large increases in revenue requirement in 2029 associated with the recovery of the costs of replacement capacity.⁷¹ Kollen stated that the immediate reduction in the recovery of the remaining net book value of Mitchell on a levelized basis instead of the present declining cost basis through base and ES rates would address Kentucky Power's concern.⁷² Kollen noted that if such a rider were used to recover the costs of Mitchell, it would need to be modified to reflect a credit for the costs recovered in the base revenue requirement using a base-current methodology.⁷³ In addition, Kollen asserted that it would also be necessary to remove all costs associated with Mitchell from Kentucky Power's Tariff E.S. and include them in the Decommissioning Rider.⁷⁴

Kentucky Power stated that the Commission should decline the suggestion made by Witness Kollen, stating the Company is not currently authorized to recover Mitchell Plant investment through the Decommissioning Rider, as Kollen points out.⁷⁵ Kentucky Power stated that the Decommissioning Rider currently only recovers coal-related

⁷⁰ Kollen Direct Testimony at 24.

⁷¹ *Id.* at 24–25

⁷² *Id.*

⁷³ Kollen Direct Testimony at 24.

⁷⁴ *Id.*

⁷⁵ Kollen Direct Testimony at 24.

retirement costs of Big Sandy Unit 1, the retirement costs of Big Sandy Unit 2, and other site-related retirement costs that will not continue.⁷⁶ Kentucky Power further asserted that Kollen did not provide an analysis of the potential impacts on customers or Kentucky Power,⁷⁷ and therefore it would be inappropriate for the Commission to modify Kentucky Power's Decommissioning Rider where no record has been developed.⁷⁸

Kentucky Power went on to state that the record that has been established indicates that Kollen's proposal could be harmful to both it and customers,⁷⁹ citing that the proposal could shift the remaining cost of service associated with the remaining Mitchell net book value to customers who will not benefit from the asset.⁸⁰ Kentucky Power stated that such treatment would be inconsistent with cost of service ratemaking principles⁸¹ as well as result in delayed cash flow to Kentucky Power, which would be harmful to its credit metrics and financial health.⁸² Kentucky Power claimed that it plans to seek recovery of the remaining net book value of Mitchell in a future regulatory proceeding, where it plans to file a depreciation study, updates to depreciation rates, and other evidence in support of the request.⁸³

⁷⁶ Mattison Rebuttal Testimony at 3.

⁷⁷ Initial Brief of Kentucky Power at 39.

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ Mattison Rebuttal Testimony at 4.

⁸¹ Whitney Rebuttal Testimony at 2.

⁸² Mattison Rebuttal Testimony at 4.

⁸³ Initial Brief of Kentucky Power at 40.

Potential Securitization

In addition to the use of the Depreciation Rider, Kollen suggested that, while not currently an option under Kentucky law, securitization financing would result in approximately \$156 million of net present value savings if Mitchell is retired in 2028.⁸⁴ Kollen states that such savings would not be available if the units are retired in 2040, and would therefore not be paid off through securitization financing and the revenue requirement would continue to include a grossed-up rate of return based on Kentucky Power's common equity and long-term debt financing.⁸⁵ Kollen noted that the financing costs associated with Mitchell sunk costs due to a retirement in 2028 would be less in Case 2 if the costs could be securitized.⁸⁶

DISCUSSION AND FINDINGS

2021 Environmental Compliance Plan and CPCN

Based upon the case record and being otherwise sufficiently advised, the Commission finds, for the reasons discussed below, that Kentucky Power provided sufficient evidence to support a determination that there is a need to construct projects to comply with CCR rules, that the proposed CCR compliance project will not create a wasteful duplication of facilities, and that it is reasonable and cost-effective to construct the CCR compliance project. The Commission further finds, for the reasons discussed below, that Kentucky Power failed to carry its burden of proof that there is a need to construct projects to comply with ELG rules, that the proposed ELG compliance project

⁸⁴ Kollen Direct Testimony at 26.

⁸⁵ *Id.* at 25.

⁸⁶ *Id.*

will not create a wasteful duplication of facilities, and that the proposed ELG compliance project is reasonable and cost-effective. Therefore, the Commission finds that Kentucky Power's request for a CPCN and approval of its environmental compliance plan to construct projects to comply with the CCR rule as set forth in Case 2 should be granted. The Commission further finds that Kentucky Power's request for a CPCN and approval of its environmental compliance plan to construct projects to comply with both the CCR and ELG rules as set forth in Case 1 should be denied.

Case 2: CCR-Only Compliance Plan

The Commission finds that Kentucky Power provided sufficient evidence that Case 2 is needed to comply with CCR environmental regulations while providing safe, adequate, and reasonable service to Kentucky Power's customers, and will not create a wasteful duplication of facilities. We note that Kentucky Power, Attorney General, KIUC, and Sierra Club all asserted that Case 2 was necessary and should be approved to comply with the CCR rule.⁸⁷ The Commission is persuaded by the evidence of record that a pending capacity shortfall would exist if Mitchell were retired by October 2023, and that the capacity shortfall would result in a substantial inadequacy of service. For example, even with the EPA extension to October 2023, Kentucky Power would have 1,065 MW capacity after Rockport UPA terminates in December 2022 if Mitchell

⁸⁷ See Attorney General/KIUC's Response Brief (filed June 24, 2021) at 2–3 (arguing that qualitative factors weighed in favor of approving Case 2, including flexibility to craft a new resource capacity mix of fossil and renewable generation that promotes Kentucky's economic interests rather than providing economic development benefits for West Virginia). Also see Sierra Club's Response Brief (filed June 24, 2021) at 7 (noting that all of the intervening parties' witnesses assessed the option with Mitchell retirement in 2028 as "plainly and significantly more economical.").

continued to operate, but would only have a capacity of 285 MW after the Rockport UPA terminates if the Mitchell was retired in October 2023.⁸⁸

The Commission finds that Kentucky Power provided sufficient evidence that it reviewed the reasonable alternatives, and that Case 2 is the most reasonable, least-cost alternative that will enable Kentucky Power to comply with CCR rules. Kentucky Power maintained that if Mitchell were retired in October 2023, then Kentucky Power would have to rely upon bilateral contracts or PJM Interconnection LLC (PJM) reliability pricing model (RPM) auction markets.⁸⁹ The Commission concludes that, because of the relatively short time frame in which to obtain replacement capacity, Kentucky Power would have to obtain capacity in the short-term through bilateral contracts or PJM RPM markets, which could subject to Kentucky Power to increased risk and price volatility.

Thus, for the above reasons, the Commission finds that Kentucky Power satisfied the requirements of KRS 278.020 and KRS 278.183, and therefore its request for a CPCN to construct CCR compliance projects at Mitchell and its 2021 Plan as set forth in Case 2 should be granted.

Case 1: CCR and ELG Compliance Plan

The Commission finds that Kentucky Power failed to provide sufficient evidence that the ELG project needed to comply with ELG environmental regulations while providing safe, adequate, and reasonable service to Kentucky Power's customers is necessary, and will not create a wasteful duplication of facilities because, as discussed below, Kentucky Power failed to provide sufficient evidence that it reviewed the

⁸⁸ Application at 3.

⁸⁹ Mattison Direct Testimony at 8.

reasonable alternatives, and therefore failed to convince the Commission that the ELG project is the most reasonable, least-cost alternative that will enable Kentucky Power to comply with ELG rules. For the same reason, the Commission further finds that Kentucky Power failed to provide sufficient evidence that the ELG project is reasonable and cost effective. Therefore, Kentucky Power failed to provide sufficient evidence that Case 1, which includes both the ELG and CCR project, satisfies the legal standards established in KRS 278.020 and KRS 278.183.

The Commission notes that, absent the ELG project, Mitchell would have to close in 2028, and that, if no further action is taken, Kentucky Power will have a capacity shortfall. However, unlike the evidence of record regarding the CCR project, Kentucky Power did not establish that there are no other reasonable alternatives to address the capacity shortfall than to construct the ELG project or that the ELG project is the least-cost alternative.

As noted above, Kentucky Power modeled Case 1 and Case 2 under three fundamental pricing forecasts, with two forecasts that excluded carbon pricing and one forecast that included carbon pricing. The results of the modeling reflected that complying with only CCR regulations was less costly under the forecast that included carbon costs. Even with the generous modeling assumptions, the NPVRR of Case 1 and Case 2 vary by less than 1 percent of the total costs, which is estimated to be \$3.489-4.331 million through 2050.⁹⁰ As Kentucky Power noted in its most recent integrated resource plan (IRP), it considered potential costs from future regulation of carbon emissions “even though there is considerable uncertainty as to the timing and form future carbon regulation

⁹⁰ Mattison Direct Testimony at 5.

may take.”⁹¹ Ignoring the result of the scenario with carbon costs is unreasonable in light of Kentucky Power’s inclusion of carbon costs in resource planning, and emerging environmental laws and policies, because it skews an analysis of whether the ELG project is the most reasonable, least-cost option. Nevertheless, the carbon scenario is not the exclusive basis for our decision.

Additionally, the Commission concurs with Attorney General, KIUC, and Sierra Club that Kentucky Power’s modeling assumptions significantly overstated the projected cost of other generation resources, which artificially created the appearance that the ELG project is more cost-effective than the alternatives. Based on recent solar PPAs approved by the Commission and by EIA data contained in the case record, the Commission concludes that Kentucky Power’s valuation of other generation resources is flawed because it overstates replacement energy and capacity costs, and therefore skews the outcome of the analysis.

Given the close results and Kentucky Power’s exclusion of future enactment of environmental regulations, the Commission is not convinced that constructing the proposed ELG project in order to operate Mitchell between 2028 and 2040 is the least-cost option if any upgrades are required to comply with new environmental regulations, including, but not limited to, those that may be related to carbon dioxide emissions.⁹² Between 1993 and 2020, Kentucky Power spent approximately \$714 million on

⁹¹ Case No. 2019-00443, *Electronic 2019 Integrated Resource Planning Report of Kentucky Power Company* (filed Dec. 20, 2019) at ES-1, and Section 1.5 at 5. Kentucky Power’s IRP carbon proxy began in 2028 at \$15/metric ton of CO₂ emissions and escalated at 3.5 percent per annum on a nominal basis.

⁹² The Commission takes administrative notice of a recent decision in the U.S. Court of Appeals for the District of Columbia Circuit that vacated the Affordable Clean Energy Rule and remanded the matter to the Environmental Protection Agency for further proceedings to determine the best method to reduce emissions. *American Lung Assoc. v. EPA*, 985 F.3d 914 (D.C. Cir. 2021) (Petition for Certiorari pending before the U.S. Supreme Court).

environmental compliance projects, with approximately \$708 million spent between 2005 and 2020.⁹³ The Commission notes that Kentucky Power acquired its interest in Mitchell in a previous matter as the least-cost option to meet long-term capacity and energy obligations “in light of known and emerging environmental regulations.”⁹⁴ In that matter, Kentucky Power explicitly recognized the Commission’s authority to challenge Kentucky Power’s rates upon a finding that Mitchell was no longer a least-cost generation resource due to environmental regulations and to retire Kentucky Power’s interest in Mitchell for ratemaking purposes.⁹⁵ Kentucky Power offers no such assurances in this matter.

Finally, Kentucky Power argued that the combined CCR and ELG projects are “the most technically feasible, least life cycle technology cost options,” which is different from the legal standard for wasteful duplication, that a utility must demonstrate that a thorough review of all reasonable alternatives has been performed to determine the most reasonable, least cost option.⁹⁶

Thus, for the reasons set forth above, the Commission finds that Kentucky Power failed to establish that the ELG project will not result in wasteful duplication, or that the

⁹³ Kentucky Power’s Response to Commission Staff’s Fourth Request for Information (Staff’s Fourth Request) (filed June 2, 2021), Item 1.

⁹⁴ Case No. 2012-00578, *Application of Kentucky Power Company for (1) A Certificate of Public Convenience and Necessity Authorizing the Transfer to the Company of an Undivided Fifty Percent Interest in the Mitchell Generating Station and Associated Assets; (2) Approval of the Assumption by Kentucky Power Company of Certain Liabilities in Connection with the Transfer of the Mitchell Generating Station; (3) Declaratory Rulings; (4) Deferral of Costs Incurred in Connection with the Company’s Efforts to Meet Federal Clean Air Act and Related Requirements; and (5) All Other Required Approvals and Relief* (Ky. PSC Oct. 7, 2013) at 17.

⁹⁵ *Id.* at 32.

⁹⁶ Sherrick Direct Testimony at 5. Case No. 2005-00142, *Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky* (Ky. PSC Sept. 8, 2005).

ELG-related project is reasonable and cost-effective. Therefore, Kentucky Power failed to satisfy the requirements of KRS 278.020 and KRS 278.183, and its request for a CPCN to construct ELG compliance projects at Mitchell and its 2021 Plan as set forth in Case 1 should be denied.

SURCHARGE MECHANISM AND CALCULATION

Kentucky Power proposed amendments to its Tariff E.S.⁹⁷ Tariff E.S is intended to provide Kentucky Power a method of recovering the cost of certain approved environmental projects through a customer environmental surcharge.⁹⁸ In the event that the total monthly environmental costs to Kentucky Power exceed those already recovered in base rates, then customers are charged the difference through the environmental surcharge.⁹⁹

The changes to Tariff E.S. include the addition of the 2021 Plan.¹⁰⁰ Kentucky Power updated the list of environmental equipment at the Mitchell Plant to include Project 22, and updated the list of environmental costs for the total company.¹⁰¹ Kentucky Power sought to add construction work in progress (CWIP) to the environmental surcharge rate base until the new assets are placed in service, similar to the treatment of CWIP in its base rates.¹⁰² Lastly, Kentucky Power requested that the costs already

⁹⁷ Application at 13.

⁹⁸ Scott Direct Testimony at 4.

⁹⁹ *Id.* at 4–5.

¹⁰⁰ *Id.* at 11.

¹⁰¹ *Id.* at 11.

¹⁰² *Id.* at 6.

incurred for the planning of Project 22 be recovered on a levelized basis through Tariff E.S. until the dry ash handling system is in service starting May 2023.¹⁰³

Kentucky Power requested that a return on equity of 9.10 percent that was recently established in Case No. 2020-00174¹⁰⁴ be applied to all non-Rockport environmental compliance costs recovered through its Tariff E.S. The present proceeding and the final Order in Case No. 2020-00174 were filed within weeks of each other. Therefore, the Commission finds that it is reasonable to continue the use of 9.10 percent ROE for the purposes of recovering non-Rockport environmental compliance costs.

The Commission has reviewed Kentucky Power's proposed changes to its Tariff E.S. and finds that the updates to Tariff E.S. should be approved, as modified to only include language pertaining to the costs and equipment of Case 2 as approved in this Order.

IT IS THEREFORE ORDERED that:

1. Kentucky Power's 2021 Plan, as set forth in Case 2 in its application, is approved.
2. Kentucky Power's request for a CPCN to construct environmental projects to comply with the CCR Rule as set forth in Case 2 in its application is approved.
3. Kentucky Power's request to construct environmental projects as set forth in Case 1 in its application is denied.

¹⁰³ *Id.* at 10.

¹⁰⁴ Case No. 2020-00174, *Electronic Application of Kentucky Power Company for (1) A General Adjustment of Its Rates for Electric Service; (2) Approval of Tariffs and Riders; (3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; (4) Approval of a Certificate of Public Convenience and Necessity; and (5) All Other Required Approvals and Relief* (Ky. PSC Jan. 13, 2021).

4. Kentucky Power's environmental surcharge tariff is approved for service rendered on and after September 28, 2021.

5. Kentucky Power shall notify the Commission prior to performing any additional construction not expressly authorized by this Order.

6. Any deviation from the construction approved by this Order shall be undertaken only with prior approval of the Commission.

7. Kentucky Power shall file with the Commission documentation of the total costs of this project, including the cost of construction and all other capitalized costs within 60 days of the date that construction authorized under this CPCN is substantially completed. Construction costs shall be classified into appropriate plant accounts in accordance with the Uniform System of Accounts for electric utilities prescribed by the Commission.

8. Kentucky Power shall file a copy of the "as-built" drawings and a certified statement that the construction has been satisfactorily completed in accordance with the contract plans and specifications within 60 days of the substantial completion of the construction certificated by this Order.

9. Any documents filed in the future pursuant to ordering paragraphs 5, 6, 7, and 8 shall reference this case number and shall be retained in the post-case correspondence file.

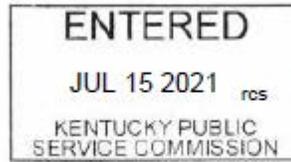
10. The Executive Director is delegated authority to grant reasonable extensions of time for filing any documents required by this Order upon Kentucky Power's showing of good cause for such extension.

11. Within 20 days of the date of this Order, Kentucky Power shall file with the Commission, using the Commission's electronic Tariff Filing System, its revised Tariff E.S. as set forth in this Order reflecting that it was approved pursuant to this Order.

12. This case is now closed and removed from the Commission's docket.

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By the Commission



ATTEST:

A handwritten signature in blue ink that reads "Linda C. Bidwell". The signature is written in a cursive style and is positioned above a horizontal line.

Executive Director

Case No. 2021-00004

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