

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY)	
UTILITIES COMPANY FOR APPROVAL OF)	CASE NO.
ITS 2020 COMPLIANCE PLAN FOR)	2020-00060
RECOVERY BY ENVIRONMENTAL)	
SURCHARGE)	

ORDER

On March 31, 2020, Kentucky Utilities Company (KU) filed an application, pursuant to KRS 278.183 and 807 KAR 5:001 Section 14, requesting approval of two new projects to KU's Environmental Compliance Plan (2020 Plan) for purposes of recovering the costs of these projects through KU's Environmental Cost Recovery (ECR) Surcharge. KU also requests approval of revisions to its ECR Surcharge tariff and ECR Surcharge monthly filing forms to reflect the additional projects. Lastly, KU requests approval to continue to use the return on equity (ROE) established in Case No. 2018-00294¹ and confirmed for ECR Surcharge purposes in Case No. 2019-00205.²

On April 15, 2020, the Commission issued an Order establishing a procedural schedule for the processing of this matter. The procedural schedule provided for, among other things, two rounds of discovery on KU's application and accompanying pre-filed direct testimonies. There are no intervenors in this proceeding. KU responded to two

¹ Case No. 2018-00294, *Electronic Application of Kentucky Utilities Company for an Adjustment of Its Electric Rates* (Ky. PSC Apr. 30, 2019).

² Case No. 2019-00205, *Electronic Examination by the Public Service Commission of the Environmental Surcharge Mechanism of Kentucky Utilities Company for the Two-Year Billing Period Ending April 30, 2019* (Ky. PSC Oct. 22, 2019).

rounds of discovery from Commission Staff. KU filed supplemental testimony on September 4, 2020. A formal hearing was held at the Commission's offices on September 10, 2020. KU filed responses to post-hearing data requests on September 18, 2020. The matter now stands submitted for a decision.

BACKGROUND

KU asserts that the proposed projects contained in KU's 2020 Plan will enable KU to comply with the United States Environmental Protection Agency's (EPA) 2015 Effluent Limitations Guidelines Rule (2015 ELG Rule) as amended.³ KU notes that the 2015 ELG Rule, which was finalized on September 30, 2015, established new limits for certain pollutants in flue gas desulfurization (FGD) wastewater and included regulations regarding the discharge of bottom ash transport water (BATW).⁴ KU constructed process water treatment systems at Ghent Generating Station (Ghent) and Trimble County Generating Station (Trimble County) in order to comply with the EPA's Disposal of Coal Combustion Residuals from Electric Utilities final rule (CCR Rule) in a manner consistent with the 2015 ELG Rule.⁵ On November 22, 2019, the EPA published revisions to the 2015 ELG Rule for steam electric power generators that impose stricter requirements on the allowable levels of some pollutants applicable to FGD wastewater and BATW.⁶ Because KU's existing process water treatment systems at Ghent and Trimble County

³ Application at 4. See also Direct Testimony of Gary H. Revlett (Revlett Testimony) at 3.

⁴ Revlett Testimony at 4-5.

⁵ Application at 4. These projects are part of KU's 2016 Environmental Compliance Plan. Case No. 2016-00026, *Application of Kentucky Utilities Company for Certificates of Public Convenience and Necessity and Approval of Its 2016 Compliance Plan for Recovery by Environmental Surcharge* (Ky. PSC Aug. 8, 2016).

⁶ Application at 4.

cannot achieve the pollutant levels for nitrates, nitrites, and selenium mandated by the 2015 ELG Rule as revised, KU is seeking approval of additional ELG water treatment systems at both locations which will satisfy the 2015 ELG Rule's requirement that KU use the Best Available Technology Economically Achievable to control pollutant levels.⁷

ENVIRONMENTAL REQUIREMENTS

KU explains that, among other things, the 2015 ELG Rule, as revised (1) places limits on arsenic, mercury, selenium, and nitrates/nitrites for FGD wastewater discharges;⁸ (2) establishes a maximum 30-day rolling average of 10 percent volumetric daily discharge for BATW to maintain system balance due to maintenance events, storm water, upsets exceeding system spares/redundancies, and chemistry/corrosion control issues; and (3) requires that best management practices must be used to minimize discharges for BATW.⁹

When KU filed its application, it made assumptions based on the current 2015 ELG Rule and proposed revisions, which included discharge limitations and compliance deadlines of no later than December 31, 2023, for BATW discharges and December 31, 2024, for FGD wastewater discharges.¹⁰ On August 31, 2020, the EPA submitted the pre-publication notice for the 2015 ELG Rule, which signifies that the EPA has submitted

⁷ *Id.* See also Conroy Testimony at 4 and KU's response to Commission Staff's First Request for Information (Staff's First Request) (filed May 22, 2020), Item 4. Although the 2015 ELG Rule applies to KU's Brown Generating Station (Brown), KU is not proposing any compliance projects at this time because operating conditions at Brown allow for "net neutral" or "water-negative" water usage. KU states that, if necessary, the comparatively minor steps that would have to be taken at Brown to comply with the 2015 ELG Rule as revised can be completed quickly.

⁸ Application at 4.

⁹ Revlett Testimony at 7.

¹⁰ Application at 5.

the final rule for publication; the 2015 ELG Rule will be effective 60 days after publication in the Federal Register.¹¹ The 2015 ELG Rule, as revised, requires compliance as soon as possible on or after one year from the date the final rule is published in the Federal Register, but no later than December 31, 2025, for both BATW and FGD wastewater discharges.¹² Noncompliant units must be retired by December 2028.¹³

By agreement between the EPA and the Commonwealth of Kentucky, the EPA's National Pollutant Discharge Elimination System permits are issued and enforced by Kentucky's Department for Environmental Protection, Division of Water, under the Kentucky Pollutant Discharge Elimination System (KPDES). KU asserts that KU's KPDES permits for Ghent and Trimble County already reflect the 2015 ELG Rule requirements and will be revised when the proposed revisions to the 2015 ELG Rule become final.¹⁴ The KPDES permit modifications will be made at the discretion of the Kentucky Division of Water, such that KU does not currently know the compliance deadlines for the 2015 ELG Rule, as revised, but expects a final compliance deadline date will be established in the second quarter of 2021.¹⁵ KU notes that its 2020 Plan projects are necessary to comply with selenium and nitrates/nitrites limits in the 2015 ELG Rule, such that they are necessary whether or not the revisions become final.¹⁶

¹¹ Supplemental Direct Testimony of Gary H. Revlett (Revlett Supplemental Testimony) (filed Sept. 4, 2020) at 1.

¹² *Id.* at 3.

¹³ Direct Testimony of Stuart A. Wilson (Wilson Testimony), Exhibit SAW-1 at 4.

¹⁴ Revlett Testimony at 5.

¹⁵ *Id.* and KU's response to Staff's First Request, Item 7.

¹⁶ Revlett Testimony at 10.

KU'S 2020 ENVIRONMENTAL COMPLIANCE PLAN

The total capital cost of the two proposed projects in KU's 2020 Plan is estimated to be approximately \$252.3 million.¹⁷ Of the estimated total capital cost of these proposed projects, KU is seeking to recover \$250.3 million through its ECR mechanism, which represents the amounts not included in the forecasted test period of KU's most recent base rate case.¹⁸ KU states that, while it does not believe that the projects in its 2020 Plan require certificates of public convenience and necessity (CPCN), it nevertheless requests that the Commission grant the projects CPCNs if necessary.¹⁹ KU's 2020 Plan projects are anticipated to create operating and maintenance (O&M) costs beginning in 2023, based on the assumed compliance deadline.²⁰ The O&M costs are expected to total \$43.9 million through 2029, with annual O&M ranging from \$1.0 million in 2023 to \$8.2 million in 2029.²¹ KU states that the O&M costs associated with the 2020 Plan projects are not included in its existing base rates or ECR mechanism.²²

KU evaluated multiple compliance alternatives for Ghent and also evaluated whether it would be more cost effective to put in place the proposed projects at each generating unit or to retire the unit and replace its capacity.²³ Over the three fuel price

¹⁷ Application, Exhibit 1 at 1, and Direct Testimony of R. Scott Straight (Straight Testimony), Exhibit RSS-4.

¹⁸ Direct Testimony of Andrea M. Fackler (Fackler Testimony) at 6. Upon approval of the 2020 Plan, KU will reset future base rates to allow the total costs for these ECR projects to be recovered through its ECR mechanism, thus ensuring no double recovery.

¹⁹ Conroy Testimony at 7–8.

²⁰ Application at 6 and Exhibit 1 at 2..

²¹ Application, Exhibit 1 at 2.

²² Fackler Testimony at 5.

²³ Wilson Testimony at 5–7.

scenarios, the average present value revenue requirement (PVRR) of the least-cost ELG compliance option was lower than the least-cost capacity replacement, thus, KU asserts its 2020 Plan reflects a cost-effective means for complying with the applicable regulations.²⁴

Project 43

The first project consists of an ELG water treatment system, a wastewater diffuser, and a BATW recirculation system at Ghent (collectively, Project 43).²⁵ KU states that Project 43 is the least cost option to comply with the 2015 ELG Rule, as amended, and the existing KPDES permit requirements regarding nitrate/nitrite and selenium in FGD wastewater discharges and the limits on BATW discharges.²⁶ The estimated total capital cost to construct Project 43 is \$216.5 million, of which \$0.3 million is included in existing base rates.²⁷ The O&M costs are estimated to total \$34.9 million for 2023 through 2029, with an annual O&M expense ranging from \$0.4 million in 2023 to \$6.7 million in 2029.²⁸

Using four retirement alternatives and three fuel price scenarios, KU evaluated whether ELG compliance or retiring and replacing Ghent's capacity would be more economical.²⁹ The retirement alternatives evaluated included compliance at all units with Ghent Unit 2 retiring at its depreciation retirement date in 2034 or early in 2029,

²⁴ *Id.* at 7.

²⁵ *Id.*

²⁶ Straight Testimony at 22 and Wilson Testimony at 6–7.

²⁷ Application, Exhibit 1 at 1, and Fackler Testimony at 6.

²⁸ Application, Exhibit 1 at 2.

²⁹ Wilson Testimony, Exhibit SAW-1 at 25.

compliance at three units with Ghent Unit 2 retiring in 2026, and early retirement of all units in 2029 without compliance.³⁰ KU evaluated whether to design Project 43 to apply to all four units at Ghent or any three units due to uncertainty regarding the future environmental compliance of Ghent Unit 2, because it is not equipped with selective catalytic reduction.³¹ KU explains that the capital cost per kilowatt (kW) of capacity was lowest for facilities designed to process the wastewater from all Ghent units, due to economies of scale.³² These retirement alternatives were evaluated over KU's estimates of low, mid, and high fuel price scenarios. Replacement generation resources considered included simple-cycle combustion turbines (SCCT), natural gas combined cycle (NGCC), solar, and wind.³³ KU stated that, for all replacement resource types, the PVRR of compliance at all four units and retirement of Ghent Unit 2 in 2034 was the least-cost alternative based on the average PVRR of the fuel price scenarios.³⁴ The PVRR of compliance at all four units and retirement of Ghent Unit 2 in 2029 is slightly favorable to early retirement of all units when the replacement capacity is NGCC but slightly unfavorable when the replacement is NGCC and solar.³⁵ KU determined that Project 43 was the least cost option by an average of \$87 million.³⁶ KU therefore selected

³⁰ *Id.* at 25.

³¹ *Id.* at 8.

³² *Id.* at 8.

³³ *Id.* at 14.

³⁴ *Id.* at 27–28.

³⁵ *Id.* at 28.

³⁶ *Id.* at 3.

compliance at all Ghent units as the least-cost compliance alternative and designed Project 43 to provide compliance for all Ghent units.

The ELG water treatment system will add biological treatment to Ghent's existing chemical treatment system to achieve compliance with nitrate/nitrite and selenium FGD discharge limits of the 2015 ELG Rule.³⁷ The estimated capital cost to construct the ELG water treatment system is \$136.5 million.³⁸ KU expects to award a competitively bid contract by the end of 2020 and, while the bidders may bid different completion dates, KU is expecting the ELG water treatment system to be constructed and commissioned by November 2024.³⁹

The wastewater diffuser will reduce the concentration of Ghent's discharges in the Ohio River to comply with the existing KPDES permit limits in the event that variables outside KU's control impact the effectiveness of the water treatment systems and approach the permitted discharge limits.⁴⁰ The estimated capital cost to construct the wastewater diffuser is \$16.1 million.⁴¹ KU expects the diffuser will be installed in 2021 if river conditions are conducive for construction, with completion in November 2021.⁴²

KU states that the BATW recirculation system is necessary to comply with the BATW discharge limitations in the proposed revisions to the ELG Rule.⁴³ Ghent's wet

³⁷ Application at 5 and Revlett Testimony at 11.

³⁸ Application, Exhibit 1 at 1.

³⁹ Straight Testimony at 20.

⁴⁰ *Id.* at 19.

⁴¹ Application, Exhibit 1 at 1.

⁴² Straight Testimony at 21.

⁴³ Revlett Testimony at 11.

sluicing bottom ash system requires KU to reroute the BATW from the drying facility back to the generating units for reuse.⁴⁴ The estimated capital cost to construct the BATW recirculation system is \$63.9 million.⁴⁵ KU states that the BATW recirculation system will be constructed and commissioned by the end of 2023.⁴⁶

Project 44

The second project is the construction of an ELG water treatment system at Trimble County (Project 44).⁴⁷ Because Trimble County is jointly owned with Louisville Gas and Electric Company (LG&E), KU and LG&E will share the costs of the construction of the proposed ELG water treatment system at Trimble County; the costs will be allocated 48 percent to KU and 52 percent to LG&E.⁴⁸ KU's portion of the estimated capital cost for Project 44 is approximately \$35.9 million, of which KU seeks to recover \$34.1 million through the ECR mechanism as part of its 2020 Plan Project 44.⁴⁹ The O&M costs are estimated to total \$9.0 million for 2023 through 2029, with an annual O&M expense ranging from \$0.6 million in 2023 to \$1.5 million in 2029.⁵⁰

Using three fuel price scenarios, KU evaluated whether Project 44 or retiring and replacing Trimble County's capacity would be more economical.⁵¹ These retirement

⁴⁴ Straight Testimony at 6.

⁴⁵ Application, Exhibit 1 at 1.

⁴⁶ *Id.*

⁴⁷ Application at 4.

⁴⁸ *Id.* at 6.

⁴⁹ *Id.* at 7.

⁵⁰ Application, Exhibit 1 at 2.

⁵¹ Wilson Testimony, Exhibit SAW-1 at 28.

alternatives were evaluated over KU's estimates of low, mid, and high fuel price scenarios. Replacement generation resources considered included SCCT, NGCC, solar, and wind.⁵² KU stated that, for all replacement resource types, the PVRR of compliance was the least-cost alternative based on the average PVRR of the fuel price scenarios.⁵³ KU determined that Project 44 was the least cost option by an average of \$364 million.⁵⁴ KU therefore selected compliance at both Trimble County units as the least-cost compliance alternative and designed Project 44 to provide compliance for both Trimble County units.

The ELG water treatment system will add biological treatment to Trimble County's existing chemical treatment system to achieve compliance with nitrate/nitrite and selenium discharge limits of the 2015 ELG Rule.⁵⁵ KU expects to award a competitively bid contract by the end of 2020 and the ELG water treatment system to be constructed and commissioned by June 2023.⁵⁶

DISCUSSION

Economic Analysis Assumptions

Upon request, KU updated its economic analysis to include a fuel price scenario with natural gas prices 25 percent lower than the NYMEX forward market prices used as the natural gas projection in the low fuel price scenario, to reflect the NGCC capacity cost

⁵² Wilson Testimony, Exhibit SAW-1 at 14.

⁵³ Wilson Testimony, Exhibit SAW-1 at 32.

⁵⁴ *Id.* at 3.

⁵⁵ Application at 6 and Revlett Testimony at 11.

⁵⁶ Straight Testimony at 23.

based upon the National Renewable Energy Laboratory's (NREL) 2019 Annual Technology Baseline of \$887/kW (2019 ATB), and including cost associated with extending natural gas transmission to Ghent, necessary to replace Ghent's capacity with NGCC.⁵⁷ The result of the updated assumptions was that the early retirement of all Ghent units becomes more favorable with lower natural gas prices and replacement capacity costs and less favorable with the inclusion of natural gas transmission costs.⁵⁸

In response to the requested alternative assumptions, KU argued that the 2019 ATB of \$887/kW for NGCC capacity is outdated because NREL recently published its 2020 Annual Technology Baseline (2020 ATB), which listed the overnight capital cost for NGCC capacity at \$1,023/kW, compared to the \$1,044/kW used in KU's original analysis.⁵⁹ KU also argued that, while the lower natural gas forecasts favor replacement, assuming that natural gas prices will be in the lower ranges risks KU's ability to economically respond to higher gas costs. KU argues that ELG compliance expenditures do not preclude KU from pursuing natural gas generation in the future if natural gas prices would make it economical but that switching to natural gas now would prevent KU from hedging higher natural gas costs with coal generation in the future.⁶⁰ KU asserts that its 2020 Plan will allow it to phase in economical replacement generation in an orderly fashion, thereby reducing the risks associated with replacing a large percentage of its

⁵⁷ KU's response to Commission Staff's Post-Hearing Request for Information (Staff's Post-Hearing Request) (filed Sept. 18, 2020), Item 2.

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.*

base load generating capacity over an eight year period to remain in compliance with the 2015 ELG Rule, as revised.⁶¹

The Commission takes issue with KU's presentation of the economic analysis and the explanation of the underlying assumptions, including KU's exclusion of natural gas and electric transmission system extensions necessary to replace Ghent's capacity with NGCC. KU did not attempt to quantify several significant risks associated with the retirement and replacement alternatives that appear to have played a significant role in the selection of the 2020 Plan projects as the least cost, feasible alternative. KU instead noted these risks as qualitative, using them to "veto" any cost-effective outcome from the company's analysis that represented an alternative to KU's compliance plan. In the absence of any substantive discussion or quantification of these "qualitative" risks, the Commission is unable to discern whether reasonable alternatives represent a better path forward than KU's intended course of action. While KU's 2020 Plan is an appropriate and necessary means of complying with federal and state regulations applying to coal fired generation, it is based on the data, information, and assumptions as evaluated and modeled by KU. Many of the assumptions that KU developed attempt to forecast costs and scenarios outside of KU's control, i.e. fuel prices and carbon constraints; however, certain assumptions such as unit retirement dates and replacement capacity type are ultimately within KU's control. The Commission expects KU to take all reasonable efforts to ensure the utility does not unilaterally change the economics of these investments after the fact. Decisions to retire generation units are effectively in the hands of utilities, while the rate implications of such decisions nevertheless rest with the Commission.

⁶¹ *Id.*

Furthermore, in the future, the Commission intends to employ competent, qualified independent consultants to assist the Commission in our review of KU's plan of compliance, as provided by KRS 278.183(4).

CPCN

As discussed above, KU argued that the projects in its 2020 Plan do not require CPCNs because they do not result in the wasteful duplication of utility plant, do not compete with the facilities of other public utilities, and do not involve capital expenditures that would materially affect KU's existing financial condition.⁶² KU stated that the projects in its 2020 Plan do not individually exceed five percent of its net utility plant, and therefore do not materially affect its financial position.⁶³ KU stated that it nevertheless requests a CPCN and has provided sufficient information for the Commission to grant CPCNs, to the extent the Commission determines CPCNs are necessary.⁶⁴ The Commission finds that, until further Order of the Commission, any capital expenditure that exceeds \$100 million will be considered material to KU's financial position and will require a CPCN.⁶⁵ Based on this requirement, KU's Project 43 requires a CPCN.

Return on Equity

KRS 278.183(2)(b) requires the Commission "[e]stablish a reasonable return on compliance-related capital expenditures" during its review of environmental compliance

⁶² Conroy Testimony at 7.

⁶³ *Id.* at 7–8. The capital cost of the Ghent project and KU's portion of the Trimble County project represents 3.1 and 0.5 percent of KU's net utility plant, respectively.

⁶⁴ *Id.* at 8–9.

⁶⁵ KU should not merely categorize capital projects into interdependent subparts or isolated yearly amounts to circumvent this requirement.

plans. As discussed, KU is requesting to apply the 9.725 percent ROE authorized in its most recent rate case, Case No. 2018-00294 (2018 Rate Case).⁶⁶ In support of the 9.725 percent, KU stated that it was comparable to recently approved ROEs as it is consistent with the 9.73 percent average return for vertically integrated electric utilities in 2019 as reported in the January 31, 2020 S&P Global Market Intelligence Report.⁶⁷ Although the Commission determined a 9.725 percent ROE to be reasonable in the 2018 Rate Case, for the purpose of calculating KU's ECR charges for its 2020 Plan, the Commission is not bound by the previous approved ROE, particularly where there have been subsequent material changes in the economy.⁶⁸

LEGAL STANDARDS

CPCN

The Commission's standard of review regarding a CPCN is well settled. No utility may construct or acquire any facility to be used in providing utility service to the public until it has obtained a CPCN from this Commission.⁶⁹ To obtain a CPCN, the utility must demonstrate a need for such facilities and an absence of wasteful duplication.⁷⁰

"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.

⁶⁶ Case No. 2018-00294, *Kentucky Utilities Company* (Ky. PSC Apr. 30, 2019).

⁶⁷ Conroy Testimony at 10.

⁶⁸ Case No. 2016-00026, *Kentucky Utilities Company* (Ky. PSC Aug. 8, 2016).

⁶⁹ KRS 278.020(1).

⁷⁰ *Kentucky Utilities Co. v. Pub. Serv. Comm'n*, 252 S.W.2d 885 (Ky. 1952).

[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.⁷¹

“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.”⁷² 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.⁷³ Selection of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication.⁷⁴ All relevant factors must be balanced.⁷⁵ The statutory touchstone for ratemaking in Kentucky is the requirement that rates set by the Commission must be fair, just, and reasonable.⁷⁶

ECR Mechanism

KRS 278.183(1), commonly known as the Environmental Surcharge Statute, provides, in pertinent part, as follows:

⁷¹ *Id.* at 890.

⁷² *Id.*

⁷³ Case No. 2005-00142, *Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky* (Ky. PSC Sept. 8, 2005).

⁷⁴ See *Kentucky Utilities Co. v. Pub. Serv. Comm’n*, 390 S.W.2d 168, 175 (Ky. 1965). See also Case No. 2005-00089, *The Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity to Construct of a 138 kV Electric Transmission Line in Rowan County, Kentucky* (Ky. PSC Aug. 19, 2005).

⁷⁵ Case No. 2005-00089, *East Kentucky Power Cooperative, Inc.* (Ky. PSC Aug. 19, 2005), final Order at 6.

⁷⁶ KRS 278.190(3).

Notwithstanding any other provision of this chapter, effective January 1, 1993, a utility shall be entitled to the current recovery of its costs of complying with the Federal Clean Air Act as amended and those federal, state, or local environmental requirements which apply to coal combustion wastes and by-products from facilities utilized for production of energy from coal in accordance with the utility's compliance plan as designated in subsection (2) of this section. These costs shall include a reasonable return on construction and other capital expenditures and reasonable operating expenses for any plant, equipment, property, facility, or other action to be used to comply with applicable environmental requirements set forth in this section. Operating expenses include all costs of operating and maintaining environmental facilities, income taxes, property taxes, other applicable taxes and depreciation expenses as these expenses relate to compliance with the environmental requirements set forth in this section.

The Environmental Surcharge Statute allows a utility to recover its qualifying environmental costs through a ratemaking procedure which is an alternative to the filing of a general rate case under KRS 278.190. The Environmental Surcharge Statute specifies (1) the categories of costs that can be recovered by surcharge; (2) the procedures which must be followed by a utility to obtain approval of its environmental plan and surcharge; (3) the procedures and evidentiary standard to be applied by the Commission in reviewing applications for approval of an environmental plan and rate charge; and (4) the mandatory filing requirements and periodic reviews of an approved surcharge. The Commission must consider the plan and the proposed rate surcharge, and approve them if it finds the plan and rate surcharge to be reasonable and cost effective.

FINDINGS

Having reviewed the record and being otherwise sufficiently advised, the Commission finds that KU has sufficiently established a need for Project 43 as proposed

its 2020 Plan in order to address compliance with the 2015 ELG Rule, as revised. The Commission also finds that Project 43 is the lowest reasonable cost alternative to address compliance with the relevant environmental statute and regulations, based on the assumptions and analyses provided by KU. The Commission notes that KU's economic analyses of the individual projects in its 2020 Plan contain reasonable assumptions, alternatives, and methodology. We further note that KU's economic analyses showed that the proposed environmental project is the lowest reasonable cost alternatives, given the qualitative risks identified by KU. The Commission finds that Project 43 will not result in wasteful duplication of similar or alternative facilities or construction. Lastly, the Commission finds that KU's 2020 Plan to recover the costs of the pollution control construction through its ECR Surcharge tariff is reasonable.

Therefore, the Commission concludes that the installation of ELG compliance systems, are required under applicable environmental regulations in order to assure meeting those regulations, and that the proposed environmental compliance construction projects are the least-cost reasonable solution in meeting those requirements. The Commission finds that KU has established sufficient evidence to demonstrate that a CPCN for the construction of Project 43 should be approved as proposed.

Return on Equity

As stated in KU's prior environmental compliance plan, Case No. 2016-00026,⁷⁷ the controlling statute, KRS 278.183(2)(b), provides that when a new environmental compliance plan is filed, the Commission must "[e]stablish a reasonable return on

⁷⁷ Case No. 2016-00026, *Kentucky Utilities Company* (Ky. PSC Aug. 8, 2016).

compliance-related capital expenditures.”⁷⁸ In Case No. 2016-00026, the Commission found that due to changing economic conditions, the ROE as approved in the prior rate case was neither reasonable nor appropriate, found no basis for continued use of the prior rate case approved ROE, and noted that the Commission may not always choose to rely on ROEs established in previous proceedings.⁷⁹ The Commission finds that, as in Case No. 2016-00026, due to material changes in the economy, including but not limited to lowered interest rates, changes in the Federal Reserve policies, and additional changes in the economy, the previously approved 9.725 percent ROE is an unnecessarily high rate to compensate investors for the risk of investing in KU and its new ECR projects on an ongoing basis.

The Commission notes that KU failed to provide any material support for the establishment of a proposed ROE of 9.725 percent. KU’s testimony did not include an analysis of current economic conditions, nor did it address any of the traditional ROE methodologies, such as Discounted Cash Flow, Capital Asset Pricing Model, or Risk Premium. Instead, KU simply relied on how the proposed ROE compared to other 2019 awarded ROEs. Although in the absence of better evidence the Commission has considered other vertically integrated electric utilities’ awarded ROEs for the purposes of determining an appropriate ROE,⁸⁰ the Commission believes an overall evaluation of traditional ROE models and inputs comparable to KU is more acceptable in assisting in the determination of a reasonable ROE.

⁷⁸ *Id.*, final Order at 27.

⁷⁹ *Id.*, final Order at 32.

⁸⁰ *Id.* at 29.

Similar to its 2016 ECR matter, KU again provided inadequate evidence for the Commission to determine an appropriate ROE based on the utility's filing. Apart from providing ROE summaries from rate cases in other states that were awarded more than ten months ago, KU again did not provide evidence to support its proposed ROE, which is merely a continuation of the ROE awarded in the company's most recent base rate case. Based on data request responses and information gathered during the hearing, the Commission finds that KU's shareholder required return is directionally lower than awarded more than a year ago.⁸¹ Further, a recent rate case filing, which contained testimony by the same expert witness that KU retained to provide support for its proposed ROE in its last base rate case, Case No. 2018-00294, also illustrates lower capital costs.⁸² For example, the updated DCF model, which includes a comparable proxy group,⁸³ illustrates a decrease of 80 basis points from the average since 2018.⁸⁴ Additionally, the average unadjusted results of three other ROE methods are lower, supporting the fact that directionally, ROE has decreased since 2018.⁸⁵ In general, equity cost rates have

⁸¹ Testimony of Daniel K. Arbough at formal hearing 1:03–1:58 (Sept. 10, 2020 Hearing) and KU's response to Staff's Second Request for Information (Staff's Second Request), Item 1.

⁸² See 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* (filed June 29, 2020), Direct Testimony of Adrien M. McKenzie, CFA (McKenzie Testimony for Kentucky Power).

⁸³ Eighteen of the 23 utilities in the proxy group for Case No. 2020-00274 are the same. See Case No. 2020-00174, McKenzie Testimony for Kentucky Power, Exhibit AMM-4 at 1, and Case No. 2018-00294, Direct Testimony of Adrien M. McKenzie (McKenzie Testimony for KU), Exhibit 5 at 1 for proxy group listing.

⁸⁴ See, McKenzie Testimony for Kentucky Power, Exhibit AMM-2, page 1 of 1 for the DCF average of 9.7% and McKenzie Testimony for KU, Exhibit No. 2 at 1 for the DCF average of 10.5%.

⁸⁵ See, McKenzie Testimony for Kentucky Power, Exhibit AMM-2 at 1, and Case No. 2017-000294, McKenzie Testimony for KU, Exhibit No. 2 at 1 for a comparable update of ROE models.

decreased, a lower interest rate environment is still prevalent⁸⁶, and, therefore, an ROE of 9.725 percent is excessive.

The cost of equity is affected by the risk of shareholders not adequately recovering their investment, the risk associated with recovering the investment later than desired, and the risk from the shareholder receiving less than comparable investments. To reduce shareholder risk, utilities can recover specified expenditures, such as environmental expenditures, with more certainty and without filing a general rate case through specific riders. With a rider, since a return is guaranteed and the time line of recovery is known, and ordinarily not meaningfully delayed, the required return is less than the ROE associated with a rate case as the risk involved is decreased and most lag associated with recovery is eliminated. According to the S&P Global Report for Major Rate Case Decisions – January – June 2020, after removing ROE premiums, limited rider ROEs are 43 basis points below the January–June 2020 vertically integrated ROE average of 9.67 percent.⁸⁷

The most recent Commission approved ROE for an investor-owned electric utility was less than six months ago and was 9.250 percent.⁸⁸ Consistent with the Commission's decision in that previous matter it is evident that the economy and the evidence overwhelmingly indicate the previously approved ROE of 9.725 percent is

⁸⁶ U.S. Treasury 30-year bond yield decreased from 2.58% in 2019 to 1.62% in the first half of 2020. See KU's response to Staff's Second Request, Item 1, Attachment 1.

⁸⁷ KU's response to Staff's Second Request, Item 1, Attachment 1. American Electric Power and Virginia State Corporate Commission awards include such ROE premiums.

⁸⁸ See Case No. 2019-00271, *Electronic Application of Duke Energy Kentucky, Inc. for 1) an Adjustment of the Electric Rates; 2) Approval of New Tariffs; 3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; and 4) All Other Required Approvals and Relief* (Ky. PSC Apr. 27, 2020), final Order at 46.

overstated. Further confirmation that the ROE of 9.725 percent is unwarranted is supported by recent ROE awards and comparable ROE testimony filed in Kentucky Power's pending rate case, Case No. 2020-00174, which testimony was provided by the same expert that is retained by KU. Also, as noted above, limited riders are relatively less risky and thus, in the absence of ROE premiums, are lower than rate case awarded ROEs. Based on the evidence in this matter, including the fact that underlying economic data used in traditional ROE models asymmetrically indicates a massive reduction in capital costs, the Commission finds KU's required ROE for purposes of the 2020 Plan and related monthly surcharge filings to be 9.200 percent. The Commission's finding of a reasonable ROE is a reflection of current economic conditions, investor expectations, the fact that this award is only for the purpose of a limited rider, and our statutory duty under KRS 278.183(2)(b). The Commission recommends that KU consider filing expert ROE testimony in further environmental compliance plans in support of its proposals.

IT IS THEREFORE ORDERED that:

1. KU's 2020 Plan, consisting of Projects 43 and 44, is approved.
2. KU is granted a CPCN for Project 43.
3. The proposed revisions and additions to KU's monthly ES forms are approved.
4. KU shall use a return-on-equity rate of 9.200 percent for the 2020 Plan in all monthly environmental surcharge filings following the date of this Order, unless changed by subsequent Order of the Commission.

5. Within ten days of the date of this Order, KU shall file with the Commission revised tariff sheets setting out Rate Schedule ECR as proposed and reflecting that it was approved pursuant to this Order.

6. KU shall promptly file with the Commission a notice and supporting analysis in the event that a new or revised environmental requirement impacts any facility in service or under construction.

7. KU shall submit status update reports on the construction and implementation of the proposed projects contained in its 2020 Plan every three months from the date of this Order, which shall include, among other things, detailed information regarding the amount spent to date, the amount spent during the reporting period, the projected budget for the next reporting period, the total projected costs each of the projects contained in the 2020 Plan, construction activities that occurred during the reporting period, and the construction activities for the next reporting period.

8. Any documents filed in the future pursuant to ordering paragraphs 6 and 7 herein shall reference this case number and shall be retained in the utility's general correspondence files.

9. The Executive Director is delegated authority to grant reasonable extension of time for the filing of any documents required by ordering paragraph 7 of this Order upon KU's showing of good cause.

10. Any capital expenditure that exceeds \$100 million will be considered material to KU's financial condition and will require a CPCN until further Order of the Commission.

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

By the Commission



ATTEST:



Acting Executive Director

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