

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF BIG RIVERS)	
ELECTRIC CORPORATION FOR A CERTIFICATE)	CASE NO.
OF PUBLIC CONVENIENCE AND NECESSITY TO)	2021-00275
CONSTRUCT A 161 KV TRANSMISSION LINE IN)	
MCCRACKEN COUNTY, KENTUCKY)	

ORDER

On September 22, 2021, Big Rivers Electric Corporation (BREC) filed an application, pursuant to KRS 278.020(2) and 807 KAR 5:001, Section 15, for a Certificate of Public Convenience and Necessity (CPCN) authorizing it to (1) construct a 3.8-mile 161 kilovolt (kV) transmission line in McCracken County; (2) and requested an additional finding that no CPCN would be required for two other related substation projects. In the alternative, if the Commission finds that one or more of the proposed substation projects requires a CPCN, BREC requested that the Commission issue a CPCN for such projects. The Commission established a procedural schedule for the orderly processing of this matter by Order on October 4, 2021, and provided for a deadline to request intervention. No party sought intervention in this matter. BREC has responded to two requests for information from Commission Staff.¹

BREC has verified that it has mailed the information required by 807 KAR 5:120, Section 2(3), to each property owner over whose property the proposed transmission line

¹ Response to Staff's First Request (filed Oct. 29, 2021), Response to Staff's Second Request (filed Nov. 17, 2021).

right-of-way will cross, at the owner's address as indicated by the records of the county property valuation administrator records.² No party has sought intervention in this matter. Given these facts, the Commission finds that a public hearing is not necessary for the public interest or the protection of substantial rights. Therefore, this matter is before the Commission on the evidentiary record.

Having reviewed the record and being otherwise sufficiently advised, the Commission finds that BREC's request for a CPCN should be granted subject to the conditions discussed below. Further, the Commission finds that no CPCN is required for the two related substation projects.

BACKGROUND

BREC is a rural electric cooperative corporation organized pursuant to KRS Chapter 279.³ BREC owns generating assets and purchases, transmits, and sells electricity at wholesale.⁴ BREC's principal purpose is to provide the wholesale electricity requirement of its three distribution cooperative members: Jackson Purchase Energy Corporation (Jackson Purchase), Kenergy Corp., and Meade County Rural Electric Cooperative.⁵ Jackson Purchase, in turn, provides retail electric service to approximately 30,199 consumer-members in Ballard, Carlisle, Graves, Livingston, McCracken, and

² Application at 10.

³ *Id.* at 4.

⁴ *Id.*

⁵ *Id.*

Marshall counties, Kentucky.⁶ In Case No. 2021-00282,⁷ BREC and Jackson Purchase were granted Commission approval of a retail electric service agreement with Blockware Mining, LLC (Blockware) and a wholesale agreement between BREC and Jackson Purchase, wherein Blockware will purchase electricity, sold at a special economic development rate, from Jackson Purchase to facilitate its bitcoin mining operation to be located in Paducah's Industrial Park West.⁸ Under the terms of the wholesale agreement approved by the Commission, BREC must provide Jackson Purchase with the power necessary to serve Blockware.⁹ The transmission upgrades proposed in BREC's application are necessary to provide the electric service to allow Blockware to operate in the Industrial Park West.¹⁰

THE CURRENT PROJECT

BREC proposed to upgrade its transmission system as described below. All proposed projects will be constructed in McCracken County, Kentucky.

Project A

Project A, the project for which a CPCN is sought, is a 3.8 mile 161 kV transmission line circuit from BREC's existing McCracken County Substation to a new substation to be constructed adjacent to Jackson Purchase's Maxon Substation, (proposed below as

⁶ *Annual Report of Jackson Purchase Energy Corporation to the Public Service Commission for the Calendar Year ended December 31, 2020* at 33

⁷ Case No. 2021-00282, *Electronic Tariff Filing of Big Rivers Electric Corporation and Jackson Purchase Energy Corporation for Approval and Confidential Treatment of a Special Contract and Cost Analysis Information and a Request for Deviation from the Commission's September 24, 1990 Order in Administrative Case No. 327.*(Ky. PSC Oct. 14, 2021).

⁸ *Id.* at 4–11.

⁹ *Id.* at 10.

¹⁰ Application at 5–6.

“Project C.”¹¹ The majority of this circuit will be built above BREC’s existing 69 kV transmission line, known as the “Line 21-O”, with two slight alignments adjustments to accommodate clearance requirements at crossings with other transmission lines. Some easements will need to be expanded, but no new property owners will be affected.¹² Additionally, BREC requested the authority to move the location of the line up to 500 feet on either side of the centerline shown on the maps filed with its application, and to acquire additional easements if required to account for unexpected conditions that could be discovered during the construction process, provided that no new property owners are affected.¹³ The easement is 125 feet wide for the 161 kV transmission line and 100 feet wide for the 69 kV transmission line.¹⁴

Project B

Project B is a 161 kV line terminal addition within BREC’s existing McCracken County Substation.¹⁵ This will include the installation of a power circuit breaker, switches, and associated protective relaying for the new 161 kV transmission line.¹⁶ Additionally, BREC plans to upgrade the protective relaying on the existing 69 kV circuit that will be

¹¹ Application. at 2.

¹² *Id.*

¹³ *Id.* at 11

¹⁴ Response to Staff’s Second Request, Item 1(b).

¹⁵ Application at 2

¹⁶ Application, Exhibit A, the Direct Testimony of Michael T. Pullen (Pullen Direct Testimony) at 5.

over-built during construction.¹⁷ BREC argued this project is an ordinary extension of its system in the usual course of business, and does not require a CPCN.¹⁸

Project C

Project C is a new 161/13.8 kV substation (West Paducah Substation) adjacent to Jackson Purchase's existing Maxon Substation at the Industrial Park West in west Paducah.¹⁹ This will include the installation of a new 161-13.8 kV autotransformer, power circuit breakers, switches, and all protective relaying required.²⁰ The Paducah McCracken County Industrial Development Authority, the current owner of the proposed new substation property, recently received authority to gift the property to BREC for the proposed construction.²¹ However, BREC requested the authority to move the location of Project C, the West Paducah Substation, from the location shown on the maps filed with the application to account for unexpected conditions that could be discovered during the construction process, but which are highly unlikely to exist.²²

¹⁷ *Id.*

¹⁸ Application at 11–12, See Pullen Direct Testimony at 11–12, See *also*, Response to Staff's First Request, Item 7.

¹⁹ Application at 2.

²⁰ Pullen Direct Testimony at 5.

²¹ *Id.* at 10.

²² Application at 12, See Response to Staff's First Request, Item 8. BREC states that the unexpected conditions include unsuitable soils, which is tremendously unlikely at less than 1% probability; potentially liquefiable soils in the top 100 feet, which is very unlikely at less than five percent probability, but cannot be ruled out until laboratory testing is complete; rare adverse subsurface conditions, such as voids, perched water tables, excessive groundwater, subsurface springs, and spoils with high shrink/swell potential, which are highly unlikely in this area, but cannot be ruled out. BREC states that no alternative locations are being evaluated and BREC does not anticipate encountering any conditions that would necessitate a substation relocation from the proposed area.

BREC maintained that these projects are all necessary for it to meet its obligation to provide Jackson Purchase with adequate voltage levels and acceptable facility loadings under all normal and single contingency conditions.²³ BREC stated that the proposed transmission system improvements are needed to increase the capacity of the existing 69 kV distribution system within Jackson Purchase's service territory.²⁴ BREC argued that the existing 69 kV distribution system is inadequate to serve the anticipated load growth from economic development at the Industrial Park West.²⁵ Further BREC argued that the proposed construction will also provide BREC the ability to enhance reliability to existing retail members of BREC's members.²⁶

The combined estimated cost of the three projects is \$12,700,000, including capitalized interest and estimated purchase prices for right-of-way land.²⁷ The estimated construction cost for Project A is \$7,456,000.²⁸ The estimated construction cost of Project B is \$782,000.²⁹ Project C's estimated construction cost is \$4,462,000.³⁰ However, this estimated construction cost includes an estimated purchase price of \$150,000 for the land for the West Paducah Substation³¹ As mentioned above the land required is now

²³ Application at 3.

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.*

²⁷ Application at 9

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ Pullen Direct Testimony at 9-10.

expected to be gifted to BREC by the Paducah McCracken County Industrial Development Authority.³²

BREC will initially fund the proposed projects with general cash reserves, but it continues to investigate the best source of financing for the construction costs.³³ Any large industrial customers locating at the Industrial Park West will be required to provide a proportionate share of credit support for the construction costs of these projects.³⁴ The construction costs will be included in the rates for transmission service under BREC's Open Access Transmission Tariff as well.³⁵

The estimated cost of operation for all three projects, including the cost of taxes and operation and maintenance, based on historical averages is \$914,329 per year.³⁶ BREC stated that the construction of these projects does not involve sufficient capital outlay to materially affect the existing financial condition of BREC.³⁷

LEGAL STANDARD

The Commission's standard of review regarding a CPCN is well settled. Under KRS 278.020(1), 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. To obtain

³² *Id.*

³³ Application at 8–9.

³⁴ Pullen Direct Testimony at 10.

³⁵ *Id.*

³⁶ Application at 9.

³⁷ *Id.*

a CPCN, the utility must demonstrate a need for such facilities and an absence of wasteful duplication.³⁸

“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.³⁹

“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.”⁴⁰ 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.⁴¹ Selection of a

³⁸ *Kentucky Utilities Co. v. Pub. Serv. Comm'n*, 252 S.W.2d 885 (KY. 1952).

³⁹ *Id.* at 890.

⁴⁰ *Id.*

⁴¹ 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).

proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication.⁴² All relevant factors must be balanced.⁴³

DISCUSSION

Ordinary extensions of existing systems in the usual course of business do not require a CPCN.⁴⁴ However, KRS 278.020(2) states that the construction of any electric transmission line of more than 138 kV or more than 5,280 feet in length shall not be considered an ordinary extension of an existing system in the usual course of business and shall require a CPCN. The transmission line proposed by BREC is a 3.8 mile long 161 kV transmission line. Because it exceeds the limits set by KRS 278.020(2) the proposed transmission line, Project A, requires a CPCN. BREC argues that Projects B and C are ordinary extensions in the usual course of business and do not require a CPCN.

Need

BREC has demonstrated a need for the transmission line and the substation projects. BREC needs these projects to continue to provide reliable electric service to its member-owner, Jackson Purchase. BREC anticipates load growth in McCracken County resulting from future energy-intensive cyber currency mining facilities locating in the area.⁴⁵ In addition to Blockware's commitment to locate in Industrial Park West, other commercial crypto currency mining business have reached out to BREC and Jackson

⁴² 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 a 138 kV Electric Transmission Line in Rowan County, Kentucky* (Ky. PSC Aug. 19, 2005).

⁴³ Case No. 2005-00089, *East Kentucky Power Cooperative, Inc.* (Ky. PSC Aug. 19, 2005), final Order at 6.

⁴⁴ KRS 278.020(1)(a)(2).

⁴⁵ Pullen Direct Testimony at 6.

Purchase. BREC stated that BREC and Jackson Purchase are currently negotiating with a second crypto currency mining business considering locating in Industrial Park West.⁴⁶

The Commission has approved the retail agreement with Blockware and the accompanying wholesale agreement between BREC and Jackson Purchase.⁴⁷ As discussed in the Commission's final Order in Case No. 2021-00282, a critical factor in the location of crypto currency mining operations is the availability of sufficient, reliable, competitively-priced power, because crypto currency mining requires copious amounts of computer hardware.⁴⁸ It is estimated that 95 percent of a crypto currency mining operation's cost is estimated to be the cost of electricity.⁴⁹ Because BREC is now obligated to provide the power necessary for Jackson Purchase to serve Blockware and any other business locating to Industrial Park West, it must upgrade its transmission system to accommodate the needs of its member-owner and the retail customer.

BREC is not experiencing reliability issues currently, but it stated that the addition of Blockware's load connected at 69 kV has the potential to result in reliability issues due to much heavier loadings on the existing facilities.⁵⁰ BREC stated the heavy loadings will likely exceed facility ratings and may result in equipment damage and facility outages.⁵¹ These concerns are alleviated by the 161 kV circuit.⁵²

⁴⁶ *Id.* at 8.

⁴⁷ Case No. 2021-00282, *Big Rivers Electric Corporation and Jackson Purchase Energy Corporation* (Ky. PSC Oct. 14, 2021) at 21–23.

⁴⁸ *Id.* at 5.

⁴⁹ *Id.*

⁵⁰ Response to Staff's First Request, Item 6.

⁵¹ Response to Staff's First Request, Item 5 and Item 6.

⁵² Response to Staff's First Request, Item 6.

In addition to facilitating BREC's ability to supply the power required to serve Blockware, the proposed projects enable BREC and Jackson Purchase to provide electric service to any other expanded load in McCracken County, and enhance reliability to existing members. The proposed transmission upgrades provide supplementary system reliability benefits including reducing transformer loading at the McCracken Substation by approximately 30 megawatts, improving transmission pole reliability by replacing wooden poles with double circuit steel poles, and improving voice and data communication with the installation of a robust and reliable fiber optic network, and strengthening the transmission system.⁵³

Lack of Wasteful Duplication

The proposed construction will not compete with any other public utilities, corporations, or persons.⁵⁴ BREC has demonstrated that it needs the proposed projects. BREC has also taken steps to ensure that the projects are not excessive in investment or scope. Project A largely adds a new circuit over an existing transmission line utilizing existing rights-of-way. This results in less cost, less impact to property owners, and no duplication of facilities.⁵⁵ Project B involves minimal upgrades to the existing McCracken Substation necessary to accommodate the new 161 kV transmission line, and Project C consists of a substation to meet the current need to serve Blockware, while allowing for additional future facilities if the need continues to increase.⁵⁶

⁵³ Pullen Direct Testimony at 8–9.

⁵⁴ Application at 10.

⁵⁵ Pullen Direct Testimony at 10.

⁵⁶ *Id.* at 11.

Ordinary Extension in the Usual Course of Business

As stated above, BREC argued neither Project B nor Project C requires a CPCN because each is an ordinary extension of BREC's existing system and is being undertaken in the usual course of business. KRS 278.020(1)(a) generally requires a utility to obtain a CPCN before beginning the construction of any plant, equipment, property, or facility for furnishing utility service to the public. However, a CPCN is not required for "ordinary extensions of existing systems in the usual course of business."⁵⁷ An "ordinary extension . . . in the usual course of business" is not defined in KRS 278.020 or elsewhere in KRS Chapter 278. For that reason, the Commission promulgated Commission regulation 807 KAR 5:001, Section 15(3),⁵⁸ which states:

Extensions in the ordinary course of business. A certificate of public convenience and necessity shall not be required for extensions that do not create wasteful duplication of plant, equipment, property, or facilities, or conflict with the existing certificates or service of other utilities operating in the same area . . . , and [emphasis added] that do not involve sufficient capital outlay to materially affect the existing financial condition of the utility involved, or will not result in increased charges to its customers.

The Commission has interpreted 807 KAR 5:001, Section 15(3) as stating that no CPCN is required for extensions "that do not result in the wasteful duplication of utility plant, do not compete with the facilities of existing public utilities, and do not involve a sufficient capital outlay to materially affect the existing financial condition of the utility involved or to

⁵⁷ KRS 278.020(1)(a)(1).

⁵⁸ Case No. 2000-00481, *Application of Northern Kentucky Water District (A) for Authority to Issue Parity Revenue Bonds in the Approximate Amount of \$16,545,000; and (B) A Certificate of Convenience and Necessity for the Construction of Water Main Facilities* (Ky. PSC Aug. 30, 2001), Order at 4.

require an increase in utility rates.⁵⁹ The Commission has held that the cost of projects should be reviewed in their entirety to determine whether the capital outlay is sufficient to materially affect the existing financial condition of the utility.⁶⁰

Here, the proposed projects do not result in wasteful duplication, and do not compete with the facilities of other existing public utilities. The total estimated construction costs for the combined three projects is \$12,700,000, which is 1.61 percent of BREC's \$786,621,674 net utility plant as of December 31, 2020.⁶¹ The estimated cost to construct Project B is \$782,000, which is less than 0.1 percent of BREC's net utility plant.⁶² The estimated cost to construct Project C is \$4,462,000 and is 0.57 percent of net utility plant. The combined estimated cost of Projects B and C is \$5,244,000 represents only 0.67 percent of BREC's net utility plant. Additionally BREC anticipates a return on its investment as a result of the new construction being included in the rates for transmission service under BREC's Open Access Transmission Tariff that could serve as an offset to future rate increases for BREC's members, and any Large Industrial Customer locating at the Industrial Park West will be required to provide a proportionate share of credit support for the construction costs.⁶³ For these reasons, the Commission finds that the proposed projects will not materially affect BREC's existing financial condition.

⁵⁹ Case No. 2000-00481, *Northern Kentucky Water District* (Ky. PSC Aug. 30, 2001), Order at 4

⁶⁰ See Case No. 2020-00290, *Electronic Application of Bluegrass Water Utility Operating Company, LLC for an Adjustment of Rates and Approval of Construction* (Ky. PSC Aug. 2, 2021), Order at 21–23.

⁶¹ Response to Staff's First Request, Item 7, and *Annual Report of Big Rivers Electric Corporation to the Public Service Commission for the Calendar Year Ended December 31, 2020* at 15.

⁶² *Id.*

⁶³ Response to Staff's First Request, Item 7.

Having reviewed the evidence of record and being otherwise sufficiently advised, the Commission finds that the 161 kV transmission line set forth in the application as Project A, is necessary, its construction is reasonable and will not result in the wasteful duplication of facilities, and that approval thereof should be granted.

Further, the Commission finds that BREC's request for the authority to move the location of the line up to 500 feet on either side of the centerline shown on the maps filed with its application, and to acquire the additional easement necessary to account for unexpected conditions that could be discovered during the construction process, provided that no new property owners are affected is reasonable and should be granted.⁶⁴

The Commission finds that the two additional substation projects, Project B and Project C, constitute extensions in the ordinary course of business and do not require a CPCN. However, the Commission notes that BREC has satisfactorily demonstrated a need for these projects and that their construction will not result in wasteful duplication.

Further, the Commission finds that BREC's request for authority to move the West Paducah Substation, set forth in the application as Project C, from the location shown on the maps filed with the application to account for unexpected conditions that could be discovered during the construction process should be granted, on the condition that BREC informs the Commission if such a change in location is necessary.

BREC should file with the Commission an "as-built" survey of the final location of the line.

BREC should provide copies of any permits acquired in connection with the project.

⁶⁴ Response to Staff's First Request, Item 3.

IT IS THEREFORE ORDERED that:

1. BREC is granted a CPCN to construct and operate the 161 kV transmission line set forth in its application as Project A.

2. BREC shall have the authority to move the location of the 161 kV transmission line, and acquire additional easements as described in this Order provided that no new property owners are affected.

3. BREC shall file a survey of the final location of the transmission facilities after any modifications are finalized as authorized herein before and after construction begins.

4. BREC shall immediately notify the Commission upon knowledge of any material changes to Projects A or C including but not limited to, increase in cost, any significant delays in construction, any need to relocate Project C, or any changes in the route of the transmission line not expressly authorized by this Order.

5. BREC shall file "as-built" drawings or maps of within 60 days of the completion of the construction authorized by this Order.

6. BREC shall furnish documentation of the total costs of this project including the cost of construction and all other capitalized costs, including, but not limited to, engineering, legal, and administrative expenses, within 60 days of the date construction 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.

7. BREC shall apply for a CPCN for a modified route if another agency requires an alteration of the line that does not meet all of the conditions listed above.

8. BREC shall file with the Commission any permits acquired in connection with this project within 30 days of issuance of the permit.

9. Any documents filed in the future pursuant to ordering paragraphs, 3, 4, 5, 6, or 8 shall reference this case number and shall be retained in the post-case correspondence file.

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

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By the Commission

ENTERED
JAN 14 2022 rcs
KENTUCKY PUBLIC
SERVICE COMMISSION

ATTEST:


Executive Director

Case No. 2021-00275

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