



**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

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

**Responses to Commission Staff's
First Request for Information
dated**

October 14, 2021

FILED: October 29, 2021

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

VERIFICATION

I, Christopher S. (Chris) Bradley, verify, state, and affirm that I prepared or supervised the preparation of my responses to data requests filed with this Verification, and that those responses are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



Christopher S. (Chris) Bradley

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Christopher S. (Chris) Bradley on this the 29th day of October, 2021.



Notary Public, Ky. State at Large
My Commission Expires _____

Notary Public, Kentucky State-At-Large
My Commission Expires: July 10, 2022
ID: 604480

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 **Item 1)** *Refer to the Application, page 6, lines 1–2 and Direct Testimony*
2 *of Michael T. Pullen (Pullen Testimony) page 6. Assuming the 161 kV line is*
3 *built and the anticipated cyber currency mining economic development*
4 *occurs, explain how much of the 100 MW capacity will be available to serve*
5 *additional economic development.*

6

7 **Response)** The load addition from the anticipated cyber currency mining economic
8 development currently includes the Blockware Mining, LLC¹ facility with a
9 maximum contract demand of [REDACTED]. The remaining capacity available to serve
10 additional economic development is [REDACTED].

11

12 **Witness)** Christopher S. Bradley

¹ See *In the Matter of: 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, P.S.C. Case No. 2021-00282, Order (Oct. 14, 2021) (granting approval of Jackson Purchase Energy Corporation's Retail Agreement with Blockware Mining, LLC and the related Wholesale Agreement between Jackson Purchase and Big Rivers).*

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 **Item 2)** *Refer to the Application, page 6, lines 15–17 and Exhibit D.*
2 *Exhibit D pages 1–3 contain explicit indications of transmission line*
3 *overbuild. However, pages 4–7 do not contain such indications. Explain*
4 *whether the transmission line segments illustrated on pages 4–7 represent*
5 *Greenfield Construction.*

6

7 **Response)** The Project A transmission line will overbuild the existing 69 kV route
8 where possible. But as stated in Big Rivers' Application, page 6, lines 17–20, some
9 expansion of the existing easements will be required. Exhibit D, pages 1–3 have been
10 provided to detail the locations where the proposed route will deviate from the
11 existing 69 kV route. Exhibit D, pages 4–7 detail the identical design as shown on
12 pages 1–3, but with the easement notes removed.

13

14 **Witness)** Christopher S. Bradley

15

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 **Item 3)** *Refer to the Application, pages 6, lines 17–20, page 11, lines 11–*
2 *16, and the Pullen Testimony page 12 lines 14–20. If the proposed line should*
3 *have to be moved up to 500 feet on either side of the centerline anywhere along*
4 *the proposed route, explain whether this would necessitate acquiring*
5 *additional easements from landowners.*

6

7 **Response)** Yes, if unexpected conditions were discovered which required a move in
8 the proposed transmission line, the acquisition of additional easements would be
9 required. Big Rivers is requesting authority, if such a scenario arises, to move the
10 transmission line up to 500 feet on either side of the centerline and acquire the
11 additional easement provided that no new property owners are affected.

12

13

14 **Witness)** Christopher S. Bradley

15

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 **Item 4)** *Refer to the Application, page 8, lines 2–9. Explain whether the*
2 *existing 69 kV line will remain hot during the construction and overbuild of*
3 *the new 161 kV line*

4

5 **Response)** The existing 69 kV line will *not* remain hot during the construction and
6 overbuild of the new 161 kV line. Big Rivers plans to schedule and de-energize
7 segments of the 69 kV line during phases of construction of the new 161 kV and 69
8 kV lines. These segments can be de-energized by the use of transmission line
9 switches to allow for reconstruction of the existing 69 kV segments and new 161 kV
10 circuit while maintaining service through the use of other 69 kV circuits. There will
11 be a few short construction clearances that will be required to replace the existing
12 line switches, and that will be necessary to expand safety clearances and to allow
13 Jackson Purchase Energy Corporation (“Jackson Purchase”) to back-feed its
14 distribution substation. The timing and construction clearances for these planned
15 outages will be coordinated with Jackson Purchase to ensure when and how long it
16 can support its distribution load during these periods of construction. Big Rivers has

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 discussed these future plans with Jackson Purchase, and its staff indicated Jackson

2 Purchase can support the load during periods of construction.

3

4

5 **Witness)** Christopher S. Bradley

6

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 **Item 5)** *Refer to the Pullen Testimony, page 6, lines 6–16 and page 9,*
2 *lines 1–9. Explain whether the new 161 kV line will alleviate any*
3 *contingencies that may have been previously identified by MISO and, if so,*
4 *explain those contingencies.*

5

6 **Response)** Big Rivers is not aware of any contingencies previously identified by
7 MISO that will be alleviated by the new 161 kV line. However, MISO typically
8 examines only the 100 kV and higher Bulk Electric System (BES). Big Rivers'
9 studies performed using MISO-supplied models with the Blockware Mining, LLC
10 load addition did identify various contingencies that will be alleviated by the 161 kV
11 line addition.

12 Non-BES contingencies alleviated by the 161 kV line addition include:

- 13 • Outage of either McCracken County 161/69 kV transformer.
14 • Various 69 kV line section outages between the McCracken County
15 Substation and the Maxon Substation.

16

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1

2 **Witness)** Christopher S. Bradley

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 **Item 6)** *Refer to the Pullen Testimony, page 9, lines 2–9. State whether*
2 *the current transmission system is experiencing reliability issues, and if so*
3 *provide a detailed explanation of the issues experienced.*

4

5 **Response)** The current transmission system is not experiencing reliability issues.
6 Absent the requested upgrade, the addition of [REDACTED] of new load connected at 69
7 kV has the potential to result in reliability issues due to much heavier loadings on
8 the existing facilities. The heavy loadings will likely exceed facility ratings and may
9 result in equipment damage and facility outages. These concerns are alleviated by
10 the 161 kV circuit.

11

12 **Witness)** Christopher S. Bradley

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 **Item 7)** *Refer to the Application, page 11, lines 17–23, page 12, lines 1–13,*
2 *and the Pullen Testimony page 11, lines 10–19, and page 12, lines 1–2. Provide*
3 *a detailed analysis and documented support for the legal conclusion that*
4 *projects B and C are both extensions in the ordinary course of business and*
5 *therefore neither project requires a CPCN.*

6

7 **Response)** Projects B and C are extensions of Big Rivers' existing systems in the
8 ordinary course of business because neither project (1) results in wasteful duplication
9 of plant, equipment property, or facilities; (2) competes with existing certificates or
10 service of other utilities; or (3) involves a sufficient capital outlay to materially affect
11 the existing financial condition or require an increase its wholesale rates.¹

12 (1) Neither substation project results in wasteful duplication because there is
13 no multiplicity of physical properties and there is a need for the projects.

¹ 807 KAR 5:001 Section 15(3).

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 There is no multiplicity of physical properties because the upgrades
2 to Big Rivers' McCracken County substation will be installed within in the
3 footprint of the existing facility. See confidential Application Exhibit F.
4 The proposed West Paducah substation will be built on land that will be
5 gifted to Big Rivers by the Paducah McCracken County Industrial
6 Development Authority, adjacent to Jackson Purchase Energy
7 Corporation's ("Jackson Purchase's") Maxon substation. While this is a new
8 substation, there is a demonstrated need for the new substation in the
9 Industrial Park West in Paducah, including the need for the transmission
10 upgrades that are required to provide service to Blockware Mining, LLC
11 ("Blockware"), whose retail electric service agreement was recently
12 approved by the Commission,² as well as to other economic development

² See *In the Matter of: 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, P.S.C. Case No. 2021-00282, Order (Oct. 14, 2021).*

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 prospects looking to locate at the industrial park.³ As explained in Big
2 Rivers' responses to Item Nos. 6 and 7 of these information requests, the
3 construction will alleviate the potential reliability issues, and line and
4 transformer outage contingencies, resulting from the Blockware load
5 addition. Additionally the proposed transmission upgrades will provide
6 supplementary system reliability benefits described on page nine (9) of Mr.
7 Pullen's Direct Testimony.

8
9 (2) The McCracken County substation is located within Jackson Purchase's
10 service territory, the West Paducah substation is proposed to be located
11 within Jackson Purchase's service territory, and both substations will be

³ See *In the Matter of: 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, P.S.C. Case No. 2021-00282.*

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 used to serve retail customers of Jackson Purchase.⁴ Therefore, neither
2 project will compete with existing certificates or service of other utilities.

3
4 (3) The cost to construct and operate Projects B and C will not materially affect
5 Big Rivers' financial condition or result in an increase in Big Rivers'
6 wholesale power rates. Big Rivers' net utility plant was estimated at \$786.6
7 million as of December 31, 2020. The total estimated construction cost of
8 Project B (\$782,000) represents 0.099% (99 thousandths of a percent) of Big
9 Rivers' net utility plant, and Project C's estimated construction cost
10 (\$4,462,000) represents 0.567% (567 thousandths of a percent). The
11 combined cost of the two projects (\$5,244,000) represents only 0.677% (677
12 thousandths of a percent) of Big Rivers' net utility plant.⁵

⁴ See *In the Matter of: Electronic Application of Duke Energy Kentucky, Inc. for an Order Declaring the Construction of Solar Facilities is an Ordinary Extension of Existing Systems in the Usual Course of Business*, P.S.C. Case No. 2020-00385, Order (Mar. 1, 2021), at page 4.

⁵ The Commission has frequently found that the construction of a proposed facility whose cost represents less than two percent of the utility's net utility plant and that does not require financing approval by the Commission, is in the ordinary course of business and does not require a CPCN. See, e.g., *In the Matter of: Application of East Kentucky Power Cooperative, Inc. for an Order Declaring the*

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 Additionally, as explained on page six (6) of the Application, Big
2 Rivers anticipates a return on its investment as a result of the new
3 construction being included in the rates for transmission service under Big
4 Rivers' Open Access Transmission Tariff that could serve as an offset to
5 future rate increases for Big Rivers' Members. Finally, as discussed on page
6 ten (10) of the Mr. Pullen's Direct Testimony, any Large Industrial

Expansion of the Bavarian Landfill Gas to Energy Project to be an Ordinary Extension of Existing Systems in the Usual Course of Business, P.S.C. Case No. 2015-00284, Order (Nov. 20. 2015); In the Matter of: Tariff Filing of Warren County Water District to Establish the Rockfield School Sewer Capital Recovery Fee, P.S.C. Case No. 2012-00269, Order (Nov. 19. 2012); In the Matter of: Application of Big Rivers Electric Corporation for Approval of an Interconnection Agreement with Kentucky Utilities Company, P.S.C. Case No. 2007-00058, Order (Apr. 16. 2007); In the Matter of: Application of East Kentucky Power Cooperative, Inc. for an Order Declaring the Green Valley and Laurel Ridge Landfill Gas to Energy Projects to Be Ordinary Extensions of Existing Systems in the Usual Course of Business, P.S.C. Case No. 2002-00474, Order (Mar. 3, 2003); In the Matter of: Application of Kentucky Turnpike Water District for a Declaration that a Certificate of Public Convenience and Necessity Is not Required or, in the Alternative, for the Issuance of Such a Certificate of Public Convenience and Necessity, P.S.C. Case No. 98-508, Order (Nov. 19. 1998); In the Matter of: Application of Kenton County Water District No. 1 for Authority to Perform Maintenance at its Taylor Mill Treatment Plant by Replacing Filer Valves at a Total Cost of Approximately \$700,000, P.S.C. Case No. 92-028, Order (Feb. 18, 1992); but see also In the Matter of: Application of Delta Natural Gas Company, Inc. for an Order Declaring that it is Authorized to Construct, Own and Operate a Compressed Natural Gas Station in Berea, Kentucky, P.S.C. Case No. 2013-00365, Order (Mar. 30. 2015).

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 Customers locating at the Industrial Park West will be required to provide
2 a proportionate share of credit support for the construction costs.⁶

3

4 **Witness)** Christopher S. Bradley

⁶ The Commission has previously found that construction financed primarily through customer contributions is an ordinary extension of existing systems in the usual course of business. *See, e.g., In the Matter of: Application of Kentucky Turnpike Water District for a Declaration that a Certificate of Public Convenience and Necessity is Not Required or, in the Alternative, for the Issuance of Such a Certificate of Public Convenience and Necessity*, P.S.C. Case No. 98-508, Order (Nov. 19, 1998).

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 Item 8) *Refer to the Application page 12, lines 8–13, and the Pullen*
2 *testimony page 12, lines 13–20.*

3 a. *State the unexpected conditions to which BREC is referring that*
4 *would require moving the proposed location of the West Paducah*
5 *Substation; include a discussion of each condition and BREC's*
6 *assessment of the condition's reasonable likelihood of existence.*

7 b. *Provide all alternative locations for the proposed West Paducah*
8 *Substation.*

9 c. *Provide the estimated cost associated with moving the proposed*
10 *location.*

11

12 **Response)**

13 a. Big Rivers is performing geotechnical investigations of the sub-surface
14 conditions of the proposed site to determine if there are any conditions that
15 may be unsuitable for construction. These conditions are included in the
16 following list.

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

- 1 1. Discovering unsuitable soils with less than 1000 psf (pounds per
2 square foot) bearing capacity. This could eliminate the possibility of
3 using spread foundations as well as drastically complicate the design
4 and increase the cost of deep foundations. The likelihood of
5 discovering this condition is tremendously unlikely (<1%).
- 6 2. Determining the substation site contains potentially liquefiable soils
7 in the top 100 feet necessitating a seismic site classification F. This
8 designation could drastically increase the cost of the above ground
9 structures and potentially require alternate methods of construction
10 and ground improvement be utilized. Based on the existing sampling
11 this determination is very unlikely (<5%), yet cannot be definitely
12 ruled out until laboratory testing is completed.
- 13 3. Discovering rare adverse subsurface conditions, *i.e.*, voids, perched
14 water tables, excessive groundwater, subsurface springs, soils with
15 high shrink/swell potential, *etc.* Although the discovery of these types
16 of structures is unlikely in this area, their presence cannot be

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

Response to Commission Staff's
First Request for Information
dated October 14, 2021

October 29, 2021

1 completely ruled out. Discovery of one of the listed conditions would
2 not necessarily necessitate moving the substation. The condition
3 would first have to be evaluated and the cost of remediation
4 determined; then a cost benefit analysis would be performed.

5 b. No alternative locations are being evaluated as Big Rivers does not
6 anticipate encountering any conditions that would necessitate a substation
7 relocation from the proposed area.

8 c. Please see Big Rivers' response to sub-part b.

9

10

11 **Witness)** Christopher S. Bradley

12