



Your Touchstone Energy® Cooperative 

**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 AND NECESSITY AUTHORIZING )  
THE CONVERSION OF THE GREEN STATION )  
UNITS TO NATURAL GAS-FIRED UNITS AND AN )  
ORDER APPROVING THE ESTABLISHMENT OF )  
A REGULATORY ASSET )  
)**

**Case No.  
2021-00079**

**APPLICATION  
and  
APPLICATION EXHIBITS**

**February 28, 2021**

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**ELECTRONIC APPLICATION OF )  
BIG RIVERS ELECTRIC CORPORATION )  
FOR A CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY )  
AUTHORIZING THE CONVERSION OF THE )  
GREEN STATION UNITS TO NATURAL )  
GAS-FIRED UNITS AND AN ORDER )  
APPROVING THE ESTABLISHMENT OF A )  
REGULATORY ASSET )**

**Case No.  
2021-00079**

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**APPLICATION**

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1. Big Rivers Electric Corporation (“*Big Rivers*” or the “*Company*”) submits this application (the “*Application*”) pursuant to KRS 278.020, 807 KAR 5:001, and other applicable law, seeking (i) a certificate of public convenience and necessity (“*CPCN*”) to convert Big Rivers’ two existing coal-fired generating units at its Robert D. Green generating station (“*Green Station*”) to run on natural gas, (ii) an Order authorizing that the gas conversion assets be depreciated over a seven-year period, and (iii) the establishment of a regulatory asset to defer recognition of the costs that Big Rivers expects to incur as a result of the retirement of certain Green Station assets that will no longer be utilized after the conversion. In support of its Application, Big Rivers states as follows:

1 **INTRODUCTION**

2 2. The Applicant, Big Rivers, is a rural electric cooperative corporation  
3 organized pursuant to KRS Chapter 279. Its full name is Big Rivers Electric  
4 Corporation. Big Rivers' mailing address is P.O. Box 24, Henderson, Kentucky  
5 42419-0024, and its street address is 201 Third Street, Henderson, Kentucky  
6 42420. Big Rivers' address for electronic mail service is [regulatory@bigrivers.com](mailto:regulatory@bigrivers.com).

7 3. Big Rivers owns generating assets and purchases, transmits and  
8 sells electricity at wholesale. Its principal purpose is to provide the wholesale  
9 electricity requirement of its three distribution cooperative members: Jackson  
10 Purchase Energy Corporation, Kenergy Corp., and Meade County Rural Electric  
11 Cooperative Corporation (collectively, the "*Members*"). The Members in turn  
12 provide retail electric service to approximately 118,000 consumer/retail members  
13 located in 22 western Kentucky counties: Ballard, Breckenridge, Caldwell,  
14 Carlisle, Crittenden, Daviess, Graves, Grayson, Hancock, Hardin, Henderson,  
15 Hopkins, Livingston, Lyon, Marshall, McCracken, Mclean, Meade, Muhlenberg,  
16 Ohio, Union and Webster.

17 4. Big Rivers was incorporated in the Commonwealth of Kentucky on  
18 June 14, 1961, and hereby attests that it is currently in good standing in  
19 Kentucky.

20

1 **BACKGROUND**

2 5. Big Rivers owns and operates the Green Station, the Robert A. Reid  
3 Plant (“*Reid Station*”),<sup>1</sup> and the D.B. Wilson Plant (“*Wilson Station*”). Big Rivers  
4 retired the Reid 1 coal-fired generating unit and the three coal-fired generating  
5 units at its Kenneth C. Coleman Plant (“*Coleman Station*”) in September 2020.  
6 With the retirement of Reid 1 and Coleman Station, Big Rivers’ total power  
7 capacity is 1,114 MW.<sup>2</sup> The additional 260 MW of power capacity from the three  
8 solar Power Purchase Agreements (“*Solar PPA’s*”) that the Commission recently  
9 approved will bring Big Rivers’ total generation resources to 1,374 MW once the  
10 solar facilities are operational by 2024.<sup>3</sup>

11 6. However, Big Rivers must cease coal-fired generation at Green  
12 Station by June 1, 2022, in order to meet the October 31, 2023, deadline for the  
13 closure of the Green Station ash pond. *See* the Direct Testimony of Michael T.  
14 Pullen, Big Rivers’ Chief Operating Officer, attached to this Application as  
15 Exhibit A. Even with the Solar PPA’s, without Green Station, Big Rivers faces a  
16 capacity deficit. The Company’s future capacity position is fully explained in the

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<sup>1</sup> The Reid Station includes a natural gas-fired combustion turbine (the “*Reid CT*” with a net capacity of 65 MW), as well as a coal-fired unit first commercialized in 1966 (“*Reid 1*” with a net capacity of 45 MW).

<sup>2</sup> This includes the two Green Station units with a combined capacity of 454 MW, Wilson Station with a capacity of 417 MW, the Reid CT with a capacity of 65 MW, and 178 MW of contracted hydroelectric capacity from the Southeastern Power Administration (“*SEPA*”).

<sup>3</sup> *See In the Matter of: Electronic Application of Big Rivers Electric Corporation for Approval of Solar Power Contracts*, P.S.C. Case No. 2020-00183, Order (Sept. 28, 2020). Big Rivers also maintains seven small solar arrays for educational purposes, which generate a combined 165,000 kWh each year.

1 Direct Testimony of Mark Eacret, Big Rivers' Vice President of Energy Services,  
2 attached to this Application as Exhibit B.

3 7. Big Rivers has determined that converting the two coal-fired  
4 generating units at its Green Station to natural gas-fired units is the least cost  
5 option with the lowest risk to reliably address this capacity shortage and ensure  
6 that Big Rivers' has the capacity available to supply its Members' and customers'  
7 power requirements.

8 8. Big Rivers' 2020 Integrated Resource Plan ("IRP"), filed in  
9 September 2020, in Case No. 2020-00299, concluded the optimal (least cost) plan  
10 included idling Green Station's units and entering a partnership to own or  
11 purchase 90 MW in 2024 of a new 592 MW natural gas combined cycle ("NGCC").  
12 At that time, Big Rivers planned to hedge the short-term capacity shortage  
13 through capacity market purchases. However, subsequent analysis has concluded  
14 the option to convert Green Unit 1 and Green Unit 2 to natural gas units in 2022,  
15 to serve as a capacity hedge until such time that counterparties for the  
16 construction of the NGCC can be secured, is a least cost option and preferable to  
17 exposing its Members to the inherent risks of relying on capacity market  
18 purchases. The Direct Testimonies of Mr. Pullen and Mr. Eacret fully discuss  
19 both Big Rivers' analysis and conclusion.

20 9. With the conversion of the Green Station units to natural gas, Big  
21 Rivers anticipates no base load or peaking capacity additions to meet its native  
22 load requirements over the next 10 years. One benefit of the proposed project is

1 that it provides the gas infrastructure and metering that will also be required if  
2 the NGCC unit is constructed at Big Rivers' Sebree complex, allowing cost-  
3 effective flexibility for Big Rivers to continue to vigilantly manage the inherent  
4 uncertainties of the changing energy market place.

5

6

## **REQUESTS FOR RELIEF**

7

### **Request for a CPCN**

8

10. Pursuant to KRS 278.020(1), Big Rivers requests that this

9

Commission issue a CPCN for the conversion of Big Rivers' two generating units

10

at Green Station to burn natural gas.

11

11. Pursuant to 807 KAR 5:001 Section 15(2)(a), Big Rivers states that

12

the facts relied upon to show that conversion of the Green Station units to burn

13

natural gas is required by public convenience or necessity are summarized in this

14

Application; fully discussed in Mr. Pullen's Direct Testimony and Mr. Eacret's

15

Direct Testimony, and supported by the Direct Testimony of Paul G. Smith, Big

16

Rivers' Chief Financial Officer, attached to this Application as Exhibit C.

17

12. The proposed Green Station project is not excessive in terms of

18

investment or scope and will not result in a wasteful duplication of facilities. Mr.

19

Pullen and Mr. Eacret's Direct Testimonies fully discuss the need for and

20

reasonableness of the project converting the two generating units to burn natural

21

gas.

22

1           13.     Additionally, Big Rivers has thoroughly reviewed and considered  
2 alternatives to converting the two generating units at Green Station to burn  
3 natural gas and determined that the proposed project represents a reasonable,  
4 the least cost solution with the lowest risk to reliably meet Big Rivers' needs.

5           14.     Pursuant to 807 KAR 5:001 Section 15(2)(b), Big Rivers states that it  
6 will seek modification to existing Title V and Kentucky Pollutant Discharge  
7 Elimination System ("KPDES") permits to reflect the conversion of Green  
8 Station's two generating units to natural gas-fired units.

9           15.     The proposed conversion of the two generating units at Green  
10 Station to natural gas will require the retrofit of the coal burners with gas  
11 burners, the installation of new gas ignitors and flame scanners, the installation  
12 of natural gas and vent piping for the units, modifications to the existing unit  
13 burner management control systems, the installation of new gas metering and  
14 regulating facilities, and modifications to certain associated plant systems.

15           16.     Much of the plant infrastructure, including the plant buildings and  
16 structures, steam turbines, and electrical generator, electrical distribution  
17 systems, condensate and feedwater systems, and wastewater processing  
18 equipment, can continue to be used following the conversion.

19           17.     With its conversion to gas-fired units, Green Station is expected to  
20 experience a reduction from its current total capability of 454 MW to 414 MW.<sup>4</sup>

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<sup>4</sup> Green Station Unit 1's output capability will decrease from 231 MW to 211 MW, and Unit 2's output capability will decrease from 223 MW to 203 MW. Additionally, the MISO Capacity Zonal Resource Credit ("ZRC") for Green Station will decrease from 432 MW to 373 MW.

1           18.     The total capital cost of the proposed project is estimated to be  
2 approximately \$45.3 million.

3           19.     Big Rivers estimates that the proposed project can be completed, and  
4 Green Station's two units can begin operation as gas-fired units, by June 2022.<sup>5</sup>

5           20.     Pursuant to 807 KAR 5:001 Section 15(2)(c), Big Rivers states that a  
6 full description of the project to convert Big Rivers two generating units at Green  
7 Station to burn natural gas, including a description of the manner in which the  
8 project will be constructed, is contained herein and in the attached Direct  
9 Testimony of Michael T. Pullen. Big Rivers further states that there are no  
10 public utilities, corporations, or person with whom the Green Station's conversion  
11 is likely to compete. Green Station's two generating units are located at 9000  
12 State Hwy 2096, Robards, KY 42452. The proposed construction will take place  
13 in and around the existing Green Station facility. The location and route of the  
14 proposed gas metering station will be located on the Green Station property, as  
15 depicted in Exhibit E attached to this Application.

16           21.     Pursuant to 807 KAR 5:001 Section 15(2)(d)(1), Big Rivers states  
17 that maps to suitable scale showing the proposed location of the project, the  
18 Green Station, are attached hereto as Exhibit D.

19

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<sup>5</sup> See Exhibit Pullen-5 to the Direct Testimony of Michael T. Pullen. The project timeline shows Green Unit 1 commercial on March 11, 2022, and Green Unit 2 commercial on April 30, 2022.



1           22. Pursuant to 807 KAR 5:001 Section 15(2)(d)(2), Big Rivers states  
2 that preliminary plans and specifications and drawings of the project to convert  
3 the Green Station units are attached hereto as Exhibit E.

4           23. Pursuant to 807 KAR 5:001 Section 15(2)(e), Big Rivers states that it  
5 intends to fund the entire Green Station conversion with general cash reserves,  
6 but will also explore low cost financing from the RUS. See Mr. Smith's Direct  
7 Testimony.

8           24. Pursuant to 807 KAR 5:001 Section 15(2)(f), Big Rivers states the  
9 estimated annual cost of operation of the Green Station after the conversion will  
10 be approximately \$8.9 million, excluding fuel and other variable costs.

11           25. Pursuant to 807 KAR 5:001, Section 15(2)(g), other information  
12 necessary to afford the Commission a complete understanding of the proposed  
13 conversion is set forth in the exhibits and testimonies filed with this Application.

14           26. For all of the reasons stated above, the project to convert Big Rivers'  
15 two generating units at Green Station to burn natural gas is necessary, is in the  
16 public interest, and will not result in wasteful duplication of facilities. The Green  
17 Station conversion is required to permit Big Rivers to meet its capacity  
18 obligations while complying with applicable environmental standards. The  
19 conversion of Green Station's two generating units to natural gas-fire units is the  
20 least cost alternative with the lowest risk for reliably meeting these obligations  
21 and requirements. The Commission is therefore respectfully requested to issue a  
22 CPCN to Big Rivers as set forth herein.

1                   **Request for Authority to Establish a Regulatory Asset**

2           27.    In connection with the conversion of Green Station’s two existing  
3   generating units to run on natural gas, Big Rivers would retire certain assets that  
4   will no longer be utilized after the conversion. Big Rivers requests authority to  
5   establish a regulatory asset to recover the undepreciated net plant in service that  
6   will no longer be used and useful, as well as other costs associated with the  
7   retirement and decommissioning of these assets, net of any equipment sales or  
8   salvage proceeds.

9           28.    Big Rivers expects the remaining net book value of the assets to be  
10   retired will be approximately \$67.3 million at retirement. Upon the retirement of  
11   these assets, without the regulatory asset, Big Rivers would be required to  
12   expense the net book value of the assets. This write-off would result in Big Rivers  
13   recognizing a one-time expense of approximately \$67.3 million without the ability  
14   to recover that investment through its rates. Big Rivers will also incur other  
15   expenses relating to retirement of these assets, including but not limited to the  
16   actual costs for Big Rivers to remove and dispose of materials and structures from  
17   Green Station and otherwise decommission the retired assets.

18           29.    The expenses Big Rivers will incur as a result of the retirement of  
19   the conversion project are not currently included in its rates, but Big Rivers  
20   believes that those expenses should be recoverable in the future. Since the  
21   conversion of the Green Station units to burn natural gas is the least cost option  
22   with the lowest risk to reliably satisfy Big Rivers’ capacity obligations while

1 complying with environmental regulations, the conversion will provide the  
2 Members with cost savings.

3           30. To defer the expenses it will incur as a result of the retirement of the  
4 Green Station assets, Big Rivers needs the approval of both RUS<sup>6</sup> and the  
5 Commission to establish a regulatory asset. Big Rivers' letter to RUS requesting  
6 its approval to establish a regulatory asset relating to the retirement of the Green  
7 Station assets, including the actual costs incurred related to the retirement, is  
8 attached as Exhibit Smith-3 to the Direct Testimony of Paul G. Smith. On  
9 February 17, 2021, RUS responded to Big Rivers' request, approving the  
10 establishment of a regulatory asset contingent upon the Commission's approval.  
11 See Exhibit Smith-4.

12           31. Accordingly, Big Rivers requests that the Commission authorize Big  
13 Rivers to establish a regulatory asset account for the approximately \$67.3 million  
14 of unrecovered net book value of Big Rivers' investment at the Green Station, and  
15 the actual costs Big Rivers incurs related to the retirement of the Green Station  
16 assets, such as the expenses to remove materials and structures.

17           32. The authority of the Commission to allow utilities to establish  
18 regulatory assets "arise[s] under the Commission's plenary authority to regulate  
19

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<sup>6</sup> See 7 C.F.R. § 1767.13.

1 utilities under KRS 278.040 and the Commission’s authority to establish a system  
2 of accounts under KRS 278.220.”<sup>7</sup>

3 33. The Commission has previously authorized jurisdictional utilities to  
4 establish regulatory assets under certain circumstances, as the Commission has  
5 explained:

6 Historically, the Commission has exercised its discretion to  
7 approve regulatory assets where a utility has incurred: (1) an  
8 extraordinary, nonrecurring expense which could not have  
9 reasonably been anticipated or included in the utility’s  
10 planning; (2) an expense resulting from a statutory or  
11 administrative directive; (3) an expense in relation to an  
12 industry sponsored imitative; or (4) an extraordinary or  
13 nonrecurring expense that over time will result in saving that  
14 full offsets the costs.<sup>89</sup>

15  
16 34. The Green Station asset retirement expenses that Big Rivers seeks  
17 to defer are extraordinary and nonrecurring expenses incurred to avoid a capacity  
18 shortfall that would otherwise result as a result of the requirement to cease coal-  
19 fired generation at Green Station under the CCR rule. Further, converting the  
20 Green Station units to burn natural gas results in cost savings to Big Rivers as it  
21 is the least cost option with the lowest risk to reliably supply Big Rivers’ capacity  
22 needs.

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<sup>7</sup> *In the Matter of: The Application of East Kentucky Power Cooperative, Inc. for an Order Approving Accounting Practices to Establish a Regulatory Asset Related to Certain Replacement Power Costs Resulting from Generation Forced Outages*, P.S.C. Case No. 2008-00436, Order at p. 4 (Dec 23, 2008).

<sup>8</sup> *Id.*; see also *In the Matter of: Application of Louisville Gas and Electric Company for an Order Approving the Establishment of a Regulatory Asset*, Order, P.S.C. Case NO. 2008-00456 (Dec. 22, 2008).



1 discusses the benefits of the proposed project related to market risk. Mr. Eacret's  
2 testimony is attached hereto as Exhibit B and incorporated herein by reference.

3 c. Mr. Paul G. Smith, Chief Financial Officer, in which he offers  
4 testimony in support of Big Rivers' request for a CPCN including (i) the method  
5 by which Big Rivers will finance the proposed Green Station conversion, and (ii)  
6 the anticipated financial effect that the project will have on Big Rivers. Mr.  
7 Smith will also provide a detailed discussion to support Big Rivers' request to  
8 depreciate the project cost over seven-years, and to establish a regulatory asset  
9 including (i) the calculation of the net book value of the assets that will no longer  
10 be utilized after the Green Station generating units are converted to burn natural  
11 gas, and (ii) the prudent amortization and recovery of the regulatory asset. Mr.  
12 Smith's testimony is attached here to as Exhibit C and incorporated herein by  
13 reference.

14

15

### **TIMELINE**

16 37. Big Rivers will formally retire certain Green Station assets and  
17 begin the project to convert its two coal-fired generating units at Green Station to  
18 burn natural gas following the entry of an Order in this proceeding granting the  
19 relief requested herein. RUS has approved Big Rivers' request to create a  
20 regulatory asset related to the retirement of the Green Station assets. A copy of  
21 RUS' approval letter is attached to the Direct Testimony of Paul G. Smith as  
22 Exhibit Smith-4.



- 1           3.     Authorizing the establishment of a regulatory asset for the  
2                     unrecovered net book value of the assets that Big Rivers will retire  
3                     as a result of the conversion project, and the other actual demolition  
4                     and retirement costs Big Rivers will incur as a result of the  
5                     conversion project; and  
6           4.     Granting all other relief to which Big Rivers may be entitled.

7

8           On this the 28th day of February, 2021.

9

Respectfully submitted,

10

*/s/ Tyson Kamuf*

11

12

13

---

Tyson Kamuf

14

Senthia Santana

15

Gregory E. Mayes, Jr.

16

Big Rivers Electric Corporation

17

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26

*Counsel for Big Rivers Electric*

27

*Corporation*



**BIG RIVERS ELECTRIC CORPORATION**

**ELECTRONIC APPLICATION OF  
BIG RIVERS ELECTRIC CORPORATION FOR A  
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
AUTHORIZING THE CONVERSION OF THE GREEN STATION UNITS  
TO NATURAL GAS-FIRED UNITS AND AN ORDER APPROVING  
THE ESTABLISHMENT OF A REGULATORY ASSET  
CASE NO. 2021-00079**

**VERIFICATION**

I, Paul G. Smith, Chief Financial Officer for Big Rivers Electric Corporation, hereby state that I have read the foregoing Application and that the statements contained therein are true and correct to the best of my knowledge and belief, on this 26<sup>th</sup> day of February, 2021.

*Paul Smith*

\_\_\_\_\_  
Paul G. Smith  
Chief Financial Officer  
Big Rivers Electric Corporation

COMMONWEALTH OF KENTUCKY )  
COUNTY OF HENDERSON )

26<sup>th</sup> SUBSCRIBED AND SWORN TO before me by Paul G. Smith on this the \_\_\_\_\_ day of February, 2021.

*Joy P. Parsley*

\_\_\_\_\_  
Notary Public, Kentucky State at Large

My Commission Expires \_\_\_\_\_

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

**ORIGINAL**



Your Touchstone Energy® Cooperative 

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**In the Matter of:**

<b>ELECTRONIC APPLICATION OF</b>	)	
<b>BIG RIVERS ELECTRIC CORPORATION</b>	)	
<b>FOR A CERTIFICATE OF PUBLIC</b>	)	
<b>CONVENIENCE AND NECESSITY AUTHORIZING</b>	)	<b>Case No.</b>
<b>THE CONVERSION OF THE GREEN STATION</b>	)	<b>2021-00079</b>
<b>UNITS TO NATURAL GAS-FIRED UNITS AND AN</b>	)	
<b>ORDER APPROVING THE ESTABLISHMENT OF</b>	)	
<b>A REGULATORY ASSET</b>	)	

**DIRECT TESTIMONY**

**OF**

**MICHAEL T. PULLEN  
CHIEF OPERATING OFFICER**

**ON BEHALF OF**

**BIG RIVERS ELECTRIC CORPORATION**

**February 28, 2021**

**Case No. 2021-00079  
Application Exhibit A  
Direct Testimony of Michael T. Pullen**

**DIRECT TESTIMONY  
OF  
MICHAEL T. PULLEN**

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1 **DIRECT TESTIMONY**

2 **OF**

3 **MICHAEL T. PULLEN**

4

5 **I. INTRODUCTION**

6 **Q. Please state your name, business address and occupation.**

7 A. My name is Michael T. Pullen. My business address is 201 Third Street,  
8 Henderson, Kentucky 42420. I am the Chief Operating Officer for Big Rivers  
9 Electric Corporation (“*Big Rivers*”).

10

11 **Q. Please summarize your education and professional experience.**

12 A. I graduated from the University of Mississippi in 1985 with a Bachelor of  
13 Science in Electrical Engineering and Murray State University in 2005 with  
14 a Masters of Business Administration. I am a registered Professional  
15 Engineer in the Commonwealth of Kentucky. I worked at Electric Energy,  
16 Inc. from 1990 to 2014. I served in a variety of engineering, maintenance,  
17 and operation roles including Group Supervisor Maintenance; Manager  
18 Systems-Dispatch; Manager, Generation; and Director, Operations. I also  
19 was employed by Ameren Illinois from 2014 to 2015 and served in substation  
20 construction management. I began my career with Big Rivers in February

1 2015 as the Vice President of Production. Currently, I serve as the Chief  
2 Operating Officer for Big Rivers.

3

4 **Q. Please summarize your duties at Big Rivers.**

5 A. As the Chief Operating Officer for Big Rivers, I oversee all activities related  
6 to the operation and maintenance of the corporation's coal and gas-fired  
7 generating facilities, including fuel procurement and management, power  
8 plant engineering and construction, and environmental compliance. In  
9 addition to these responsibilities, I oversee all activities related to the bulk  
10 transmission system including operation, maintenance, engineering, and  
11 construction, as well as the purchasing, and information technology activities  
12 for the corporation.

13

14 **Q. Have you previously testified before the Kentucky Public Service  
15 Commission ("*Commission*")?**

16 A. Yes. I provided written and oral testimony on behalf of Big Rivers in Case  
17 No. 2019-00269<sup>1</sup> in which the Company is requesting that the Commission  
18 enforce the series of contracts between Big Rivers and the City of Henderson  
19 and the City of Henderson Utility Commission (collectively, "*HMP&L*")

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<sup>1</sup> *In the Matter of: Application of Big Rivers Electric Corporation for Enforcement of Rate and Service Standards*, P.S.C. Case No. 2019-00269.

1 related to the William L. Newman Station Two (“*Station Two*”) generating  
2 plant. I recently provided written testimony in Case No. 2019-00435,<sup>2</sup> in  
3 which Big Rivers sought and obtained approval of its 2020 Environmental  
4 Compliance Plan, a certificate of public convenience and necessity, and other  
5 relief. I also testified in Case No. 2016-00278,<sup>3</sup> in which Big Rivers sought  
6 and obtained an order from the Commission declaring that Big Rivers was  
7 not responsible for the variable costs of any “Excess Henderson Energy,” that  
8 Big Rivers declined to take. I responded to requests for information in Case  
9 No. 2019-00269, Case No. 2020-00064,<sup>4</sup> and Case No. 2018-00146.<sup>5</sup>

10

11 **Q. What is the purpose of your testimony in this proceeding?**

12 A. The purpose of my testimony is first to provide an overview of the business  
13 Big Rivers conducts and its existing generation portfolio, as well as  
14 anticipated changes to that portfolio. Then, I will describe the need for the

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<sup>2</sup> *In the Matter of: Electronic Application of Big Rivers Electric Corporation for Approval of its 2020 Environmental Compliance Plan, Authority to Recover Costs through a Revised Environmental Surcharge and Tariff, the Issuance of a Certificate of Public Convenience and Necessity for Certain Projects, and Appropriate Accounting and Other Relief*, P.S.C. Case No. 2019-00435.

<sup>3</sup> *In the Matter of: Application of Big Rivers Electric Corporation for a Declaratory Order*, P.S.C. Case No. 2016-00278.

<sup>4</sup> *In the Matter of: Application of Big Rivers Electric Corporation for Approval to Modify its MRSM Tariff, Cease Deferring Depreciation Expenses, Establish Regulatory Assets, Amortize Regulatory Assets, and Other Appropriate Relief*, P.S.C. Case No. 2020-00064.

<sup>5</sup> *In the Matter of: Application of Big Rivers Electric Corporation for Termination of Contracts and a Declaratory Order and for Authority to Establish a Regulatory Asset*, P.S.C. Case No. 2018-00146.

1 proposed project to convert the two coal-fired generating units at Big Rivers’  
2 Robert D. Green Station (“*Green Station*”), which is necessary for Big Rivers  
3 to provide the capacity required by its Members and other customers, while  
4 still ensuring environmental compliance at Green Station. Additionally, I  
5 will describe the process employed to arrive at the chosen proposed project as  
6 the best option to meet Big Rivers’ capacity need. Finally, I will provide  
7 information about the costs and timeline for the proposed conversion project.

8

9 **Q. Are you sponsoring any Exhibits?**

10 A. Yes. I have prepared the following exhibits to my testimony.

- 11 • Exhibit Pullen-1 – Professional Summary;
- 12 • Exhibit Pullen-2 – Green Evaluation (2023-2029)- Base Case
- 13 • Exhibit Pullen-3 – Green Station Scenario Summary
- 14 • Exhibit Pullen-4 –Project Detail Documentation

15

1 **II. BACKGROUND**

2 **Q. Please provide an overview of the business Big Rivers conducts.**

3 A. Big Rivers is a rural electric generation and transmission cooperative  
4 established under KRS Chapter 279. It exists for the principal purpose of  
5 providing low cost, reliable power to its three distribution cooperative  
6 Member-Owners: Jackson Purchase Energy Corporation, Kenergy Corp., and  
7 Meade County Rural Electric Cooperative Corporation (collectively, the  
8 “*Members*”).

9  
10 **Q. Please describe Big Rivers’ existing generation portfolio.**

11 A. Big Rivers maintains a portfolio of available generation resources that  
12 currently includes coal-fired, gas-fired, and hydro-powered facilities, and soon  
13 will include solar facilities. The Company’s generation resources include its  
14 D.B. Wilson Generating Station (“*Wilson Station*”), consisting of a single  
15 pulverized coal unit near Centertown, Kentucky (net capacity of 417 MW); a  
16 natural gas-fired combustion turbine (the “*Reid CT*”) (net capacity of 65 MW)  
17 located at the Robert A. Reid Station (“*Reid Station*”) at Big Rivers’ complex  
18 in Sebree, Kentucky; and its Green Station consisting of two (2) coal-fired  
19 units (net capacity of 454 MW), also at the Sebree complex. Additionally, Big  
20 Rivers enjoys 178 MW of contracted hydroelectric capacity from the  
21 Southeastern Power Administration (“*SEPA*”) and maintains several small



1 solar arrays (totaling 120 kW direct current), the purpose of which is  
2 educational in nature.

3 In addition to the capacity resources above, Big Rivers has contracted  
4 to purchase a total of 260 MWs of solar power under three 20-year power  
5 purchase agreements (“PPAs”) from three solar developments that are going  
6 to be constructed in Big Rivers’ service area.<sup>6</sup>

7 Big Rivers also recently retired its Kenneth C. Coleman Station  
8 (“*Coleman Station*”), which consisted of three coal units near Hawesville,  
9 Kentucky (net capacity of 443 MW), and a coal-fired unit at the Reid Station  
10 (“*Reid 1*”) (net capacity of 65 MW). Big Rivers also formerly obtained power  
11 from HMP&L’s now-retired Station Two generating station, which is co-  
12 located at the Sebree complex with the Reid and Green Stations.

13

14 **Q. Why were the Coleman Station, Reid 1, and HMP&L Station Two**  
15 **units retired?**

16 A. Big Rivers had taken great strides towards balancing its  
17 capacity and load since the exit of the smelters in 2013-2014, consistent with  
18 its Load Concentration Analysis and Mitigation Plan (“*Load Mitigation*  
19 *Plan*”). As a result of the economics of the stations under the stringent

---

<sup>6</sup> See *In the Matter of: Electronic Application of Big Rivers Electric Corporation for Approval of Solar Power Contracts*, P.S.C. Case No. 2020-00183.

1 regulation of coal-fired generation facilities, coupled with the Company's  
2 decreased load requirements following the departure of the smelter load and  
3 other factors, the Company's Coleman Station and Reid Unit 1 were retired  
4 in September 2020.

5 The decision to retire Station Two was HMP&L's as the owner of  
6 Station. HMP&L decided to retire the Station Two units effective February  
7 1, 2019, following the Commission determining that the Station Two units  
8 were not economic and allowing Big Rivers to exit the Station Two contracts.<sup>7</sup>  
9

10 **Q. How will Big Rivers' generation portfolio change in the near future?**

11 A. The existing Green Station units will need to cease burning coal in 2022 as a  
12 result of the need to close the Green Station ash pond to comply with Coal  
13 Combustion Residual ("CCR") environmental regulations, decreasing Big  
14 Rivers' generation resources by 454 MW. On the other hand, as noted above,  
15 the Commission-approved solar power purchase agreements described above  
16 are expected to add 260 MW of capacity by 2024.

---

<sup>7</sup> See *In the Matter of: Application of Big Rivers Electric Corporation for Termination of Contracts and a Declaratory Order and for Authority to Establish a Regulatory Asset*, P.S.C. Case No. 2018-00146, Order (Aug. 29, 2018).

1           Excluding any capacity from Green Station, once the solar facilities  
2           become operational, Big Rivers will have 920 MW<sup>8</sup> of capacity either from  
3           owned generation or committed under long-term contracts.

4  
5 **Q.   Why must the Green Station generating units cease burning coal in**  
6 **2022?**

7 A.   In my testimony attached to Big Rivers’ Application in Case No. 2019-00435,  
8       Big Rivers 2020 ECP Case, I explained that the Disposal of Coal Combustion  
9       Residuals (“*CCR*”) from Electric Utilities Rule (“*CCR Rule*”) requires that all  
10      ash ponds that do not meet the requirements for separation between the  
11      bottom of the ash pond and the top elevation of groundwater by at least five  
12      feet must be closed (40 C.F.R. 257.60(a)). The Green Station ash pond does  
13      not meet this requirement, and thus the ash pond must be closed consistent  
14      with the CCR Rule. The deadline for closure under the CCR Rule was  
15      October 31, 2029, which included the provision to cease receiving CCR  
16      material in the ash pond by October 31, 2024. However, as I anticipated in  
17      my earlier testimony, those dates changed upon the finalization of the rule,  
18      and the current deadline requires that the Green Station ash pond closure be  
19      complete by October 31, 2023, which requires that the ash pond cease

---

<sup>8</sup> This includes Wilson Station (417 MW); Reid CT (65 MW); SEPA Hydro. (178 MW); and the Solar PPA’s (260MW)

1 receiving CCR material by June 1, 2022. Therefore, Green Station's existing  
2 units must cease burning coal by June 1, 2022.

3

4

5 **III. NEED FOR THE PROPOSED PROJECT**

6 **Q. What is Big Rivers proposing in this case?**

7 A. Big Rivers is proposing to convert the two existing coal-fired generating units  
8 at Green Station to natural gas units. The conversion project is the least cost  
9 solution with the lowest risk for Big Rivers to satisfy the capacity shortfall  
10 described in the Direct Testimony of Mark Eacret.

11

12 **Q. If Big Rivers converts the existing Green Station units to natural gas  
13 units, will Big Rivers have sufficient capacity to satisfy its native  
14 load and the OMU and KyMEA contracts?**

15 A. Yes. Although the output of Green Station's two units will be reduced by  
16 approximately 10% after the conversion to natural gas, as shown on the table  
17 below, the conversion will provide Big Rivers over 90% of the capacity it  
18 needs through owned generation and long-term PPAs to serve its native load

19

1 and to satisfy its obligations under its power sales contracts with Owensboro  
2 Municipal Utilities (“*OMU*”) and Kentucky Municipal Energy Agency  
3 (“*KyMEA*”). Big Rivers will hedge the remaining small capacity deficit with  
4 market capacity purchases.

5 **TABLE 3.1 GREEN STATION OUTPUT**

<b>Green Station Output</b>	<b>Coal-Fired</b>	<b>Gas-Fired</b>
Unit 1 Capability (MW)	231	211
Unit 2 Capability (MW)	223	203
Total Capability (MW)	454	414
MISO Capacity Credit (ZRC)	432	373

6

7

8 **IV. THE PROPOSED PROJECT IS THE BEST OPTION TO SATISFY BIG**  
9 **RIVERS’ CAPACITY SHORTFALL**

10 **Q. What investigation and analysis did Big Rivers perform to determine**  
11 **the best option to meet its future capacity needs?**

12 **A.** Big Rivers regularly reviews its resource options due to the dynamic nature  
13 of the electric utility industry and the uncertainty of the changing energy  
14 market place. Big Rivers recently presented a comprehensive overview of its  
15 system and resource plans in Big Rivers’ 2020 Integrated Resource Plan

1 (“*IRP*”), filed in September 2020, in Case No. 2020-00299. The IRP provided  
2 Big Rivers’ plan for meeting projected power requirements through 2034,  
3 considering the market conditions, load requirements, regulation, and  
4 legislation as of a certain point in time.

5 As explained in the 2020 IRP, the optimal (least cost) plan for Big  
6 Rivers to meet its mission to safely deliver competitive and reliable wholesale  
7 power to its Member-Owners included idling Green Station’s coal-fired units  
8 and adding 90 MW capacity from the creation of a partnership to construct a  
9 new 592 MW natural gas combined cycle (“*NGCC*”) unit in 2024.<sup>9</sup> Since  
10 submitting the 2020 IRP, Big Rivers has continued its efforts to enter into  
11 such a partnership, but it also realizes that finding partners and constructing  
12 the *NGCC* unit will take several years.

13 Accordingly, Big Rivers’ has continued its evaluation of converting  
14 Green Station to natural gas to satisfy shorter-term capacity needs while the  
15 longer-term option is pursued. For the shorter-term analysis, Big Rivers  
16 utilized our in-house production cost model, PLEXOS 8.2 R01 and ran short-  
17 term (PLEXOS ST) models for the years 2023-2029. The models evaluated  
18 four options: (1) idling Green Station and purchasing from the MISO market;

---

<sup>9</sup> The 2020 IRP’s optimal (least cost) plan resulted in Big Rivers (i) adding the Solar PPAs, (ii) entering a partnership to own or purchase 90 MW in 2024 of a new 592 MW *NGCC* unit located at Big Rivers’ Sebree complex , and (iii) idling both Green Station coal units. Big Rivers would keep its Wilson unit as a coal-fired station, keep its Reid CT available as a natural gas peaking unit, and stay in its contract with SEPA.

1 (2) retaining coal-fired generation at Green Station; (3) converting the two  
2 generating units at Green Station to burn natural gas with a non-firm gas  
3 supply; and (4) the conversion with a firm gas supply.

4  
5 **Q. Big Rivers’ 2020 IRP stated, “Converting the [Green Station] units to**  
6 **natural gas as a capacity-only resource is currently uneconomic and**  
7 **would involve regulatory risk, but Big Rivers will continue to**  
8 **examine the feasibility of that approach.”<sup>10</sup> Given that statement,**  
9 **why is Big Rivers now proposing to convert the Green Station units**  
10 **to natural gas?**

11 A. It is important to note that the modeling for the 2020 IRP included a  
12 constraint on available excess capacity (excess compared to Member load);  
13 therefore, a resource that provided long-term capacity significantly above the  
14 Member load and Capacity Reserve Margin was not selected. Under the  
15 long-term IRP analysis, the conversion of Green Station’s generating units to  
16 burn natural gas will result in capacity over Member load requirements and  
17 was not considered as a long-term option. However, in the short term, Big  
18 Rivers must have the capacity to serve both its native load and the OMU and  
19 KyMEA contracts. In the short term (through the end of the 2029), even with

---

<sup>10</sup> Big Rivers’ 2020 IRP Section 9.1.

1 the additional capacity the conversion of Green Station’s units will provide,  
2 the Company will still have a small capacity deficit, to serve the needs of Big  
3 Rivers’ Members and the other customers. But the conversion project will  
4 eliminate nearly all of the short-term capacity deficit, ensuring that Big  
5 Rivers does not risk relying on market purchases for all but a small portion of  
6 its capacity needs.

7 Big Rivers’ 2020 IRP analysis evaluated resources to meet Big Rivers’  
8 Member load and Capacity Reserve Margin with a 20-year horizon (2024-  
9 2043). From that long-term perspective, entering a partnership to own or  
10 purchase 90 MW in 2024 of a new 592 MW NGCC unit is the optimal (least  
11 cost) plan and more economic than converting Green Station units to natural  
12 gas. However, Big Rivers has not found partners and due to the build time  
13 for a 592 MW NGCC, that new resource is not available to meet the  
14 immediate capacity deficit.

15 Additionally, the 2020 IRP was based on the best information available  
16 at the time it was prepared. As noted in the quoted statement, after filing  
17 the 2020 IRP, Big Rivers continued to evaluate the feasibility of converting  
18 the Green Station units to natural gas, as well its ability to obtain sufficient,  
19 ten year capacity purchase agreements with MISO Zone 6 participants.

20 The noted “regulatory risk” connected with the conversion of Green  
21 Station’s units to natural gas is the risk of regulation of the production of



1 natural gas. Big Rivers' plan considers the implications of possible future  
2 regulations, modeling with a firm natural gas supply and non-firm supply.  
3 Everything considered, the Green Station conversion is the least cost short-  
4 term solution, with less risk than relying on capacity market purchases. Mr.  
5 Eacret's Direct testimony discusses the risk of a plan with substantial  
6 reliance on the market for capacity purchases. Further, the gas conversion  
7 has the additional benefit of meeting Big Rivers' short-term needs while  
8 retaining flexibility in the resource options to meet Big Rivers' long-term  
9 needs, which I discuss below.

10

11 **Q. Why did Big Rivers choose 2023-2029 as the study period?**

12 A. That seven year period coincides with the period starting with the calendar  
13 year after Nucor begins commercial operation through the end of the KyMEA  
14 contract.

15

16 **Q. What does Big Rivers' analysis conclude?**

17 A. The PLEXOS modeling indicates that (i) the proposed conversion of Green  
18 Station's generating units with non-firm gas supply, and (ii) idling the Green  
19 Station in June of 2022, and replacing Green Station's capacity with MISO  
20 market purchases, were the two least cost available options.

1           This analysis recovers the full \$45 million cost to retrofit the Green  
2           Station generating units to burn natural gas in the seven year study period  
3           and still concludes that the Green Station conversion is a least cost  
4           alternative. The model results and details relating to the consideration of  
5           the alternative options are attached hereto as Exhibits Pullen-2 and 3.

6  
7 **Q. Why is idling Green Station and purchasing from the MISO market**  
8 **not a good option for Big Rivers to reliably meet its short-term**  
9 **capacity needs?**

10 A. Mr. Eacret explains in his Direct Testimony why having “steel in the ground”  
11 is preferable to the price risk that Big Rivers would be subject to if it relied  
12 on MISO market purchases for a significant portion of its capacity needs.

13

14 **Q. Please describe the notable advantages of the proposed gas**  
15 **conversion project.**

16 A. The conversion of Green Station’s two generating units to natural gas  
17 eliminates the inherent risks and price volatility of relying on capacity  
18 market purchases for a substantial portion of Big Rivers’ capacity needs. The  
19 proposed project will allow over 90% of Big Rivers’ native load and off-system  
20 sales requirements to be served by Company-owned and operated capacity  
21 resources or long-term commitments from SEPA and the solar PPAs.

1           Additionally, unlike replacing Green Station’s capacity with MISO  
2 market purchase option, the conversion of Green Station’s units to natural  
3 gas will continue to provide dynamic voltage support and reliability for the  
4 transmission system in the Sebree area. The conversion project also  
5 provides the gas infrastructure and metering that will also be required if the  
6 NGCC unit is constructed at the Sebree complex. As such, the conversion  
7 satisfies Big Rivers’ short-term needs, but also allows Big Rivers flexibility in  
8 the resource options to meet its long-term needs. This flexibility will be  
9 important as Big Rivers and its counterparties decide whether to renew the  
10 OMU and KyMEA contracts, and as Big Rivers continues its economic  
11 development efforts.

12           Finally, the conversion of the Green Station generating units, unlike  
13 the MISO market purchase option, will permit Big Rivers to retain a portion  
14 of its Green Station workforce.

15           Thus, the proposed conversion project is the least cost option with the  
16 lowest risk to reliably meet Big Rivers’ capacity needs over the 7-year study  
17 period.

18

1 **Q. Why does Big Rivers prefer the option of a non-firm gas supply for**  
2 **the proposed Green Station natural gas units?**

3 A. Based on the energy market price projections in Big Rivers' 2020 IRP, the  
4 conversion of Green Station to natural gas will not substantially increase the  
5 number of hours that Green Station runs. The conversion project is needed  
6 to satisfy Big Rivers' projected capacity needs, but Big Rivers does not have a  
7 projected energy deficit. Therefore, the additional cost of obtaining a firm gas  
8 supply for the Green Station natural gas units is not a cost-effective option.

9  
10

11 **V. SCOPE AND SPECIFICATIONS OF THE PROJECT**

12 **Q. Please generally describe the scope and technical details of the**  
13 **proposed project to convert the Green Station generating units to**  
14 **burn natural gas.**

15 A. Big Rivers plans to convert Green Unit 1 and Green Unit 2's fuel source to  
16 natural gas by June 1, 2022. The proposed conversion of the two generating  
17 units at Green Station to natural gas will require the retrofit of the coal  
18 burners with gas burners, the installation of new gas ignitors and flame  
19 scanners, the installation of natural gas and vent piping for the units,  
20 modifications to the existing unit burner management control systems, the  
21 installation of new gas metering and regulating facilities, the installation of a

1 high pressure spillover valve on the gas pipeline that supplies the Sebree  
2 complex, and modifications to certain associated plant systems. Exhibit  
3 Pullen-4 includes a proposal from Burns & McDonnell to assist with Phase 1  
4 planning for the gas conversion, which provides more details regarding the  
5 scope of the project.

6  
7 **Q. What is the estimated capital cost for this project?**

8 A. The estimated total project cost is \$45.3 million. This includes \$18.5 million  
9 for the gas burner design and supply; \$19.8 million for the gas burner  
10 construction, and \$7.0 million for the installation of the gas pipeline  
11 infrastructure.

12  
13 **Q. What will the operation and maintenance costs of Green Station be  
14 after the conversion?**

15 A. The estimated annual cost of the operation and maintenance of the Green  
16 Station natural gas units would be approximately \$8.9 million annually after  
17 the conversion.

18

1 **Q. Please describe the contracting approach Big Rivers intends to take**  
2 **in order to complete the project?**

3 A. Big Rivers anticipates utilizing multiple contracts to complete this work. We  
4 will utilize an Owner's Engineer to develop the construction and major  
5 equipment specifications to be procured. Competitive bidding will be  
6 performed to award the contracts based on cost, experience, safety record,  
7 and scheduling requirements.

8

9 **Q. Please provide a projected schedule and timeline for this project.**

10 A. Assuming approval by the Commission of the requests made by Big Rivers in  
11 this case, pre-construction activities will culminate in the award of a  
12 construction contract around July 1, 2021. Once the design documents are  
13 complete, we will submit the drawings to receive the necessary approvals and  
14 permits. If the Commission grants the relief Big Rivers seeks in this  
15 Application by June 29, 2021, we currently estimate the pre-outage  
16 construction will begin on November 1, 2021, and environmental permits will  
17 be finalized by December 31, 2021. This will allow Green Unit 1's conversion  
18 to be complete around February 25, 2022, and Green Unit 1 to be commercial  
19 around March 11, 2022. Green Unit 2's conversion is expected by be complete  
20 around April 15, 2022, and Green 2 is expected to be commercial around

1 April 30, 2022. A timeline prepared by Burns & McDonnell is included in  
2 Exhibit Pullen-4 at page 13.

3

4

5 **VI. CONCLUSION**

6 **Q. Why is the proposed project required for the public convenience and  
7 necessity?**

8 A. As stated in the Application in this case and accompanying testimonies, (1) in  
9 order to comply with the CCR rule requiring the closure the Green Station  
10 ash pond by October 31, 2023, Big Rivers must cease all coal-fired generation  
11 at Green Station by June 1, 2022, creating a need for capacity; (2) the least  
12 cost option with the lowest risk for Big Rivers to reliably satisfy its capacity  
13 needs in the short-term is to convert the Green Station units to natural gas;  
14 (3) because the conversion is necessary to satisfy Big Rivers' capacity needs,  
15 the proposed conversion project will not result in a wasteful duplication of  
16 facilities; and (4) Big Rivers has thoroughly reviewed and considered  
17 alternatives to the proposed project and has determined the proposed  
18 conversion of the Green Station's two units to burn natural gas represents  
19 the best solution to reliably meet Big Rivers' needs.

20

1 **Q. What are your recommendations to the Commission?**

2 A. For the reasons stated above, I recommend that the Commission grant Big  
3 Rivers a CPCN for the proposed conversion project.

4

5 **Q. Does this conclude your testimony?**

6 A. Yes.

7



**BIG RIVERS ELECTRIC CORPORATION**

**ELECTRONIC APPLICATION OF  
BIG RIVERS ELECTRIC CORPORATION FOR A  
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
AUTHORIZING THE CONVERSION OF THE GREEN STATION UNITS  
TO NATURAL GAS-FIRED UNITS AND AN ORDER APPROVING  
THE ESTABLISHMENT OF A REGULATORY ASSET  
CASE NO. 2021-00079**

**VERIFICATION**

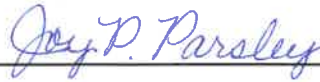
I, Michael T. ("Mike") Pullen, verify, state, and affirm that I prepared or supervised the preparation of the Direct Testimony filed with this Verification, and that Direct Testimony is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry



Michael T. ("Mike") Pullen

COMMONWEALTH OF KENTUCKY )  
COUNTY OF HENDERSON )

SUBSCRIBED AND SWORN TO before me by Michael T. ("Mike") Pullen on this the 26<sup>th</sup> day of February, 2021.



Notary Public, Kentucky State at Large

My Commission Expires \_\_\_\_\_

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

## Professional Summary

Michael T. Pullen  
Chief Operating Officer  
Big Rivers Electric Corporation  
201 Third Street  
Henderson, KY 42420  
Phone: 270-844-6186

### **Professional Experience**

Big Rivers Electric Corporation - 2015 to present  
Chief Operating Officer  
Executive Vice President  
Vice President Production

Ameren Illinois – 2014-2015  
Manager Substation Construction

Electric Energy, Inc. – 1990-2014  
Director Operations  
Manager Generation  
Manager Systems-Dispatch  
Group Supervisor Maintenance

### **Education**

Master of Business Administration  
Murray State University

Bachelor of Science Electrical Engineering  
University of Mississippi



Your Touchstone Energy® Cooperative 

**In the Matter of:**

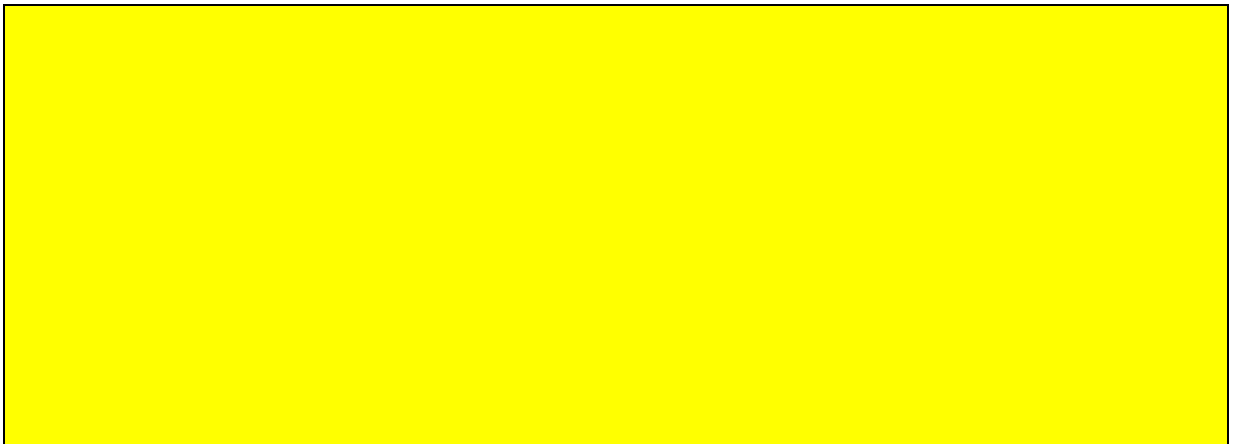
**ELECTRONIC APPLICATION OF )  
BIG RIVERS ELECTRIC CORPORATION )  
FOR A CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY AUTHORIZING )  
THE CONVERSION OF THE GREEN STATION )  
UNITS TO NATURAL GAS-FIRED UNITS AND AN )  
ORDER APPROVING THE ESTABLISHMENT OF )  
A REGULATORY ASSET )**

**Case No.  
2021-00079**

**CONFIDENTIAL**

**INFORMATION SUBMITTED WITH  
MOTION FOR CONFIDENTIAL TREATMENT**

**Exhibit Pullen-2**





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**In the Matter of:**

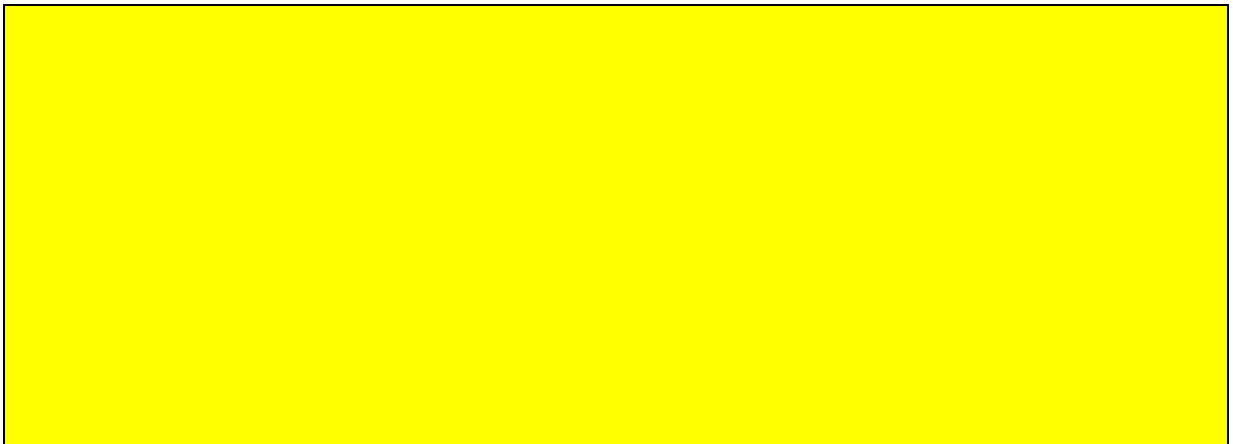
**ELECTRONIC APPLICATION OF )  
BIG RIVERS ELECTRIC CORPORATION )  
FOR A CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY AUTHORIZING )  
THE CONVERSION OF THE GREEN STATION )  
UNITS TO NATURAL GAS-FIRED UNITS AND AN )  
ORDER APPROVING THE ESTABLISHMENT OF )  
A REGULATORY ASSET )**

**Case No.  
2021-00079**

**CONFIDENTIAL**

**INFORMATION SUBMITTED WITH  
MOTION FOR CONFIDENTIAL TREATMENT**

**Exhibit Pullen-3**





December 18, 2020

Mr. Keith Scott  
Big Rivers Electric Corporation  
9000 State Route 2096  
Robards, KY 42452-9734

Re: Green Units 1 & 2 Gas Conversion Project – Phase 1 Proposal

Dear Mr. Scott:

Burns & McDonnell is pleased to provide this proposal to assist Big Rivers with Phase 1 planning for the gas conversion at the Big Rivers Electric Corporation (BREC) Robert D. Green Station (Green). The following project approach summarize the proposed scope to support BREC through Phase 1 of this project, as well as an option to begin detailed design activities in parallel to support the project schedule.

## Project Approach

### Engineering and Project Considerations

Burns & McDonnell has executed more than 9,600 MW of natural gas co-fire projects and 15,000 MW of other types of fuel modification projects including burner and ignitor replacements and upgrades on existing coal fired boilers. There are many considerations that factor into executing a successful gas conversion project. BREC requires a partner that is skilled at Burner Management Systems (BMS) and boiler controls integration, application of several NFPA codes, combustion design, boiler operations, and pipeline design. These skillsets must be applied to three critical areas: burner selection, controls integration, and pipeline design. BREC also requires a teammate who can coordinate with numerous stakeholders including owners, operators, burner vendors, OEMs, ABB, and the construction contractors.

We outlined our experience in the critical areas in the Qualifications section of this proposal, which highlight where we have found solutions to the below considerations:

- ▶ **Burner/Ignitor Front Congestion:** When retrofitting an existing plant with new equipment, controls, piping, and instrumentation, there is the potential for interferences to arise between the new and existing equipment and materials. Our design will consider a layout to accommodate technician troubleshooting and maintenance access. During Phase II, our 3D scan overlaid with the new equipment will allow BREC to visualize the final layout prior to approval and avoid interferences during construction.

Mr. Keith Scott  
Big Rivers Electric Corporation  
December 18, 2020  
Page 2

- ▶ **Control Operating Philosophy:** Burns & McDonnell has significant recent experience converting existing facilities to natural gas. As such we understand there are multiple and unique solutions applicable to each facility. Burns & McDonnell and BREC will collaborate to develop the appropriate control to implement natural gas into the existing BREC operating schemes.
- ▶ **BMS Review and Compliance:** Changing the fuel of an existing unit requires an NFPA review to validate the BMS is aligned with current NFPA 85 requirements and industry practices.
- ▶ **Plant Impacts:** There are potential balance of plant impacts to consider when replacing coal burners with gas burners:
  - ▶ What will the new full load be? NOx emissions?
  - ▶ What are the limitations? Boiler Efficiency? Heat Input?
  - ▶ Will the turbine efficiency suffer from low steam temperatures?
  - ▶ How much water will be produced and what are the impacts?
- ▶ **Pressure Reducing Station:** The location of the final pressure reducing station is important to minimize piping costs. Additionally, pressure reducing stations can produce significant noise and require regular maintenance.
- ▶ **Gas Connection:** The location and connection to the burner impacts the pipe routing and maintenance access. Properly locating the flex hose connections to extend from the natural gas header to each burner front provides installation flexibility and accommodates the thermal growth of the boiler.

## Execution Plan

Our mission is to make you successful. We strive to align our deliverables with your overarching goals and objectives. We believe this is accomplished by working closely with you as a fully integrated project team, each member having a role to play and responsibilities to contribute. Our key project team members will be in regular communication with you to discuss objectives and open items, review findings and deliverables, update the status of outstanding commitments, and identify hurdles and challenges to the project. Burns & McDonnell agrees with the three-phase approach to accomplishing the project and outlined our approach to each phase below.

### Phase I: Burner CFD Model Study, Conceptual Design, Burner Procurement and Cost Estimate

Engaging the BREC team through discussions with the plant operations and ownership teams is critical to the success of the project and is a top priority for our team. By aligning our teams early in the project, we believe we can deliver greater value to BREC because the appropriate operating procedures and flexibility as well as system functionality and overall expectations

Mr. Keith Scott  
Big Rivers Electric Corporation  
December 18, 2020  
Page 3

are taken into consideration. By combining the scope of work with an understanding of the key stakeholders' expectations and a thorough review of the existing plant data, Burns & McDonnell will assess the existing infrastructure's ability to support the proposed modifications. The simple formula for success is:

**SCOPE of WORK + STAKEHOLDER INPUT + DATA COLLECTION + ANALYSIS = THE FOUNDATION**

**THE FOUNDATION** is how our team plans to approach the BREC gas conversion project.

#### ***Data Request, Kickoff Meeting, and Site Visit***

Upon notice to proceed, Burns & McDonnell will submit a formal data request. Ideally, the requested data is provided within approximately one week to review prior to visiting the Site. This will allow us to prioritize our visit and prepare questions for the BREC team. The following is a preliminary data request list:

- ▶ General arrangement drawings
  - Side elevations
  - Plan elevations
  - Burner drawings
  - OFA drawings
  - O&M manuals
- ▶ Survey(s)
- ▶ Geotechnical report(s)
- ▶ Underground drawings
- ▶ Structural steel plans and elevations
- ▶ Fuel oil and instrument air piping plans and isometrics
- ▶ Schematics and wiring diagrams
- ▶ Control system architecture and hardware drawings
- ▶ Control Narratives, Logics and Graphics screenshots
- ▶ System descriptions
- ▶ Boiler performance test data

Burns & McDonnell plans to conduct a project kickoff meeting and walkdown at the Site. Our Project Manager and engineering leads will plan to attend. The purpose of the kickoff meeting is to align our teams and expectations. The tentative agenda is as follows:

- ▶ Introduce key project team members.
- ▶ Define the communications protocol.

Mr. Keith Scott  
Big Rivers Electric Corporation  
December 18, 2020  
Page 4

- ▶ Discuss the project drivers (cost, flexibility, environment, maintenance, etc.), expectations, and goals.
- ▶ Review the scope of work.
- ▶ Review the deliverables on a per phase basis.
- ▶ Discuss the overall project schedule.
- ▶ Establish the schedule for bi-weekly meetings to answer questions, discuss open items, discuss interface points, and provide project status updates.
- ▶ Introduce the Burns & McDonnell document management system.
- ▶ Identify additional plant information required.
- ▶ Define BREC's equipment tagging and drawing requirements

Burns & McDonnell will couple the kickoff meeting with the Site visit. The following technical topics are best addressed in person such that the conversations can be supplemented with walking down the corresponding plant locations. The technical topics and plant locations are outlined below:

- ▶ Burner operating scenarios and total natural gas heat input available.
- ▶ Available natural gas flow rate, pressure, and temperature data.
- ▶ Burner Study sequence and timing.
- ▶ Potential natural gas tie-in points and pressure regulating station location.
- ▶ Burner operating scenarios and sequences as well as control philosophies.
- ▶ Burner ignition system and flame scanners.
- ▶ Burner management system (BMS).
- ▶ Burner front and ignitor maintenance access requirements and general configuration.
- ▶ Natural gas and vent piping routing corridors.
- ▶ Boiler structure ventilation. These boilers are outside.
- ▶ Underground utility interferences.
- ▶ DCS, Controller loading, MFT scheme, MFT capacity and available cabinet space.
- ▶ Power distribution.
- ▶ Balance of plant modifications and downstream impacts.
- ▶ Plant grid system and drawings.

### ***Burner CFD Model Study***

The burner selection is the most critical decision as the burner design parameters underpin all other design decisions. We plan to initiate the Burner CFD Model Study immediately following the kickoff meeting and Site visit. Burns & McDonnell simplified the Burner CFD Model Study by breaking it into steps, which are as follows:

**Step 1: Gather Data** – Burns & McDonnell will gather the relevant and available plant information pertinent to the existing facility equipment.



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**Step 2: CFD Model** – Burns & McDonnell understands what happens when coal is switched for natural gas and new burners are installed. Several vendors have different style burners and the impact to the boiler can be quickly studied by performing a comprehensive model study. BMcD suggest BREC to subcontract Reaction Engineering International (REI) as an independent third party to produce a baseline model of the Green Plant boilers. Each BREC qualified bidder can supply input data to the modeler to run a case study to determine the plant impacts. The model would determine load, NOx emissions, tube metal temperatures, gross heat rate, heat input, boiler efficiency, etc.

**Step 3: Identify Potential Vendors** – Once the burner output capacity is confirmed, Burns & McDonnell will identify potential burner vendors such as Riley Power, Babcock & Wilcox, Foster Wheeler, COEN, Forney, Power & Industrial have completed similar type projects.

**Step 4: Technical Specification with Performance Guarantees**

Burns & McDonnell and BREC will pre-qualify the potential burner vendors. The Technical Specifications package will request basic burner design parameters, owner references from similar installations, and other applicable evaluation criteria collaboratively developed by BREC and Burns & McDonnell. The Technical Specification package will provide an overall project summary, typical BREC terms and conditions, and BREC reference drawings. Prior to the RFI being released, Burns & McDonnell will assemble the technical components of the RFI and review the technical package with BREC. The goals of the Technical Specifications are to:

- ▶ Identify burner options.
- ▶ Confirm compatibility with the existing equipment and systems.
- ▶ Determine basic design parameters.
- ▶ Collect references.
- ▶ Establish lead times.
- ▶ Understand performance guarantees.

Phase 1 will end at IFB of the burner equipment specifications

**Step 5: Bid Evaluation & Shortlist** (Phase 2)– Upon receipt of the vendor submissions, Burns & McDonnell will evaluate each vendors’ technical offering in parallel with BREC’s technical and commercial review. Burns & McDonnell and BREC will shortlist the top three or four vendors and model their equipment to validate their design and guarantees.

A key date is procurement award of the new gas firing system by May 28<sup>th</sup>, 2021, so we set the timeline for submittals from the firing system designer.

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### ***Conceptual Design***

Burns & McDonnell will perform our conceptual design of the balance of plant systems including the natural gas pipeline. The conceptual design must be completed to a level sufficient to provide a -20 or +30% cost estimate, which equates to our team performing 10-40% of the design. Burns & McDonnell plans to develop the following documents:

- ▶ Establish project boundaries
- ▶ Temporary construction workspace and staging areas
- ▶ Pipeline route
- ▶ Pipe sizing and material selection
- ▶ Pipe routing sketches in the boiler structure
- ▶ Piping material take-offs
- ▶ General arrangement(s)
- ▶ HAC assessment (Refer to the description below.)
- ▶ Electrical one-line diagrams
- ▶ Control system architecture
- ▶ DCS I/O counts
- ▶ Proposed DCS and BMS modifications
- ▶ Instrument list
- ▶ Electrical cable schedule
- ▶ Potential cable tray routings
- ▶ Level 2 project schedule
- ▶ Demolition sketches
- ▶ Assumptions list
- ▶ Scope summaries by discipline

Burns & McDonnell will route the natural gas piping from the custody transfer point to BREC following the proposed routing in the RFP. The routing is located within the BREC fence line and will be routed underground to the pressure regulating station located near the boiler structure. The pressure regulating station will be located outdoors.

Burns & McDonnell will perform a ACQS assessment review the existing ductwork, chimney, and scrubber materials to determine if temperature conditioning is required for the flue gas.

We will outline our key assumptions and discuss the options considered on a per discipline basis. We will host this interim design review via Teams or similar virtual platform. BREC will provide feedback and recommendations for the design moving forward. Burns & McDonnell will capture the BREC comments and issue meeting minutes to serve as a record of the direction moving forward.

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### ***Burner Procurement Package***

The Burner Procurement Package will supply the new burners and the ancillary equipment required for installation with the existing burners. A key consideration for the burners is the amount of factory preassembly accomplished prior to shipping the new burners to the field whereby simplifying field installation. The ancillary equipment anticipated are as follows:

- ▶ Flame scanners
- ▶ Ignitors
- ▶ Pressure regulating station
- ▶ Double block and vent valve station (skid)
- ▶ Flexible hose connectors
- ▶ Cooling air blower skid

Burns & McDonnell will provide the following deliverables for this package:

- ▶ Technical specifications
- ▶ Summary of Work
- ▶ Submittal schedule
- ▶ Preliminary natural gas P&ID
- ▶ Fuel oil P&ID markups
- ▶ General arrangement(s) and site layout drawing
- ▶ Reference drawings

The Burner vendor will specifically provide the following information for the DCS Procurement Package:

- ▶ DCS/BMS functional logic diagrams and functional descriptions

The Burner Procurement Package will be submitted to BREC twice: Issued for Review (IFR) and Issued for Bid (IFB). Phase 1 will end at IFB of the burner equipment specifications.

### ***Cost Estimate***

Upon completion of the conceptual design deliverables, Burns & McDonnell will engage our internal estimating team and self-perform construction arm to build the estimate. We will solicit a vendor quotation from ABB for the DCS work and utilize the information from the Burner CFD Model Study for the burner pricing. Burns & McDonnell will prepare both the direct and indirect costs. Owner costs will not be included unless BREC provides them.

The cost estimate summary sheet and conceptual design deliverables will be collated in a Phase I Cost Estimate Report, which will be submitted to BREC for review and comment.

### ***BREC Partners Presentation***

After submitting the conceptual design and corresponding cost estimate, Burns & McDonnell will host a virtual meeting with the BREC Partners and stakeholders to review the Phase I

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Cost Estimate Report. The presentation will include a discussion of the conceptual design alternatives, a brief discussion of the conceptual design deliverables, and a review of the cost estimate summary sheet. BREC will submit any questions, comments, or requests following the presentation.

Burns & McDonnell will incorporate the applicable feedback into the final Phase I Cost Estimate Report and submit to BREC for their records. At this point, Burns & McDonnell's Phase I responsibilities are complete.

## Optional Detailed Design Activities

Burns & McDonnell believes that in order to meet the current BREC project schedule, our team will need to begin work on detailed design activities in parallel with the Phase I development and cost estimating efforts. The above Phase I base scope does not include time for Burns & McDonnell detailers and designers to begin generating the detailed design drawings, detailed pipe and raceway layouts, etc., but instead contemplates utilizing engineering sketches and markups for development and estimating purposes. We broke this optional scope cost out in the below Commercial summary to allow Big Rivers to evaluate whether to minimize project spend in Q1-2021 or maintain the desired project design schedule. We would welcome an opportunity to discuss this in further detail with your team to support this decision making.

## Assumptions

Burns & McDonnell assumes the following:

1. Recurring activities such as general administration, regular meetings, and reviews are based on the schedule duration defined herein.
2. The engineering schedule will be maintained by Burns & McDonnell with updates being submitted monthly to BREC.
3. Weekly meetings will be attended remotely via Teams or similar virtual platform.
4. The existing utilities such as instrument air, seal air and cooling air are adequate for the new burners and equipment and no modifications are required.
5. The selected DCS vendor will perform the NFPA study.
6. Any modifications to the existing equipment as required by the NFPA review are not included.
7. The DCS Procurement Package will be sole sourced to ABB.
8. The plant's existing control system network has necessary spare capacity for additional controllers if applicable.
9. The DCS vendor can utilize existing plant control macros, graphics and symbols.

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10. A secondary custody transfer meter is not required by BREC at the custody transfer point with the gas supplier or at the new pressure regulating station. Only a custody transfer valve is located at the custody transfer point.
11. Freeze protection is not required.
12. Existing spare capacity is available in site power sources to power new equipment.
13. All underground utilities and obstructions will be provided from existing drawings.
14. Existing geotechnical reports will be used for this work.
15. The existing drawings are accurate in their current state.

## Responsibilities of BREC

The responsibilities of BREC are as follows:

1. Assist Burns & McDonnell by placing at our disposal all available information pertinent to the Project. Burns & McDonnell will rely on information made available by BREC as accurate without independent verification.
2. Provide survey data and geotechnical information for the facility.
3. Designate a person to act as BREC's representative with respect to the Services to be performed. Such person shall have complete authority to transmit instructions, receive information, interpret, and define BREC's policies and decisions with respect to materials, equipment, elements, and systems to be used in the Project, and other matters pertinent to the Services covered by this Project.
4. Provide safe access to the site as required. Provide proper corrective action, with potential Burns & McDonnell support, if unsafe conditions are identified or deficiencies are identified in our project implementation.
5. Provide Burns & McDonnell with a single set of consolidated comments from BREC on the deliverables.
6. Examine all documents presented by Burns & McDonnell and render in writing decisions pertaining to the documents.
7. BREC will administer and coordinate all procurement activities as well as release all contracts on BREC paper as required by the Project.
8. BREC will perform all permitting & CPCN activities required to execute the project.
9. BREC will perform any pilot trenching required for underground investigation.

## Project Schedule

Please see the attached for our preliminary project schedule.

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# Project Team



The Burns & McDonnell team is excited to work with BREC. The team below is staffed with a project manager and lead engineers, available to start in the next few weeks, who bring the experience of several co-fire or burner upgrades to utilize for your project. Our ability to deliver a team roster full of individuals with relevant experience to this project is one of the Burns & McDonnell differences. We make our clients success one custom team at a time.

## Team Member Qualifications

### **Michael Lothyan, PE** | Project Manager

Michael is a multi-discipline project manager and control systems engineer with 13 years of experience working with Energy clients. He is currently the program project manager for the Duke Energy Cofiring program where his teams are converting six coal fired Units to burn natural gas with coal at Belews Creek and Marshall Steam Stations. Four Units at Marshall are being converted to Cofire but will also retain fuel oil ignition, while both Units at Belews Creek have removed fuel oil ignition completely including two Aux Boilers. Design is complete on these 6 Units and Belews Creek successfully Cofired the first Unit in December of 2019. Marshall Unit 3 successfully Cofired December 2020. The second Unit at Belews Creek, and Unit 4 at Marshall are scheduled to Cofire for the first time in January of 2021, and the last two Units at Marshall will Cofire for the first time in the Fall of 2020. [Michael will be responsible for overseeing this project.](#)

### **Brian King, PE** | Combustion Lead – Engineering Manager

Brian is a senior mechanical engineer with 20 years of experience working with Energy clients. His experience includes designing low NOx coal fired and gas fired burners and overfire air systems on Lignite, Powder River Basin, Western and Eastern bituminous coal. He has performed combustion tuning on nearly all Original Equipment Manufacturers burners and overfire air systems. [Brian will be responsible for leading the design team.](#)

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**Joseph Littich, PE | Electrical/Instrument & Controls Lead**

Joseph is a senior instrument & controls engineer with 11 years of experience in instrumentation & controls design and experience converting IPL Harding street to gas, and more recently Cofiring Belews Creek.

**Mark Sarceda, PE | Mechanical Lead**

Mark is a senior mechanical engineer with 12 years of experience in mechanical system design including a dual-fuel gas conversion at Joliet.

**Tim Sobieraj, PE | Structural Lead**

Tim is a senior structural engineer with 19 years of experience in structural design including a dual-fuel gas conversion at Joliet.

**Zac Loehr | Development Lead**

Zac is a senior development engineer with 13 years of industry experience performing technology assessments and project studies for existing retrofits and new generation projects. Zac has performed numerous coal to gas and co-firing conversion studies and understands the keys to estimating those costs.

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## Commercial

Burns & McDonnell proposes to perform these Services on a Time and Material basis in accordance with the Professional Services Agreement dated June 29, 2010. Compensation for the Scope of Services included herein is proposed at a not-to-exceed (including expenses) fee as follows:

- ▶ Phase I Scope - [REDACTED]
- ▶ Optional Detailed Design Activities - [REDACTED]

We appreciate the opportunity to serve Big Rivers on this effort. If you have any questions regarding this proposal, please contact George Ransom at [REDACTED]

Sincerely,



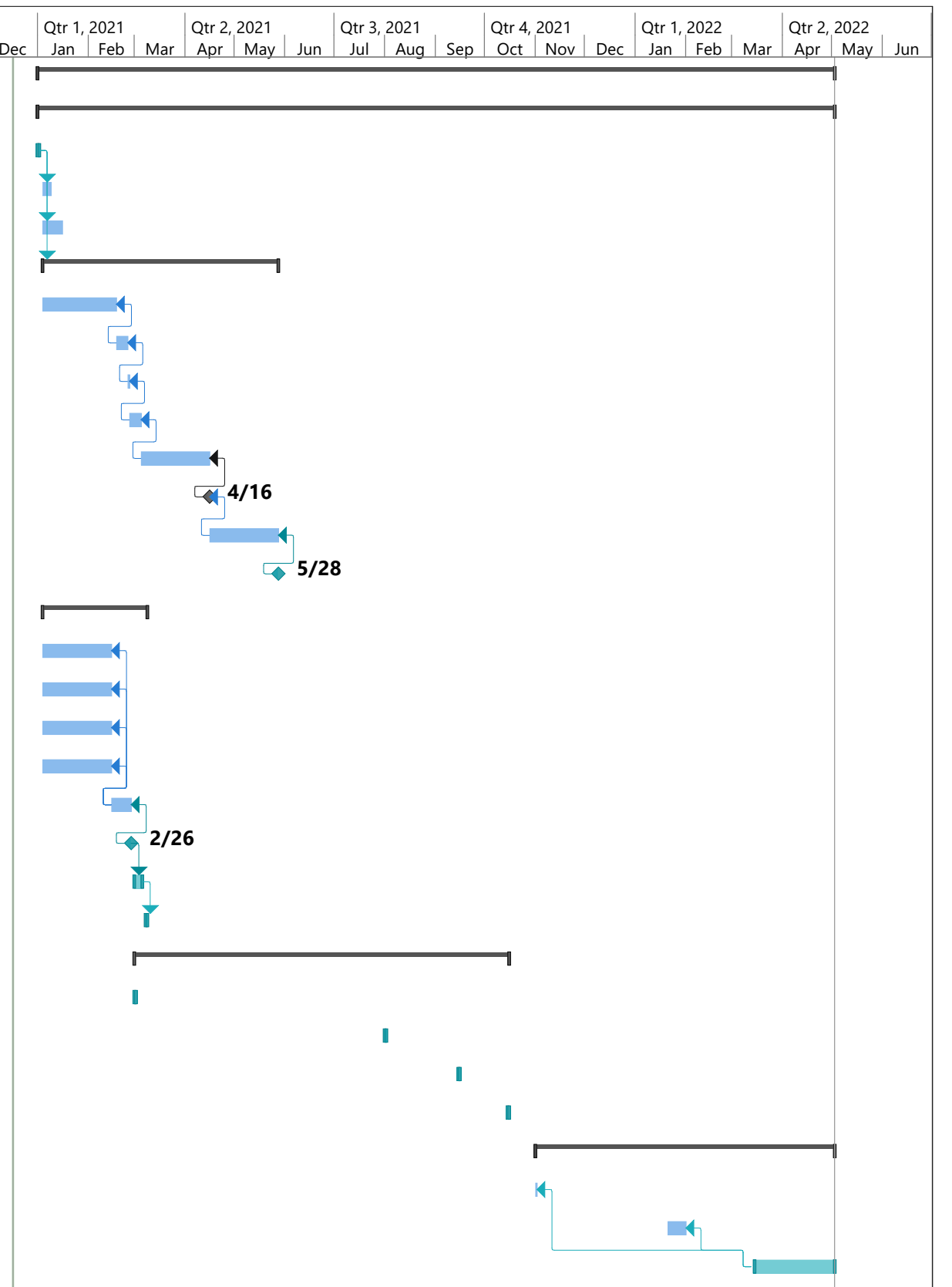
Scott Strawn, P.E.  
Vice President, Energy Division

## Attachments

1. Proposal Schedule
2. Qualifications
3. Resumes



ID	Task Mode	Task Name	Duration	Start	Finish	2020		Qtr 1, 2021			Qtr 2, 2021			Qtr 3, 2021			Qtr 4, 2021			Qtr 1, 2022			Qtr 2, 2022		
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	→	<b>Big Rivers Green Gas Conversion</b>	<b>347 days</b>	<b>Fri 1/1/21</b>	<b>Mon 5/2/22</b>																				
2	→	<b>Phase 1 Conceptual Design</b>	<b>347 days</b>	<b>Fri 1/1/21</b>	<b>Mon 5/2/22</b>																				
3	→	Notice to Proceed	1 day	Fri 1/1/21	Fri 1/1/21																				
4	→	Kickoff meeting / site visit	5 days	Mon 1/4/21	Fri 1/8/21																				
5	→	Computational Fluid Dynamic (CFD) model award	10 days	Mon 1/4/21	Fri 1/15/21																				
6	→	<b>Burner Spec/CFD model study</b>	<b>104 days</b>	<b>Mon 1/4/21</b>	<b>Fri 5/28/21</b>																				
7	→	Development	33 days	Mon 1/4/21	Thu 2/18/21																				
8	→	Issue for Owner review	5 days	Thu 2/18/21	Thu 2/25/21																				
9	→	Page turn	1 day	Thu 2/25/21	Fri 2/26/21																				
10	→	Pick up comments	5 days	Fri 2/26/21	Fri 3/5/21																				
11	→	Issue for bid	30 days	Fri 3/5/21	Fri 4/16/21																				
12	→	Bids Received (Phase 2)	0 days	Fri 4/16/21	Fri 4/16/21																				
13	→	Bid Eval (Phase 2)	30 days	Fri 4/16/21	Fri 5/28/21																				
14	→	Award (Phase 2)	0 days	Fri 5/28/21	Fri 5/28/21																				
15	→	<b>Project Cost Estimate</b>	<b>46 days</b>	<b>Mon 1/4/21</b>	<b>Mon 3/8/21</b>																				
16	→	Drawing Development - GA, P&ID, Pipe routing, Demolition, One lines, Tray rc	30 days	Mon 1/4/21	Mon 2/15/21																				
17	→	DCS and BMS evaluation	30 days	Mon 1/4/21	Mon 2/15/21																				
18	→	Air quality control system assessment	30 days	Mon 1/4/21	Mon 2/15/21																				
19	→	Hazardous area classification assessment	30 days	Mon 1/4/21	Mon 2/15/21																				
20	→	Cost Estimating	10 days	Mon 2/15/21	Fri 2/26/21																				
21	→	Project Estimate Completed	0 days	Fri 2/26/21	Fri 2/26/21																				
22	→	Estimate issued for Owner review	5 days	Mon 3/1/21	Fri 3/5/21																				
23	→	Estimate Page Turn	1 day	Mon 3/8/21	Mon 3/8/21																				
24	→	<b>Phase 2 Detailed Design</b>	<b>165 days</b>	<b>Mon 3/1/21</b>	<b>Fri 10/15/21</b>																				
25	→	Detailed Design	1 day	Mon 3/1/21	Mon 3/1/21																				
26	→	Construction Packages and Specifications issued for bid	1 day	Sun 8/1/21	Sun 8/1/21																				
27	→	Construction Bids Received	1 day	Wed 9/15/21	Wed 9/15/21																				
28	→	Construction Packages Awarded	1 day	Fri 10/15/21	Fri 10/15/21																				
29	→	<b>Phase 3 Construction</b>	<b>131 days</b>	<b>Mon 11/1/21</b>	<b>Mon 5/2/22</b>																				
30	→	Construction Begins	1 day	Mon 11/1/21	Tue 11/2/21																				
31	→	Burners on-site	7 days	Fri 1/21/22	Tue 2/1/22																				
32	→	Unit Conversion Outages	35 days	Tue 3/15/22	Mon 5/2/22																				



Project: Big Rivers Green Gas C  
Date: Thu 12/17/20

Task		Project Summary		Manual Task		Start-only		Deadline	
Split		Inactive Task		Duration-only		Finish-only		Progress	
Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
Summary		Inactive Summary		Manual Summary		External Milestone			



Your Touchstone Energy® Cooperative 

**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  
AND NECESSITY AUTHORIZING THE  
CONVERSION OF THE GREEN STATION UNITS  
TO NATURAL GAS-FIRED UNITS AND AN ORDER  
APPROVING THE ESTABLISHMENT OF A  
REGULATORY ASSET**

**Case No.  
2021-00079**

**DIRECT TESTIMONY**

**OF**

**MARK EACRET  
VICE PRESIDENT ENERGY SERVICES**

**ON BEHALF OF**

**BIG RIVERS ELECTRIC CORPORATION**

**February 28, 2021**

**Case No. 2021-00079  
Application Exhibit B  
Direct Testimony of Mark Eacret**

**DIRECT TESTIMONY  
OF  
MARK EACRET**

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1 activities, interface with the MISO Independent Market Monitor, and  
2 performing a variety of official roles within the MISO structure.

3

4 **Q. Briefly describe your education and work experience.**

5 A. I graduated from Indiana University–Purdue University Indianapolis with  
6 a Bachelor of Science in Accounting and from Indiana University with a  
7 Master of Business Administration with a concentration in Finance. I was  
8 employed by CINergy and its predecessor companies from 1980 to 1991 in  
9 the accounting function and, beginning in 1991, in the wholesale power  
10 function managing the analytical support for the company's wholesale  
11 marketing and trading functions. From 1999 through 2013, I worked with  
12 Ameren Corp where initially my team and I provided analytical support to  
13 the company's marketing and trading functions. In 2007, I assumed the  
14 additional responsibility of Controller for Ameren's merchant generation  
15 operation, Ameren Energy Resources (“AER”). In 2011, I became AER’s  
16 Controller and Vice President of Business Services. Following Ameren’s  
17 2013 sale of its merchant generation function, I moved to Sunflower  
18 Electric Power Corporation (“Sunflower”) in January 2014, as the Senior  
19 Manager of Market Operations and Power Contracts. At Sunflower, I was  
20 part of the team that transitioned Sunflower into the Southwest Power

1 Pool's ("SPP") Integrated Market. I assumed my current position with Big  
2 Rivers in April 2015.

3 **Q. Have you previously testified before this Commission?**

4 A. Yes. I testified on behalf of Big Rivers in Case No. 2020-00183,<sup>1</sup> in which  
5 Big Rivers sought and received Commission approval to enter into three  
6 solar power purchase agreements ("PPAs"), and in Case No. 2019-00269.<sup>2</sup> I  
7 sponsored responses to information requests in Case No. 2016-00278,<sup>3</sup> Case  
8 No. 2017-00384,<sup>4</sup> Case No. 2019-00365,<sup>5</sup> and Case No. 2020-00064.<sup>6</sup> I have  
9 also offered direct testimony in Fuel Adjustment Clause reviews, including  
10 Case No. 2019-00007.<sup>7</sup> My professional experience is summarized in  
11 Exhibit Eacret-1.  
12

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<sup>1</sup> *In the Matter of: Electronic Application of Big Rivers Electric Corporation for Approval of Solar Power Contracts*, P.S.C. Case No. 2018-00183.

<sup>2</sup> *In the Matter of: Electronic Application of Big Rivers Electric Corporation for Enforcement of Rate and Service Standards*, P.S.C. Case No. 2019-00269.

<sup>3</sup> *In the Matter of: Application of Big Rivers Electric Corporation for a Declaratory Order*, P.S.C. Case No. 2016-00278.

<sup>4</sup> *In the Matter of: 2017 Integrated Resource Plan of Big Rivers Electric Corporation*, P.S.C. Case No. 2017-00384.

<sup>5</sup> *In the Matter of: Joint Application of Big Rivers Electric Corporation and Meade County Rural Electric Cooperative Corporation for Approval of Contracts for Electric Service with Nucor Corporation and Application of Big Rivers Electric Corporation for Approval of Tariff*, P.S.C. Case No. 2019-000365.

<sup>6</sup> *In the Matter of: Electronic Application of Big Rivers Electric Corporation for Approval to Modify Its MRSM Tariff, Cease Deferring Depreciation Expenses, Establish Regulatory Assets, Amortize Regulatory Assets, and Other Appropriate Relief*, P.S.C. Case No. 2020-00064.

<sup>7</sup> *In the Matter of: Electronic Examination of The Application of the Fuel Adjustment Clause of Big Rivers Electric Corporation from November 1, 2106 through October 31, 2018*, P.S.C. Case No. 2019-00007.

1 **Q. What is the purpose of your testimony in this proceeding?**

2 A. The purpose of my testimony is to explain the capacity shortage Big Rivers  
3 would suffer were its two coal-fired Robert D. Green Station (“*Green*  
4 *Station*”) generating units to be idled without any replacement capacity at  
5 Big Rivers’ Sebree complex. I will discuss the benefits of the proposed  
6 natural gas conversion project related to MISO market risk. And I will  
7 provide information regarding the projections of market capacity prices and  
8 natural gas prices that were used in Big Rivers’ economic analysis of the  
9 proposed natural gas conversion project.

10

11 **Q. Will you be sponsoring any exhibits?**

12 A. Yes. I am sponsoring the following exhibits:

13 Exhibit Eacret-1: Professional Summary

14 Exhibit Eacret-2: Big Rivers’ Capacity Position from 2022 through  
15 2029

16 Exhibit Eacret-3: Bilateral Capacity Price Forecast

17 Exhibit Eacret-4: MISO Planning Resource Auction Clearing Prices

18 Exhibit Eacret-5: Natural Gas Price Forecast

19

1 **II. BIG RIVERS' PROJECTED CAPACITY SHORTAGE**

2 **Q. How does the capacity available through Big Rivers' generation**  
3 **portfolio compare to the demand of its Members and its other**  
4 **customers?**

5 A. As the Commission is aware, Big Rivers' native load decreased  
6 substantially following the departure of two large smelter customers from  
7 the Company's system in 2013-2014. The combined load of the two  
8 smelters was approximately 850 MW.

9           Since the departure of the smelters, the Company has taken many  
10 steps to mitigate that substantial load loss and maximize the value of its  
11 generation resources. After ensuring the satisfaction of its native load, Big  
12 Rivers capitalizes on its available capacity in a number of ways. For  
13 instance, Big Rivers has wholesale power contracts to sell power to three  
14 entities in the State of Nebraska through [REDACTED]; Owensboro Municipal  
15 Utilities ("OMU") through [REDACTED]; and nine Kentucky communities that are  
16 members of the Kentucky Municipal Energy Agency ("KyMEA") into [REDACTED].  
17 In addition to the Nebraska, OMU, and KyMEA contracts, Big Rivers makes  
18 short term capacity sales in the bilateral market. Big Rivers takes  
19 advantage of capacity not otherwise committed to its native load or to third  
20 parties by selling that capacity into the annual Planning Resource Auction



1 (“PRA”) operated by Midcontinent Independent System Operator, Inc.  
2 (“MISO”).

3 While Big Rivers has been successful in its efforts to sell its excess  
4 power at wholesale, Big Rivers’ long-term efforts to mitigate the loss of the  
5 smelter load are focused on growing its native load. Since the exit of the  
6 smelters, Big Rivers’ native load has grown primarily due to an expansion  
7 at one of the large industrial customers on the Big Rivers system and  
8 currently stands at 627 MW (including transmission losses). However, the  
9 Commission recently approved Big Rivers’ and Meade County RECC’s joint  
10 request in Case No. 2019-00365 for approval of contracts to provide electric  
11 service to a new steel mill in Bradenburg, Meade County, Kentucky, to be  
12 owned and operated by Nucor Corporation (“Nucor”). The Nucor facility is  
13 expected to increase Big Rivers’ native load by [REDACTED]

14 [REDACTED]

15 Big Rivers’ Member peak demand requirements are projected to  
16 increase from 627 MW in 2020 to 832 in 2022 with the addition of the  
17 Nucor load and then grow slowly to about 852 MW (including transmission  
18 losses) by the summer of 2039.<sup>8</sup> These amounts do not include any  
19 requiring planning reserve margins (“PRMs”). Big Rivers’ analysis of its  
20 capacity needs includes a 9% PRM requirement, as discussed below.

---

<sup>8</sup> Big Rivers 2020 IRP at page 49-50 and Table 3.4 (September 21, 2020).

1 Confidential Exhibit Eacret-2 compares Big Rivers' current net  
2 capacity position through year 2029 with Green Station's units idled on  
3 June 1, 2022 to Big Rivers' net capacity position post Green Station (as an  
4 additional 373 MW capacity resource) conversion through year 2029.

5 Note that capacity obligations to our Nebraska customers are not  
6 included in those calculations. Big Rivers purchases capacity for those  
7 customers in the Southwest Power Pool and they are not part of our MISO  
8 capacity position.

9 As can be seen on this exhibit, Big Rivers idling Green Station's coal-  
10 fired units creates a capacity deficit through 2029, even after the Solar  
11 PPAs are added and after the termination of the OMU and KyMEA  
12 agreements. Post Green Station conversion, there is a small short-term  
13 capacity deficit even with the new solar contracts.

14  
15 **Q. Why did Big Rivers add a 9% PRM requirement in determining its**  
16 **capacity needs?**

17 **A.** In Case No. 2010-00043, the Commission approved Big Rivers' joining  
18 MISO as the only viable option for Big Rivers to comply with the  
19 contingency reserve requirements of the North American Electric  
20 Reliability Corporation ("*NERC*") as approved by the Federal Energy  
21 Regulatory Commission ("*FERC*"). Upon joining MISO and signing the

1 MISO Transmission Owners Agreement, Big Rivers became obligated to  
2 follow MISO's FERC tariff, including MISO's Module E-1 Resource  
3 Adequacy mechanism.

4 MISO's module E-1 provides mandatory requirements to ensure  
5 access to deliverable, reliable, and adequate Planning Resources to meet  
6 demand requirements. One of those requirements is the Planning Reserve  
7 Margin requirement.

8 As explained in more detail in Section 7.6 of Big Rivers' 2020 IRP,  
9 Big Rivers' analysis of its capacity needs used the MISO Unforced Capacity  
10 ("UCAP") Planning Reserve Margin of 9%.

11  
12 **Q. Without Green Station, will Big Rivers have the capacity necessary**  
13 **to satisfy the current and future needs of itself and its Members?**

14 A. No. Without Green Station's existing units, Big Rivers will not have the  
15 capacity necessary to meet the requirements of its native load (once the  
16 construction of the Nucor plant is complete) and the existing contracts with  
17 OMU and KyMEA.

18

1 **III. PRICE PROJECTIONS USED IN BIG RIVERS' ANALYSIS**

2 **Q. How were the capacity price projections used in the modeling**  
3 **developed to determine the best option for addressing Big Rivers'**  
4 **capacity shortage?**

5 A. To determine bilateral market prices, Big Rivers solicited over twenty  
6 market participants for long-term capacity proposals. Eleven of the market  
7 participants responded with no offers. Four market participants provided  
8 offers for year 2022 only. The remaining participants offered five to ten  
9 years in the range of [REDACTED] per kw/month. There were only two  
10 long-term offers in MISO Zone 6, where Big Rivers load, and hence capacity  
11 obligation, is located. The other long term offers were in MISO Zone 4 and  
12 include basis risk. When reviewing the offers, Big Rivers evaluated not  
13 only the price and MISO zone, but other considerations including the  
14 counterparties' credit ratings. See Eacret Exhibit 3 for a list of the offers  
15 and a capacity forward curve based upon them.

16  
17 **Q. Could Big Rivers simply purchase the capacity in the annual MISO**  
18 **Planning Resource Auction (PRA)?**

19 A. The MISO PRA is held in the spring of each year and participants can only  
20 purchase capacity for the following planning year, which begins on June 1.  
21 This approach would limit our ability to hedge to one year at a time and the

1 price for a planning year would not be known until the prior spring. This  
2 creates a large capacity price risk.

3 For instance, in the PRA for the 2019 Planning Year, the Auction  
4 Clearing Price for MISO Zone 7 was \$24.30/MW-Day. That equates to  
5 about \$.74/kw-month. For the following Planning Year, the Zone 7 ACP  
6 was \$257.53/MW-Day, or about \$7.83/kw-month (ten times higher). A  
7 market participant who chose to purchase 300 MW in each PRA would  
8 have paid \$2,660,850 in 2019 and \$28,199,535 in 2020.

9 While that is an extreme example of volatility, it is certainly  
10 possible. Furthermore, the retirement of a large number of baseload units  
11 in MISO Zone 6 will put pressure on the balance of supply and demand.  
12 Big Rivers needs a longer-term hedging alternative, such as a multi-year  
13 capacity purchase. See Exhibit Eacret-4 for historical Planning Resource  
14 Auction Clearing Prices.

1 **Q. How have MISO capacity market price projections changed from**  
2 **those submitted in Table 8.6 of Big Rivers 2020 IRP?**

3 A. The method used to develop the projections were the same as in the 2020  
4 IRP. Any differences are due to updated forecasts.

5  
6 **Q. How did Big Rivers develop the forecasted natural gas prices used**  
7 **in the economic analysis of the proposed project?**

8 A. Spot Henry Hub natural gas price forecasts were provided from a third  
9 party, ACES. The table attached hereto as Exhibit Eacret-5 displays the  
10 projected monthly spot prices for January 2023 through December 2029  
11 that were used in the evaluation. The non firm gas supply has a  
12 [REDACTED] delivery cost that is added to spot price.

13 The forecasted firm gas demand charge used in the economic  
14 analysis was provided by vendor estimate and is modeled at  
15 [REDACTED], where the MMBtu amount is the volume of natural gas to  
16 be firm. The model assumes the full load of Green Station natural gas  
17 units after the conversion as the volume of firm natural gas.

18

1 **Q. How have these natural gas price projections changed from those**  
2 **submitted in Big Rivers' 2020 IRP, including in Figure 8.4?**

3 A. The method used to develop the projections were the same as in the 2020  
4 IRP. Any differences are due to updated forecasts and the variance  
5 between the two forecasts are shown in Exhibit Eacret-5.

6

7 **Q. How did Big Rivers develop the other forecasts relied upon in its**  
8 **evaluation of the best option to satisfy its projected capacity**  
9 **shortfall?**

10 A. The 2020 IRP did not include OMU and KyMEA as a load obligation and  
11 looked at a twenty-year horizon (2024-2043). The Green Station evaluated  
12 the capacity requirements of the Member and non-Member contracts and  
13 used a seven year horizon (2023-2029). The other forecasts and cost  
14 estimates relied upon were developed in the same as those utilized in Big  
15 Rivers' 2020 IRP. Please see the IRP for the full explanation of how they  
16 were developed.

17

1 **IV. BENEFITS OF THE PROPOSED GAS CONVERSION PROJECT**

2 **Q. Please explain the risk of relying on capacity purchases from the**  
3 **MISO market to satisfy a substantial portion Big Rivers' capacity**  
4 **obligations to its Member-Owners and other customers?**

5 A. Big Rivers' mission is to safely deliver low-cost, reliable wholesale power  
6 and the cost-effective shared services desired by its Member-Owners. Big  
7 Rivers supports this mission through resource planning. Big Rivers'  
8 resource planning goals involve having an appropriate mix of resources at  
9 the lowest reasonable cost by minimizing the net present value of the  
10 production and capital cost required to serve Big Rivers' load. Big Rivers'  
11 resource planning maximizes reliability, satisfies environmental and other  
12 legal requirements, and maintains adequate planning reserve margins,  
13 while minimizing costs and risks. The Commission has recognized the  
14 inherent risks of a resource plan that includes significant market energy  
15 purchases, cautioning "[t]he Commission believes that its jurisdictional  
16 utilities should secure sufficient power to serve native load either through  
17 direct ownership of generation or firm power purchases at fixed costs  
18 (generally subject to the variability of fuel costs), or a combination thereof,  
19 that guarantee performance and reasonable price stability."<sup>9</sup>

---

<sup>9</sup> *In the Matter of a Review of the Adequacy of Kentucky's Generation Capacity and Transmission System*, Admin. Case 387, Order at pages 49-50 (December 20, 2001).



1 Relying on short-term market purchases for a significant portion of  
2 Big Rivers' capacity needs subjects Big Rivers and its Members to  
3 substantial price risks. Big Rivers seeks to minimize this risk by having  
4 adequate "steel in the ground" to meet its capacity requirements or having  
5 long-term PPA's in place to hedge the market price risk.

6 The Commission has encouraged Kentucky utilities to avoid market  
7 volatility. In the Administrative Case No. 387, the Commission found:

8 [R]eliance on power purchases that reflect market price  
9 volatility is not the best interest of the Kentucky consumers.  
10 AEP-KY must plan to meet its load by securing sufficient  
11 capacity that is not subject to the market price volatility.  
12 Only by doing so will AEP-KY be able to maintain reasonable  
13 electric rates while mitigating the extent possible market  
14 price and fuel price fluctuations.<sup>10</sup>  
15

16 Additionally, the Commission has approved self-build and retrofitting  
17 projects of owned generation resources as an alternative to exposure to the  
18 instability of the market.<sup>11</sup> In its May 11, 2001, Order, the Commission

---

<sup>10</sup> *In the Matter of: A Review of the Adequacy of Kentucky's Generation Capacity and Transmission System*, Ky. P.S.C. Admin. Case 387, Order at pages 34-35 (December 20, 2001).

<sup>11</sup> See *In the Matter of: Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for Alteration of Certain Equipment at the Cooper Station and Approval of a Compliance Plant Amendment for Environmental Surcharge Cost Recovery*, Ky. P.S.C. Case No. 2013-00259, Order (Feb. 20, 2014) (Granting EKPC a CPCN for its Cooper Station, to re-route the existing duct work for Cooper Unit 1 such that its emission were able to flow to the Cooper Unit 2's Air Quality Control System to enable Cooper Unit 1 to satisfy certain air emission regulations).

1 encouraged Union Light, Heat and Power Company to construct and own  
2 sufficient generating capacity, “not subject to market volatility”.<sup>12</sup>

3  
4 **Q. Is there an additional benefit of the proposed gas conversion**  
5 **project?**

6 A. Yes. In my Direct Testimony in Case No. 2020-00183 and in Big Rivers’  
7 Response to Item 19 of the Commission Staff’s Initial Request for  
8 Information dated August 5, 2020, in that case, Big Rivers’ supported the  
9 aggregate size of its solar purchase (260 MW) by noting that in testimony  
10 before Congress, John Bear, the Chief Executive Officer of MISO had said  
11 that renewables above 30% of system requirements could be a challenge.  
12 As the Commission is aware, more and more solar is being proposed for the  
13 grid by Vectren, Hoosier, LG&E, SIPC, and others. Additionally, NextEra,  
14 HMPL, and NGR are connecting even more solar to the Big Rivers system.  
15 One of the less quantifiable benefits of the Green conversion is that it  
16 leaves two large generators on the system at a relatively low cost to provide  
17 reliability if Mr. Bears concerns are realized.

18  

---

<sup>12</sup> *In the Matter of: The Application of the Union Light, Heat and Power Company for Certain Findings under 15 U.S.C § 79Z*, Ky. P.S.C. Case No. 2001-0058, Order at pages 6 and 7 (May 11, 2001.) (finding “we must take all necessary steps to ensure that ULH&P and the other utilities we regulate have sufficient generation at reasonable prices to meet short-term and long term energy needs”).

1 V. **CONCLUSION**

2 Q. **What are your recommendations to the Commission?**

3 A. For the reasons stated in Big Rivers' Application and the accompanying  
4 testimonies, I recommend that the Commission grant Big Rivers a CPCN to  
5 convert the Green Station generation units to natural-gas fired units, and  
6 grant Big Rivers the other relief it seeks.

7

8 Q. **Does this conclude your testimony?**

9 A. Yes.

**BIG RIVERS ELECTRIC CORPORATION**

**ELECTRONIC APPLICATION OF  
BIG RIVERS ELECTRIC CORPORATION FOR A  
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
AUTHORIZING THE CONVERSION OF THE GREEN STATION UNITS  
TO NATURAL GAS-FIRED UNITS AND AN ORDER APPROVING  
THE ESTABLISHMENT OF A REGULATORY ASSET  
CASE NO. 2021-00079**

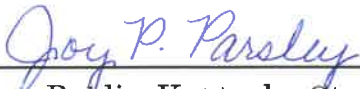
**VERIFICATION**

I, Mark J. Eacret, verify, state, and affirm that I prepared or supervised the preparation of the Direct Testimony filed with this Verification, and that Direct Testimony is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry

  
\_\_\_\_\_  
Mark J. Eacret

COMMONWEALTH OF KENTUCKY )  
COUNTY OF HENDERSON )

26<sup>th</sup> SUBSCRIBED AND SWORN TO before me by Mark J. Eacret on this the  
day of February, 2021.

  
\_\_\_\_\_  
Notary Public, Kentucky State at Large  
My Commission Expires \_\_\_\_\_

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

## **Professional Summary**

Mark J. Eacret  
Vice President Energy Services  
Big Rivers Electric Corp  
201 Third St  
Henderson, Kentucky 42420  
(270) 844-6126

### **Professional Experience**

Big Rivers Electric Corporation

Vice President Energy Services – 2015 to present

Sunflower Electric Power Corporation – 2014

Senior Manager of Market Operations and Power Contracts

Ameren Energy Resources

Vice President of Business Services and Controller 2011-2013

Controller 2007-2011

Manager of Pricing and Analysis 1999-2007

Cinergy Corporation

Various Wholesale Power Analytical Positions 1991-1999

Various Accounting Positions of increasing responsibility 1980-1991

### **Education**

Master of Business Administration with a concentration in Finance

Indiana University-Bloomington

Bachelor Degree (Accounting Major)

Indiana University – Indianapolis



Your Touchstone Energy® Cooperative 

**In the Matter of:**

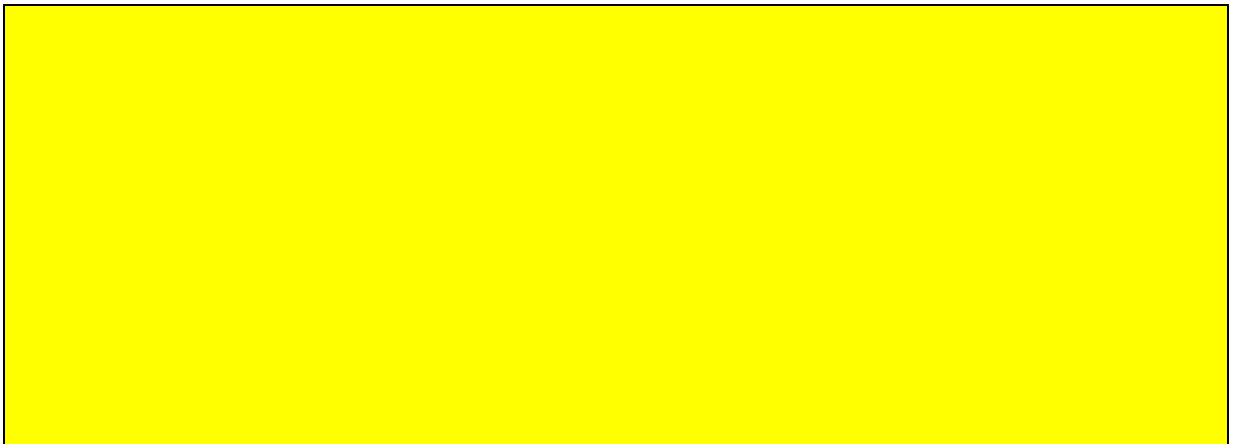
**ELECTRONIC APPLICATION OF )  
BIG RIVERS ELECTRIC CORPORATION )  
FOR A CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY AUTHORIZING )  
THE CONVERSION OF THE GREEN STATION )  
UNITS TO NATURAL GAS-FIRED UNITS AND AN )  
ORDER APPROVING THE ESTABLISHMENT OF )  
A REGULATORY ASSET )**

**Case No.  
2021-00079**

**CONFIDENTIAL**

**INFORMATION SUBMITTED WITH  
MOTION FOR CONFIDENTIAL TREATMENT**

**Exhibit Eacret-2**





Your Touchstone Energy® Cooperative 

**In the Matter of:**

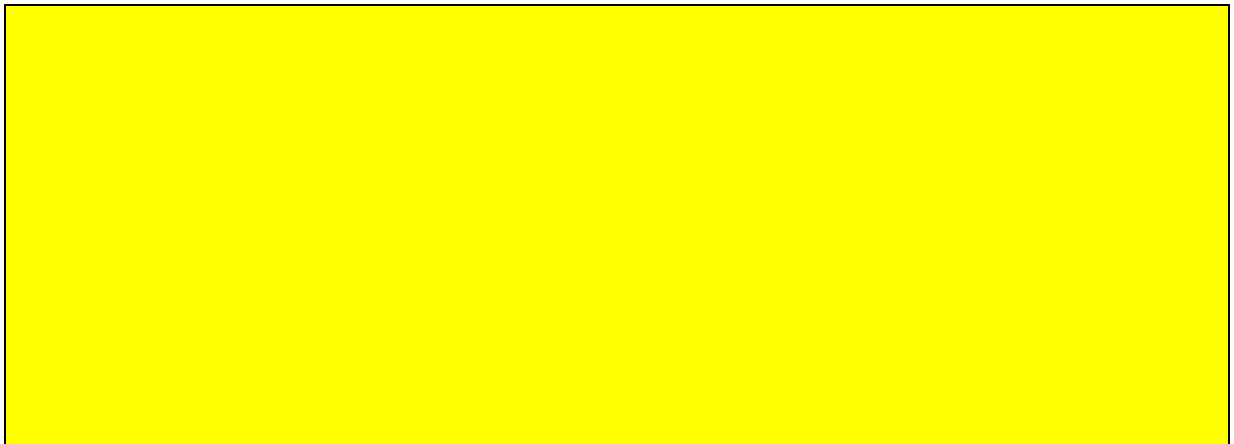
**ELECTRONIC APPLICATION OF )  
BIG RIVERS ELECTRIC CORPORATION )  
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A REGULATORY ASSET )**

**Case No.  
2021-00079**

**CONFIDENTIAL**

**INFORMATION SUBMITTED WITH  
MOTION FOR CONFIDENTIAL TREATMENT**

**Exhibit Eacret-3**



MISO Auction Clearing Results								
Planning Year	20/21	19/20	18/19	17/18	16/17	15/16	14/15	13/14
Resource Zone	ACP (\$/MW-Day)	ACP (\$/MW-Day)	ACP (\$/MW-Day)	ACP (\$/MW-Day)	ACP (\$/MW-Day)	ACP (\$/MW-Day)	ACP (\$/MW-Day)	ACP (\$/MW-Day)
1	\$5.00	\$2.99	\$1.00	\$1.50	\$19.72	\$3.48	\$3.29	\$1.05
2	\$5.00	\$2.99	\$10.00	\$1.50	\$72.00	\$3.48	\$16.75	\$1.05
3	\$5.00	\$2.99	\$10.00	\$1.50	\$72.00	\$3.48	\$16.75	\$1.05
4	\$5.00	\$2.99	\$10.00	\$1.50	\$72.00	\$150.00	\$16.75	\$1.05
5	\$5.00	\$2.99	\$10.00	\$1.50	\$72.00	\$3.48	\$16.75	\$1.05
6	\$5.00	\$2.99	\$10.00	\$1.50	\$72.00	\$3.48	\$16.75	\$1.05
7	\$257.53	\$24.30	\$10.00	\$1.50	\$72.00	\$3.48	\$16.75	\$1.05
8	\$4.75	\$2.99	\$10.00	\$1.50	\$2.99	\$3.29	\$16.44	
9	\$6.88	\$2.99	\$10.00	\$1.50	\$2.99	\$3.29	\$16.44	
10	\$4.75	\$2.99	\$10.00	\$1.50	\$2.99			





Your Touchstone Energy® Cooperative 

**In the Matter of:**

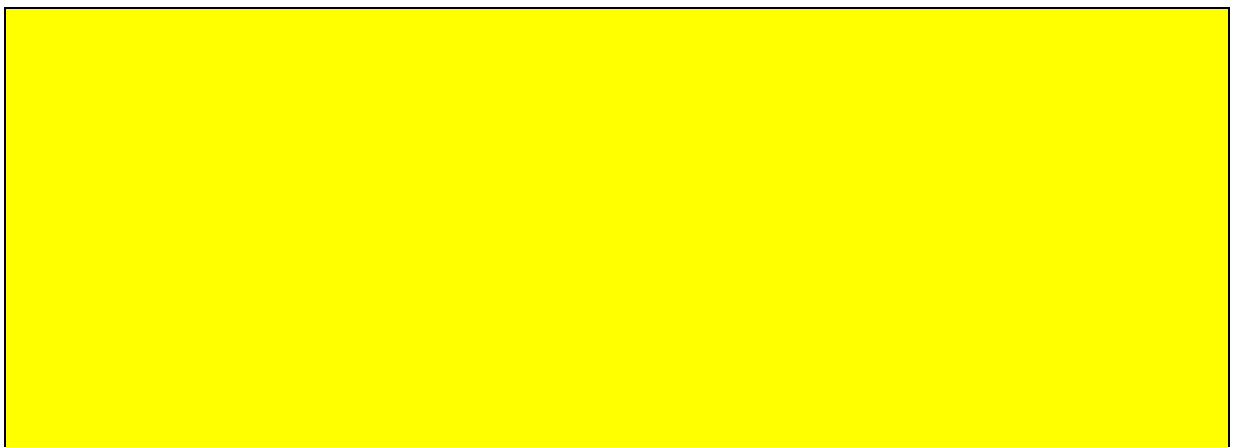
**ELECTRONIC APPLICATION OF )  
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A REGULATORY ASSET )**

**Case No.  
2021-00079**

**CONFIDENTIAL**

**INFORMATION SUBMITTED WITH  
MOTION FOR CONFIDENTIAL TREATMENT**

**Exhibit Eacret-5**



# ORIGINAL



Your Touchstone Energy® Cooperative 

**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 AND NECESSITY AUTHORIZING )  
THE CONVERSION OF THE GREEN STATION )  
UNITS TO NATURAL GAS-FIRED UNITS AND AN )  
ORDER APPROVING THE ESTABLISHMENT OF )  
A REGULATORY ASSET )**

**Case No.  
2021-00079**

**DIRECT TESTIMONY**

**OF**

**PAUL G. SMITH  
CHIEF FINANCIAL OFFICER**

**ON BEHALF OF**

**BIG RIVERS ELECTRIC CORPORATION**

**February 28, 2021**

**Case No. 2021-00079  
Application Exhibit C  
Direct Testimony of Paul G. Smith**

**DIRECT TESTIMONY  
OF  
PAUL G. SMITH**

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V. THE COMMISSION SHOULD ALLOW BIG RIVERS TO ESTABLISH A REGULATORY ASSET FOR THE REMAINING NET BOOK VALUE OF THE GREEN STATION ASSETS AND OTHER COSTS OF RETIRING AND DECOMMISSIONING THESE ASSETS .....	10
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1 **DIRECT TESTIMONY**

2 **OF**

3 **PAUL G. SMITH**

4 **I. INTRODUCTION**

5 **Q. Please state your name, business address and occupation.**

6 A. My name is Paul G. Smith, and my business address is 201 Third Street,  
7 Henderson, Kentucky 42420. I am the Chief Financial Officer (“*CFO*”) for  
8 Big Rivers Electric Corporation (“*Big Rivers*” or the “Company”).

9  
10 **Q. Please summarize your education and professional experience.**

11 A. I received a Bachelor of Science degree in Industrial Management from  
12 Purdue University and a Masters of Business Administration degree, with  
13 honors, from the University of Chicago. I am a Certified Public Accountant  
14 in the State of Ohio and a member of the American Institute of Certified  
15 Public Accountants. I am a past member of the Edison Electric Institute  
16 (“*EEI*”) Economic Regulation and Competition Committee and the EEI  
17 Budgeting and Financial Forecasting Committee.

18 I began my career in 1982 as a public accountant in the Chicago office  
19 of Deloitte & Touche, and from 1984 to 1987 in the Indianapolis office of  
20 Crowe, Chizek & Co. Beginning in 1987, I held various analyst and  
21 managerial positions with Duke Energy Corporation, and its predecessor  
22 companies including Cinergy Corp. (“*Cinergy*”), in Budgets and Forecasts,

1 Rates and Regulatory Affairs, Investor Relations, and the International  
2 Business Unit. Beginning in 2001, I was appointed to various executive  
3 level positions, including General Manager of Budgets and Forecasts with  
4 responsibility for Cinergy's financial planning and analysis department,  
5 Vice President of Rates with responsibility for all state and federal  
6 regulated rate matters, including revenue requirements, cost-of-service  
7 and rate design for Duke Energy Kentucky, Inc. and Duke Energy Ohio,  
8 Inc., and Vice President of Retail Marketing with responsibility for all  
9 activities to launch a start-up, competitive retail energy business.

10 In 2012, I joined NextEra Energy Transmission, the competitive  
11 transmission development subsidiary of NextEra Energy, Inc., as Senior  
12 Director of Business Management. My responsibilities included managing  
13 all financial activities for the competitive transmission business, including  
14 accounting and financial reporting, budgeting and financial planning, and  
15 corporate development analytics. In addition, I was responsible for the  
16 compliance function and directing the preparation of state, Regional  
17 Transmission Organization, and Federal Energy Regulatory Commission  
18 (“*FERC*”) revenue requirement filings.

19 In 2018, I accepted the position of CFO at Big Rivers.  
20

1 **Q. Please summarize your duties at Big Rivers.**

2 A. As CFO, I am responsible for all financial, regulatory, strategic planning  
3 and risk management activities. Such activities include accounting and  
4 financial reporting, payroll, budgets, finance, tax, rates and regulatory  
5 affairs, risk management and strategic planning.

6

7 **Q. Have you previously testified before the Kentucky Public Service  
8 Commission (“Commission”)?**

9 A. Yes. Most recently, I submitted testimony on behalf of Big Rivers in Case  
10 No. 2020-00064 in support of Big Rivers’ Application to modify its Member  
11 Rate Stability Mechanism (“*MRSM*”) tariff and other related relief, and in  
12 Case No. 2019-00435,<sup>1</sup> in which the Company sought and obtained an order  
13 from the Commission approving its 2020 Environmental Compliance Plan,  
14 and authority to recover costs through its Environmental Surcharge tariff  
15 (the “*2020 ECP Case*”). I also submitted testimony in support of the Joint  
16 Application filed by Big Rivers and Meade County Rural Electric  
17 Cooperative Corporation (“*Meade County RECC*”) in Case No. 2019-00365,<sup>2</sup>

---

<sup>1</sup> *In the Matter of: Application of Big Rivers Electric Corporation for Approval of its 2020 Environmental Compliance Plan, Authority to Recover Costs Through a Revised Environmental Surcharge and Tariff, the Issuance of a Certificate of Public Convenience and Necessity for Certain Projects, and Appropriate Accounting and Other Relief* (filed Feb. 7, 2020).

<sup>2</sup> *In the Matter of: Electronic Joint Application of Big Rivers Electric Corporation and Meade County Rural Electric Cooperative Corporation for (1) Approval of Contracts for Electric Service with Nucor Corporation; and (2) Approval of Tariff* (filed Sept. 26, 2019).

1 in which the Commission approved contracts to provide electric service to a  
2 new Nucor Corporation (“Nucor”) steel mill currently under construction in  
3 Brandenburg, Meade County, Kentucky. I provided written and oral  
4 testimony on behalf of Big Rivers in the pending Case No. 2019-00269<sup>3</sup> in  
5 which Big Rivers requests that the Commission enforce the series of  
6 contracts between Big Rivers and the City of Henderson and the City of  
7 Henderson Utility Commission related to the William L. Newman Station  
8 Two generating plant and associated facilities, and in Case No. 2018-  
9 00146,<sup>4</sup> in which the Commission found, among other things, that various  
10 Station Two contracts had terminated. I have sponsored various  
11 applications before the Commission seeking approval of financial  
12 transactions including most recently, in the pending Case No. 2021-00026,<sup>5</sup>  
13 in which the Company is seeking a declaratory Order that pending  
14 supplements to the Indenture dated as of July 1, 2019, between Big Rivers  
15 and U.S. Bank National Association, as Trustee, do not require Commission  
16 approval or in the alternative, an Order authoring the issuance of the  
17 pending supplemental indentures.

---

<sup>3</sup> *In the Matter of: Application of Big Rivers Electric Corporation for Enforcement of Rate and Service Standards* (filed July 31, 2019).

<sup>4</sup> *In the Matter of: Notice of Termination of Contracts and Application of Big Rivers Electric Corporation for a Declaratory Order and for Authority to Establish a Regulatory Asset* (filed Aug. 29, 2018).

<sup>5</sup> *In the Matter of: Electronic Application of Big Rivers Electric Corporation for a Declaratory Order or an Order Authorizing the Issuance of Evidence of Indebtedness* (filed February 9, 2021).

1 I have also testified on behalf of Duke Energy Kentucky, Inc.,  
2 including in Case No. 2006-00172,<sup>6</sup> in which Duke sought an increase in  
3 rates, and in Case No. 2008-00495,<sup>7</sup> in which Duke sought approval of  
4 energy efficiency programs and an energy efficiency rider. Additionally, I  
5 have testified before The Public Utilities Commission of Ohio, the Indiana  
6 Utility Regulatory Commission, and FERC. My professional experience is  
7 summarized in Exhibit Smith-1.

8

9 **Q. What is the purpose of your testimony in this proceeding?**

10 A. The purpose of my testimony is to support Big Rivers' request for a  
11 certificate of public convenience and necessity ("*CPCN*") to convert the two  
12 coal-fired generating units at Big Rivers' Robert D. Green Station ("*Green*  
13 *Station*") to burn natural gas; and to describe the method by which Big  
14 Rivers will finance the proposed project, and the anticipated financial effect  
15 that the project will have on Big Rivers.

16 Additionally, I will provide a detailed discussion to support Big  
17 Rivers' request to depreciate the conversion assets over a seven-year period,  
18 to establish a regulatory asset for the net book value of the Green Station

---

<sup>6</sup> *An Adjustment of the Electric Rates of the Union Light, Heat and Power Company d/b/a Duke Energy Kentucky, Inc.* (filed May 31, 2016).

<sup>7</sup> *In the Matter of: Application of Duke Energy Kentucky, Inc. for Approval of Energy Efficiency Plan including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs* (filed December 1, 2008).



1 assets that will no longer be utilized after the generating units are  
2 converted to burn natural gas, and the prudent amortization and recovery  
3 of the regulatory asset.

4

5 **Q. Are you sponsoring any exhibits?**

6 A. Yes. The following exhibits were prepared by me or under my supervision:

- 7 • Exhibit Smith-1: Professional Summary
- 8 • Exhibit Simith-2: Details of Green Station Assets Big Rivers Intends  
9 to Retire After the Units are Converted to Natural Gas
- 10 • Exhibit Smith-3: Big Rivers' Request Letter to RUS
- 11 • Exhibit Smith-4: RUS Response Letter
- 12 • Exhibit Smith-5: Proposed Accounting Entries for Green Station  
13 Assets to be Retired

14

15

16 **II. PROJECT COSTS AND FINANCING**

17 **Q. What is the estimated total cost of the conversion of Green Station's**  
18 **units to burn natural gas?**

19 A. The estimated total project cost is \$45.3 million.

20

1 **Q. What is the estimated annual cost to operate and maintain the**  
2 **Green Station's units once converted to burn natural gas?**

3 A. Excluding fuel and other variable costs, the estimated average annual O&M  
4 costs are \$8.9 million. This includes \$6.0 million for labor, \$2.6 million in  
5 non-labor routine maintenance, and \$0.3 million in capital routine  
6 maintenance.

7  
8 **Q. Does Big Rivers intend to finance the costs associated with the**  
9 **proposed project?**

10 A. Big Rivers intends to fund the project with general cash reserves, but will  
11 explore externally financing the capital costs proposed in this Application  
12 with a loan from the Rural Utilities Service ("*RUS*"). The RUS typically  
13 offers the most attractive debt terms, including incrementally lower interest  
14 rates. If such loan is not available, several financial institutions, including  
15 the National Rural Utilities Cooperative Finance Corporation ("*CFC*"), have  
16 expressed an interest in managing Big Rivers' access to capital markets for  
17 this project. As necessary under KRS 278.300, Big Rivers will seek  
18 approval of financing related to the project cost in a subsequent proceeding.

19

20

1 **III. PROJECT FINANCIAL EFFECT**

2 **Q. Will the project have a financial impact on Big Rivers?**

3 A. No. The total cost of the Green Station gas conversion project, not  
4 considering its multiple additional benefits, is a least cost and lower risk  
5 option to address the Company's capacity shortage than the cost of  
6 purchasing the required capacity for the next seven years in the competitive  
7 market; therefore, there will effectively be no impact on the Company's net  
8 margins. Should the converted station remain an economical capacity  
9 resource beyond the seventh year, Big Rivers would realize an improvement  
10 in net margins that is attributable to the project.

11

12 **Q. Please describe the estimated impact that the cost of the proposed  
13 project will have of Big Rivers' overall financial condition.**

14 A. The proposed construction does not involve sufficient initial capital outlay  
15 relative to the alternative capacity market purchases to materially affect  
16 the existing financial condition of Big Rivers.

17

18 **Q. Please describe the estimated impact that the cost of the proposed  
19 project will have on the wholesale rates paid by Big Rivers'  
20 Members.**

21 A. The proposed construction will not result in any increase to Big Rivers' base  
22 rates or to the retail base rates Big Rivers' Members.

1 IV. **THE COMMISSION SHOULD ALLOW BIG RIVERS TO**  
2 **DEPRECIATE THE GAS CONVERSION ASSETS OVER A SEVEN-**  
3 **YEAR PERIOD**

4 **Q. Over what period does Big Rivers propose to depreciate the gas**  
5 **conversion assets?**

6 A. Big Rivers proposes that the Commission approve a depreciable life of seven  
7 years for the gas conversion assets. The economics of the gas conversion  
8 project are measured over a seven-year period. The approval of a seven-  
9 year useful life will ensure that there will not be an unrecovered net book  
10 value at the end of the targeted economic period.

11

12 **Q. Why is seven years the appropriate period to amortize the project**  
13 **cost?**

14 A. The economics of the gas conversion project have been determined to be the  
15 best option over seven years. If depreciated over a period longer than seven  
16 years, Big Rivers and its Members would be exposed to a potential  
17 unrecovered net book value upon retirement.

18

1 **V. THE COMMISSION SHOULD ALLOW BIG RIVERS TO ESTABLISH**  
2 **A REGULATORY ASSET FOR THE REMAINING NET BOOK VALUE**  
3 **OF THE GREEN STATION ASSETS AND OTHER COSTS OF**  
4 **RETIRING AND DECOMMISSIONING THESE ASSETS**

5 **Q. What regulatory assets does Big Rivers seek to establish as a result**  
6 **of the conversion of Green Station’s two coal-fueled generating**  
7 **units to natural gas-fired units?**

8 A. Big Rivers seeks to establish a regulatory asset to defer the costs it incurs  
9 relating to the retirement of Green Station’s existing generating units,  
10 including but not limited to the remaining unrecovered net book value of  
11 certain coal-related assets to be retired at the time of the gas conversion,  
12 which Big Rivers would otherwise write-off, as well as other incurred costs  
13 to decommission the assets that will be retired such as severance costs and  
14 the costs of removing and disposing of materials and structures.

15

16 **Q. What is the anticipated value of the proposed Green Station**  
17 **Regulatory Asset?**

18 A. The remaining net book value of the Green Station assets which will not be  
19 utilized after the units are converted to burn natural gas is projected to be  
20 approximately \$67.3 million on March 31, 2022, when Big Rivers expects to  
21 retire the assets. Exhibit Smith-2 lists the Green Station assets being  
22 retired and their estimated net book value at retirement as of March 31,  
23 2022.

1           Additionally Big Rivers will incur costs to decommission the assets  
2           that will no longer be utilized following the conversion, such as the costs to  
3           remove and dispose of materials and structures. Big Rivers anticipates  
4           such other costs will be minimal as a result of Big Rivers' plans to mitigate  
5           the actual costs by offsetting those costs with amounts earned through sales  
6           of the marketable assets or the scrap value of assets that cannot be sold for  
7           reuse.

8

9 **Q. Has Big Rivers sought approval from RUS to establish the**  
10 **regulatory asset related to the retirement of Green Station's coal-**  
11 **fired-related assets?**

12 A. Yes. On January 19, 2021, Big Rivers sent a letter to RUS requesting its  
13 approval for Big Rivers to establish the proposed regulatory asset. A copy of  
14 the letter sent to RUS is attached hereto as Exhibit Smith-3. On February  
15 17, 2021, RUS responded, approving the establishment of the regulatory  
16 asset, contingent upon the Commission's approval. A copy of the RUS  
17 approval letter is attached hereto as Exhibit Smith-4.

18

19 **Q. Will the retirement of the Green Station assets result in cost**  
20 **savings to Big Rivers?**

21 A. Yes. As explained in the Direct Testimony of Michael T. Pullen, the  
22 conversion of the Green Station units to natural gas is the best option for

1 Big Rivers to reliably maintain the capacity necessary to meet the needs of  
2 its Members and other customers, while complying with environmental  
3 regulations. Either installing a dry bottom ash system on the Green  
4 Station’s boilers to continue to allow Big Rivers to utilize its coal-fired  
5 generators, or idling Green Station and relying on market purchase (which  
6 would require significant transmission upgrades as a result of reliability  
7 issues in the Sebree area were Green Station to be retired without  
8 additional generation being added to the Sebree complex), would cost  
9 significantly more than the conversion project, and therefore, the conversion  
10 project will result in cost savings to Big Rivers.

11

12 **Q. How does Big Rivers propose to recover the Green Station**  
13 **regulatory asset?**

14 A. Big Rivers proposes to include the proposed regulatory asset in the list of  
15 “*Smelter Loss Mitigation Regulatory Assets*” that the Commission  
16 authorized Big Rivers to amortize over the remaining life of the all-  
17 requirements contracts with its Members (through December 31, 2043) in  
18 Case No. 2020-00064. In that case, the Commission also ordered that Big  
19 Rivers defer 60% of its margins in excess of the margins that would produce  
20 a 1.30 TIER in a year in a regulatory liability that Big Rivers can request to  
21 use to further reduce the Smelter Loss Mitigation Regulatory Assets.

1           Based on our financial projections, even with the addition of the  
2           Green Station regulatory asset into the list of Smelter Loss Mitigation  
3           Regulatory Assets, Big Rivers expects to have fully amortize the Smelter  
4           Loss Mitigation Regulatory Assets in approximately 10 years, assuming the  
5           Commission authorized Big Rivers to utilize the amounts in the regulatory  
6           liability over the \$9 million required minimum to reduce the regulatory  
7           assets.

8           This proposal will allow Big Rivers to (i) complete the conversion  
9           project, including retiring and decommissioning the assets that will no  
10          longer be utilized after the conversion, without increasing base rates to its  
11          Members; (ii) ensure that all expenditures that allowed Green Station's  
12          coal-units to provide reliable and cost-effective electric energy to its  
13          Members for decades are fully recovered prior to the expiration of the  
14          Members' all-requirements Contracts, thereby avoiding a stranded  
15          investment; and (iii) provide certainty of recovery for historically prudent  
16          expenditures and thereby provide continued regulatory support that the  
17          rating agencies have described as critical to Big Rivers' investment grade  
18          credit rating.

19



1 **Q. What amortization schedule is Big Rivers proposing to apply to the**  
2 **Green Station Regulatory Asset?**

3 A. Big Rivers will apply a levelized amortization schedule to the Green Station  
4 regulatory asset, in equal amounts over the remaining years in the all-  
5 requirements contracts. Assuming the proposed Green Station regulatory  
6 asset has a balance of \$67.3 million at retirement of the assets on March 31,  
7 2022, Big Rivers would incur an amortization expense of approximately \$3  
8 million annually each year from 2022 through 2043. See Exhibit Smith-5,  
9 showing Big Rivers' proposed accounting entries for Green Station assets to  
10 be retired.

11

12 **Q. How will the Commission ensure that the expenses Big Rivers**  
13 **incurs are reasonable?**

14 A. The Commission would be able to review the reasonableness of the  
15 retirement/decommissioning costs in the annual review of Big Rivers'  
16 MRSB tariff that the Commission ordered in Case No. 2020-00064, just as  
17 the Commission plans to review the decommissioning costs Big Rivers  
18 incurs with respect to Reid 1 and the Coleman Station.

19

20

1 **VI. CONCLUSION**

2 **Q. What is your recommendation to the Commission in this Case?**

3 A. For the reasons described in my testimony and elsewhere throughout this  
4 filing, I recommend that the Commission approve the relief requested in the  
5 application, including the Certificate of Public Convenience and Necessity  
6 for the proposed project to convert Green Station's two generating units to  
7 burn natural gas and the establishment of the regulatory assets (subject to  
8 RUS approval), amortization, and recovery of the Green Station Regulatory  
9 Asset.

10

11 **Q. Does this conclude your testimony?**

12 A. Yes.

13

**BIG RIVERS ELECTRIC CORPORATION**

**ELECTRONIC APPLICATION OF  
BIG RIVERS ELECTRIC CORPORATION FOR A  
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
AUTHORIZING THE CONVERSION OF THE GREEN STATION UNITS  
TO NATURAL GAS-FIRED UNITS AND AN ORDER APPROVING  
THE ESTABLISHMENT OF A REGULATORY ASSET  
CASE NO. 2021-00079**

**VERIFICATION**

I, Paul G. Smith, verify, state, and affirm that I prepared or supervised the preparation of the Direct Testimony filed with this Verification, and that Direct Testimony is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry

*Paul Smith*

Paul G. Smith

COMMONWEALTH OF KENTUCKY )  
COUNTY OF HENDERSON )

26<sup>th</sup> SUBSCRIBED AND SWORN TO before me by Paul G. Smith on this the  
day of February, 2021.

*Joy P. Parsley*

Notary Public, Kentucky State at Large

My Commission Expires \_\_\_\_\_

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

## **Professional Summary**

Paul G. Smith  
Vice President and Chief Financial Officer  
Big Rivers Electric Corporation  
201 Third Street  
Henderson, KY 42420  
Phone: 270-844-6194

### **Professional Experience**

Big Rivers Electric Corporation  
Vice President and Chief Financial Officer — 2018 to present

NextEra Energy Transmission  
Senior Director Business Management 2012-2018

Duke Energy  
Vice President Retail Marketing 2010-2011  
Vice President Rates 2006-2009  
General Manager Budgets & Forecasts 2001-2005  
Manager UK Distribution Price Control 1998-2000  
Manager Revenue Requirements 1996-1997  
Various Financial Positions of increasing responsibility 1987-1995

Crowe, Chizek & Co (CPA) 1984-1986

Touche, Ross & Co (CPA) 1982 - 1983

### **Education**

Master of Business Administration  
University of Chicago

Bachelor of Science Industrial Management (Computer Science Minor)  
Purdue University

**Big Rivers Electric Corporation  
Green Station Net Book Value  
March 31, 2022 Estimate**

<u>Description</u>	<u>Total Station</u>	<u>Assets Remaining In-Service</u>	<u>Assets to be Retired</u>
	(a)	(b)	(c) = (a)-(b)
Land and Land Rights	\$ 1,110,712	\$ 1,110,712	\$ -
Structures & Improvements	4,264,849	3,364,997	899,852
Boiler Plant Equipment	108,784,722	46,041,216	62,743,506
Generator Units	15,725,247	12,687,766	3,037,481
Accessory Equipment	3,441,709	2,966,964	474,745
Miscellaneous	1,564,449	1,386,449	178,000
Total	<u>\$ 134,891,688</u>	<u>\$ 67,558,104</u>	<u>\$ 67,333,584</u>



201 Third Street  
P.O. Box 24  
Henderson, KY 42419-0024  
270-827-2561  
www.bigrivers.com

January 19, 2021

USDA Rural Development  
Rural Utilities Service  
STOP 1522, Rm 5159  
1400 Independence Ave., SW  
Washington, DC 20250-1522  
Attention: Assistant Administrator, Program Accounting and Regulatory Analysis

Re: KY 62 Big Rivers Electric Corporation – Request for RUS Approval to  
Establish Regulatory Assets for Retirement of Certain Green Station

Dear Assistant Administrator:

Big Rivers Electric Corporation (“Big Rivers”) plans to convert its two existing coal-fired generating units at its Robert D. Green generating station (“Green Station”) to run on natural gas. In connection with that project, Big Rivers will retire certain Green Station assets that will no longer be utilized after the conversion, such as coal handling equipment. Big Rivers requests Rural Utilities Service (“RUS”) approval to defer the recognition of certain expenses that it expects to incur as a result of the retirement of those assets.

Big Rivers expects the remaining net book value of the assets to be retired will be approximately \$67.3 million at retirement. Under the current Rural Development USoA, upon retirement of assets, Big Rivers will have to recognize a loss on the retirement. This would result in a significant reduction in Big Rivers’ equity.

In order to avoid this reduction in equity, Big Rivers requires the approval of both the RUS and the Kentucky Public Service Commission (“KPSC”) to establish regulatory accounts to defer the retirement costs. Big Rivers hereby requests that RUS grant it the authority to depart from the prescribed Rural Development USoA by establishing regulatory accounts to defer the costs it incurs related to the

Case No. 2021-00079  
Exhibit Smith-3

retirement of the Green Station assets that Big Rivers will no longer utilize until recovery of those deferred costs commences. This departure will result in significant benefits to Big Rivers and its Member-Owners, by allowing Big Rivers to maintain stronger equity levels which will aid it in maintaining its investment grade credit rating.

In the event RUS approval is obtained to establish the regulatory accounts as set forth above, Big Rivers would record the following amounts upon the retirement of the Green Station assets to a 182.2 – Unrecovered Plant and Regulatory Study Costs account, until such time as the KPSC issues an order either allowing or disallowing Big Rivers' request to record the costs in regulatory account(s):

1. Big Rivers' remaining net book value for the Green Station assets Big Rivers intends to retire, which is estimated to be \$67.3 million as of March 31, 2022 (details contained in Attachment A);
2. Decommissioning costs, if any; and
3. Other reasonable costs and obligations incurred related to the Green Station assets that will no longer be utilized after the conversion.

Upon approval by the KPSC to establish the regulatory account(s), Big Rivers will make the appropriate accounting entries as outlined in Attachment B. Big Rivers anticipates requesting recovery of the regulatory assets required in this notice in an accounting and/or tariff application, or in its next general base rate case.

A copy of the resolution from Big Rivers' Board of Directors authorizing the proposed accounting treatment is enclosed as Attachment C.

Big Rivers respectfully requests expedited treatment of this matter. Coal-fired generation must cease at Green Station by June of 2022, in order to ensure timely closure of the Green Station's ash pond as required by the federal coal combustion residuals regulations. The loss of Green Station's coal-fired generation would result in Big Rivers being short capacity, which Big Rivers intends to remedy

by converting Green Station's units to natural gas-fired units. Big Rivers intends to file with the KPSC an application for a Certificate of Public Convenience and Necessity ("CPCN") to convert Green Station to natural gas fueled and request the Commission's approval to record the referenced costs in the regularity accounts(s) for future rate recovery. Big Rivers will provide the RUS with all required notices and seek all required approvals related to this proceeding after the application to the PSC is finalized.

However, 7 CFR 1767.13 requires Big Rivers to obtain RUS approval before applying to the KPSC for establishment of regulatory accounts. Big Rivers needs to file the above-described application with the KPSC by February 28, 2021, in order to meet its deadline to cease coal-fired generation by June of 2022 and to avoid a capacity shortage. Because the conversion of Green Station to natural gas is in the best interest of our Member-Owners here in rural Kentucky, we respectfully request that the RUS provide us written approval to establish the requested regulatory accounts within 30 days to allow us time to request the same from the KPSC no later than February 28, 2021.

In the event you need any further information on this request, please do not hesitate to contact me. Thank you for your assistance.

Sincerely,



Paul G. Smith  
Chief Financial Officer  
Big Rivers Electric Corporation



**Big Rivers Electric Corporation**  
**Green Station - Actual Net Book Values (NBV) as of November 30, 2020**  
**& Estimated NBVs for Assets to be Retired After Green Station Conversion to Natural Gas\***

\* Conversion of Green Station to natural gas is expected to be completed by March 31, 2022.

**I. Actual Net Book Values of all Green Station Assets as of 11/30/2020:**

Plant-in-Service Account No.	Account Description	Actual NBV of All Green Asset 11/30/2020
10103103	Land	\$ 1,110,700
10103113	Structures	4,799,600
10103123	Boiler Plant Equipment	57,371,400
1010312D	Environmental Compliance	61,331,500
1010312N	Environmental Compliance Short-Life	99,400
1010312X	Boiler Plant Equipment - Short-Life	(23,900)
10103143	Turbogenerator Units	17,425,400
10103153	Accessory Electric Equipment	3,942,700
10103163	Misc. Power Plant Equipment	1,683,900
<b>Total</b>		<b>\$ 147,740,700</b>

**II. Forecasted Net Book Values of Green Station Assets to be Retired after Conversion, as of 3/31/2022<sup>(1)</sup>:**

Plant-in-Service Account No.	Account Description	Forecasted 3/31/2022 NBV of Green Assets to be Retired
10103103	Land	\$ -
10103113	Structures	899,900
10103123	Boiler Plant Equipment	22,595,300
1010312D	Environmental Compliance	40,461,500
1010312N	Environmental Compliance Short-Life	(85,100)
1010312X	Boiler Plant Equipment - Short-Life	(228,100)
10103143	Turbogenerator Units	3,037,500
10103153	Accessory Electric Equipment	474,700
10103163	Misc. Power Plant Equipment	178,000
<b>Total</b>		<b>\$ 67,333,700</b>

<sup>(1)</sup> Only includes the forecasted net book values of Green Station assets that will be retired after the Green units are converted from coal to natural gas, as of March 31, 2022 (the expected completion date for the conversion of Green Station to natural gas).

**Big Rivers Electric Corporation**  
**Proposed Accounting Entries for Green Station Assets**  
**to be Retired After the Units are Converted to Natural Gas**  
*(Forecast Estimates of 3/31/2022, Based on 11/30/2020 Actuals\*)*

\* **Note:** All amounts below represent estimates of future balances that will exist as of the conversion date, which is expected to be March 31, 2022. Accounting entries will be made based on actual account balances at that time.

- #1. *One-time entry, to be made upon RUS approval and Green Station's conversion from coal to natural gas to recognize the retirements of certain Green assets that will no longer remain in service, and defer the recognition of a loss by recording the remaining net book values of those assets to a 182.2 - Unrecovered Plant & Regulatory Study Costs account.*

Dr. 182.2 - Unrecovered Plant & Regulatory Study Costs	\$ 67,333,600	
Dr. 108.x - Accumulated Depreciation of Utility Plant	\$ 135,184,200	
Cr. 101.x - Utility Plant-In-Service		\$ (178,566,800)
Cr. 108.9 - Deprec. Reserve Adjustments		\$ (23,951,000)

- #2. *One-time entry, to be made upon KPSC approval to recover the remaining net book values of retired Green assets (previously recorded to 182.2 - Unrecovered Plant and Regulatory Study Costs in #1 above) through rates, to transfer the balance from 182.2 - Unrecovered Plant and Regulatory Study Costs to 182.3 - Other Regulatory Asset Account.*

Dr. 182.3 - Other Regulatory Asset	\$ 67,333,600	
Cr. 182.2 - Unrecovered Plant & Regulatory Study Costs		\$ (67,333,600)

- #3. *One-time entry, to be made if KPSC disallows recovery of all, or a portion, of the costs recorded to 182.2 - Unrecovered Plant and Regulatory Study Costs (in #1. above).*

Dr. 426.5 - Other Deductions	\$ xxx	
Cr. 182.2 - Unrecovered Plant & Regulatory Study Costs		\$ (xxx)

- #4. *Monthly entry, to be made after the effective date of Big Rivers' new tariff rates approved by the KPSC to recover the regulatory asset, to amortize the regulatory asset over the approved recovery period (assuming a 20-year recovery period).*

Dr. 407.3 - Regulatory Debits	\$ 280,600	
Cr. 182.3 - Other Regulatory Asset		\$ (280,600)

**EXCERPT FROM THE MINUTES OF  
REGULAR MEETING  
OF THE BOARD OF DIRECTORS  
OF BIG RIVERS ELECTRIC CORPORATION  
HELD IN HENDERSON, KENTUCKY, ON  
January 15, 2021**

(Budget Amendment and Establishment of Regulatory Assets for Green Conversion)

After an explanation by Mike Pullen, Director White moved that the following resolution be approved:

WHEREAS, management of the Corporation has determined that converting Green Station to a gas-fired generating station is in the best interests of the Corporation;

WHEREAS, in connection with the conversion, the Corporation will retire certain assets that will no longer be needed once the conversion is complete;

WHEREAS, the Corporation anticipates it will seek authority from the Kentucky Public Service Commission to establish regulatory assets for accounting purposes for expenses incurred relating to the conversion and for the remaining book value of assets that are retired as a result of the conversion (the "*Expenses*"); and

WHEREAS, establishing regulatory assets for the Expenses is a departure from the Rural Development Uniform System of Accounts that also requires prior approval by the Rural Utilities Service;

RESOLVED, that the Board of Directors approves an increase of up to \$45.3 million in the 2021 budget for the conversion;

BE IT FURTHER RESOLVED, that the Board of Directors authorizes management of the Corporation to proceed with the establishment by the Corporation of regulatory assets for the Expenses, as authorized by the Rural Utilities Service and the Kentucky Public Service Commission;

BE IT FURTHER RESOLVED, that the Board of Directors authorizes the Corporation to seek rate recovery of the deferred Expenses at the appropriate time through the use of the Member Rate Stability Mechanism or otherwise; and

BE IT FURTHER RESOLVED, that the Board of Directors of the Corporation authorizes its President/Chief Executive Officer, the Chief Financial Officer, or either of them, and any other employee of the Corporation authorized in writing by either of them, to execute, attest and

Case No. 2021-00079

Exhibit Smith-3

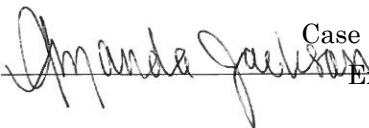
Page 6 of 7

**EXCERPT FROM THE MINUTES OF  
REGULAR MEETING  
OF THE BOARD OF DIRECTORS  
OF BIG RIVERS ELECTRIC CORPORATION  
HELD IN HENDERSON, KENTUCKY, ON  
January 15, 2021**

deliver on behalf of the Corporation all necessary papers, documents, and applications for approvals or consents related to the foregoing, and to take any other action required to accomplish the foregoing.

The motion was seconded and adopted by unanimous vote.

I, Amanda Jackson, Executive Secretary of the Board of Directors of Big Rivers Electric Corporation, hereby certify that the above is a true and correct excerpt from the minutes of the Regular Meeting of the Board of Directors of said Corporation held on 01/15/2021.

 Case No. 2021-00079  
Exhibit Smith-3



Rural Development

February 17, 2021

Electric Programs  
Rural Utilities Service

1400 Independence Ave SW  
Room 4133 – STOP 1560  
Washington, DC 20250

Voice: 202.720.9545

Mr. Robert Berry  
Manager  
Big Rivers Electric Corporation  
P.O. Box 24  
Henderson, Kentucky 42419-0024

Dear Mr. Berry,

In response to a letter from Mr. Paul Smith, dated January 19, 2021, we have reviewed the information submitted regarding Big Rivers Electric Corporation's (Big Rivers) expense deferral plan pertaining to the Green Station conversion from coal-fired to run on natural gas. Big Rivers plans to establish a regulatory asset of \$67.3 million relating to the conversion. Big Rivers will need to file an application with the Kentucky Public Service Commission (KPSC) no later than February 28, 2021 to meet its deadline to cease coal-fired operations by June of 2022 and to avoid a capacity shortage. The KPSC requires Big Rivers be granted approval from the Rural Utilities Service (RUS) before applying to the KPSC for establishment of the regulatory accounts.

Conditional approval is hereby granted for Big Rivers to establish the regulatory asset pertaining to the conversion of the Green Station, but only for the reason of allowing Big Rivers to start the application process with the KPSC. If the KPSC does not approve the establishment of the regulatory asset, then it nullifies this RUS conditional approval.

Also, Big Rivers is required to return to RUS in 2022 with an updated expense deferral plan with the final dollar amount, amortization period, proposed journal entries and board resolution which includes language indicating that Big Rivers plans to recover these costs through future rates.

Contact the Technical Accounting Review Branch at (202) 720-8775 if you have any questions or if we can be of any further assistance.

Sincerely,

**VICTOR VU** Digitally signed by  
VICTOR VU  
Date: 2021.02.17 11:31:48  
-05'00'

VICTOR T. VU  
Deputy Assistant Administrator  
Office of Portfolio Management and Risk Assessment

**Big Rivers Electric Corporation**  
**Proposed Accounting Entries for Green Station Assets**  
**to be Retired After the Units are Converted to Natural Gas**  
*(Forecast Estimates of 3/31/2022, Based on 11/30/2020 Actuals\*)*

**\* Note:** All amounts below represent estimates of future balances that will exist as of the conversion date, which is expected to be March 31, 2022. Accounting entries will be made based on actual account balances at that time.

- #1. One-time entry, to be made upon RUS approval and Green Station's conversion from coal to natural gas to recognize the retirements of certain Green assets that will no longer remain in service, and defer the recognition of a loss by recording the remaining net book values of those assets to a 182.2 - Unrecovered Plant & Regulatory Study Costs account.

Dr. 182.2 - Unrecovered Plant & Regulatory Study Costs	\$	67,333,600	
Dr. 108.x - Accumulated Depreciation of Utility Plant	\$	135,184,200	
Cr. 101.x - Utility Plant-In-Service			\$ (178,566,800)
Cr. 108.9 - Deprec. Reserve Adjustments			\$ (23,951,000)

- #2. One-time entry, to be made upon KPSC approval to recover the remaining net book values of retired Green assets (previously recorded to 182.2 - Unrecovered Plant and Regulatory Study Costs in #1 above) through rates, to transfer the balance from 182.2 - Unrecovered Plant and Regulatory Study Costs to 182.3 - Other Regulatory Asset Account.

Dr. 182.3 - Other Regulatory Asset	\$	67,333,600	
Cr. 182.2 - Unrecovered Plant & Regulatory Study Costs			\$ (67,333,600)

- #3. One-time entry, to be made if KPSC disallows recovery of all, or a portion, of the costs recorded to 182.2 - Unrecovered Plant and Regulatory Study Costs (in #1. above).

Dr. 426.5 - Other Deductions	\$	xxx	
Cr. 182.2 - Unrecovered Plant & Regulatory Study Costs			\$ (xxx)

- #4. Monthly entry, to be made after the effective date of Big Rivers' new tariff rates approved by the KPSC to recover the regulatory asset, to amortize the regulatory asset over the approved recovery period (assuming a 20-year recovery period).

Dr. 407.3 - Regulatory Debits	\$	280,600	
Cr. 182.3 - Other Regulatory Asset			\$ (280,600)



Your Touchstone Energy® Cooperative 

**In the Matter of:**

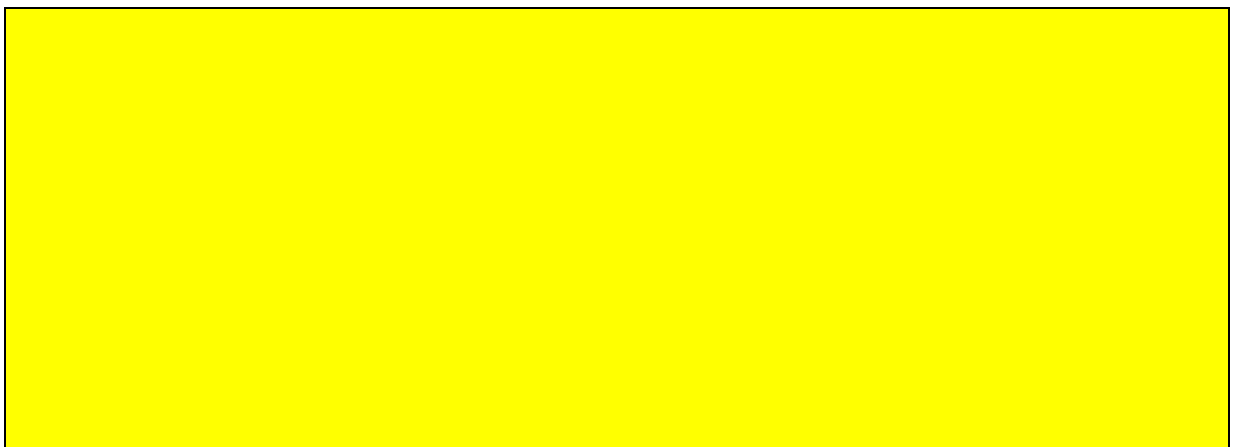
**ELECTRONIC APPLICATION OF )  
BIG RIVERS ELECTRIC CORPORATION )  
FOR A CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY AUTHORIZING )  
THE CONVERSION OF THE GREEN STATION )  
UNITS TO NATURAL GAS-FIRED UNITS AND AN )  
ORDER APPROVING THE ESTABLISHMENT OF )  
A REGULATORY ASSET )**

**Case No.  
2021-00079**

**CONFIDENTIAL**

**INFORMATION SUBMITTED WITH  
MOTION FOR CONFIDENTIAL TREATMENT**

**APPLICATION Exhibit D**





Your Touchstone Energy® Cooperative 

**In the Matter of:**

**ELECTRONIC APPLICATION OF )  
BIG RIVERS ELECTRIC CORPORATION )  
FOR A CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY AUTHORIZING )  
THE CONVERSION OF THE GREEN STATION )  
UNITS TO NATURAL GAS-FIRED UNITS AND AN )  
ORDER APPROVING THE ESTABLISHMENT OF )  
A REGULATORY ASSET )**

**Case No.  
2021-00079**

**CONFIDENTIAL**

**INFORMATION SUBMITTED WITH  
MOTION FOR CONFIDENTIAL TREATMENT**

**APPLICATION Exhibit E**

