



**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**In the Matter of:**

**ELECTRONIC TARIFF FILING OF BIG )  
RIVERS ELECTRIC CORPORATION )  
FOR APPROVAL OF PROPOSED )  
CHANGES TO ITS QUALIFIED )  
COGENERATION AND SMALL POWER )  
PRODUCTION FACILITIES TARIFFS )**

**Case No.  
2023-00102**

**Response to the Commission Staff's  
Third Request for Information**

**dated August 9, 2023**

**FILED: August 18, 2023**

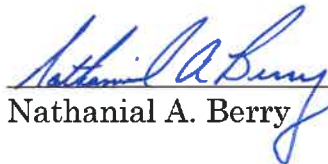
**BIG RIVERS ELECTRIC CORPORATION**

**ELECTRONIC TARIFF FILING OF BIG RIVERS ELECTRIC CORPORATION FOR APPROVAL OF PROPOSED CHANGES TO ITS QUALIFIED COGENERATION AND SMALL POWER PRODUCTION FACILITIES TARIFFS**

**CASE NO. 2023-00102**

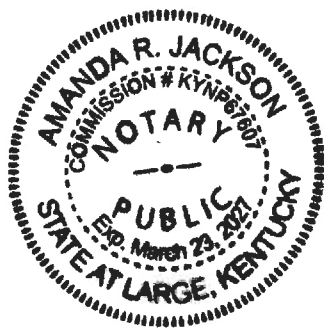
**VERIFICATION**


I, Nathaniel A. Berry, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.

  
Nathaniel A. Berry

COMMONWEALTH OF KENTUCKY )  
COUNTY OF DAVIESS )

15 SUBSCRIBED AND SWORN TO before me by Nathaniel A. Berry on this the \_\_\_\_\_ day of August, 2023.



  
Notary Public, Kentucky State at Large  
Kentucky ID Number KYNP67697  
My Commission Expires March 23, 2024

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1 **Item 1) Refer to Case No. 2019-00365, Application, Direct Testimony of**  
2 **Paul Smith, page 6. During the discussion of the Large Industrial Customer**  
3 **Expansion (LICX) tariff, BREC stated that if certain economic development**  
4 **contracts were executed, BREC would have a capacity shortfall.**

5 **a. Explain whether BREC has executed any such contracts or**  
6 **expects to in the next year. If so, provide the total load for these**  
7 **customers.**

8 **b. Explain whether BREC still expects to be capacity deficient in**  
9 **the event that economic development customers locate in its service**  
10 **territory. If so, provide the minimum amount of additional load that**  
11 **would place BREC in a capacity deficit. If not, explain why not.**

12

13 **Response)**

14 **a. Since the referenced Direct Testimony of Paul Smith was filed on**  
15 **October 18, 2019, there have been changes on both the supply side and load**  
16 **requirements. Big Rivers has executed contracts with economic development**

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1 customers. The total forecasted native load for these customers is 228 MWs,  
2 with an additional 22.5 MWs of Market load.

3 b. Yes. Even without additional economic development, Big Rivers is  
4 currently forecasting small capacity deficits for a couple of planning years as  
5 reflected in the attachment to Big Rivers' response to PSC 3-6.

6

7 Witness) **Nathanial A. Berry**

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1 **Item 2) Refer to Case No. 2020-00183, final Order, pages 6 and 12–13.**

2 **a. Provide an update on the status of BREC's contracts with**  
3 **Owensboro Municipal Utilities (OMU) and the Kentucky Municipal**  
4 **Energy Agency (KyMEA).**

5 **b. Explain whether BREC still expects to be capacity deficient in**  
6 **the event that OMU and KyMEA both renew their respective**  
7 **contracts. If so, provide the amount and timing of the capacity deficit.**  
8 **If not, explain why not.**

9 **c. Refer also to Case No. 2022-00296, final Order, page 4. Explain**  
10 **whether BREC will be capacity deficient without the fulfillment of all**  
11 **solar purchase power agreements (PPA) approved in Case No. 2020-**  
12 **00183. If so, provide the amount and timing of the capacity deficit. If**  
13 **not, explain why not.**

14

15

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1 **Response)**

2 a. Big Rivers' contract with OMU goes through December 31<sup>st</sup>, 2026 and  
3 Big Rivers' contract with KYMEA goes through May 31<sup>st</sup>, 2029.

4 b. If OMU and KyMEA both renew, Big Rivers would forecast to be slightly  
5 deficient capacity in [REDACTED]  
6 [REDACTED]. Please see below for the expected deficiency  
7 volume if both OMU and KyMEA were to extend their contracts.

<b>Extension of OMU &amp; KyMEA Contracts</b>				
	PY29-30	PY29-30	PY29-30	PY29-30
	Summer	Fall	Winter	Spring
Base Projections				
OMU & KyMEA Extension				

8  
9 This Chart assumes that OMU extends their Contract through May 31<sup>st</sup>, 2030  
10 and KyMEA extends their Contract through May 31<sup>st</sup>, 2030.

11 c. Of the three solar purchase power agreements approved in Case No.  
12 2020-00183, the PPA's with Meade Counter Solar, LLC and McCracken  
13 County Solar, LLC were terminated by the solar developers and the third PPA,

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1 the Unbridled Solar, LLC PPA, was amended.<sup>1</sup> Big Rivers currently has this  
2 Unbridled project modeled as providing capacity and energy beginning in  
3 Winter of PY24-25. Please see the attachment to Big Rivers' response to PSC  
4 3-6 which represents Big Rivers capacity position for those years. For Solar,  
5 MISO has talked about moving to an Effective Load Carrying Capacity (ELCC)  
6 approach or a Direct Loss of Load (DLOL) approach. Big Rivers currently  
7 assumes that MISO will move towards an ELCC approach in PY26-27, which  
8 is why projected solar accreditation is reduced starting in that year.

9

10 Witness) Nathaniel A. Berry

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<sup>1</sup> See *In the Matter of: Electronic Application of Big Rivers Electric Corporation for Approval of Amendment to Power Purchase Agreement*, Case No. 2022-00296.

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1 **Item 3) Refer to Case No. 2022-00296, June 13, 2023 Order and BREC's**  
2 **proposed tariff Sheet No. 41. Explain why BREC is purchasing capacity**  
3 **through solar PPAs but proposes not to provide capacity payments for non-**  
4 **dispatchable qualifying facilities.**

5

6 **Response)** Big Rivers will receive all attributes of the 160 MW solar facility for the  
7 fixed contract price for the 20 year term. These attributes include capacity, energy,  
8 ancillary services, and environmental attributes. The solar PPA will provide  
9 beneficial energy, which will reduce the amount of energy purchased from the market  
10 and act as a hedge for our Member/Owners. With the current and anticipated  
11 accreditation rules of MISO, the benefit of capacity from the solar PPA will be  
12 insignificant. While the total fixed cost Big Rivers is paying does include capacity as  
13 part of the solar PPA, it is not the economic factor justifying the value we see in the  
14 PPA.

15 The solar facility in the PPA also has curtailment capabilities to mitigate  
16 reliability events. This is an important characteristic for a resource to have when



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1 operating on the electric grid. For these reasons, Big Rivers proposes not to provide  
2 capacity payments for non-dispatchable qualifying facilities.

3

4 Witness) Nathaniel A. Berry

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1 **Item 4) Refer to Case No. 2021-00282, October 14, 2021 Order, pages 12–**

2 **13. Explain whether BREC still expects the same amount of capacity deficit.**

3

4 **Response)** Since October 14, 2021, Big Rivers' capacity position has changed.

5 Please see the attachment to Big Rivers' response to PSC 3-6 for the current projected

6 timing and amount of capacity deficits.

7

8 **Witness) Nathaniel A. Berry**

9

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1 **Item 5) Refer to BREC's response to Commission Staff's First Request**  
2 **for Information, Item 5(a). Explain how often QF Members are given or have**  
3 **the opportunity to change the designation of their respective generation to**  
4 **dispatchable, register with MISO and receive capacity payments.**

5

6 **Response)** Per the current MISO Tariff, Big Rivers would have the ability to  
7 change the QF Member's registration with MISO once a year in order to participate  
8 in the MISO Seasonal Capacity Auction. Consequently, QF Members will be given  
9 the opportunity each year to make any desired changes in their designations.

10

11 **Witness) Nathaniel A. Berry**

12

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1 **Item 6) Refer to BREC's response Commission Staff's Second Request**  
2 **for Information (Staff's Second Request), Item 2-7 and to Case No. 2020-**  
3 **00299, Staff Report, page 41. BREC's Integrated Resource Plan (IRP)**  
4 **indicated that it would continue running a capacity deficit through 2028.**

5 **a. Provide an update to Load and Generation forecast tables in**  
6 **Item 2-7. For the load forecast, include a breakout of Native Load,**  
7 **MISO capacity requirements, Non-member sales obligations and any**  
8 **anticipated economic development load. For the Generation table,**  
9 **provide unit generation on an unforced capacity (UCAP) basis, and**  
10 **BREC resulting reserve Margin. The Solar PPA Henderson generation**  
11 **should reflect the capacity credit amounts as counted by MISO.**

12 **b. Explain whether the Solar PPA Henderson capacity is**  
13 **considered firm and dispatchable and if it is registered with MISO. In**  
14 **addition, explain whether BREC counts any of the solar capacity**  
15 **toward its MISO obligations.**

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1        **c.     The IRP preferred plan called for the addition of 90 MW of**  
2        **natural gas combined cycle (NGCC) generation assuming the Green**  
3        **Coal Units were idled. Explain whether BREC still intends to add**  
4        **NGCC generation to its fleet and if so, the current projected in-service**  
5        **date.**

6 **Response)**

7        a.     MISO has moved away from a UCAP based model to a Schedule 53  
8        Thermal accreditation model based on Tier 1 and Tier 2 hours. The bulk of  
9        Big Rivers' accreditation comes from Tier 2 hours, or Resource Adequacy  
10       hours, which are a measure of how well the unit performed when MISO  
11       needed the unit the most. The attachment to this response is a chart that  
12       shows our forecasted ZRC Position based on MISOs current Capacity  
13       Accreditation rules. For Solar, MISO has talked about moving to an Effective  
14       Load Carrying Capacity (ELCC) approach or a Direct Loss of Load (DLOL)  
15       approach. Big Rivers currently assumes that MISO will move towards a

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1 ELCC approach in PY26-27, which is why our solar accreditation is reduced  
2 starting in that year.

3 b. The Unbridled (Henderson) solar project is not a dispatchable resource.  
4 The accredited capacity from the Unbridled solar project will be included in  
5 Big Rivers' ZRC Portfolio and will directly be used to reduce Big Rivers'  
6 PRMR requirement.

7 c. Big Rivers is still finalizing studies surrounding its 2023 IRP. These  
8 studies are evaluating the addition of a new combined cycle unit as well as  
9 evaluating other alternative technologies.

10

11 Witness) Nathaniel A. Berry

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**Big Rivers Electric Corporation**  
**Projected Zonal Resource Credits (ZRCs),**  
**Big Rivers Obligations (MWs) and ZRC Excess (Short)**

<b>Planning Year</b>	<b>Season</b>	<b>Wilson (ZRCs)</b>	<b>Green 1 (ZRCs)</b>	<b>Green 2 (ZRCs)</b>	<b>Reid CT (ZRCs)</b>	<b>SEPA Hydro (ZRCs)</b>	<b>Henderson Solar (ZRCs)</b>
PY24-25	Summer						
PY24-25	Fall						
PY24-25	Winter						
PY24-25	Spring						
PY25-26	Summer						
PY25-26	Fall						
PY25-26	Winter						
PY25-26	Spring						
PY26-27	Summer						
PY26-27	Fall						
PY26-27	Winter						
PY26-27	Spring						
PY27-28	Summer						
PY27-28	Fall						
PY27-28	Winter						
PY27-28	Spring						
PY28-29	Summer						
PY28-29	Fall						
PY28-29	Winter						
PY28-29	Spring						
PY29-30	Summer						
PY29-30	Fall						
PY29-30	Winter						
PY29-30	Spring						
PY30-31	Summer						
PY30-31	Fall						
PY30-31	Winter						
PY30-31	Spring						
PY31-32	Summer						
PY31-32	Fall						
PY31-32	Winter						
PY31-32	Spring						

**Big Rivers Electric Corporation**  
**Projected Zonal Resource Credits (ZRCs),**  
**Big Rivers Obligations (MWs) and ZRC Excess (Short)**

<b>Planning Year</b>	<b>Season</b>	<b>Total Portfolio (ZRCs)</b>	<b>Native Load Requirement (MW)</b>	<b>**MISO Load Requirement (MW)</b>	<b>Non-Member Sales (MW)</b>	<b>Bilateral Fixed Price Purchase &amp; Sales(-) (MWs)</b>	<b>Portfolio ZRC Excess Or (Short)</b>
PY24-25	Summer						
PY24-25	Fall						
PY24-25	Winter						
PY24-25	Spring						
PY25-26	Summer						
PY25-26	Fall						
PY25-26	Winter						
PY25-26	Spring						
PY26-27	Summer						
PY26-27	Fall						
PY26-27	Winter						
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PY29-30	Winter						
PY29-30	Spring						
PY30-31	Summer						
PY30-31	Fall						
PY30-31	Winter						
PY30-31	Spring						
PY31-32	Summer						
PY31-32	Fall						
PY31-32	Winter						
PY31-32	Spring						

\*\* MISO LOAD REQUIREMENT = Native Load Requirement \* NCP to CP Factor for MISO \* (1+Transmission Losses %) \* (1+MISO PRM %)