



**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**In the Matter of:**

**ELECTRONIC EXAMINATION BY THE PUBLIC )  
SERVICE COMMISSION OF THE ENVIRONMENTAL )  
SURCHARGE MECHANISM OF BIG RIVERS )  
ELECTRIC CORPORATION FOR THE SIX-MONTH )  
BILLING PERIODS ENDING JANUARY 31, 2020, )  
JULY 31, 2020, JANUARY 31, 2021, JANUARY 31, 2022, )  
JULY 31, 2022, AND JANUARY 31, 2023, THE TWO- )  
YEAR EXPENSE PERIODS ENDING JULY 31, 2021, )  
AND JULY 31, 2023, AND THE PASS THROUGH )  
MECHANISM OF ITS THREE MEMBER )  
DISTRIBUTION COOPERATIVES )**

**Case No.  
2023-00373**

**Responses to Commission Staff's  
Initial Request for Information  
dated December 8, 2023  
as Amended by the Commission's Order  
dated January 17, 2024**

**FILED: January 17, 2024**

1 DIRECT TESTIMONY  
2 OF  
3 CHRISTOPHER A. WARREN  
4

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

6 A. My name is Christopher A. Warren, and my business address is Big Rivers  
7 Electric Corporation (“Big Rivers”), 710 West Second Street, Owensboro,  
8 Kentucky, 42301. I am the Executive Director of Budgeting, Planning and  
9 Forecasting at Big Rivers.

10

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

12 A. I earned a Bachelor of Science in Accounting from Kentucky Wesleyan  
13 College in 1996. I have held my current position since May 2023. From  
14 2020-2023, I held the position of Director Budgets. From 2014-2019, I held  
15 the position of Manager Financial Planning & Analysis. From 2013-2014,  
16 I held the position of Senior Forecast/Financial Analyst. From the closing  
17 of the transaction in July 2009 that unwound Big Rivers’ 1998 lease with  
18 affiliates of E.ON U.S., LLC (the “Unwind Transaction”) described in Case  
19 No. 2007-00455, until 2013, I held the position of Senior Budget Analyst.  
20 Prior to the closing of the Unwind Transaction, I was employed by Western  
21 Kentucky Energy Corporation (“WKE”) for 8 years as a Budget Analyst.

22

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

2 A. As Executive Director of Budgeting, Planning and Forecasting, I am  
3 responsible for oversight of the annual budget, short and long-term  
4 forecasts and finance functions at Big Rivers. I also currently oversee  
5 preparation of the monthly rider filings with the Commission.

6

7 **Q. Have you previously testified before the Commission?**

8 A. Yes. I testified and sponsored responses to data requests in Case Nos.  
9 2012-00535, 2013-00199 and 2014-00134. I also sponsored responses to  
10 data requests in two Fuel Adjustment Clause (FAC) reviews in Case Nos.  
11 2012-00323 and 2023-00013.

12

13 **Q. On whose behalf are you filing this testimony?**

14 A. I am filing this testimony on behalf of Big Rivers and its three member  
15 distribution cooperatives, who are Jackson Purchase Energy Corporation  
16 (“Jackson Purchase”), Kenergy Corp. (“Kenergy”), and Meade County  
17 Rural Electric Cooperative Corporation (“Meade County”) (collectively, the  
18 “Members”).

19

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

2 A. The purpose of my testimony is to describe the application of Big Rivers'  
3 ES mechanism as billed from October 2019 through September 2023,  
4 which corresponds to Big Rivers' expense months of August 2019 through  
5 July 2023. Additionally, I have coordinated with Big Rivers' Members in  
6 the preparation of this testimony and prepared responses to the  
7 Commission Staff's First Request for Information in this case ("Staff's First  
8 Requests"), which accompany this testimony. This testimony also includes  
9 information the Members have provided me in support of their pass-  
10 through mechanisms that are also under review in this proceeding, and  
11 that the Members use to pass through to their retail members the costs  
12 Big Rivers charges to them under Big Rivers' ES mechanism.

13 The review periods for the Members' pass-through mechanisms,  
14 which correspond to Big Rivers' October 2019 through September 2023  
15 billing months, are the billing months of November 2019 through October  
16 2023 for retail non-dedicated delivery point customers (*i.e.*, there is a one-  
17 month lag for non-dedicated delivery point customers), and October 2019  
18 through September 2023 for the retail dedicated delivery point customers  
19 (*i.e.*, there is no billing lag for dedicated delivery point customers).

20

1 **Q. Please provide a brief overview of Big Rivers' ES mechanism.**

2 A. Big Rivers' ES mechanism was approved by Order of the Commission  
3 dated June 25, 2008, in Case No. 2007-00460, which was part of the  
4 Unwind Transaction that the Commission approved by Order dated March  
5 6, 2009, in Case No. 2007-00455. Big Rivers' ES went into effect  
6 immediately following the July 16, 2009, closing of the Unwind  
7 Transaction for service commencing July 17, 2009.

8 Big Rivers' initial environmental compliance plan was approved by  
9 the Commission in Case No. 2007-00460 (the "2007 Plan") and consists of  
10 programs and the related costs for controlling sulfur dioxide (SO<sub>2</sub>),  
11 nitrogen oxide (NO<sub>x</sub>), and sulfur trioxide (SO<sub>3</sub>). The environmental  
12 compliance costs, which Big Rivers may recover under KRS 278.183 and its  
13 2007 Plan, include the costs of reagents, sludge and ash disposal, and  
14 emission allowances. For the SO<sub>2</sub> program, Big Rivers recovers through its  
15 ES mechanism the costs of reagents, the costs for the disposal of coal  
16 combustion byproducts (fly ash, bottom ash, and scrubber sludge), and the  
17 costs of SO<sub>2</sub> emission allowances used. For the NO<sub>x</sub> program, Big Rivers  
18 recovers the costs of reagents and the costs of NO<sub>x</sub> emission allowances  
19 used. For the SO<sub>3</sub> program, Big Rivers recovers reagent costs. Due to  
20 generating unit design differences and Big Rivers' compliance plan, each of  
21 Big Rivers' generating units utilizes a different combination of reagents.

1            Depending on the unit facilities, various reagents are used to treat the flue  
2            gas, thereby removing the three targeted emissions. The reagents used to  
3            control SO<sub>2</sub> include emulsified sulfur, lime, fixation lime, limestone,  
4            dibasic acid, and sodium bisulfite. The reagents used to control NO<sub>x</sub>  
5            include anhydrous ammonia and emulsified sulfur. The reagent used to  
6            control SO<sub>3</sub> is hydrated lime. Note that the 2007 Plan included only  
7            variable operations and maintenance (O&M) costs.

8            In its Order dated October 1, 2012, in Case No. 2012-00063, the  
9            Commission approved environmental compliance projects relating to the  
10           Mercury and Air Toxics Standards (MATS) rule. The additions (the “2012  
11           Plan”) included installing activated carbon injection and dry sorbent  
12           injection systems and emission control monitors at Big Rivers’ Coleman,  
13           Wilson, and Green generating stations. The 2012 Plan also included the  
14           installation of emission control monitors at Henderson Municipal Power &  
15           Light’s (“HMP&L”) Station Two generating station, which Big Rivers  
16           previously operated and maintained under a series of contracts with the  
17           City of Henderson, Kentucky, and the City of Henderson Utility  
18           Commission (d/b/a HMP&L) until January 2019, when the Station Two  
19           units were retired from service. The 2012 Plan includes both capital and  
20           O&M costs associated with the projects, as well as recovery of Big Rivers’

1 actual costs incurred in Case No. 2012-00063, which were amortized over  
2 three years.

3 Due to the terminations of retail power contracts with two  
4 aluminum smelters in 2013 and 2014, Big Rivers idled its Coleman  
5 generating station in May 2014. As a result, Big Rivers did not complete  
6 the MATS projects for the Coleman station. Big Rivers has since  
7 decommissioned the Coleman station and moved the FGD System to its  
8 Wilson generating station.

9 In its Order dated August 6, 2020, in Case No. 2019-00435, the  
10 Commission approved projects included in Big Rivers 2020 Environmental  
11 Compliance Plan (the “2020 Plan”), including moving the Coleman FGD to  
12 Wilson and upgrading the FGD, closing ash ponds at Big Rivers’ Green  
13 Station and at HMP&L’s Station Two generating station, installing a  
14 landfill cover at Wilson and a perimeter drainage system at Green, and  
15 completing other CCR projects Wilson, Green, and Station Two. In that  
16 Order, the Commission also conditionally approved closing the Coleman  
17 Station ash ponds, should those legacy ponds become subject to the CCR  
18 Rule.

19 Big Rivers’ ES mechanism allows Big Rivers to recover costs related  
20 to its 2007 Plan (which includes only variable O&M costs) and its 2012 and  
21 2020 Plans (which include both O&M and capital costs, as well as a rate of

1 return on the unrecovered portion of its capital costs), less proceeds from  
2 by-product and emission allowance sales, plus or minus an ongoing  
3 cumulative under-or over-recovery.

4  
5 **Q. Please provide a brief overview of the Members' pass-through**  
6 **mechanisms.**

7 A. The Members' pass-through mechanisms allow each Member to bill its  
8 retail customers for the portion of Big Rivers' environmental surcharge  
9 that it was billed. Jackson Purchase's pass-through mechanism was  
10 approved by the Commission in Case No. 2008-00010; Kenergy's pass-  
11 through mechanism was approved by the Commission in Case No. 2008-  
12 00009; and Meade County's pass-through mechanism was approved by the  
13 Commission in Case No. 2007-00470.

14  
15 **Q. Have there been any changes to Big Rivers' ES mechanism since**  
16 **the prior review?**

17 A. Yes. As noted above, on August 6, 2020, the Commission approved the  
18 2020 Plan. The rate of return remained the same at a 1.24 Times Interest  
19 Earned Ration (TIER).



1 **Q. Has Big Rivers' ES mechanism been accurately compiled, and is it**  
2 **operating as intended?**

3 A. Yes.

4

5 **Q. Did Big Rivers sell any SO<sub>2</sub> or NO<sub>x</sub> emission allowances during the**  
6 **expense months corresponding to the billing periods under review**  
7 **in this case?**

8 A. No.

9

10 **Q. Did Big Rivers recover any capital costs through its ES mechanism**  
11 **during the periods under review?**

12 A. Yes. Pursuant to the Commission's October 1, 2012, Order in Case No.  
13 2012-00063 and the Commission's August 6, 2020, Order in Case No. 2019-  
14 00435, Big Rivers recovered capital costs through the monthly depreciation  
15 of its 2012 and 2020 Plan projects included in the calculation of Total E(m)  
16 in its monthly ES filings during the periods under review.

17

18 **Q. Did Big Rivers earn a rate of return on any capital expenditures**  
19 **through its ES mechanism during the periods under review?**

20 A. Yes. Pursuant to the Commission's October 1, 2012, Order in Case No.  
21 2012-00063 and the Commission's August 6, 2020, Order in Case No. 2019-

1 00435, Big Rivers earned a rate of return on its Environmental  
2 Compliance Rate Base (calculated on Form 2.00 of its monthly ES filing)  
3 equal to its monthly weighted average cost of debt plus the application of a  
4 Times Interest Earned Ratio (TIER) of 1.24. Detailed calculations of Big  
5 Rivers' monthly Rates of Return on Environmental Compliance Rate Base,  
6 for the expense months during the periods under review, are provided as  
7 an attachment to Big Rivers' response to Item 4 of Staff's First Request.  
8

9 **Q. What Base Environmental Surcharge Factor (BESF) cost did Big**  
10 **Rivers use during the review periods?**

11 A. Big Rivers had no environmental surcharge related costs included in its  
12 base rates during the review periods (*i.e.*, Big Rivers' BESF during the  
13 periods under review was 0.000000%)  
14

15 **Q. Have the Members' pass-through mechanisms been accurately**  
16 **compiled, and are they operating as intended?**

17 A. The Members believe their pass-through mechanisms have been accurately  
18 compiled and are operating as intended.  
19

1 **Q. Were the amounts charged under Big Rivers' ES mechanism**  
2 **during the review periods fair, just, and reasonable.**

3 A. Yes.

4

5 **Q. Were the amounts charged under the Members' pass-through**  
6 **mechanisms during the review periods fair, just, and reasonable?**

7 A. The Members believe the amounts charged under their pass-through  
8 mechanisms are fair, just and reasonable.

9

10 **Q. Do Big Rivers and its Members have additional over-or under-**  
11 **recovery amounts they believe need to be recognized?**

12 A. No. Big Rivers and its Members are not requesting any additional over-or  
13 under-recovery amounts. The normal over-/under-recovery carry-forward  
14 element of Big Rivers' ES mechanism is operating as intended.

15

16 **Q. Is Big Rivers proposing to incorporate an environmental**  
17 **surcharge amount into its existing base rates at this time?**

18 A. No. Big Rivers is not proposing to incorporate an environmental surcharge  
19 amount into its existing base rates at this time.

20

1 Q. Does this conclude your testimony?

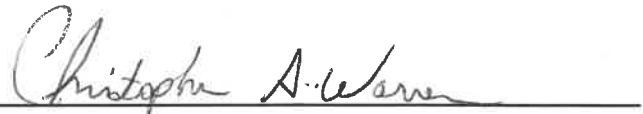
2 A. Yes, it does.

**BIG RIVERS ELECTRIC CORPORATION**

**ELECTRONIC EXAMINATION BY THE PUBLIC SERVICE COMMISSION  
OF THE ENVIRONMENTAL SURCHARGE MECHANISM OF BIG RIVERS  
ELECTRIC CORPORATION FOR THE SIX-MONTH EXPENSE PERIODS  
ENDING JANUARY 31, 2020, JULY 31, 2020, JANUARY 31, 2021,  
JANUARY 31, 2022, JULY 31, 2022, AND JANUARY 31, 2023,  
THE TWO-YEAR EXPENSE PERIODS ENDING JULY 31, 2021, AND  
JULY 31, 2023, AND THE PASS THROUGH MECHANISM OF ITS THREE  
MEMBER DISTRIBUTION COOPERATIVES  
CASE NO. 2023-00373**

**VERIFICATION**

I, Christopher A. Warren, 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.



Christopher A. Warren

COMMONWEALTH OF KENTUCKY )  
COUNTY OF DAVIESS )

SUBSCRIBED AND SWORN TO before me by Christopher A. Warren on this  
the 11<sup>th</sup> day of January, 2024.



Notary Public, Kentucky State at Large

Notary ID KYNP16841

My Commission Expires October 31, 2024