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Skill. Integrity. Efficiency.

March 17, 2017

VIA FEDERAL EXPRESS

Dr. Talina R. Mathews
Public Service Commission
211 Sower Boulevard, P.O. Box 615
Frankfort, Kentucky 40602-0615

RECEIVED

MAR 20 2017
PUBLIC SERVICE
COMMISSION

Re: *In the Matter of: An Examination of the Application of
the Fuel Adjustment Clause of Big Rivers Electric Corporation
from November 1, 2014 through October 31, 2016*
Case No. 2017-00006

Dear Dr. Mathews:

Enclosed for filing in the above-referenced matter are an original and ten copies of the responses of Big Rivers Electric Corporation ("Big Rivers") to the Public Service Commission Staff's Second Request for Information in the above-referenced matter.

I certify that a copy of this letter and a copy of the responses have been served this day by U.S. mail on the persons shown on the attached service list. Please contact me if you have any questions.

Sincerely,

Tyson Kamuf
Counsel for Big Rivers Electric Corporation

TAK/abg

Enclosures

cc: Service List
DeAnna Speed

Service List
PSC Case No. 2017-00006

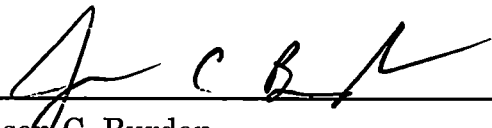
Michael L. Kurtz
Kurt J. Boehm
Jody Kyler Cohn
BOEHM, KURTZ & LOWRY
36 East Seventh Street
Suite 1510
Cincinnati, Ohio 45202
*Counsel for Kentucky Industrial
Utility Customers, Inc.*

BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT
CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
FROM NOVEMBER 1, 2014 THROUGH OCTOBER 31, 2016
CASE NO. 2017-00006**

VERIFICATION

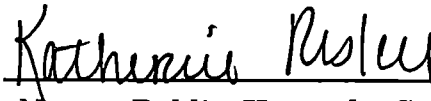
I, Jason C. Burden, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



Jason C. Burden

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

14th SUBSCRIBED AND SWORN TO before me by Jason C. Burden on this the
14 day of March, 2017.



Notary Public, Kentucky State at Large
My Commission Expires Oct. 31, 2020



BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT
CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
FROM NOVEMBER 1, 2014 THROUGH OCTOBER 31, 2016
CASE NO. 2017-00006**

VERIFICATION

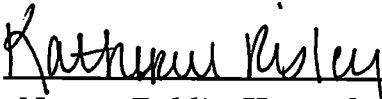
I, Nicholas R. (Nick) Castlen, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



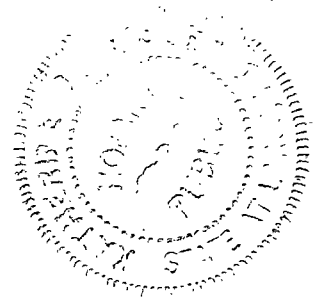
Nicholas R. (Nick) Castlen

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Nicholas R. (Nick) Castlen on
this the 14th day of March, 2017.



Notary Public, Kentucky State at Large
My Commission Expires Oct. 31, 2020

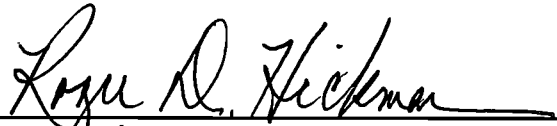


BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT
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VERIFICATION

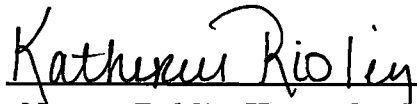
I, Roger D. Hickman, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



Roger D. Hickman

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

14th SUBSCRIBED AND SWORN TO before me by Roger D. Hickman on this the
day of March, 2017.



Notary Public, Kentucky State at Large
My Commission Expires Oct. 31, 2020

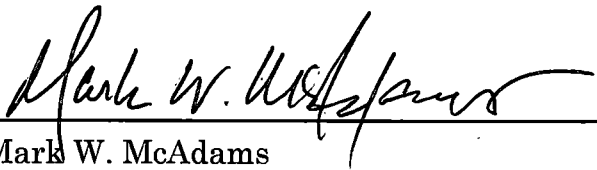


BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT
CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
FROM NOVEMBER 1, 2014 THROUGH OCTOBER 31, 2016
CASE NO. 2017-00006**

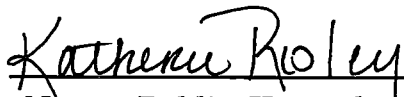
VERIFICATION

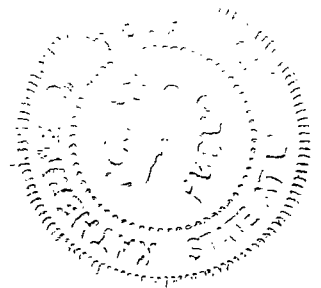
I, Mark W. McAdams, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.


Mark W. McAdams

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

14th SUBSCRIBED AND SWORN TO before me by Mark W. McAdams on this the
day of March, 2017.


Notary Public, Kentucky State at Large
My Commission Expires Oct. 31, 2020

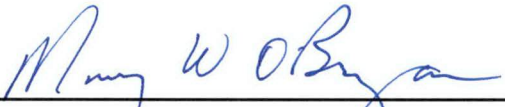


BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT
CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
FROM NOVEMBER 1, 2014 THROUGH OCTOBER 31, 2016
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VERIFICATION

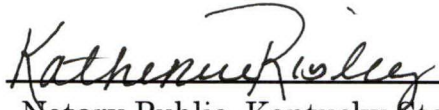
I, Murray W. (Wayne) O'Bryan, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



Murray W. (Wayne) O'Bryan

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Murray W. (Wayne) O'Bryan
on this the 14th day of March, 2017.



Notary Public, Kentucky State at Large
My Commission Expires Oct. 31, 2020



ORIGINAL



Your Touchstone Energy® Cooperative 

RECEIVED

MAR 20 2017

PUBLIC SERVICE
COMMISSION

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

**AN EXAMINATION OF THE APPLICATION)
OF THE FUEL ADJUSTMENT CLAUSE)
OF BIG RIVERS ELECTRIC CORPORATION)
FROM)
NOVEMBER 1, 2014 THROUGH OCTOBER 31, 2016)**

**Case No.
2017-00006**

**Response to Commission Staff's
Second Request for Information
dated
March 6, 2017**

FILED: March 20, 2017

ORIGINAL

BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION OF THE APPLICATION OF THE FUEL
ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
FROM NOVEMBER 1, 2014 THROUGH OCTOBER 31, 2016
CASE NO. 2017-00006**

**Response to the Commission Staff's
Second Request for Information
dated March 6, 2017**

March 20, 2017

1 **Item 1)** *Refer to the Direct Testimony of Mark W. McAdams, page 7 of*
2 *8, lines 8-12. Explain what is meant by "mid-term fuel and logistics*
3 *market."*

4
5 **Response)** Big Rivers monitors the solid fuel, reagent, fuel oil, and logistics
6 markets over a forward time period of one year (the current year) to five years.
7 Inasmuch as the current year (year one) is often more fully contracted, Big Rivers
8 will monitor the market for spot opportunities for the current year, and will also
9 focus upon the upcoming contracting period involving the mid-years (years two
10 and three), *i.e.*, the "mid-term fuel and logistics market." If there are
11 opportunities presented for the outer years (years four and five), Big Rivers will
12 also seize those opportunities in regard to procurement and related logistics.

13

14

15 **Witness)** Mark W. McAdams

16

BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION OF THE APPLICATION OF THE FUEL
ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
FROM NOVEMBER 1, 2014 THROUGH OCTOBER 31, 2016
CASE NO. 2017-00006**

**Response to the Commission Staff's
Second Request for Information
dated March 6, 2017**

March 20, 2017

**Item 2) *Refer to Big Rivers' response to the Commission's February 6,
2017 Request for Information ("February 6, 2017 Request"), Item 1.***

- a. Provide Big Rivers' average fuel cost for the two-year review
period, including supporting calculations in the response
showing each month's fuel cost.***
- b. Provide supporting calculations for Big Rivers' final 12
month FAC factor average of \$.000875 per kWh.***
- c. Given that 1) Big Rivers states that "the weighted-average
pricing of inventory will be at a higher price, as compared
to current market, rolling through Big Rivers' FAC by mid-
to-year end of 2017," and 2) thirteen months of the review
period included a credit of \$311,111 agreed to as part of a
settlement in Case No. 2014-00455¹, explain why Big Rivers
base fuel cost should not be increased.***

¹ Case No. 2014-00455. *An Examination of the Application of the Fuel Adjustment Clause of Big Rivers Electric Corporation from November 1, 2012 through October 31, 2014* (Ky. PSC Jul. 27, 2015). The credit expired with the December 2016 expense month filing.

BIG RIVERS ELECTRIC CORPORATION
AN EXAMINATION OF THE APPLICATION OF THE FUEL
ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
FROM NOVEMBER 1, 2014 THROUGH OCTOBER 31, 2016
CASE NO. 2017-00006

Response to the Commission Staff's
Second Request for Information
dated March 6, 2017

March 20, 2017

1 **Response)**

2 a. – b.

3 Using Big Rivers' Monthly Form A filings for the two-year period,
4 Big Rivers' average fuel cost for the two-year review period is
5 \$0.022992, as shown below.

6

$$\text{Avg. Fuel Cost}_{2\text{-Year Review}} = \frac{\text{Total Fuel Cost}_{2\text{-Year Review}} - \text{Over(Under) Rec.}_{2\text{-Year Review}}}{\text{Total Sales (MWhs)}_{2\text{-Year Review}}}$$

7 Or, using the data from Attachment 1:

$$\$0.022992 \text{ per kWh} = \frac{\$148,173,802 - (\$2,534,350)}{6,554,761,432 \text{ kWhs}}$$

8

9 Please see Attachment 1 for the underlying details.

10 In reviewing its original calculations, Big Rivers discovered
11 some minor keying errors. Consequently, Big Rivers' twelve-
12 month, average FAC factor for the expense months of November
13 2015 through October 2016 should be \$0.000841 per kWh *versus*
14 \$0.000875 per kWh as originally stated in Big Rivers' response to
15 Item 1 of Commission Staff's February 6, 2017, Request for
16 Information. Attachment 1 corrects these keying errors and
17 shows the calculation of \$0.000841 per kWh. The footnotes to

BIG RIVERS ELECTRIC CORPORATION
AN EXAMINATION OF THE APPLICATION OF THE FUEL
ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
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CASE NO. 2017-00006

Response to the Commission Staff's
Second Request for Information
dated March 6, 2017

March 20, 2017

1 Attachment 1 provide the sources for the information in each
2 column.

3 c. Attachment 2 hereto shows most of Attachment 1, but adjusted to
4 remove the \$311,111 monthly credit for the last thirteen months
5 of the review period, *i.e.*, FAC expense months October 2015
6 through October 2016. As shown on Attachment 2, removing the
7 \$311,111 monthly credit would change Big Rivers' twelve-month,
8 average FAC factor for the expense months of November 2015
9 through October 2016 from \$0.000841 per kWh to \$0.002391 per
10 kWh, a difference \$0.001550 per kWh.

11 Big Rivers' coal delivery plan within the review period, and
12 in regard to the near term, includes reclaiming existing inventory
13 and receiving lower-cost coal to meet generation demand. Big
14 Rivers' intent remains to reduce overall inventory at its
15 generating stations to their respective inventory targets. Big
16 Rivers has intentionally procured less than the anticipated full-
17 burn requirements of its generating stations. While reclaimed
18 inventory (approximately 20% of receipts) will be at a slightly
19 higher price than incoming contracts; it is also a smaller portion
20 of overall coal receipts. The predominance of the coal supply
21 utilized to meet generation (approximately 80%) will be procured

BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION OF THE APPLICATION OF THE FUEL
ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
FROM NOVEMBER 1, 2014 THROUGH OCTOBER 31, 2016
CASE NO. 2017-00006**

**Response to the Commission Staff's
Second Request for Information
dated March 6, 2017**

March 20, 2017

1 via lower-priced coal supply agreements. The blending of the
2 higher-priced inventory and the larger percentage of lower-priced
3 contracts should result in overall fuel pricing that remains
4 competitive and in-line with the current monthly FAC factor.
5 Given all of these factors, Big Rivers still believes a change to its
6 base fuel charge is unnecessary at this time.

7
8
9 **Witnesses)** Roger D. Hickman and
10 Mark W. McAdams (*c. only*)
11

Big Rivers Electric Corporation
Summary of Fuel Adjustment Clause Calculation Components
November 01, 2014 through October 31, 2016

| (a) | (b) | (c) | (d) | (e) = (c) - (d) | (f) | (g) | (h) |
|-----------------------------|------------------|---|--|----------------------------|---------------------------------------|--|---|
| Expense Month | Billing Month | Base Fuel Cost per kWh ¹ | Total Fuel Cost per kWh ¹ | FAC Factor ¹ | Over/(Under) Recovery ² | Fuel Cost \$ Schedule ("Fm") ³ | Sales(kWhs) Schedule ("Sm") ⁴ |
| Nov 2014 | Jan 2015 | \$0.020932 | \$0.023528 | \$0.002596 | \$79,030 | 6,633,041 | 281,921,640 |
| Dec 2014 | Feb 2015 | \$0.020932 | \$0.022482 | \$0.001550 | \$39,868 | 6,683,457 | 297,279,390 |
| Jan 2015 | Mar 2015 | \$0.020932 | \$0.023427 | \$0.002495 | \$52,483 | 7,757,638 | 331,139,411 |
| Feb 2015 ⁵ | Apr 2015 | \$0.020932 | \$0.024102 | \$0.003170 | (\$23,137) | 7,757,726 | 321,866,071 |
| Mar 2015 | May 2015 | \$0.020932 | \$0.024637 | \$0.003705 | (\$157,249) | 6,835,026 | 277,423,822 |
| Apr 2015 | Jun 2015 | \$0.020932 | \$0.025064 | \$0.004132 | (\$210,625) | 5,528,404 | 220,574,830 |
| May 2015 | Jul 2015 | \$0.020932 | \$0.021315 | \$0.000383 | \$74,593 | 5,086,349 | 238,627,289 |
| Jun 2015 | Aug 2015 | \$0.020932 | \$0.021526 | \$0.000594 | \$17,720 | 6,132,635 | 284,893,596 |
| Jul 2015 ⁶ | Sep 2015 | \$0.020932 | \$0.022904 | \$0.001972 | \$18,762 | 7,248,735 | 316,479,854 |
| Aug 2015 | Oct 2015 | \$0.020932 | \$0.022545 | \$0.001613 | (\$70,332) | 6,485,662 | 287,670,427 |
| Sep 2015 | Nov 2015 | \$0.020932 | \$0.023560 | \$0.002628 | (\$41,260) | 6,174,932 | 262,090,356 |
| Oct 2015 | Dec 2015 | \$0.020932 | \$0.020429 | (\$0.000503) | (\$78,282) | 4,745,668 | 232,302,510 |
| Twelve-Month Average | | \$0.020932 | \$0.022960 | \$0.002028 | | | |
| Nov 2015 | Jan 2016 | \$0.020932 | \$0.021872 | \$0.000940 | (\$2,881) | 5,206,167 | 238,030,276 |
| Dec 2015 | Feb 2016 | \$0.020932 | \$0.022782 | \$0.001850 | \$20,893 | 5,929,088 | 260,256,073 |
| Jan 2016 ⁷ | Mar 2016 | \$0.020932 | \$0.021970 | \$0.001038 | \$111,389 | 7,040,670 | 320,466,470 |
| Feb 2016 | Apr 2016 | \$0.020932 | \$0.021465 | \$0.000533 | (\$40,977) | 5,962,629 | 277,778,386 |
| Mar 2016 | May 2016 | \$0.020932 | \$0.021415 | \$0.000483 | (\$18,716) | 5,196,584 | 242,663,843 |
| Apr 2016 | Jun 2016 | \$0.020932 | \$0.020786 | (\$0.000146) | (\$9,551) | 4,633,095 | 222,889,693 |
| May 2016 | Jul 2016 | \$0.020932 | \$0.020296 | (\$0.000636) | (\$985) | 4,660,637 | 229,637,681 |
| Jun 2016 ⁸ | Aug 2016 | \$0.020932 | \$0.021856 | \$0.000924 | (\$38,190) | 6,331,489 | 289,688,270 |
| Jul 2016 ⁸ | Sep 2016 | \$0.020932 | \$0.022730 | \$0.001798 | (\$224,150) | 7,212,482 | 308,650,870 |
| Aug 2016 ⁸ | Oct 2016 | \$0.020932 | \$0.022184 | \$0.001252 | (\$402,519) | 7,302,577 | 309,712,016 |
| Sep 2016 ⁸ | Nov 2016 | \$0.020932 | \$0.020652 | (\$0.000280) | (\$662,818) | 6,229,998 | 270,671,678 |
| Oct 2016 | Dec 2016 | \$0.020932 | \$0.023267 | \$0.002335 | (\$967,416) | 5,399,113 | 232,046,980 |
| Twelve-Month Average | | \$0.020932 | \$0.021773 | \$0.000841 | | | |

Case No. 2017-00006

Attachment 1 for Response to PSC 2-2

Witness: Roger D. Hickman

Page 1 of 2

Big Rivers Electric Corporation
Summary of Fuel Adjustment Clause Calculation Components
November 01, 2014 through October 31, 2016

| (a) | (b) | (c) | (d) | (e) = (c) - (d) | (f) | (g) | (h) |
|------------------------------|--------------------------|---|--|-----------------------------------|--|---|--|
| <u>Expense Month</u> | <u>Billing Month</u> | <u>Base Fuel Cost per kWh¹</u> | <u>Total Fuel Cost per kWh¹</u> | <u>FAC Factor¹</u> | <u>Over/(Under) Recovery²</u> | <u>Fuel Cost \$ Schedule ("Fm")³</u> | <u>Sales(kWhs) Schedule ("Sm")⁴</u> |
| 24-Month Average | | \$0.020932 | \$0.022366 | \$0.001434 | | | |
| 24-Month Totals | | | | | (\$2,534,350) | 148,173,802 | 6,554,761,432 |
| Two-Year Average Fuel Cost = | | | | | | \$ 0.022992 | |

The notes on the following page provide source information for data and relevant explanations.

Note(s):

- 1.- See Big Rivers' Monthly Form A filing, page 1 of 2.
- 2.- See Big Rivers' Monthly Form A filing, page 2 of 4; see also Big Rivers' Monthly Form A filing, page 4 of 4.
- 3.- See Big Rivers' Monthly Form A filing, page 1 of 2; also see Big Rivers' Monthly Form A filing, page 2 of 4.
- 4.- See Big Rivers' Monthly Form A filing, page 1 of 2; also see Big Rivers' Monthly Form A filing, page 3 of 4.
- 5.- Reflects adjustments reported with Big Rivers' Monthly Form A filing for the March 2015 Expense Month and May 2015 Billing Month.
- 6.- Reflects adjustments reported with Big Rivers' Monthly Form A filing for the August 2015 Expense Month and October 2015 Billing Month.
- 7.- Reflects adjustments reported with Big Rivers' Monthly Form A filing for the February 2016 Expense Month and April 2016 Billing Month.
- 8.- Reflects adjustments reported with Big Rivers' Monthly Form A filing for the October 2016 Expense Month and December 2016 Billing Month.

Big Rivers Electric Corporation
Summary of Fuel Adjustment Clause Calculation Components
November 01, 2014 through October 31, 2016

Excludes monthly credit of \$311,111 from Fuel Cost beginning in October 2015 Expense Month

| (a) | (b) | (c) | (d) | (e) = (c) - (d) | (f) | (g) | (h) |
|-----------------------------|------------------|---|--|----------------------------------|---------------------------------------|--|---|
| Expense Month | Billing Month | Base Fuel Cost per kWh ¹ | <u>Restated</u> Total Fuel Cost per kWh | <u>Restated</u> FAC Factor | Over/(Under) Recovery ² | <u>Restated</u> Fuel Cost \$ Schedule ("Fm") | Sales(kWhs) Schedule ("Sm") ³ |
| Nov 2014 | Jan 2015 | \$0.020932 | \$0.023528 | \$0.002596 | \$79,030 | 6,633,041 | 281,921,640 |
| Dec 2014 | Feb 2015 | \$0.020932 | \$0.022482 | \$0.001550 | \$39,868 | 6,683,457 | 297,279,390 |
| Jan 2015 | Mar 2015 | \$0.020932 | \$0.023427 | \$0.002495 | \$52,483 | 7,757,638 | 331,139,411 |
| Feb 2015 ⁴ | Apr 2015 | \$0.020932 | \$0.024102 | \$0.003170 | (\$23,137) | 7,757,726 | 321,866,071 |
| Mar 2015 | May 2015 | \$0.020932 | \$0.024637 | \$0.003705 | (\$157,249) | 6,835,026 | 277,423,822 |
| Apr 2015 | Jun 2015 | \$0.020932 | \$0.025064 | \$0.004132 | (\$210,625) | 5,528,404 | 220,574,830 |
| May 2015 | Jul 2015 | \$0.020932 | \$0.021315 | \$0.000383 | \$74,593 | 5,086,349 | 238,627,289 |
| Jun 2015 | Aug 2015 | \$0.020932 | \$0.021526 | \$0.000594 | \$17,720 | 6,132,635 | 284,893,596 |
| Jul 2015 ⁵ | Sep 2015 | \$0.020932 | \$0.022904 | \$0.001972 | \$18,762 | 7,248,735 | 316,479,854 |
| Aug 2015 | Oct 2015 | \$0.020932 | \$0.022545 | \$0.001613 | (\$70,332) | 6,485,662 | 287,670,427 |
| Sep 2015 | Nov 2015 | \$0.020932 | \$0.023560 | \$0.002628 | (\$41,260) | 6,174,932 | 262,090,356 |
| Oct 2015 | Dec 2015 | \$0.020932 | \$0.021768 | \$0.000836 | (\$78,282) | 5,056,779 | 232,302,510 |
| Twelve-Month Average | | \$0.020932 | \$0.023072 | \$0.002140 | | | |
| Nov 2015 | Jan 2016 | \$0.020932 | \$0.023179 | \$0.002247 | (\$2,881) | 5,517,278 | 238,030,276 |
| Dec 2015 | Feb 2016 | \$0.020932 | \$0.023977 | \$0.003045 | \$20,893 | 6,240,199 | 260,256,073 |
| Jan 2016 ⁶ | Mar 2016 | \$0.020932 | \$0.022941 | \$0.002009 | \$111,389 | 7,351,781 | 320,466,470 |
| Feb 2016 | Apr 2016 | \$0.020932 | \$0.022585 | \$0.001653 | (\$40,977) | 6,273,740 | 277,778,386 |
| Mar 2016 | May 2016 | \$0.020932 | \$0.022697 | \$0.001765 | (\$18,716) | 5,507,695 | 242,663,843 |
| Apr 2016 | Jun 2016 | \$0.020932 | \$0.022182 | \$0.001250 | (\$9,551) | 4,944,206 | 222,889,693 |
| May 2016 | Jul 2016 | \$0.020932 | \$0.021650 | \$0.000718 | (\$985) | 4,971,748 | 229,637,681 |
| Jun 2016 ⁷ | Aug 2016 | \$0.020932 | \$0.022930 | \$0.001998 | (\$38,190) | 6,642,600 | 289,688,270 |
| Jul 2016 ⁷ | Sep 2016 | \$0.020932 | \$0.024376 | \$0.003444 | (\$224,150) | 7,523,593 | 308,650,870 |
| Aug 2016 ⁷ | Oct 2016 | \$0.020932 | \$0.024583 | \$0.003651 | (\$402,519) | 7,613,688 | 309,712,016 |
| Sep 2016 ⁷ | Nov 2016 | \$0.020932 | \$0.024166 | \$0.003234 | (\$662,818) | 6,541,109 | 270,671,678 |
| Oct 2016 | Dec 2016 | \$0.020932 | \$0.024608 | \$0.003676 | (\$967,416) | 5,710,224 | 232,046,980 |
| Twelve-Month Average | | \$0.020932 | \$0.023323 | \$0.002391 | | | |

Case No. 2017-00006

Attachment 2 for Response to PSC 2-2

Witness: Roger D. Hickman

Page 1 of 2

Big Rivers Electric Corporation
Summary of Fuel Adjustment Clause Calculation Components
November 01, 2014 through October 31, 2016

Excludes monthly credit of \$311,111 from Fuel Cost beginning in October 2015 Expense Month

| (a) | (b) | (c) | (d) | (e) = (c) - (d) | (f) | (g) | (h) |
|--------------------------|--------------------------|---|--|---|--|---|--|
| <u>Expense Month</u> | <u>Billing Month</u> | <u>Base Fuel Cost per kWh¹</u> | <u><i>Restated</i> Total Fuel Cost per kWh</u> | <u><i>Restated</i> FAC Factor</u> | <u>Over/(Under) Recovery²</u> | <u><i>Restated</i> Fuel Cost \$ Schedule ("Fm")</u> | <u>Sales(kWhs) Schedule ("Sm")³</u> |
| 24-Month Average | | \$0.020932 | \$0.023197 | \$0.002265 | | | |

Note(s):

- 1.- See Big Rivers' Monthly Form A filing, page 1 of 2.
- 2.- See Big Rivers' Monthly Form A filing, page 2 of 4; see also Big Rivers' Monthly Form A filing, page 4 of 4.
- 3.- See Big Rivers' Monthly Form A, page 1 of 2; also see Big Rivers' Monthly Form A, page 3 of 4.
- 4.- Reflects adjustments reported with Big Rivers' Monthly Form A filing for the March 2015 Expense Month and May 2015 Billing Month.
- 5.- Reflects adjustments reported with Big Rivers' Monthly Form A filing for the August 2015 Expense Month and October 2015 Billing Month.
- 6.- Reflects adjustments reported with Big Rivers' Monthly Form A filing for the February 2016 Expense Month and April 2016 Billing Month.
- 7.- Reflects adjustments reported with Big Rivers' Monthly Form A filing for the October 2016 Expense Month and December 2016 Billing Month.

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1 **Item 3) *Refer to Big Rivers response to the February 6, 2017 Request,***
2 ***Item 42. The response states that Big Rivers' classifications are consistent***
3 ***with the IEEE standards.***

4
5 ***a. Confirm that IEEE refers to the Institute of Electric and***
6 ***Electronics Engineers, Inc. If this cannot be confirmed,***
7 ***identify IEEE.***

8 ***b. The other jurisdictional generators have stated that their***
9 ***outage classifications are consistent with the North***
10 ***American Electric Reliability Corporation ("NERC")***
11 ***guidelines. Explain why Big Rivers uses IEEE guidelines***
12 ***instead of NERC guidelines.***

13
14 **Response)**

15 **a. Yes, IEEE refers to the Institute of Electrical and Electronics**
16 **Engineers.**

17 **b. Big Rivers complies with all North American Electric Reliability**
18 **Corporation ("NERC") guidelines that apply to its generators.**
19 **The data reporting instructions for NERC's Generating**
20 **Availability Data System ("GADS") specifically references IEEE**
21 **Standard 762. During the development of GADS by NERC,**

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1 NERC chose to adopt and to incorporate the definitions in IEEE
2 Standard 762.² Specifically, the NERC GADS data reporting
3 instructions in the introduction of Section I (page I-2) state:

4
5 *The industry also realized a need to include*
6 *standardized terminology in the GADS program if it*
7 *were to function on an international scale. As a*
8 *result, the definitions promulgated by the Institute of*
9 *Electrical and Electronic Engineers' (IEEE) Standard*
10 *762, "Definitions for Reporting Electric Generating*
11 *Unit Reliability, Availability and Productivity" were*
12 *incorporated.*
13

14
15 **Witness)** Jason C. Burden
16

² For additional information please see the document at the following link:
<http://www.nerc.com/pa/RAPA/gads/DataReportingInstructions/2017%20GADS%20Data%20Reporting%20Instructions.pdf>

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1 **Item 4)** *Refer to Big Rivers' response to the February 6, 2017 Request,*
2 *Item 43, the table on page 2 of 5. Reconcile the amounts in the table with*
3 *Big Rivers' response to Case No. 2016-00278, Post-Hearing Request for*
4 *Information, Item 1, Attachment 1, pages 1-2 of 5, the months of June,*
5 *July, and August 2016.*

6
7 **Response)** The amounts provided in Big Rivers' response to the February 6,
8 2017 Request, Item 43, in the table on page 2 of 5, (the "Response to Item 43") do
9 not, and should not be expected to, reconcile to the amounts provided in Big
10 Rivers' response to Case No. 2016-00278, Post-Hearing Request for Information,
11 Item 1, Attachment 1, pages 1-2 of 5.

12 The amounts referenced in the Response to Item 43 represent the
13 amounts which Big Rivers' Total F(m) was understated in its original Form A
14 filings for the June, July, and August 2016 expense months as a result of
15 incorrectly including HMP&L's Uneconomic Excess Henderson Energy (not taken
16 by Big Rivers) in the inter-system sales volumes used to prepare those filings. Big
17 Rivers inadvertently included HMP&L's Uneconomic Excess Henderson Energy
18 volumes in the inter-system sales volumes used to calculate the original FAC
19 factors for those months, but the additional generation volumes, fuel costs, and
20 purchased power costs (that would have been associated with the Uneconomic
21 Excess Henderson Energy, if taken by Big Rivers) were not included (*i.e.*, were

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properly excluded). Incorrectly including HMP&L's Uneconomic Excess Henderson Energy volumes in the inter-system sales volumes used to prepare Big Rivers' original Form A filings for the June, July, and August 2016 expense months, caused the following issues in each of those filings:

- i. System line losses were understated;
- ii. System average generation fuel costs (\$/MWh) were understated;
- iii. Inter-system sales volumes from generation were overstated;
- iv. Fuel costs allocated to inter-system sales were overstated; and
- v. Total F(m) (the fuel costs allocated to Big Rivers' Members) was understated.

As stated in Big Rivers' Response to Item 43, these errors were corrected by adjustments included in Appendix A to Big Rivers' Form A filing for the October 2016 expense month. A summary of the calculations for the adjustments provided in the Response to Item 43, in the table on page 2 of 5, is included in the attachment to this response.

The proforma amounts provided in Big Rivers' response to Case No. 2016-00278, Post-Hearing Request for Information, Item 1, Attachment 1, bottom row, pages 1-2 of 5, represent the additional fuel costs that would have been allocated to Big Rivers' Members if Big Rivers had actually taken HMP&L's

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1 Uneconomic Excess Henderson Energy during those months. Those proforma
2 calculations were prepared by adjusting all the amounts that would have changed
3 as a result of Big Rivers taking the Uneconomic Excess Henderson Energy during
4 those months (*i.e.*, adjusting for the additional inter-system sales volumes,
5 generation volumes, generation fuel costs, and \$1.50 per MWh purchase price),
6 unlike the original Form A filings for the June, July, and August 2016 expense
7 months which only included the Uneconomic Excess Henderson Energy in the
8 inter-system sales volumes

9 If Big Rivers' original Form A filings for the June, July, and August
10 2016 expense months had incorrectly included all the additional amounts that
11 would have resulted from Big Rivers taking the Uneconomic Excess Henderson
12 Energy (*i.e.*, instead of just including the additional inter-system sales volumes
13 that would have resulted), the amounts provided in the Response to Item 43, in
14 the table on page 2 of 5 (*i.e.*, the prior period adjustments in Appendix A to Big
15 Rivers' Form A filing for the October 2016 expense month to correct the issues in
16 Big Rivers' original Form A filings for the June, July, and August 2016 expense
17 months), would have agreed to the amounts provided in Big Rivers' response to
18 Case No. 2016-00278, Post-Hearing Request for Information, Item 1, Attachment
19 1, bottom row, pages 1-2 of 5

20
21 **Witness)** Nicholas R. Castlen

Big Rivers Electric Corporation

Case No. 2017-00006

Summary Calculations for Amounts Provided in Response to Item 43, in Table on Page 2 of 5

| | <i>(a)</i> | | <i>(b)</i> | | <i>[(a) - (b)] = (c)</i> |
|--|--|-----------|-----------------------------------|-----------|---|
| | As Originally Filed⁽¹⁾ | | As Corrected⁽²⁾ | | Impact of Error on Original Form A |
| June 2016: | | | | | |
| System Average Generation Fuel Cost (\$/MWh) | \$ 23.595 | \$ | 24.489 | \$ | (0.894) |
| Inter-System Sales from Generation (MWh) ⁽³⁾ | 276,424.906 | | 258,284.906 | | 18,140.000 |
| Fuel Cost Allocated to Inter-System Sales from Generation | \$ 6,522,246 | \$ | 6,325,139 | \$ | 197,107 |
| July 2016: | | | | | |
| System Average Generation Fuel Cost (\$/MWh) | \$ 24.829 | \$ | 25.828 | \$ | (0.999) |
| Inter-System Sales from Generation (MWh) ⁽³⁾ | 385,147.038 | | 361,158.038 | | 23,989.000 |
| Fuel Cost Allocated to Inter-System Sales from Generation | \$ 9,562,816 | \$ | 9,327,990 | \$ | 234,826 |
| August 2016: | | | | | |
| System Average Generation Fuel Cost (\$/MWh) | \$ 24.120 | \$ | 24.986 | \$ | (0.866) |
| Inter-System Sales from Generation (MWh) ⁽³⁾ | 373,223.347 | | 351,938.347 | | 21,285.000 |
| Fuel Cost Allocated to Inter-System Sales from Generation | \$ 9,002,147 | \$ | 8,793,532 | \$ | 208,615 |

Notes:

- (1) Big Rivers' original Form A filings for the expense months of June, July, and August 2016 inadvertently included HMP&L's Uneconomic Excess Henderson Energy in the inter-system sales volumes used to calculate the FAC factors for those months, which caused: (i) the calculated system line losses to be understated, (ii) the system average generation fuel cost (\$/MWh) to be understated, (iii) the inter-system sales volumes from generation to be overstated, (iv) the fuel cost allocated to inter-system sales to be overstated, and (v) the fuel cost allocated to Big Rivers' native load (i.e. Members) to be understated in Big Rivers' original Form A filings for those months.
- (2) Adjustments to correct the errors described in note (1) were included in Appendix A to Big Rivers' Form A filing for the October 2016 expense month.
- (3) The inter-system sales from generation volumes are included in the "Inter-system Sales including interchange-out" line on the Sales Schedule, Page 3 of 4, of Big Rivers' monthly Form A filing, which also includes inter-system sales from purchased power and interchange-out volumes.

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Attachment for Response to PSC 2-4

Witness: Nicholas R. Castlen

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- 1 **Item 5)** *Refer to the Form B filings submitted by Big Rivers.*
2
3 *a. Refer to the Form B filing for the expense month of October*
4 *2016, page 8, the Power Transaction Schedule. Confirm*
5 *that, since June 2016, Big Rivers continues to purchase*
6 *economic Excess Henderson Energy. If this can be*
7 *confirmed, explain why the amount in the KWH column is*
8 *"0" in the Purchases section, the HMPL row.*
9 *b. Refer to any Form B filing for the two-year review period,*
10 *page 11, the Fuel Burned Schedule. Explain why the*
11 *System Average fuel cost calculated on this page differs*
12 *from the total fuel costs calculated in the Form A. As an*
13 *example, for the expense month of January 2016, the total*
14 *fuel cost per the FAC Form A filing was \$.021982 and per*
15 *the Form B, page 11, the system average for January 2016*
16 *was \$25.753 per MWh (or \$.025753 per kWh).*

17

18 **Response)**

- 19 *a. Confirmed. Since June 2016, Big Rivers continues to purchase*
20 *economic Excess Henderson Energy.*

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1 The amount included in the Form B filing for the October
2 2016 expense month, on page 8, the Power Transaction Schedule,
3 in the KWH column of the Purchases section, for HMP&L is "0"
4 because the Excess Henderson Energy volumes taken by Big
5 Rivers are included in Big Rivers' net generation volumes
6 reported for Station Two on page 11, the Fuel Burned schedule, of
7 Big Rivers' Form B filing. As stated in the Form B filing for the
8 October 2016 expense month, on page 8, the Power Transaction
9 Schedule, Footnote 1, the Excess Henderson Energy volumes
10 taken by Big Rivers each month are included in Big Rivers'
11 generation volumes reported for Station Two on page 11, the Fuel
12 Burned Schedule, of Big Rivers' Form B filing, with the related
13 fuel burned for that generation. For October 2016, the Excess
14 Henderson Energy volumes taken by Big Rivers totaled 3,539
15 MWh.

16 Only the contract price paid by Big Rivers for the Excess
17 Henderson Energy (\$1.50 per MWh) is reported in the Purchases
18 section of the Power Transaction Schedule. As shown in the
19 October 2016 Power Transaction Schedule, the total contract price
20 paid by Big Rivers for the Excess Henderson Energy that month

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1 was \$5,308 (*i.e.*, $\$1.50/\text{MWh} \times 3,539 \text{ MWh} = \$5,308.50$, rounded
2 to \$5,308 on the Power Transaction Schedule).

3 b. The system average fuel cost, included on the Fuel Burned
4 Schedule of Big Rivers' Form B filing, is the system average fuel
5 cost of Big Rivers' own generation during the month, and is
6 calculated by dividing Big Rivers' total cost of fuel used for
7 generation during the month by Big Rivers' total net generation
8 during the month. The Total Fuel Cost per kWh ($F(m) / S(m)$),
9 calculated on page 1 of Big Rivers' monthly Form A filing,
10 represents the total fuel cost per kWh applicable to Big Rivers'
11 Member sales during the month, calculated based on Big Rivers'
12 Fuel Adjustment Clause (FAC) mechanism, per its most recently
13 approved tariff. Unlike the system average generation fuel cost,
14 which only accounts for the average cost of fuel per MWh (or kWh)
15 of Big Rivers' own generation, the FAC factor includes
16 adjustments for purchased power, inter-system sales, forced
17 outages, purchases above Big Rivers' highest cost unit, and other
18 factors in accordance with 807 KAR 5:056 and Big Rivers' FAC
19 tariff.

20

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Note: The original total fuel cost per kWh calculated per the original Form A filing for the January 2016 expense month of \$0.021982/ kWh (\$21.982/ MWh) was revised based on adjustments included in Appendix A to Big Rivers' Form A filing for the February 2016 expense month. The revised total fuel cost per kWh for the January 2016 expense month was \$0.021970/ kWh (\$21.970/ MWh).

The system average fuel cost for January 2016 of \$25.753 per MWh, shown on the Fuel Burned Schedule of Big Rivers' Form B filing for the October 2016 expense month, was calculated as follows:

$$\frac{\text{Oct-16 Total Generation Fuel Expense}}{\text{Oct-16 Net Generation (MWhs)}} = \text{Oct-16 System Average Fuel Cost}$$

Or

$$\frac{\$ 13,219,828.77}{513,328.439 \text{ MWhs}} = \$ 25.753 / \text{MWh}$$

A reconciliation of Big Rivers' January 2016 system average fuel cost of \$25.753/ MWh to Big Rivers' total fuel cost of \$21.970/ MWh for January 2016 (per Appendix A to Big Rivers'

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1 Form A filing for the October 2016 expense month) is provided in
2 the attachment to this response.

3

4

5 **Witness)** Nicholas R. Castlen

6

Big Rivers Electric Corporation
Case No. 2017-00006
Reconciliation of Form B System Average Fuel Cost to Form A Total Fuel Cost
January 2016 Expense Month

| | (a) | (b) | (c) = (a) / (b) |
|---|---------------------------|-----------------|-----------------|
| | Fuel/ Energy Cost (\$) | Volume (MWh) | \$/MWh |
| Form B Filing⁽¹⁾: | | | |
| (A) Net Generation (after losses) | \$ 13,219,828 | 513,328.439 | \$ 25.753 |
| Form A Filing⁽²⁾: | | | |
| Generation: | | | |
| Fuel (Assigned Cost During F.O.) | \$ 846,419 | | |
| Fuel (Substitute Cost During F.O.) | \$ (436,560) | | |
| Fuel (Domtar Back-Up/ Imbalance Generation) | \$ (28,963) | (1,124.630) | \$ 25.753 |
| (B) Sub-Total Generation Adjustments | \$ 380,896 | (1,124.630) | |
| Purchased Power: | | | |
| Economy Purchases | \$ 462,644 | 30,356.116 | \$ 15.241 |
| Other Purchases | \$ 7,166,370 | 278,472.125 | \$ 25.735 |
| Forced Outage Purchases | \$ 372,502 | 15,074.729 | \$ 24.710 |
| Interchange-In | \$ - | 342,997.700 | \$ - |
| Identifiable Fuel Cost (Substitute for F.O.) | \$ (409,859) | | |
| Purchases for Domtar Back-Up | \$ (21,617) | (906.827) | \$ 23.838 |
| Purchases Above Highest Cost Units | \$ (36,764) | | |
| (C) Sub-Total Purchased Power Adjustments | \$ 7,533,276 | 665,993.843 | \$ 11.311 |
| Other Adjustments: | | | |
| Inter-System Sales ⁽³⁾ | \$ (13,670,830) | (530,844.182) | \$ 25.753 |
| Interchange-Out | \$ - | (326,887.000) | \$ - |
| (Over)/Under Recovery for Prior Expense Month | \$ (111,389) | | |
| FAC Credit ⁽⁴⁾ | \$ (311,111) | | |
| (D) Sub-Total Other Adjustments | \$ (14,093,330) | (857,731.182) | \$ 16.431 |
| (E) Total [(A) + (B) + (C) + (D)] | \$ 7,040,670 | 320,466.470 | \$ 21.970 |

Notes:

- (1) Source: Big Rivers' Form B Filing for the January 2016 Expense month filed with the Commission by letter dated March 15, 2016, page 12 of 22, Fuel Burned Schedule.
- (2) Source: Big Rivers' Revised Form A Filing for the January 2016 Expense Month, included with Big Rivers' Form A Filing for the February 2016 expense month filed with the Commission by letter dated March 21, 2016, Appendix A, Adjustment to January 2016 Expense Month, Pages 1 and 2
- (3) Includes cost of fuel recovered through inter-system sales, including inter-system sales from generation and purchased power.
- (4) Monthly FAC Credit of \$311,111 per the Stipulation Agreement approved by Order of the Commission in Case No. 2014-00455.

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1 **Item 6)** *State whether Big Rivers engaged in virtual transactions in*
2 *its regional transmission organization during the two-year review period.*
3 *If yes, explain: 1) how the transactions were accounted for; and 2) the*
4 *effect the transactions had on the calculation of the fuel adjustment*
5 *clause, if any.*

6

7 **Response)** Big Rivers did not engage in virtual transactions in the Mid-
8 Continent Independent System Operator, Inc. during the two-year review period.

9

10

11 **Witness)** Wayne O'Bryan

12