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October 20, 2015

Via Federal Express

Jeff Derouen  
Executive Director  
Public Service Commission  
211 Sower Boulevard, P.O. Box 615  
Frankfort, Kentucky 40602-0615

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OCT 21 2015

PUBLIC SERVICE  
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\*Also Licensed in Indiana

Re: *In the Matter of: an Examination by the Public Service Commission of the Environmental Surcharge Mechanism of Big Rivers Electric Corporation for the Two-Year Billing Period Ending July 31, 2015 and the Pass Through Mechanism of its Three Member Distribution Cooperatives,*  
PSC Case No. 2015-00320

Dear Mr. Derouen:

Enclosed for filing in the above-referenced matter are an original and seven (7) copies of Big Rivers Electric Corporation's responses to the Public Service Commission Staff's First Request for Information and an original and seven (7) copies of the Direct Testimony of Nicholas R. Castlen in support of the reasonableness of the environmental surcharge mechanisms of Big Rivers Electric Corporation, Jackson Purchase Energy Corporation, Kenergy Corp., and Meade County Rural Electric Cooperative Corporation. I certify that on this date, copies of this letter, the testimony, and the responses were served on all parties of record by first-class mail.

Sincerely,



Tyson Kamuf

TAK/lm  
Enclosures

Telephone (270) 926-4000  
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cc: DeAnna Speed  
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# ORIGINAL

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

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OCT 21 2015

PUBLIC SERVICE  
COMMISSION

In the Matter of:

AN EXAMINATION BY THE PUBLIC SERVICE )  
COMMISSION OF THE ENVIRONMENTAL )  
SURCHARGE MECHANISM OF BIG RIVERS )  
ELECTRIC CORPORATION FOR THE TWO-YEAR )  
BILLING PERIOD ENDING JULY 31, 2015 )  
AND THE PASS THROUGH MECHANISM )  
OF ITS THREE MEMBER DISTRIBUTION )  
COOPERATIVES )

Case No.  
2015-00320

DIRECT TESTIMONY

OF

NICHOLAS R. (NICK) CASTLEN

ON BEHALF OF

BIG RIVERS ELECTRIC CORPORATION,  
JACKSON PURCHASE ENERGY CORPORATION,  
KENERGY CORP., AND  
MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION

FILED: October 21, 2015

Case No. 2015-00320  
Witness: Nicholas R. Castlen  
Page 1 of 9



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

2 A. As the Manager of Finance, my primary responsibilities involve providing  
3 direction and oversight to corporate accounting and finance activities related  
4 to the Company's financial reporting requirements, debt administration,  
5 financial forecasting, cash management, taxes (income, property, sales, and  
6 use), and fixed assets. Additionally, I am responsible for Big Rivers' following  
7 rate mechanisms and the related filings with the Kentucky Public Service  
8 Commission ("Commission"): Fuel Adjustment Clause ("FAC"),  
9 Environmental Surcharge ("ES").

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

11 A. Yes. I've provided testimony and responses to data requests in Case Nos.  
12 2012-00534, 2013-00139, 2013-00347, 2014-00097, 2014-00323, and 2015-  
13 00124 (reviews of Big Rivers' ES mechanism). I have also served as a  
14 witness, providing testimony and/or responses to data requests, in Case Nos.  
15 2012-00555, 2013-00266, 2013-00449, 2014-00230, 2014-00455, and 2015-  
16 00237 (reviews of Big Rivers' FAC mechanism).

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

18 A. I am filing this testimony on behalf of Big Rivers and its three member  
19 distribution cooperatives, which are Jackson Purchase Energy Corporation  
20 ("JPEC"), Kenergy Corp. ("Kenergy"), and Meade County Rural Electric  
21 Cooperative Corporation ("Meade County") (collectively, "the Members").

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

1 A. The purpose of my testimony is to describe the application of Big Rivers' ES  
2 mechanism as billed from August 1, 2013, through July 31, 2015, (which  
3 corresponds to the expense months of June 2013 through May 2015).  
4 Additionally, I have coordinated with Big Rivers' Members in the preparation  
5 of this testimony and prepared responses to the Commission Staff's First  
6 Request for Information ("Commission's Initial Requests") that accompany  
7 this testimony.

8 This testimony also includes information the Members have provided  
9 me in support of their pass-through mechanisms that are also under review  
10 in this proceeding and that the Members use to pass through, to their retail  
11 members, the costs Big Rivers charges to them under Big Rivers' ES  
12 mechanism. The review period for the Members' pass-through mechanisms  
13 that corresponds to the August 1, 2013, through July 31, 2015, billing period  
14 for Big Rivers' environmental surcharge mechanism are the billing months  
15 of September 2013 through August 2015 for non-dedicated delivery point  
16 customers (*i.e.*, there is a one-month lag for non-dedicated delivery point  
17 customers), and August 2013 through July 2015 for dedicated delivery point  
18 customers (*i.e.*, there is no billing lag for dedicated delivery point customers).

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

20 A. Big Rivers' ES mechanism was approved by Order of the Commission dated  
21 June 25, 2008, in Case No. 2007-00460, which was part of the transaction  
22 that unwound Big Rivers' 1998 lease with E.ON U.S. LLC and its affiliates



1 (the "Unwind Transaction") that was approved by Order of the Commission  
2 dated March 6, 2009, in Case No. 2007-00455. Big Rivers' ES went into effect  
3 immediately following the July 16, 2009, closing of the Unwind Transaction  
4 for service commencing July 17, 2009.

5 Big Rivers' environmental compliance plan approved by the  
6 Commission in Case No. 2007-00460 (the "2007 Plan") consists of programs,  
7 and the related costs, for controlling sulfur dioxide ("SO<sub>2</sub>"), nitrogen oxide  
8 ("NO<sub>x</sub>"), and sulfur trioxide ("SO<sub>3</sub>"). The environmental compliance costs  
9 which Big Rivers may recover under KRS 278.183, and its 2007 Plan, include  
10 the costs of reagents, sludge and ash disposal, and emission allowances.

11 For the SO<sub>2</sub> program, Big Rivers recovers through its ES mechanism  
12 the costs of reagents, the costs for the disposal of coal combustion byproducts  
13 (fly ash, bottom ash, and scrubber sludge), and the costs of purchasing SO<sub>2</sub>  
14 emission allowances. For the NO<sub>x</sub> program, Big Rivers recovers the costs of  
15 reagents and the costs of purchasing additional NO<sub>x</sub> emission allowances as  
16 needed. For the SO<sub>3</sub> program, Big Rivers recovers reagent costs. Due to  
17 generating unit design differences and Big Rivers' compliance plan, each of  
18 Big Rivers' generating units utilizes a different combination of reagents.  
19 Depending on the unit facilities, various reagents are used to treat the flue  
20 gas, thereby removing the three targeted emissions. The SO<sub>2</sub> reagents are  
21 comprised of emulsified sulfur, lime, fixation lime, limestone, dibasic acid,  
22 and sodium bisulfite. The NO<sub>x</sub> reagents are comprised of anhydrous

1 ammonia and emulsified sulfur. The reagent used for SO<sub>3</sub> is hydrated lime.  
2 Note that the 2007 Plan included only operating and maintenance (“O&M”)  
3 costs.

4 In its Order dated October 1, 2012, in Case No. 2012-00063, the  
5 Commission approved certain additions to Big Rivers’ 2007 Plan relating to  
6 the Mercury and Air Toxics Standards (“MATS”) rule. The additions (the  
7 “2012 Plan”) included installing activated carbon injection and dry sorbent  
8 injection systems and emission control monitors at Big Rivers’ Coleman,  
9 Wilson, and Green generating stations; and installing emission control  
10 monitors at Henderson Municipal Power & Light’s Station Two generation  
11 station. The 2012 Plan includes both the capital and O&M costs associated  
12 with the projects, as well as recovery of Big Rivers’ actual costs incurred in  
13 Case No. 2012-00063 (amortized over three years).

14 Please note that as a result of the terminations of retail power  
15 contracts by two aluminum smelters, Big Rivers idled its Coleman generation  
16 station in May 2014. As a result, Big Rivers does not plan to proceed with the  
17 MATS projects at the Coleman station at this time. However, Big Rivers will  
18 complete the MATS projects at Coleman prior to it returning to service.

19 Big Rivers’ ES mechanism allows Big Rivers to recover costs related to  
20 the 2007 Plan (which only includes O&M costs) and the 2012 Plan (which  
21 includes both O&M costs and capital costs), less proceeds from by-product  
22 and emission allowance sales, plus or minus an ongoing cumulative under-

1 or over-recovery adjustment.

2 **Q. Please provide a brief overview of the Members' pass-through**  
3 **mechanisms.**

4 A. The Members' pass-through mechanisms allow each Member to bill its retail  
5 customers for the portion of Big Rivers' environmental surcharge that Big  
6 Rivers bills each Member. JPEC's pass-through mechanism was approved  
7 by the Commission in Case No. 2008-00010; Kenergy's mechanism was  
8 approved by the Commission in Case No. 2008-00009; and Meade County's  
9 was approved by the Commission in Case No. 2007-00470.

10 **Q. Have there been any changes to Big Rivers' environmental**  
11 **surcharge mechanism since the prior review?**

12 A. No.

13 **Q. Has Big Rivers sold any SO<sub>2</sub> or NO<sub>x</sub> allowances during the expense**  
14 **months corresponding to the billing periods under review in this**  
15 **case?**

16 A. Yes. While Big Rivers' Coleman generation units were designated as System  
17 Support Resource ("SSR") units within MISO, Big Rivers sold SO<sub>2</sub> and NO<sub>x</sub>  
18 allowances from its inventory to cover the allowances used by its Coleman  
19 generation units. During the period under review, the Coleman generation  
20 units were designated as SSR units for the expense months of August 2013  
21 through April 2014, during which time Big Rivers charged market prices for  
22 the allowances used at Coleman under the SSR agreement during those



1 months. The cost of the allowances sold during those months were reported  
2 as sales in the monthly ES filings on ES Forms 2.31 (SO<sub>2</sub> allowances), 2.32  
3 (NO<sub>x</sub> - Ozone Season allowances), and 2.33 (NO<sub>x</sub> – Annual Allowances),  
4 beginning with the ES filing for the October 2013 expense month (which  
5 included the sales from August 2013 through October 2013). The net  
6 proceeds from the sales of those allowances were included in the monthly ES  
7 filings as a reduction to total recoverable environmental compliance expenses  
8 (E(m)) on ES Form 1.10 for the respective expense months, with the exception  
9 of sales made during August 2013 and September 2013, which were included  
10 in the ES filing for the October 2013 expense month.

11 **Q. Has Big Rivers' environmental surcharge mechanism been**  
12 **accurately compiled, and is it operating as intended?**

13 A. Yes.

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

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

18 **Q. Are the amounts charged under Big Rivers' environmental**  
19 **surcharge mechanism during the review period just and reasonable?**

20 A. Yes.

21 **Q. Are the amounts charged under the Members' pass-through**  
22 **mechanisms during the review period just and reasonable?**

1 A. The Members believe the amounts charged under their pass-through  
2 mechanisms are just and reasonable.

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

5 A. No. Big Rivers and its Members are not requesting any additional over- or  
6 under-recovery amounts. The normal over/under recovery carry-forward  
7 element of Big Rivers' environmental surcharge mechanism is operating as  
8 intended.

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

11 A. Yes. Big Rivers recovered capital costs associated with its 2012 Plan projects  
12 during the period under review through the inclusion of Construction Work-  
13 in-Progress balances for its 2012 Plan projects in the calculation of  
14 environmental compliance rate base on ES Form 2.00 in its monthly ES  
15 filings.

16 **Q. What Base Environmental Surcharge Factor ("BESF") cost did Big**  
17 **Rivers use during the review period?**

18 A. Big Rivers had no environmental surcharge related costs in its base rates  
19 during the review period.

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

21 A. Yes, it does.

**BIG RIVERS ELECTRIC CORPORATION**

**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION OF THE  
ENVIRONMENTAL SURCHARGE MECHANISM OF  
BIG RIVERS ELECTRIC CORPORATION  
FOR THE TWO-YEAR BILLING PERIOD ENDING JULY 31, 2015  
AND THE PASS THROUGH MECHANISM  
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES  
CASE NO. 2015-00320**

**VERIFICATION**

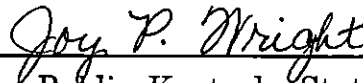
I, Nicholas R. (Nick) Castlen, verify, state, and affirm that I prepared or supervised the preparation of the Direct Testimony filed with this Verification, and that Direct Testimony is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



\_\_\_\_\_  
Nicholas R. (Nick) Castlen

COMMONWEALTH OF KENTUCKY )  
COUNTY OF HENDERSON )

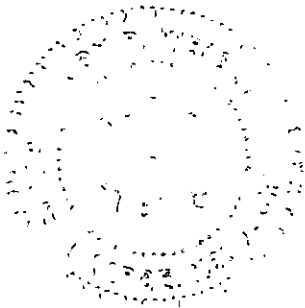
SUBSCRIBED AND SWORN TO before me by Nicholas R. (Nick) Castlen on this the 13 day of October, 2015.



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

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

Notary Public, Kentucky State-At-Large  
My Commission Expires: July 3, 2018  
ID 513528





**BIG RIVERS ELECTRIC CORPORATION**

**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION OF THE  
ENVIRONMENTAL SURCHARGE MECHANISM OF  
BIG RIVERS ELECTRIC CORPORATION  
FOR THE TWO-YEAR BILLING PERIOD ENDING JULY 31, 2015  
AND THE PASS THROUGH MECHANISM  
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES  
CASE NO. 2015-00320**

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**OCT 21 2015**

**PUBLIC SERVICE  
COMMISSION**

**VERIFICATION**

I, Lawrence V. (Larry) Baronowsky, 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.

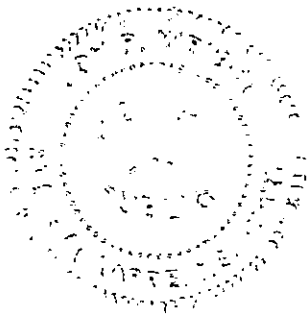
  
\_\_\_\_\_  
Lawrence V. (Larry) Baronowsky

COMMONWEALTH OF KENTUCKY )  
COUNTY OF HENDERSON )

SUBSCRIBED AND SWORN TO before me by Lawrence V. (Larry) Baronowsky on this the 13 day of October, 2015.

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

Notary Public, Kentucky State-At-Large  
My Commission Expires: July 3, 2018  
ID 513528



**BIG RIVERS ELECTRIC CORPORATION**

**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION OF THE  
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OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES  
CASE NO. 2015-00320**

**VERIFICATION**

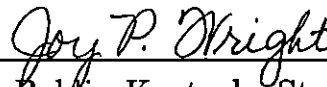
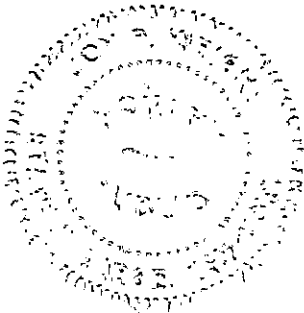
I, Nicholas R. (Nick) Castlen, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



\_\_\_\_\_  
Nicholas R. (Nick) Castlen

COMMONWEALTH OF KENTUCKY )  
COUNTY OF HENDERSON )

SUBSCRIBED AND SWORN TO before me by Nicholas R. (Nick) Castlen on  
this the 13 day of October, 2015.



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

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

Notary Public, Kentucky State-At-Large  
My Commission Expires: July 3, 2018  
ID 513528

**BIG RIVERS ELECTRIC CORPORATION**

**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION  
OF THE ENVIRONMENTAL SURCHARGE MECHANISM  
OF BIG RIVERS ELECTRIC CORPORATION  
FOR THE TWO-YEAR BILLING PERIOD ENDING JULY 31, 2015  
AND THE PASS THROUGH MECHANISM  
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES  
CASE NO. 2015-00320**

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**Response to Commission Staff's  
First Request for Information  
dated September 28, 2015**

**OCT 21 2015**

**PUBLIC SERVICE  
COMMISSION**

**October 21, 2015**

1 **Item 1)** *Prepare a summary schedule showing the calculation of  $E(m)$*   
2 *and the surcharge factor for the expense months covered by the billing*  
3 *periods under review. Form 1.1 can be used as a model for this summary.*  
4 *Include the expense months for the two expense months subsequent to the*  
5 *billing period in order to show the over- and under-recovery adjustments*  
6 *for the months included for the billing period. Include a calculation of*  
7 *any additional over- or under-recovery amount Big Rivers believes needs*  
8 *to be recognized for the two-year review. Include all supporting*  
9 *calculations and documentation for the additional over- or under-*  
10 *recovery.*

11

12 **Response)** Please see the attached schedule, in the format of Form 1.10,  
13 covering each of the expense months from June 2013 through July 2015 (*i.e.*, the  
14 expense months covered by the billing periods under review plus the two expense  
15 months subsequent to the billing period). No additional over- or under-recovery is  
16 sought by Big Rivers Electric Corporation.

17

18

19 **Witness)** Nicholas R. Castlen

20



# Big Rivers Electric Corporation

## Case No. 2015-00320

### Calculation of Total E(m) and Calculation of Jurisdictional Environmental Surcharge Billing Factor

For the Expense Months: June 2013 to July 2015

1	<b>Calculation of Total E(m)</b>			
2	E(m) = OE - BAS + RORB, where			
3	OE	=	Pollution Control Operating Expenses	
4	BAS	=	Total Proceeds from By-Product and Allowance Sales	
5	RORB	=	[ (RB/12) x (RORORB) ]	
6				
7	OE	= \$	June 2013	July 2013
8	BAS	= \$	2,303,304	2,633,009
9	RORB	= \$	-	-
10	E(m)	= \$	2,303,304	2,633,009
11				
12	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
13	Member System Allocation Ratio for the Month (Form 3.00)	=	90.400755%	84.093298%
14	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	2,082,204	2,214,184
15	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	15,011	(28,399)
16	Prior Period Adjustment	= \$	-	-
17	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	2,097,215	2,185,785
18	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	39,960,440	39,809,898
19	CESF: E(m) / R(m); as a % of Revenue	=	5.248228%	5.490557%
20				
21	<b>Calculation of Total E(m)</b>			
22	E(m) = OE - BAS + RORB, where			
23	OE	=	Pollution Control Operating Expenses	
24	BAS	=	Total Proceeds from By-Product and Allowance Sales	
25	RORB	=	[ (RB/12) x (RORORB) ]	
26				
27	OE	= \$	August 2013	September 2013
28	BAS	= \$	2,400,132	2,374,614
29	RORB	= \$	-	-
30	E(m)	= \$	2,400,132	2,374,614
31				
32	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
33	Member System Allocation Ratio for the Month (Form 3.00)	=	81.619269%	78.289691%
34	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	1,958,970	1,859,078
35	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	(77,358)	135,278
36	Prior Period Adjustment	= \$	-	-
37	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	1,881,612	1,994,356
38	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	39,416,237	38,778,903
39	CESF: E(m) / R(m); as a % of Revenue	=	4.773698%	5.142889%

# Big Rivers Electric Corporation

## Case No. 2015-00320

### Calculation of Total E(m) and Calculation of Jurisdictional Environmental Surcharge Billing Factor

For the Expense Months: June 2013 to July 2015

1	<b>Calculation of Total E(m)</b>			
2	E(m) = OE - BAS + RORB, where			
3	OE	=	Pollution Control Operating Expenses	
4	BAS	=	Total Proceeds from By-Product and Allowance Sales	
5	RORB	=	[ (RB/12) x (RORORB) ]	
6			<b>October 2013</b>	<b>November 2013</b>
7	OE	= \$	2,789,415	= \$ 1,821,722
8	BAS	= \$	62,121	= \$ 15,467
9	RORB	= \$	5,737	= \$ 5,733
10	E(m)	= \$	2,733,031	= \$ 1,811,998
11				
12	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
13	Member System Allocation Ratio for the Month (Form 3.00)	=	72.526908%	= 84.883462%
14	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	1,982,183	= \$ 1,538,087
15	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	411,297	= \$ 681,765
16	Prior Period Adjustment	= \$	-	= \$ -
17	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	2,393,480	= \$ 2,219,852
18	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	37,814,766	= \$ 36,899,327
19	CESF: E(m) / R(m); as a % of Revenue	=	6.329485%	= 6.015969%
20				
21	<b>Calculation of Total E(m)</b>			
22	E(m) = OE - BAS + RORB, where			
23	OE	=	Pollution Control Operating Expenses	
24	BAS	=	Total Proceeds from By-Product and Allowance Sales	
25	RORB	=	[ (RB/12) x (RORORB) ]	
26			<b>December 2013</b>	<b>January 2014</b>
27	OE	= \$	2,349,391	= \$ 2,447,581
28	BAS	= \$	6,977	= \$ 21,598
29	RORB	= \$	9,563	= \$ 10,544
30	E(m)	= \$	2,351,977	= \$ 2,436,527
31				
32	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
33	Member System Allocation Ratio for the Month (Form 3.00)	=	78.391089%	= 76.155449%
34	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	1,843,740	= \$ 1,855,548
35	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	534,278	= \$ 287,040
36	Prior Period Adjustment	= \$	-	= \$ -
37	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	2,378,018	= \$ 2,142,588
38	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	36,277,297	= \$ 35,785,567
39	CESF: E(m) / R(m); as a % of Revenue	=	6.555114%	= 5.987296%

# Big Rivers Electric Corporation

## Case No. 2015-00320

### Calculation of Total E(m) and Calculation of Jurisdictional Environmental Surcharge Billing Factor

For the Expense Months: June 2013 to July 2015

1	<b>Calculation of Total E(m)</b>			
2	E(m) = OE - BAS + RORB, where			
3	OE	=	Pollution Control Operating Expenses	
4	BAS	=	Total Proceeds from By-Product and Allowance Sales	
5	RORB	=	[ (RB/12) x (RORORB) ]	
6				
7			<b>February 2014</b>	<b>March 2014</b>
7	OE	= \$	2,142,172	= \$ 1,935,901
8	BAS	= \$	20,042	= \$ 22,498
9	RORB	= \$	15,268	= \$ 19,953
10	E(m)	= \$	2,137,398	= \$ 1,933,356
11				
12	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
13	Member System Allocation Ratio for the Month (Form 3.00)	=	46.835735%	= 43.616093%
14	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	1,001,066	= \$ 843,254
15	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	47,644	= \$ 914,712
16	Prior Period Adjustment	= \$	-	= \$ -
17	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	1,048,710	= \$ 1,757,966
18	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	34,279,069	= \$ 32,450,204
19	CESF: E(m) / R(m); as a % of Revenue	=	3.059330%	= 5.417427%
20				
21	<b>Calculation of Total E(m)</b>			
22	E(m) = OE - BAS + RORB, where			
23	OE	=	Pollution Control Operating Expenses	
24	BAS	=	Total Proceeds from By-Product and Allowance Sales	
25	RORB	=	[ (RB/12) x (RORORB) ]	
26				
27			<b>April 2014</b>	<b>May 2014</b>
27	OE	= \$	2,256,112	= \$ 1,672,442
28	BAS	= \$	25,433	= \$ -
29	RORB	= \$	25,051	= \$ 26,173
30	E(m)	= \$	2,255,730	= \$ 1,698,615
31				
32	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
33	Member System Allocation Ratio for the Month (Form 3.00)	=	38.809546%	= 56.070358%
34	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	875,439	= \$ 952,420
35	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	458,377	= \$ 991,229
36	Prior Period Adjustment	= \$	-	= \$ -
37	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	1,333,816	= \$ 1,943,649
38	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	30,521,846	= \$ 28,513,247
39	CESF: E(m) / R(m); as a % of Revenue	=	4.370037%	= 6.816653%

# Big Rivers Electric Corporation

## Case No. 2015-00320

### Calculation of Total E(m) and Calculation of Jurisdictional Environmental Surcharge Billing Factor

For the Expense Months: June 2013 to July 2015

1	<b>Calculation of Total E(m)</b>			
2	E(m) = OE - BAS + RORB, where			
3	OE	=	Pollution Control Operating Expenses	
4	BAS	=	Total Proceeds from By-Product and Allowance Sales	
5	RORB	=	[ (RB/12) x (RORORB) ]	
6			<b>June 2014</b>	<b>July 2014</b>
7	OE	= \$	1,587,618	= \$ 2,461,632
8	BAS	= \$	-	= \$ -
9	RORB	= \$	33,571	= \$ 41,335
10	E(m)	= \$	1,621,189	= \$ 2,502,967
11				
12	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
13	Member System Allocation Ratio for the Month (Form 3.00)	=	65.017814%	= 50.273862%
14	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	1,054,062	= \$ 1,258,338
15	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	653,306	= \$ 755,509
16	Prior Period Adjustment	= \$	-	= \$ -
17	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	1,707,368	= \$ 2,013,847
18	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	26,592,908	= \$ 24,683,935
19	CESF: E(m) / R(m); as a % of Revenue	=	6.420388%	= 8.158533%
20				
21	<b>Calculation of Total E(m)</b>			
22	E(m) = OE - BAS + RORB, where			
23	OE	=	Pollution Control Operating Expenses	
24	BAS	=	Total Proceeds from By-Product and Allowance Sales	
25	RORB	=	[ (RB/12) x (RORORB) ]	
26			<b>August 2014</b>	<b>September 2014</b>
27	OE	= \$	2,602,415	= \$ 2,310,596
28	BAS	= \$	-	= \$ -
29	RORB	= \$	54,898	= \$ 50,827
30	E(m)	= \$	2,657,313	= \$ 2,361,423
31				
32	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
33	Member System Allocation Ratio for the Month (Form 3.00)	=	49.453533%	= 46.476780%
34	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	1,314,135	= \$ 1,097,513
35	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	517,879	= \$ 478,222
36	Prior Period Adjustment	= \$	-	= \$ -
37	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	1,832,014	= \$ 1,575,735
38	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	23,140,289	= \$ 21,944,833
39	CESF: E(m) / R(m); as a % of Revenue	=	7.916988%	= 7.180437%

# Big Rivers Electric Corporation

## Case No. 2015-00320

### Calculation of Total E(m) and Calculation of Jurisdictional Environmental Surcharge Billing Factor

For the Expense Months: June 2013 to July 2015

1	<b>Calculation of Total E(m)</b>			
2	E(m) = OE - BAS + RORB, where			
3	OE	=	Pollution Control Operating Expenses	
4	BAS	=	Total Proceeds from By-Product and Allowance Sales	
5	RORB	=	[ (RB/12) x (RORORB) ]	
6				
7			<b>October 2014</b>	<b>November 2014</b>
7	OE	= \$	2,088,453	= \$ 2,163,019
8	BAS	= \$	-	= \$ -
9	RORB	= \$	63,193	= \$ 67,305
10	E(m)	= \$	2,151,646	= \$ 2,230,324
11				
12	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
13	Member System Allocation Ratio for the Month (Form 3.00)	=	44.233502%	= 43.654659%
14	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	951,748	= \$ 973,640
15	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	529,285	= \$ 556,064
16	Prior Period Adjustment	= \$	-	= \$ -
17	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	1,481,033	= \$ 1,529,704
18	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	21,001,353	= \$ 20,006,727
19	CESF: E(m) / R(m); as a % of Revenue	=	7.052084%	= 7.645948%
20				
21	<b>Calculation of Total E(m)</b>			
22	E(m) = OE - BAS + RORB, where			
23	OE	=	Pollution Control Operating Expenses	
24	BAS	=	Total Proceeds from By-Product and Allowance Sales	
25	RORB	=	[ (RB/12) x (RORORB) ]	
26				
27			<b>December 2014</b>	<b>January 2015</b>
27	OE	= \$	2,294,954	= \$ 2,124,999
28	BAS	= \$	-	= \$ -
29	RORB	= \$	78,018	= \$ 82,319
30	E(m)	= \$	2,372,972	= \$ 2,207,318
31				
32	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
33	Member System Allocation Ratio for the Month (Form 3.00)	=	49.170108%	= 53.583676%
34	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	1,166,793	= \$ 1,182,762
35	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	251,279	= \$ 168,549
36	Prior Period Adjustment	= \$	-	= \$ -
37	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	1,418,072	= \$ 1,351,311
38	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	18,812,918	= \$ 17,576,471
39	CESF: E(m) / R(m); as a % of Revenue	=	7.537757%	= 7.688182%

**Big Rivers Electric Corporation  
Case No. 2015-00320**

**Calculation of Total E(m) and  
Calculation of Jurisdictional Environmental Surcharge Billing Factor**

**For the Expense Months: June 2013 to July 2015**

1	<b>Calculation of Total E(m)</b>			
2	E(m) = OE - BAS + RORB, where			
3	OE	=	Pollution Control Operating Expenses	
4	BAS	=	Total Proceeds from By-Product and Allowance Sales	
5	RORB	=	[ (RB/12) x (RORORB) ]	
6				
7	OE	= \$	February 2015	March 2015
8	BAS	= \$	1,924,323	= \$ 1,656,912
9	RORB	= \$	-	= \$ -
10	E(m)	= \$	88,150	= \$ 88,351
11			2,012,478	= \$ 1,745,263
12	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
13	Member System Allocation Ratio for the Month (Form 3.00)	=	50.018872%	= 51.004944%
14	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	1,006,616	= \$ 890,170
15	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	(143,233)	= \$ (230,172)
16	Prior Period Adjustment	= \$	-	= \$ -
17	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	863,383	= \$ 659,998
18	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	17,581,663	= \$ 17,494,704
19	CESF: E(m) / R(m); as a % of Revenue	=	4.910702%	= 3.772559%
20				
21	<b>Calculation of Total E(m)</b>			
22	E(m) = OE - BAS + RORB, where			
23	OE	=	Pollution Control Operating Expenses	
24	BAS	=	Total Proceeds from By-Product and Allowance Sales	
25	RORB	=	[ (RB/12) x (RORORB) ]	
26				
27	OE	= \$	April 2015	May 2015
28	BAS	= \$	1,200,606	= \$ 2,773,365
29	RORB	= \$	-	= \$ -
30	E(m)	= \$	91,248	= \$ 93,179
31			1,291,854	= \$ 2,866,544
32	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
33	Member System Allocation Ratio for the Month (Form 3.00)	=	54.583407%	= 45.997345%
34	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	705,138	= \$ 1,318,534
35	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	(32,950)	= \$ 161,985
36	Prior Period Adjustment	= \$	-	= \$ -
37	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	672,188	= \$ 1,480,519
38	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	17,415,353	= \$ 17,380,905
39	CESF: E(m) / R(m); as a % of Revenue	=	3.859744%	= 8.518073%

**Big Rivers Electric Corporation**  
**Case No. 2015-00320**

**Calculation of Total E(m) and**  
**Calculation of Jurisdictional Environmental Surcharge Billing Factor**

**For the Expense Months: June 2013 to July 2015**

1	<b>Calculation of Total E(m)</b>			
2	E(m) = OE - BAS + RORB, where			
3	OE	=	Pollution Control Operating Expenses	
4	BAS	=	Total Proceeds from By-Product and Allowance Sales	
5	RORB	=	[ (RB/12) x (RORORB) ]	
6				
7			<b>June 2015</b>	<b>July 2015</b>
7	OE	= \$	1,898,121	= \$ 2,131,101
8	BAS	= \$	265,000	= \$ -
9	RORB	= \$	96,799	= \$ 98,117
10	E(m)	= \$	1,729,920	= \$ 2,229,218
11				
12	<b>Calculation of Jurisdictional Environmental Surcharge Billing Factor</b>			
13	Member System Allocation Ratio for the Month (Form 3.00)	=	51.987137%	= 52.744468%
14	Subtotal E(m) = Subtotal E(m) x Member System Allocation Ratio	= \$	899,336	= \$ 1,175,789
15	Adjustment for (Over)/Under Recovery, as applicable (Form 2.00)	= \$	87,097	= \$ 8,885
16	Prior Period Adjustment	= \$	-	= \$ -
17	E(m) = Subtotal E(m) plus (Over)/Under Recovery plus Prior Period Adjustment	= \$	986,433	= \$ 1,184,674
18	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month (Form 3.00)	= \$	17,368,364	= \$ 17,411,186
19	CESF: E(m) / R(m); as a % of Revenue	=	5.679481%	= 6.804097%



**BIG RIVERS ELECTRIC CORPORATION**  
**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION**  
**OF THE ENVIRONMENTAL SURCHARGE MECHANISM**  
**OF BIG RIVERS ELECTRIC CORPORATION**  
**FOR THE TWO-YEAR BILLING PERIOD ENDING JULY 31, 2015**  
**AND THE PASS THROUGH MECHANISM**  
**OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES**  
**CASE NO. 2015-00320**

**Response to Commission Staff's**  
**First Request for Information**  
**dated September 28, 2015**

**October 21, 2015**

1 *Item 2) For each of the three Member Cooperatives, prepare a*  
2 *summary schedule showing the Member Cooperative's pass-through*  
3 *revenue requirement for the months corresponding with the two-year*  
4 *review. Include the two months subsequent to the billing period included*  
5 *in the review periods. Include a calculation of any additional over- or*  
6 *under-recovery amount the Member Cooperative believes needs to be*  
7 *recognized for the two-year review. Provide all supporting calculations*  
8 *and documentation in Excel spreadsheet format with formulas intact and*  
9 *unprotected and all rows and columns fully accessible.*

10

11 **Response)** The attached two sets of schedules (Attachment 1 for non-dedicated  
12 delivery point customers and Attachment 2 for dedicated delivery point customers)  
13 reflect Big Rivers' Members environmental surcharge pass-through for the months  
14 corresponding to Big Rivers' expense months of June 2013 through May 2015,  
15 applied to Members' invoices for the service months of July 2013 through June  
16 2015, which Big Rivers billed to its Members during the months of August 2013  
17 through July 2015. As illustrated in the attached schedules, there is no billing lag  
18 for dedicated delivery point customers. As requested, on the compact disc ("CD")  
19 accompanying these responses, Big Rivers is providing these attachments in an  
20 Excel file showing all supporting calculations with formulas intact and  
21 unprotected, and all rows and columns fully accessible.

**BIG RIVERS ELECTRIC CORPORATION**  
**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION**  
**OF THE ENVIRONMENTAL SURCHARGE MECHANISM**  
**OF BIG RIVERS ELECTRIC CORPORATION**  
**FOR THE TWO-YEAR BILLING PERIOD ENDING JULY 31, 2015**  
**AND THE PASS THROUGH MECHANISM**  
**OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES**  
**CASE NO. 2015-00320**

**Response to Commission Staff's**  
**First Request for Information**  
**dated September 28, 2015**

**October 21, 2015**

1           As requested by the Commission, the attached schedules include the  
2 Members' two billing months immediately following the review period. The  
3 information in the attached schedules was obtained from the Members' monthly  
4 Environmental Surcharge Schedules provided by Big Rivers' Members. Other  
5 than the on-going cumulative over/under recovery mechanism, no additional  
6 over/under recovery amount is being requested.

7

8

9 **Witness)**   Nicholas R. Castlen

10

**Big Rivers Electric Corporation  
Case No. 2015-00320**

KENERGY CORP. ENVIRONMENTAL SURCHARGE REVIEW NON-DEDICATED DELIVERY POINT CUSTOMERS						
(a)	(b)	(c)	(d)	(e)	(f)	
Service Mo/Yr	Big Rivers' Invoice ES Amount for Service Month	(Over)/Under Recovery [from (f)]	Total Recoverable [(b) + (c)]	ES Amount Billed to Kenergy's Customers (Line 11 per Filing)	(Over)/Under Recovery [(d) for 2nd preceding month less (e) for current month]	
12	Jul-13	307,454.30	(38,274.06)	269,180.24	311,004.93	(38,274.06)
13	Aug-13	355,641.02	(13,844.78)	341,796.24	297,208.15	(13,844.78)
14	Sep-13	342,953.18	10,545.85	353,499.03	258,634.39	10,545.85
15	Oct-13	257,520.03	24,126.52	281,646.55	317,669.72	24,126.52
16	Nov-13	410,934.89	11,982.82	422,917.71	341,516.21	11,982.82
17	Dec-13	458,036.89	(29,634.36)	428,402.53	311,280.91	(29,634.36)
18	Jan-14	603,901.94	(52,822.62)	551,079.32	475,740.33	(52,822.62)
19	Feb-14	494,765.42	(36,725.06)	458,040.36	465,127.59	(36,725.06)
20	Mar-14	226,302.72	42,371.63	268,674.35	508,707.69	42,371.63
21	Apr-14	276,403.67	41,564.73	317,968.40	416,475.63	41,564.73
22	May-14	254,647.72	43,083.58	297,731.30	225,590.77	43,083.58
23	Jun-14	469,396.36	(38,571.26)	430,825.10	356,539.66	(38,571.26)
24	Jul-14	472,223.74	(36,433.25)	435,790.49	334,164.55	(36,433.25)
25	Aug-14	611,798.96	(4,047.05)	607,751.91	434,872.15	(4,047.05)
26	Sep-14	510,404.61	(12,809.82)	497,594.79	448,600.31	(12,809.82)
27	Oct-14	387,249.99	64,079.82	451,329.81	543,672.09	64,079.82
28	Nov-14	475,626.70	21,356.93	496,983.63	476,237.86	21,356.93
29	Dec-14	530,690.27	(90,216.10)	440,474.17	541,545.91	(90,216.10)
30	Jan-15	624,510.27	(17,629.72)	606,880.55	514,613.35	(17,629.72)
31	Feb-15	637,414.80	(28,063.53)	609,351.27	468,537.70	(28,063.53)
32	Mar-15	345,334.55	6,961.97	352,296.52	599,918.58	6,961.97
33	Apr-15	174,221.20	97,061.67	271,282.87	512,289.60	97,061.67
34	May-15	221,413.47	49,585.69	270,999.16	302,710.83	49,585.69
35	Jun-15	587,137.81	(26,739.34)	560,398.47	298,022.21	(26,739.34)
36	Jul-15	437,555.91	(38,965.49)	398,590.42	309,964.65	(38,965.49)
37	Aug-15	488,735.02	(29,875.40)	458,859.62	590,273.87	(29,875.40)

**Big Rivers Electric Corporation  
Case No. 2015-00320**

JACKSON PURCHASE ENERGY CORPORATION ENVIRONMENTAL SURCHARGE REVIEW NON-DEDICATED DELIVERY POINT CUSTOMERS						
(a)	(b)	(c)	(d)	(e)	(f)	
Service Mo/Yr	Big Rivers' Invoice ES Amount for Service Month	(Over)/Under Recovery [from (f)]	Total Recoverable [(b) + (c)]	ES Amount Billed to JPEC's Customers (Line 11 per Filing)	(Over)/Under Recovery [(d) for 3rd preceding month less (e) for current month]	
12	Jul-13	174,263.38	(21,317.96)	152,945.42	159,445.10	(21,317.96)
13	Aug-13	192,807.41	(34,087.58)	158,719.83	169,345.07	(34,087.58)
14	Sep-13	187,242.94	(11,066.33)	176,176.61	202,974.25	(11,066.33)
15	Oct-13	131,619.32	(220.02)	131,399.30	153,165.44	(220.02)
16	Nov-13	220,902.30	38,502.36	259,404.66	120,217.47	38,502.36
17	Dec-13	246,576.20	13,736.09	260,312.29	162,440.52	13,736.09
18	Jan-14	314,415.48	(48,356.86)	266,058.62	179,756.16	(48,356.86)
19	Feb-14	263,353.44	(109,852.11)	153,501.33	369,256.77	(109,852.11)
20	Mar-14	123,239.66	(21,531.49)	101,708.17	281,843.78	(21,531.49)
21	Apr-14	150,660.98	59,071.14	209,732.12	206,987.48	59,071.14
22	May-14	149,717.82	41,903.10	191,620.92	111,598.23	41,903.10
23	Jun-14	263,769.79	16,086.82	279,856.61	85,621.35	16,086.82
24	Jul-14	262,555.79	(51,841.69)	210,714.10	261,573.81	(51,841.69)
25	Aug-14	349,876.95	(38,990.95)	310,886.00	230,611.87	(38,990.95)
26	Sep-14	282,790.87	(3,536.08)	279,254.79	283,392.99	(3,536.08)
27	Oct-14	205,582.10	(1,250.92)	204,331.18	211,965.02	(1,250.92)
28	Nov-14	257,034.88	98,987.43	356,022.31	211,898.57	98,987.43
29	Dec-14	288,423.62	11,327.52	299,751.14	267,927.27	11,327.52
30	Jan-15	335,944.80	(66,369.79)	269,575.01	270,700.97	(66,369.79)
31	Feb-15	341,027.00	(80,055.05)	260,971.95	436,077.36	(80,055.05)
32	Mar-15	187,264.51	(3,935.98)	183,328.53	303,687.12	(3,935.98)
33	Apr-15	99,396.95	9,350.95	108,747.90	260,224.06	9,350.95
34	May-15	124,144.78	73,199.68	197,344.46	187,772.27	73,199.68
35	Jun-15	340,139.53	39,978.12	380,117.65	143,350.41	39,978.12
36	Jul-15	255,350.29	(33,710.35)	221,639.94	142,458.25	(33,710.35)
37	Aug-15	281,154.81	(89,824.44)	191,330.37	287,168.90	(89,824.44)

**Big Rivers Electric Corporation**  
**Case No. 2015-00320**

MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION ENVIRONMENTAL SURCHARGE REVIEW NON-DEDICATED DELIVERY POINT CUSTOMERS						
(a)	(b)	(c)	(d)	(e)	(f)	
Service Mo/Yr	Big Rivers' Invoice ES Amount for Service Month	(Over)/Under Recovery [from (f)]	Total Recoverable [(b) + (c)]	ES Amount Billed to MCRECC's Customers (Line 11 per Filing)	(Over)/Under Recovery [(d) for 1st preceding month less (e) for current month]	
12	Jul-13	110,863.92	(9,192.25)	101,671.67	100,347.11	(9,192.25)
13	Aug-13	129,176.57	2,976.92	132,153.49	98,694.75	2,976.92
14	Sep-13	123,277.54	14,481.59	137,759.13	117,671.90	14,481.59
15	Oct-13	104,105.29	8,968.25	113,073.54	128,790.88	8,968.25
16	Nov-13	172,073.80	(25,301.40)	146,772.40	138,374.94	(25,301.40)
17	Dec-13	201,893.98	(29,357.28)	172,536.70	176,129.68	(29,357.28)
18	Jan-14	279,567.56	(25,838.97)	253,728.59	198,375.67	(25,838.97)
19	Feb-14	217,793.23	18,194.85	235,988.08	235,533.74	18,194.85
20	Mar-14	98,102.77	42,915.56	141,018.33	193,072.52	42,915.56
21	Apr-14	113,314.45	39,504.72	152,819.17	101,513.61	39,504.72
22	May-14	91,030.33	(7,713.78)	83,316.55	160,532.95	(7,713.78)
23	Jun-14	168,976.19	(13,677.12)	155,299.07	96,993.67	(13,677.12)
24	Jul-14	170,418.54	(4,135.42)	166,283.12	159,434.49	(4,135.42)
25	Aug-14	219,903.17	(4,587.05)	215,316.12	170,870.17	(4,587.05)
26	Sep-14	184,034.08	32,928.82	216,962.90	182,387.30	32,928.82
27	Oct-14	139,335.37	12,844.59	152,179.96	204,118.31	12,844.59
28	Nov-14	211,359.71	(56,246.64)	155,113.07	208,426.60	(56,246.64)
29	Dec-14	229,088.42	(9,198.18)	219,890.24	164,311.25	(9,198.18)
30	Jan-15	286,538.44	(35,545.75)	250,992.69	255,435.99	(35,545.75)
31	Feb-15	297,386.51	(6,675.61)	290,710.90	257,668.30	(6,675.61)
32	Mar-15	152,073.16	80,505.32	232,578.48	210,205.58	80,505.32
33	Apr-15	65,191.85	62,977.35	128,169.20	169,601.13	62,977.35
34	May-15	79,912.51	(9,015.60)	70,896.91	137,184.80	(9,015.60)
35	Jun-15	206,651.54	(15,687.43)	190,964.11	86,584.34	(15,687.43)
36	Jul-15	158,428.23	(19,348.52)	139,079.71	210,312.63	(19,348.52)
37	Aug-15	174,083.64	56,190.75	230,274.39	82,888.96	56,190.75

**Big Rivers Electric Corporation  
Case No. 2015-00320**

1 2 3 3 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36	KENERGY CORP ENVIRONMENTAL SURCHARGE REVIEW DEDICATED DELIVERY POINT CUSTOMERS
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(a)	(b)	(c)	(d)
Service Mo/Yr	Big Rivers Electric Invoice Amount for Service Month	Service Month to Retail Consumer	Monthly Over/Under (Column (b) less column (c))
Jul-13	1,580,127.78	1,580,127.78	-
Aug-13	1,370,776.16	1,370,776.16	-
Sep-13	814,725.80	814,725.80	-
Oct-13	817,684.61	817,684.61	-
Nov-13	1,053,080.35	1,053,080.35	-
Dec-13	1,024,147.60	1,024,147.60	-
Jan-14	1,130,297.30	1,130,297.30	-
Feb-14	249,785.02	249,785.02	-
Mar-14	141,504.08	141,504.08	-
Apr-14	224,176.66	224,176.66	-
May-14	182,793.68	182,793.68	-
Jun-14	283,172.86	283,172.86	-
Jul-14	281,738.70	281,738.70	-
Aug-14	350,957.18	350,957.18	-
Sep-14	322,796.04	322,796.04	-
Oct-14	287,419.69	287,419.69	-
Nov-14	285,636.49	285,636.49	-
Dec-14	310,670.18	310,670.18	-
Jan-15	311,735.17	311,735.17	-
Feb-15	303,063.71	303,063.71	-
Mar-15	209,059.94	209,059.94	-
Apr-15	157,861.83	157,861.83	-
May-15	158,051.64	158,051.64	-
Jun-15	334,648.58	334,648.58	-
Jul-15	227,719.26	227,719.26	-
Aug-15	280,924.26	280,924.26	-

**Big Rivers Electric Corporation  
Case No. 2015-00320**

JACKSON PURCHASE ENERGY CORPORATION ENVIRONMENTAL SURCHARGE REVIEW DEDICATED DELIVERY POINT CUSTOMERS
---

	(a)	(b)	(c)	(d)
Service Mo/Yr	Big Rivers Electric Invoice Amount for Service Month	Service Month To Retail Consumer	Monthly (Over)/Under Recovery (Column (b) Less column (c)	
11	Jul-13	1,863.86	1,863.86	-
12	Aug-13	2,106.05	2,106.05	-
13	Sep-13	2,115.31	2,115.31	-
14	Oct-13	1,661.77	1,661.77	-
15	Nov-13	2,210.95	2,210.95	-
16	Dec-13	2,156.89	2,156.89	-
17	Jan-14	2,192.09	2,192.09	-
18	Feb-14	2,178.73	2,178.73	-
19	Mar-14	1,183.58	1,183.58	-
20	Apr-14	2,180.79	2,180.79	-
21	May-14	2,320.47	2,320.47	-
22	Jun-14	2,761.49	2,761.49	-
23	Jul-14	2,552.13	2,552.13	-
24	Aug-14	3,088.75	3,088.75	-
25	Sep-14	2,703.40	2,703.40	-
26	Oct-14	84.16	84.16	-
27	Nov-14	96.68	96.68	-
28	Dec-14	2,282.67	2,282.67	-
29	Jan-15	2,576.17	2,576.17	-
30	Feb-15	2,591.26	2,591.26	-
31	Mar-15	2,600.66	2,600.66	-
32	Apr-15	1,341.59	1,341.59	-
33	May-15	1,568.63	1,568.63	-
34	Jun-15	3,056.77	3,056.77	-
35	Jul-15	2,354.00	2,354.00	-
36	Aug-15	2,454.21	2,454.21	-

39 Meade County Rural Electric Cooperative Corporation has no dedicated delivery  
40 point customers.



**BIG RIVERS ELECTRIC CORPORATION**  
**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION**  
**OF THE ENVIRONMENTAL SURCHARGE MECHANISM**  
**OF BIG RIVERS ELECTRIC CORPORATION**  
**FOR THE TWO-YEAR BILLING PERIOD ENDING JULY 31, 2015**  
**AND THE PASS THROUGH MECHANISM**  
**OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES**  
**CASE NO. 2015-00320**

**Response to Commission Staff's**  
**First Request for Information**  
**dated September 28, 2015**

**October 21, 2015**

1 **Item 3)** *Refer to Form 2.5, Operating and Maintenance Expenses, for*  
2 *the last six expense months covered by the billing period under review.*  
3 *For each of the expense line items listed on this schedule, explain the*  
4 *reason(s) for any change in the expense levels from month to month if that*  
5 *change is greater than plus or minus 10 percent.*

6

7 **Response)** Please see the attached schedules of Operating and Maintenance  
8 ("O&M") expenses, including the requested variance explanations, for the last six  
9 expense months covered by the billing period under review.

10

11

12 **Witnesses)** Nicholas R. Castlen (Schedules of O&M Expenses) and  
13 Lawrence V. Baronowsky (Reason(s) for Changes in Expense Levels)

14



**Big Rivers Electric Corporation**  
**Case No. 2015-00320**  
**Form 2.5 - Operating and Maintenance Expenses Analysis**

**Variance Explanations:**

**Anhydrous Ammonia:**

Dec-14 vs Nov-14	22%	The increase was due to timing of product delivery and invoicing at Wilson and HMP&L.
Jan-15 vs Dec-14	-36%	The decrease was due to 15% less generation at HMP&L and timing of product delivery and invoicing at Wilson.
Feb-15 vs Jan-15	24%	The increase was due to the reduced use in January at HMP&L and timing of product delivery and invoicing at Wilson and HMP&L.
Apr-15 vs Mar-15	-27%	The decrease was due to 20% less generation at Wilson due to a scheduled maintenance outage and HMP&L Unit 2 was off line on planned outage all month.

**Disposal-Flyash/Bottom Ash/ Sludge:**

Dec-14 vs Nov-14	45%	The increase was due to the disposal contractor invoices at Wilson were accrued twice in December doubling Wilson's monthly cost.
Jan-15 vs Dec-14	-64%	The decrease in January reflects correction of the double accrual for December at Wilson.
Feb-15 vs Jan-15	62%	The increase in February reflects a normal month at Wilson following the reduced cost month in January due to the correction of the double accrual for December at Wilson.
Apr-15 vs Mar-15	-26%	The decrease was due to 20% less generation at Wilson, Green Unit 2 was off line on reserve standby the whole month of April and HMP&L Unit 2 was off line on planned outage all
May-15 vs Apr-15	564%	The increase was due to 20% increase in generation at Wilson, Green Unit 2 was returned to service after being off line on reserve standby the whole month of April and HMP&L Unit 2 was returned to service following the planned outage the entire month of April.

**Fixation Lime:**

Dec-14 vs Nov-14	51%	The increase was due to a 17% increase in fixation lime feed rate to the waste product at Green and HMP&L, and timing of product delivery and invoicing at Wilson.
Jan-15 vs Dec-14	-27%	The decrease was due to 15% less generation at HMP&L and timing of product delivery and invoicing at Wilson.
Feb-15 vs Jan-15	-11%	The decrease was due to 12% less generation at Green, 5% less generation at HMP&L.
Apr-15 vs Mar-15	-26%	The decrease was due to 20% less generation at Wilson, Green Unit 2 was off line on reserve standby the whole month of April and HMP&L Unit 2 was off line on planned outage all
May-15 vs Apr-15	58%	The increase was due to 20% increase in generation at Wilson, Green Unit 2 was returned to service after being off line on reserve standby the whole month of April and HMP&L Unit 2 was returned to service following the planned outage the entire month of April.

**Big Rivers Electric Corporation  
Case No. 2015-00320**

**Form 2.5 - Operating and Maintenance Expenses Analysis**

Reagent Limestone:

Dec-14 vs Nov-14	-26%	The decrease was due to timing of product delivery and invoicing at Wilson.
Jan-15 vs Dec-14	20%	The increase was due to timing of product delivery and invoicing at Wilson.
Feb-15 vs Jan-15	-23%	The decrease was due to timing of product delivery and invoicing at Wilson.
Mar-15 vs Feb-15	32%	The increase was due to timing of product delivery and invoicing at Wilson.
Apr-15 vs Mar-15	-18%	The decrease was due to 20% less generation at Wilson due to a maintenance outage.

Reagent-Lime:

Jan-15 vs Dec-14	12%	The increase was due to timing of product delivery and invoicing at Green and HMP&L. Generation and fuel burn were actually down ~ 7%.
Feb-15 vs Jan-15	-18%	The decrease was due to 12% less generation at Green and 5% less generation at HMP&L.
Mar-15 vs Feb-15	-31%	The decrease was due to 25% less generation at HMP&L.
Apr-15 vs Mar-15	-36%	The decrease was due to 52% less generation at Green and 23% less generation at HMP&L.
May-15 vs Apr-15	105%	The increase was due to 80% more generation at Green and 73% more generation at HMP&L.

Emulsified Sulfur for SO2:

Dec-14 vs Nov-14	-31%	Emulsified sulfur is ordered on an as needed basis and added in batch based on scrubber chemistry. The decrease was due to one load of chemical added at Wilson in November and none was added in December.
Jan-15 vs Dec-14	61%	Emulsified sulfur is ordered on an as needed basis and added in batch based on scrubber chemistry. The increase was due to adding two loads of chemical at Wilson in January and no chemical was added in December.
Feb-15 vs Jan-15	-13%	Emulsified sulfur is ordered on an as needed basis and added in batch based on scrubber chemistry. The decrease was due to only one load of chemical added at Wilson in February and two loads were added in January.
Mar-15 vs Feb-15	-29%	Emulsified sulfur is ordered on an as needed basis and added in batch based on scrubber chemistry. The decrease was due to one load of chemical added at Wilson in February and none was added in March.
Apr-15 vs Mar-15	86%	Emulsified sulfur is ordered on an as needed basis and added in batch based on scrubber chemistry. The increase was due to adding two loads of chemical at Wilson in April and no chemical was added in March.

**Big Rivers Electric Corporation  
Case No. 2015-00320**

**Form 2.5 - Operating and Maintenance Expenses Analysis**

Reagent-Dibasic Acid:

Dec-14 vs Nov-14	149%	The decrease was due to timing of product delivery and invoicing at Wilson.
Jan-15 vs Dec-14	18%	The decrease was due to timing of product delivery and invoicing at Wilson.
Mar-15 vs Feb-15	-17%	The decrease was due to timing of product delivery and invoicing at Wilson.
May-15 vs Apr-15	33%	The increase was due to timing of product delivery and invoicing and the reduced generation in April at Wilson.

Reagent-Sodium BiSulfite for SO2:

Dec-14 vs Nov-14	-25%	Sodium BiSulfite is ordered on an as needed basis and added in batch based on scrubber chemistry. The Decrease is due to two loads of chemical were added at HMP&L in November and none was added HMP&L in December.
Mar-15 vs Feb-15	-17%	Sodium BiSulfite is ordered on an as needed basis and added in batch based on scrubber chemistry. The Decrease is due to four loads of chemical were added at Wilson in February and only three loads were added in March.
Apr-15 vs Mar-15	23%	Sodium BiSulfite is ordered on an as needed basis and added in batch based on scrubber chemistry. The Decrease is due to only three loads of chemical were added at Wilson in March and four loads were added in April.

Hydrated Lime - SO3:

Dec-14 vs Nov-14	-119%	The decrease was due to operational needs related to ambient conditions at Wilson.
Jan-15 vs Dec-14	-100%	The decrease was due to operational needs related to ambient conditions at Wilson.
Mar-15 vs Feb-15	See Note 1	
May-15 vs Apr-15	-100%	The decrease was due to operational needs related to ambient conditions at Wilson.

**BIG RIVERS ELECTRIC CORPORATION**

**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION  
OF THE ENVIRONMENTAL SURCHARGE MECHANISM  
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FOR THE TWO-YEAR BILLING PERIOD ENDING JULY 31, 2015  
AND THE PASS THROUGH MECHANISM  
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES  
CASE NO. 2015-00320**

**Response to Commission Staff's  
First Request for Information  
dated September 28, 2015**

**October 21, 2015**

1 **Item 4)** *Refer to Big Rivers' monthly environmental surcharge reports*  
2 *for the last six expense months in this review period. Provide the*  
3 *calculations and supporting data for the rates of return included in each*  
4 *monthly environmental surcharge filing. Provide all supporting*  
5 *calculations and documentation in Excel spreadsheet format, with*  
6 *formulas intact and unprotected and all rows and columns fully*  
7 *accessible.*

8

9 **Response)** Please see the attachment to this response for the calculations and  
10 supporting data for the rates of return included in each monthly environmental  
11 surcharge filing for the last six expense months in this review period. These  
12 calculations are also provided in Excel spreadsheet format, with formulas intact  
13 and unprotected and all rows and columns accessible, on the CD accompanying  
14 these responses.

15

16

17 **Witness)** Nicholas R. Castlen

18

**Big Rivers Electric Corporation**  
**Case No. 2015-00320**  
**Calculation of Rate of Return on Environmental Compliance Rate Base**  
**For the Expense Months: December 2014 - May 2015**

**Calculation of Monthly Rate of Return**

Expense Month	<u>Dec-14</u>	<u>Jan-15</u>	<u>Feb-15</u>	<u>Mar-15</u>	<u>Apr-15</u>	<u>May-15</u>
<b>Month-to-Date Interest Expense on Long-Term Debt:</b>						
RUS - Series A Note	\$ 397,054.44	\$ 397,112.07	\$ 358,685.46	\$ 397,116.04	\$ 384,361.80	\$ 397,175.86
RUS - Series B Note	\$ 709,867.10	\$ 720,242.34	\$ 650,541.47	\$ 720,242.34	\$ 706,974.55	\$ 730,540.37
CoBank - Series 2012A Notes	\$ 808,076.26	\$ 800,762.89	\$ 723,269.71	\$ 800,762.88	\$ 767,770.33	\$ 793,362.67
CFC - Series 2012B Refinance Note	\$ 995,676.65	\$ 995,676.65	\$ 900,617.74	\$ 989,018.37	\$ 957,331.52	\$ 989,018.46
CFC - Series 2012B Equity Note	\$ 179,239.39	\$ 179,239.39	\$ 179,239.38	\$ 177,677.22	\$ 177,677.22	\$ 177,677.23
Series 2010A P.C. Bonds	\$ 416,500.00	\$ 416,500.00	\$ 416,500.00	\$ 416,500.00	\$ 416,500.00	\$ 416,500.00
<b>(a) Total Monthly Interest Expense on Long-Term Debt</b>	<b>\$ 3,506,413.84</b>	<b>\$ 3,509,533.34</b>	<b>\$ 3,228,853.76</b>	<b>\$ 3,501,316.85</b>	<b>\$ 3,410,615.42</b>	<b>\$ 3,504,274.59</b>
Total Outstanding Long-Term Debt (Beginning of Month)	\$ 841,055,408.32	\$ 841,187,007.68	\$ 841,199,435.50	\$ 838,045,426.48	\$ 838,137,894.63	\$ 838,149,964.76
Total Outstanding Long-Term Debt (End of Month)	\$ 841,187,007.68	\$ 841,199,435.50	\$ 838,045,426.48	\$ 838,137,894.63	\$ 838,149,964.76	\$ 834,969,541.24
<b>(b) Average Outstanding Long-Term Debt during Month</b>	<b>\$ 841,121,208.00</b>	<b>\$ 841,193,221.59</b>	<b>\$ 839,622,430.99</b>	<b>\$ 838,091,660.56</b>	<b>\$ 838,143,929.70</b>	<b>\$ 836,559,753.00</b>
<b>(c) Number of Days During Year</b>	<b>365</b>	<b>365</b>	<b>365</b>	<b>365</b>	<b>365</b>	<b>365</b>
<b>(d) Number of Days During Month</b>	<b>31</b>	<b>31</b>	<b>28</b>	<b>31</b>	<b>30</b>	<b>31</b>
<b>(e) Average Cost of Debt [(a) ÷ (b)] x [(c) ÷ (d)]</b>	<b>4.91%</b>	<b>4.91%</b>	<b>5.01%</b>	<b>4.92%</b>	<b>4.95%</b>	<b>4.93%</b>
<b>(f) Applicable TIER<sup>1</sup></b>	<b>1.24</b>	<b>1.24</b>	<b>1.24</b>	<b>1.24</b>	<b>1.24</b>	<b>1.24</b>
<b>(g) Rate of Return on Environmental Compliance Rate Base [(e) x (f)]</b>	<b>6.09%</b>	<b>6.09%</b>	<b>6.21%</b>	<b>6.10%</b>	<b>6.14%</b>	<b>6.11%</b>

<sup>1</sup> Applicable Times Interest Earned Ratio ("TIER") for calculating the Rate of Return on Environmental Compliance Plan Rate Base per Big Rivers'



**BIG RIVERS ELECTRIC CORPORATION**

**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION  
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FOR THE TWO-YEAR BILLING PERIOD ENDING JULY 31, 2015  
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**Response to Commission Staff's  
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**October 21, 2015**

1 **Item 5) *KRS 278.183(3) provides that during the two-year review, the***  
2 ***Commission shall, to the extent appropriate, incorporate environmental***  
3 ***surcharge amounts found just and reasonable into the existing base rates***  
4 ***of the utility.***

5  
6 **a. *Does Big Rivers believe any surcharge amounts need to be***  
7 ***incorporated into its base rates in conjunction with this***  
8 ***two-year review? If so, provide the surcharge amount that***  
9 ***Big Rivers believes should be incorporated into its***  
10 ***existing base rates. Explain how the surcharge amount***  
11 ***should be incorporated into the base rates. Include all***  
12 ***supporting calculations, work papers, and assumptions***  
13 ***as well as any analysis that Big Rivers believes supports***  
14 ***its position. Provide all supporting schedules in Excel***  
15 ***spreadsheet format, with formulas intact and unprotected***  
16 ***and all rows and columns fully accessible.***

17 **b. *Provide the Base Environmental Surcharge Factor***  
18 ***("BESF") that reflects all environmental surcharge***  
19 ***amounts previously incorporated into existing base rates***  
20 ***and the amount determined in part (a). Include all***  
21 ***supporting calculations, work papers, and assumptions.***  
22 ***Provide all supporting schedules in Excel spreadsheet***

**BIG RIVERS ELECTRIC CORPORATION**  
**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION**  
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**OF BIG RIVERS ELECTRIC CORPORATION**  
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**October 21, 2015**

1                   *format, with formulas intact and unprotected and all*  
2                   *rows and columns fully accessible.*  
3                   c. *Does Big Rivers believe that there will need to be*  
4                   *modifications to either the surcharge mechanism or the*  
5                   *monthly surcharge reports, other than a revision to BESF,*  
6                   *as a result of incorporating environmental surcharge*  
7                   *amounts into Big Rivers' existing base rates? If so,*  
8                   *provide a detailed explanation of the modifications and*  
9                   *provide updated monthly surcharge reports.*

10  
11 **Response)**

- 12                   a. At this time Big Rivers does not believe that any surcharge  
13                   amounts need to be incorporated into its base rates.  
14                   b. Not Applicable.  
15                   c. Not Applicable.

16  
17  
18 **Witness:** Nicholas R. Castlen

19

**BIG RIVERS ELECTRIC CORPORATION**

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**Response to Commission Staff's  
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1 **Item 6)** *Confirm that at present, it is Big Rivers' intent to idle the*  
2 *Wilson generating station on December 31, 2015, as stated in Mr. Robert*  
3 *Berry's letter to the Commission on June 11, 2014, barring any new*  
4 *opportunities for favorable power sales that would justify its continued*  
5 *operation.*

6  
7 **Response)** Big Rivers does not intend to idle the Wilson generating station on  
8 December 31, 2015, due to its success in selling energy on a forward basis to third  
9 parties through the end of 2016, and in selling capacity for the MISO planning  
10 years 2015 – 2016 and 2016 – 2017. Given Wilson's favorable position relative to  
11 current MISO capacity and energy prices, the Wilson plant may not be idled in the  
12 foreseeable future.

13

14

15 **Witness)** Lawrence V. Baronowsky

16