

SULLIVAN, MOUNTJOY, STAINBACK & MILLER PSC
ATTORNEYS AT LAW

Ronald M. Sullivan
Jesse T. Mountjoy
Frank Stainback
James M. Miller
Michael A. Fiorella
R. Michael Sullivan
Bryan R. Reynolds*
Tyson A. Kamuf
Mark W. Starnes
C. Ellsworth Mountjoy
John S. Wathen

May 20, 2015

Via Federal Express

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

RECEIVED

MAY 21 2015

PUBLIC SERVICE
COMMISSION

*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 Six-Month Billing Period Ending July 31, 2015 and the Pass Through Mechanism of its Three Member Distribution Cooperatives,*
PSC Case No. 2015-00124

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
Telecopier (270) 683-6694

100 St. Ann Building
PO Box 727
Owensboro, Kentucky
42302-0727

cc: DeAnna Speed
Gregory J. Starheim
Dennis L. Cannon
Burns E. Mercer

ORIGINAL

RECEIVED

MAY 21 2015

PUBLIC SERVICE
COMMISSION



Your Touchstone Energy® Cooperative 

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

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

Case No.
2015-00124

**Responses to Commission Staff's
Initial Request for Information
dated May 1, 2015**

FILED: May 21, 2015

ORIGINAL

BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION
OF THE ENVIRONMENTAL SURCHARGE MECHANISM
OF BIG RIVERS ELECTRIC CORPORATION
FOR THE SIX-MONTH BILLING PERIOD ENDING JANUARY 31, 2015
AND THE PASS THROUGH MECHANISM
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES
CASE NO. 2015-00124**

**Response to Commission Staff's
Initial Request for Information
dated May 1, 2015**

May 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 *period under review. Form 1.1 can be used as a model for this summary.*
4 *Include the two expense months subsequent to the billing period in order*
5 *to show the over- and under-recovery adjustments for the months included*
6 *for the billing period. Include a calculation of any additional over- or*
7 *under-recovery amount Big Rivers believes needs to be recognized for the*
8 *billing period under review. Include all supporting calculations and*
9 *documentation for the additional over- or under-recovery.*

10

11 **Response)** Please see the attached schedule, in the format of Form 1.10,
12 covering each of the expense months from June 2014 through January 2015 (i.e.
13 the expense months covered by the billing periods under review plus the
14 immediately following two months). No additional over/under recovery is sought
15 by Big Rivers Electric Corporation.

16

17

18 **Witness)** Nicholas R. Castlen

19

Big Rivers Electric Corporation

Case No. 2015-00124

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

For the Expense Months: June 2014 to January 2015

Calculation of Total E(m)

1 E(m) = OE - BAS + RORB, where
 2 OE = Pollution Control Operating Expenses
 3 BAS = Total Proceeds from By-Product and Allowance Sales
 4 RORB = [(RB/12) x (RORORB)]

		June 2014		July 2014
		Environmental Compliance Plans		Environmental Compliance Plans
10 OE	= \$	1,587,618	= \$	2,461,632
11 BAS	= \$	-	= \$	-
12 RORB	= \$	33,571	= \$	41,335
14 E(m)	= \$	1,621,189	= \$	2,502,967

Calculation of Jurisdictional Environmental Surcharge Billing Factor

20 Jurisdictional Allocation Ratio for the Month	=	65.017814%	=	50.273862%
21 Jurisdictional E(m) = E(m) x Jurisdictional Allocation Ratio	= \$	1,054,062	= \$	1,258,338
22 Adjustment for (Over)/Under Recovery	= \$	653,306	= \$	755,509
23 Prior Period Adjustment (if necessary)	= \$	-	= \$	-
25 Net Jurisdictional E(m) = Jurisdictional E(m) plus (Over)/Under plus Prior Period Adjustment(s)	= \$	1,707,368	= \$	2,013,847
28 R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month	= \$	26,592,908	= \$	24,683,935
31 Jurisdictional Environmental Surcharge Billing Factor: CESF: E(m) / R(m); as a % of Revenue	=	6.420388%	=	8.158533%

Big Rivers Electric Corporation

Case No. 2015-00124

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

For the Expense Months: June 2014 to January 2015

Calculation of Total E(m)

1	E(m) = OE - BAS + RORB, where			
2	OE	=	Pollution Control Operating Expenses	
3	BAS	=	Total Proceeds from By-Product and Allowance Sales	
4	RORB	=	[(RB/12) x (RORORB)]	
5			<u>August 2014</u>	<u>September 2014</u>
6				
7			Environmental Compliance Plans	Environmental Compliance Plans
8				
9				
10	OE	= \$	2,602,415	= \$ 2,310,596
11	BAS	= \$	-	= \$ -
12	RORB	= \$	54,898	= \$ 50,827
13				
14	E(m)	= \$	2,657,313	= \$ 2,361,423
15				

Calculation of Jurisdictional Environmental Surcharge Billing Factor

17				
18				
19				
20	Jurisdictional Allocation Ratio for the Month	=	49.453533%	= 46.476780%
21	Jurisdictional E(m) = E(m) x Jurisdictional Allocation Ratio	= \$	1,314,135	= \$ 1,097,513
22	Adjustment for (Over)/Under Recovery	= \$	517,879	= \$ 478,222
23	Prior Period Adjustment (if necessary)	= \$	-	= \$ -
24				
25	Net Jurisdictional E(m) = Jurisdictional E(m) plus (Over)/Under plus Prior Period Adjustment(s)	= \$	1,832,014	= \$ 1,575,735
26				
27				
28	R(m) = Average Monthly Member System Revenue for the 12 Months Ending with the Current Expense Month	= \$	23,140,289	= \$ 21,944,833
29				
30				
31	Jurisdictional Environmental Surcharge Billing Factor:			
32	CESF: E(m) / R(m); as a % of Revenue	=	7.916988%	= 7.180437%

Big Rivers Electric Corporation

Case No. 2015-00124

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

For the Expense Months: June 2014 to January 2015

Calculation of Total E(m)

1	E(m) = OE - BAS + RORB, where				
2	OE	=	Pollution Control Operating Expenses		
3	BAS	=	Total Proceeds from By-Product and Allowance Sales		
4	RORB	=	[(RB/12) x (RORORB)]		
5				<u>October 2014</u>	<u>November 2014</u>
6					
7				Environmental Compliance Plans	Environmental Compliance Plans
8					
9					
10	OE	= \$	2,088,453	= \$	2,163,019
11	BAS	= \$	-	= \$	-
12	RORB	= \$	63,193	= \$	67,305
13					
14	E(m)	= \$	2,151,646	= \$	2,230,324

Calculation of Jurisdictional Environmental Surcharge Billing Factor

17					
18					
19					
20	Jurisdictional Allocation Ratio for the Month	=	44.233502%	=	43.654659%
21	Jurisdictional E(m) = E(m) x Jurisdictional Allocation Ratio	= \$	951,748	= \$	973,640
22	Adjustment for (Over)/Under Recovery	= \$	529,285	= \$	556,064
23	Prior Period Adjustment (if necessary)	= \$	-	= \$	-
24					
25	Net Jurisdictional E(m) = Jurisdictional E(m) plus (Over)/Under				
26	plus Prior Period Adjustment(s)	= \$	1,481,033	= \$	1,529,704
27					
28	R(m) = Average Monthly Member System Revenue for the 12 Months				
29	Ending with the Current Expense Month	= \$	21,001,353	= \$	20,006,727
30					
31	Jurisdictional Environmental Surcharge Billing Factor:				
32	CESF: E(m) / R(m); as a % of Revenue	=	7.052084%	=	7.645948%

Big Rivers Electric Corporation

Case No. 2015-00124

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

For the Expense Months: June 2014 to January 2015

Calculation of Total E(m)

1	E(m) = OE - BAS + RORB, where				
2	OE	=	Pollution Control Operating Expenses		
3	BAS	=	Total Proceeds from By-Product and Allowance Sales		
4	RORB	=	[(RB/12) x (RORORB)]		
5				<u>December 2014</u>	<u>January 2015</u>
6					
7				Environmental Compliance Plans	Environmental Compliance Plans
8					
9					
10	OE	=	\$ 2,294,954	=	\$ 2,124,999
11	BAS	=	\$ -	=	\$ -
12	RORB	=	\$ 78,018	=	\$ 82,319
13					
14	E(m)	=	\$ 2,372,972	=	\$ 2,207,318
15					

Calculation of Jurisdictional Environmental Surcharge Billing Factor

17					
18					
19					
20	Jurisdictional Allocation Ratio for the Month	=	49.170108%	=	53.583676%
21	Jurisdictional E(m) = E(m) x Jurisdictional Allocation Ratio	=	\$ 1,166,793	=	\$ 1,182,762
22	Adjustment for (Over)/Under Recovery	=	\$ 251,279	=	\$ 168,549
23	Prior Period Adjustment (if necessary)	=	\$ -	=	\$ -
24					
25	Net Jurisdictional E(m) = Jurisdictional E(m) plus (Over)/Under				
26	plus Prior Period Adjustment(s)	=	\$ 1,418,072	=	\$ 1,351,311
27					
28	R(m) = Average Monthly Member System Revenue for the 12 Months				
29	Ending with the Current Expense Month	=	\$ 18,812,918	=	\$ 17,576,471
30					
31	Jurisdictional Environmental Surcharge Billing Factor:				
32	CESF: E(m) / R(m); as a % of Revenue	=	7.537757%	=	7.688182%

BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION
OF THE ENVIRONMENTAL SURCHARGE MECHANISM
OF BIG RIVERS ELECTRIC CORPORATION
FOR THE SIX-MONTH BILLING PERIOD ENDING JANUARY 31, 2015
AND THE PASS THROUGH MECHANISM
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES
CASE NO. 2015-00124**

**Response to Commission Staff's
Initial Request for Information
dated May 1, 2015**

May 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 billing period*
4 *under review. Include the two months subsequent to the billing period*
5 *included in the review period. Include a calculation of any additional*
6 *over- or under-recovery amount the Member Cooperative believes needs to*
7 *be recognized for the billing period under review. Include all supporting*
8 *calculations and documentation for the additional over- or under-*
9 *recovery.*

10

11 **Response)** The attached two sets of schedules (Attachment 1 for non-dedicated
12 delivery points and Attachment 2 for dedicated delivery points) reflect Big Rivers'
13 Members' environmental surcharge pass-through for the months corresponding
14 with the billing period under review. As illustrated in the attached schedules,
15 there is no billing lag for dedicated delivery point customers.

16 As requested by the Commission, the attached schedules include the
17 Members' two billing months immediately following the review period. The
18 information on the attached schedules was obtained from the Members' monthly
19 Environmental Surcharge Schedules provided by Big Rivers' Members. Other
20 than the on-going cumulative over/under recovery mechanism, no additional
21 over/under recovery amount is requested.

**Case No. 2015-00124
Response to PSC 1-2
Witness: Nicholas R. Castlen
Page 1 of 2**

BIG RIVERS ELECTRIC CORPORATION
AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION
OF THE ENVIRONMENTAL SURCHARGE MECHANISM
OF BIG RIVERS ELECTRIC CORPORATION
FOR THE SIX-MONTH BILLING PERIOD ENDING JANUARY 31, 2015
AND THE PASS THROUGH MECHANISM
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES
CASE NO. 2015-00124

Response to Commission Staff's
Initial Request for Information
dated May 1, 2015

May 21, 2015

1
2
3
4

Witness) Nicholas R. Castlen

BIG RIVERS ELECTRIC CORPORATION
Case No. 2015-00124

KENERGY CORP. ENVIRONMENTAL SURCHARGE REVIEW NON-DEDICATED DELIVERY POINT CUSTOMERS					
(a)	(b)	(c)	(d)	(e)	(f)
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]
Jul-14	\$ 472,223.74	\$ (36,433.25)	\$ 435,790.49	\$ 334,164.55	\$ (36,433.25)
Aug-14	\$ 611,798.96	\$ (4,047.05)	\$ 607,751.91	\$ 434,872.15	\$ (4,047.05)
Sep-14	\$ 510,404.61	\$ (12,809.82)	\$ 497,594.79	\$ 448,600.31	\$ (12,809.82)
Oct-14	\$ 387,249.99	\$ 64,079.82	\$ 451,329.81	\$ 543,672.09	\$ 64,079.82
Nov-14	\$ 475,626.70	\$ 21,356.93	\$ 496,983.63	\$ 476,237.86	\$ 21,356.93
Dec-14	\$ 530,690.27	\$ (90,216.10)	\$ 440,474.17	\$ 541,545.91	\$ (90,216.10)
Jan-15	\$ 624,510.27	\$ (17,629.72)	\$ 606,880.55	\$ 514,613.35	\$ (17,629.72)
Feb-15	\$ 637,414.80	\$ (28,063.53)	\$ 609,351.27	\$ 468,537.70	\$ (28,063.53)

JACKSON PURCHASE ENERGY CORPORATION ENVIRONMENTAL SURCHARGE REVIEW NON-DEDICATED DELIVERY POINT CUSTOMERS					
(a)	(b)	(c)	(d)	(e)	(f)
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]
Jul-14	\$ 262,555.79	\$ (51,841.69)	\$ 210,714.10	\$ 261,573.81	\$ (51,841.69)
Aug-14	\$ 349,876.95	\$ (38,990.95)	\$ 310,886.00	\$ 230,611.87	\$ (38,990.95)
Sep-14	\$ 282,790.87	\$ (3,536.38)	\$ 279,254.49	\$ 283,392.99	\$ (3,536.38)
Oct-14	\$ 205,582.10	\$ (1,250.92)	\$ 204,331.18	\$ 211,965.02	\$ (1,250.92)
Nov-14	\$ 257,034.88	\$ 98,987.43	\$ 356,022.31	\$ 211,898.57	\$ 98,987.43
Dec-14	\$ 288,423.62	\$ 11,327.22	\$ 299,750.84	\$ 267,927.27	\$ 11,327.22
Jan-15	\$ 335,944.80	\$ (66,369.79)	\$ 269,575.01	\$ 270,700.97	\$ (66,369.79)
Feb-15	\$ 341,027.00	\$ (80,055.05)	\$ 260,971.95	\$ 436,077.36	\$ (80,055.05)

BIG RIVERS ELECTRIC CORPORATION
Case No. 2015-00124

MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION ENVIRONMENTAL SURCHARGE REVIEW NON-DEDICATED DELIVERY POINT CUSTOMERS					
(a)	(b)	(c)	(d)	(e)	(f)
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-14	\$ 170,418.54	\$ (4,135.42)	\$ 166,283.12	\$ 159,434.49	\$ (4,135.42)
13 Aug-14	\$ 219,903.17	\$ (4,587.05)	\$ 215,316.12	\$ 170,870.17	\$ (4,587.05)
14 Sep-14	\$ 184,034.08	\$ 32,928.82	\$ 216,962.90	\$ 182,387.30	\$ 32,928.82
15 Oct-14	\$ 139,335.37	\$ 12,844.59	\$ 152,179.96	\$ 204,118.31	\$ 12,844.59
16 Nov-14	\$ 211,359.71	\$ (56,246.64)	\$ 155,113.07	\$ 208,426.60	\$ (56,246.64)
17 Dec-14	\$ 229,088.42	\$ (9,198.18)	\$ 219,890.24	\$ 164,311.25	\$ (9,198.18)
18 Jan-15	\$ 286,538.44	\$ (35,545.75)	\$ 250,992.69	\$ 255,435.99	\$ (35,545.75)
19 Feb-15	\$ 297,386.51	\$ (6,675.61)	\$ 290,710.90	\$ 257,668.30	\$ (6,675.61)

BIG RIVERS ELECTRIC CORPORATION
Case No. 2015-00124

1
2
3
4
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
37
38
39
40
41
42
43
44
45

KENERGY CORP-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 (Column (b) less column (c)
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	\$ -

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)
Jul-14	\$ 2,552.13	\$ 2,552.13	\$ -
Aug-14	\$ 3,088.75	\$ 3,088.75	\$ -
Sep-14	\$ 2,703.40	\$ 2,703.40	\$ -
Oct-14	\$ 84.16	\$ 84.16	\$ -
Nov-14	\$ 96.68	\$ 96.68	\$ -
Dec-14	\$ 2,282.67	\$ 2,282.67	\$ -
Jan-15	\$ 2,576.17	\$ 2,576.17	\$ -
Feb-15	\$ 2,591.26	\$ 2,591.26	\$ -

Meade County Rural Electric Cooperative Corporation has no dedicated delivery 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 SIX-MONTH BILLING PERIOD ENDING JANUARY 31, 2015
AND THE PASS THROUGH MECHANISM
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES
CASE NO. 2015-00124**

**Response to Commission Staff's
Initial Request for Information
dated May 1, 2015**

May 21, 2015

1 **Item 3)** *Refer to Form 2.5, Operating and Maintenance Expenses, for*
2 *each of the expense months covered by each 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 schedule of Operating and Maintenance
8 ("O&M") expenses, including the requested variance explanations, for the 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. 2015-00124
Form 2.5 - Operating and Maintenance Expense Analysis

Variance Explanations:

Anhydrous Ammonia:

Jun-14 vs. May-14	-15%	The decrease was due to a 1008 hour planned outage at Wilson in May and part of June that was somewhat offset by a 36% increase in generation at HMP&L following its 508 hour planned outage in April and May.
Jul-14 vs. Jun-14	330%	The increase was due to the 1008 hour planned outage at Wilson in May and part of June and timing of product delivery and invoicing at HMP&L. Wilson Unit returned to service on 23-Jun-2014.
Aug-14 vs. Jul-14	-33%	The decrease was due to timing of product delivery and invoicing at Wilson.
Sep-14 vs. Aug-14	-30%	The decrease was due to timing of product delivery and invoicing at HMP&L.
Oct-14 vs. Sep-14	156%	The increase was due to timing of product delivery and invoicing at Wilson and HMP&L.
Nov-14 vs Oct-14	-40%	The decrease was due to timing of product delivery and invoicing at Wilson and HMP&L.

Disposal-Flyash/Bottom Ash/ Sludge:

Jun-14 vs. May-14	-19%	The decrease was due to a 1008 hour planned outage at Wilson in May that was somewhat offset by a 36% increase in generation at HMP&L following its 508 hour planned outage in April and May.
Jul-14 vs. Jun-14	269%	The increase was due to the 1008 planned outage at Wilson in May and part of June which included moving some additional waste from cleaning the scrubbers and ductwork in July, and some additional expense for landfill capping along with some additional charges for reloacting landfill capping soil at Green and HMP&L.
Aug-14 vs. Jul-14	-9%	N/A
Sep-14 vs. Aug-14	-23%	The decrease was due to less expense for landfill capping and relocating capping soil at Green and HMP&L.
Oct-14 vs. Sep-14	-42%	The decrease was due to 36% less generation at Green because of a 533 hour planned outage in October, and the landfill capping and relocation of capping soil project at Green and HMPL was completed in September.
Nov-14 vs Oct-14	12%	The increase was due to 58% increase in generation at Green Station following its 533 hour planned outage in October.

Fixation Lime:

Jun-14 vs. May-14	9%	N/A
Jul-14 vs. Jun-14	-17%	The decrease was due to 6% less generation at Green and timing of product delivery and invoicing at HMP&L.
Aug-14 vs. Jul-14	17%	Increase was due to 28% increase in generation at Green because of a 177 hour planned outage in July.
Sep-14 vs. Aug-14	4%	N/A
Oct-14 vs. Sep-14	-30%	The decrease was due to 36% less generation at Green because of a 533 hour planned outage in October.
Nov-14 vs Oct-14	32%	The increase was due to 58% increase in generation at Green Station following its 533 hour planned outage in October.

Reagent Limestone:

Jun-14 vs. May-14	-67%	The decrease was due to a 1008 hour planned outage at Wilson in May and part of June.
Jul-14 vs. Jun-14	406%	The increase was due to the 1008 hour planned outage at Wilson in May and June. Unit returned to service on 23-Jun-2014.
Aug-14 vs. Jul-14	17%	The increase was due to timing of product delivery and invoicing at Wilson.
Sep-14 vs. Aug-14	-22%	The decrease was due to timing of product delivery and invoicing at Wilson.
Oct-14 vs. Sep-14	32%	The increase was due to timing of product delivery and invoicing at Wilson.
Nov-14 vs Oct-14	2%	N/A

Case No. 2015-00124

Attachment for Response to PSC 1-3

Witnesses: Nicholas R. Castlen and Lawrence V. Baronowsky

Page 2 of 4

Big Rivers Electric Corporation
Case No. 2015-00124
Form 2.5 - Operating and Maintenance Expense Analysis

Variance Explanations (continued):

Reagent-Lime:

Jun-14 vs. May-14	-2%	N/A
Jul-14 vs. Jun-14	4%	N/A
Aug-14 vs. Jul-14	17%	Increase was due to 28% increase in generation at Green because of a 177 hour planned outage in July.
Sep-14 vs. Aug-14	-1%	N/A
Oct-14 vs. Sep-14	-27%	The decrease was due to 36% less generation at Green because of a 533 hour planned outage in October.
Nov-14 vs Oct-14	32%	The increase was due to 58% increase in generation at Green Station following its 533 hour planned outage in October.

Emulsified Sulfur for SO₂:

Jun-14 vs. May-14	77%	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 at restart from the planned outage on 23-Jun-2014.
Jul-14 vs. Jun-14	-63%	Emulsified sulfur is ordered on an as needed basis and added in batch based on scrubber chemistry. The decrease was due to credit or charge reversal at Wilson (\$2,163) expenses in July.
Aug-14 vs. Jul-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 and none added at HMP&L.
Sep-14 vs. Aug-14	119%	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 HMP&L and none at Wilson.
Oct-14 vs. Sep-14	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 HMP&L and two loads at Wilson.
Nov-14 vs Oct-14	-22%	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 and two loads at HMP&L.

Reagent-Dibasic Acid:

Jun-14 vs. May-14	See Note 1	N/A
Jul-14 vs. Jun-14	107%	The increase was due to the planned outage at Wilson in June. Unit returned to service on 23-Jun-2014.
Aug-14 vs. Jul-14	31%	The increase was due to timing of product delivery and invoicing at Wilson.
Sep-14 vs. Aug-14	-52%	The decrease was due to timing of product delivery and invoicing at Wilson.
Oct-14 vs. Sep-14	110%	The increase was due to timing of product delivery and invoicing at Wilson.
Nov-14 vs Oct-14	-78%	The decrease was due to timing of product delivery and invoicing at Wilson.

Big Rivers Electric Corporation
Case No. 2015-00124
Form 2.5 - Operating and Maintenance Expense Analysis

Variance Explanations (continued):

Reagent-Sodium BiSulfite for SO₂:

Jun-14 vs. May-14	-55%	Sodium BiSulfite is ordered on an as needed basis and added in batch based on scrubber chemistry. Two loads were purchased in May and none was purchased in June at HMP&L.
Jul-14 vs. Jun-14	922%	Sodium BiSulfite is ordered on an as needed basis and added in batch based on scrubber chemistry. Approximately fifteen loads of SBS were added at Wilson following its 23-Jun-2014 restart and one load was added at HMP&L in July.
Aug-14 vs. Jul-14	-80%	Sodium BiSulfite is ordered on an as needed basis and added in batch based on scrubber chemistry. The decrease was due to only three loads of SBS were added at Wilson in August and none was added at HMP&L.
Sep-14 vs. Aug-14	197%	Sodium BiSulfite is ordered on an as needed basis and added in batch based on scrubber chemistry. The increase was due to ten loads of SBS were added at Wilson in September and none was added at HMP&L.
Oct-14 vs. Sep-14	23%	Sodium BiSulfite is ordered on an as needed basis and added in batch based on scrubber chemistry. The increase was due to eleven loads of SBS were added at Wilson in October and one load was added at HMP&L.
Nov-14 vs Oct-14	4%	N/A

Hydrated Lime - SO₃:

Jun-14 vs. May-14	-100%	The decrease was due to a 1008 hour planned outage at Wilson in May and part of June.
Jul-14 vs. Jun-14	See Note 1	N/A
Aug-14 vs. Jul-14	See Note 1	N/A
Sep-14 vs. Aug-14	-16%	The decrease was due to timing of product delivery and invoicing at Wilson.
Oct-14 vs. Sep-14	211%	The increase was due to timing of product delivery and invoicing at Wilson.
Nov-14 vs Oct-14	-134%	The decrease was due to timing of product delivery and invoicing at Wilson.

BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION
OF THE ENVIRONMENTAL SURCHARGE MECHANISM
OF BIG RIVERS ELECTRIC CORPORATION
FOR THE SIX-MONTH BILLING PERIOD ENDING JANUARY 31, 2015
AND THE PASS THROUGH MECHANISM
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES
CASE NO. 2015-00124**

**Response to Commission Staff's
Initial Request for Information
dated May 1, 2015**

May 21, 2015

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

7
8 **Response)** Please see the attachment to this response for the calculations and
9 supporting data for the rates of return included in each monthly environmental
10 surcharge filing for the expense months in this review period. These calculations
11 are also provided in Excel spreadsheet format, with formulas intact and
12 unprotected and all rows and columns accessible, on the CD accompanying these
13 responses.

14

15

16 **Witness)** Nicholas R. Castlen

17

Big Rivers Electric Corporation
Case No. 2015-00124
Calculation of Rate of Return on Environmental Compliance Rate Base
For the Expense Months: June 2014 - November 2014

Calculation of Monthly Rate of Return

	<u>Jun-14</u>	<u>Jul-14</u>
1		
2 <u>Month-to-Date Interest Expense on Long-Term Debt:</u>		
3 RUS - Series A Note	\$ 384,131.46	\$ 396,992.50
4 RUS - Series B Note	\$ 667,423.38	\$ 699,641.32
5 CoBank - Series 2012A Notes	\$ 795,915.98	\$ 815,303.80
6 CFC - Series 2012B Refinance Note	\$ 977,154.73	\$ 1,008,840.03
7 CFC - Series 2012B Equity Note	\$ 182,302.13	\$ 182,302.13
8 Series 2010A P.C. Bonds	\$ 416,500.00	\$ 416,500.00
9		
10 (a) Total Monthly Interest Expense on Long-Term Debt	\$ 3,423,427.68	\$ 3,519,579.78
11		
12 Total Outstanding Long-Term Debt (Beginning of Month)	\$ 847,041,236.67	\$ 847,136,737.26
13 <u>Total Outstanding Long-Term Debt (End of Month)</u>	<u>\$ 847,136,737.26</u>	<u>\$ 847,148,549.66</u>
14 (b) Average Outstanding Long-Term Debt during Month	\$ 847,088,986.97	\$ 847,142,643.46
15		
16 (c) Number of Days During Year	365	365
17		
18 (d) Number of Days During Month	30	31
19		
20 (e) Average Cost of Debt [(a) ÷ (b)] x [(c) ÷ (d)]	<u>4.92%</u>	<u>4.89%</u>
21		
22 (f) Applicable TIER ¹	1.24	1.24
23		
24 (g) Rate of Return on Environmental Compliance Rate Base [(e) x (f)]	<u>6.10%</u>	<u>6.06%</u>

27 ¹ Applicable Times Interest Earned Ratio ("TIER") for calculating the Rate of Return on Environmental Compliance Plan Rate Base per Big Rivers' Environmental Surcharge Tariff approved by Order of the Commission dated October 1, 2012, in Case No. 2012-00063.

Big Rivers Electric Corporation
Case No. 2015-00124
Calculation of Rate of Return on Environmental Compliance Rate Base
For the Expense Months: June 2014 - November 2014

Calculation of Monthly Rate of Return

	<u>Aug-14</u>	<u>Sep-14</u>
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

<u>Month-to-Date Interest Expense on Long-Term Debt:</u>		
RUS - Series A Note	\$ 396,994.39	\$ 384,188.12
RUS - Series B Note	\$ 699,641.31	\$ 677,072.24
CoBank - Series 2012A Notes	\$ 815,303.80	\$ 789,003.66
CFC - Series 2012B Refinance Note	\$ 1,008,618.91	\$ 970,597.96
CFC - Series 2012B Equity Note	\$ 182,302.12	\$ 180,780.93
Series 2010A P.C. Bonds	\$ 416,500.00	\$ 416,500.00
<hr/>		
(a) Total Monthly Interest Expense on Long-Term Debt	\$ 3,519,360.53	\$ 3,418,142.91
Total Outstanding Long-Term Debt (Beginning of Month)	\$ 847,148,549.66	\$ 844,046,684.93
Total Outstanding Long-Term Debt (End of Month)	\$ 844,046,684.93	\$ 844,171,115.80
<hr/>		
(b) Average Outstanding Long-Term Debt during Month	\$ 845,597,617.30	\$ 844,108,900.37
(c) Number of Days During Year	365	365
(d) Number of Days During Month	31	30
<hr/>		
(e) Average Cost of Debt [(a) ÷ (b)] x [(c) ÷ (d)]	4.90%	4.93%
(f) Applicable TIER ¹	1.24	1.24
<hr/>		
(g) Rate of Return on Environmental Compliance Rate Base [(e) x (f)]	6.08%	6.11%

¹ Applicable Times Interest Earned Ratio ("TIER") for calculating the Rate of Return on Environmental Compliance Plan Rate Base per Big Rivers' Environmental Surcharge Tariff approved by Order of the Commission dated October 1, 2012, in Case No. 2012-00063.

Big Rivers Electric Corporation
Case No. 2015-00124
Calculation of Rate of Return on Environmental Compliance Rate Base
For the Expense Months: June 2014 - November 2014

Calculation of Monthly Rate of Return

	<u>Oct-14</u>	<u>Nov-14</u>
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

¹ Applicable Times Interest Earned Ratio ("TIER") for calculating the Rate of Return on Environmental Compliance Plan Rate Base per Big Rivers' Environmental Surcharge Tariff approved by Order of the Commission dated October 1, 2012, in Case No. 2012-00063.

BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION
OF THE ENVIRONMENTAL SURCHARGE MECHANISM
OF BIG RIVERS ELECTRIC CORPORATION
FOR THE SIX-MONTH BILLING PERIOD ENDING JANUARY 31, 2015
AND THE PASS THROUGH MECHANISM
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES
CASE NO. 2015-00124**

**Response to Commission Staff's
Initial Request for Information
dated May 1, 2015**

May 21, 2015

1 **Item 5)** *Describe the scenario in which Big Rivers would choose to not*
2 *operate pollution control equipment in favor of using allowances. Fully*
3 *explain the decision-making process employed to arrive at such a decision.*
4

5 **Response)** Pollution control equipment is normally listed as part of the Title V
6 Operating Permit for each plant. This typically precludes Big Rivers from
7 choosing not to operate such equipment.

8 Should Big Rivers not operate its pollution control equipment, the
9 following process would be employed. Big Rivers would calculate its marginal cost
10 to remove one ton of pollutant, most likely SO₂ or NO_x. This calculation would be
11 done by determining the variable operating costs of those systems. These variable
12 operating costs primarily include the cost of reagent as well as the cost of
13 landfilling any resulting solid material from the flue gas desulfurization ("FGD" or
14 "Scrubber") system. Big Rivers would then compare this deferred cost to remove
15 one ton of pollutant versus the projected market price of emission allowances to
16 make such a decision.

17 Big Rivers also must consider the value of current allowances against
18 the need for allowances in future years. Big Rivers expects to be long SO₂
19 allowances during Phase One of the Cross-State Air Pollution Rule ("CSAPR").
20 However, depending upon generation levels, Big Rivers expects to be short SO₂
21 allowances beginning in 2019 if it no longer receives CSAPR allowances at its
22 Coleman Station. Big Rivers does not know how liquid the allowance market will

BIG RIVERS ELECTRIC CORPORATION
AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION
OF THE ENVIRONMENTAL SURCHARGE MECHANISM
OF BIG RIVERS ELECTRIC CORPORATION
FOR THE SIX-MONTH BILLING PERIOD ENDING JANUARY 31, 2015
AND THE PASS THROUGH MECHANISM
OF ITS THREE MEMBER DISTRIBUTION COOPERATIVES
CASE NO. 2015-00124

Response to Commission Staff's
Initial Request for Information
dated May 1, 2015

May 21, 2015

1 be in the future. Its current plans are to bank excess allowances in the 2015-2018
2 period to use in subsequent years. Big Rivers expects to consume these banked
3 allowances in the 2022-2024, depending upon generation levels.

4

5

6 **Witness)** Eric M. Robeson

7