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September 14, 2018

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SEP 14 2018

PUBLIC SERVICE
COMMISSION

VIA HAND DELIVERY

Ms. Gwen R. Pinson
Executive Director
Public Service Commission of Kentucky
211 Sower Boulevard
Frankfort, KY 40601

Re: *In the Matter of: 2017 Integrated Resource Plan of Big Rivers Electric Corporation - Case No. 2017-00384*

Dear Ms. Pinson:

Enclosed for filing in the above-referenced matter are an original and ten (10) copies of: (i) the public version of Big Rivers Electric Corporation's responses to the Second Request for Information of the Public Service Commission Staff, the Supplemental Request for Information of the Office of the Attorney General, and the Supplemental Request for Information of Ben Taylor and the Sierra Club; and (ii) a petition for confidential treatment of the confidential information contained in these responses. Also enclosed is one (1) sealed copy of the confidential information being filed pursuant to the petition for confidential treatment.

I certify that, on this date, copies of this letter and all public attachments were served on each of the persons listed on the attached service list by Federal Express.

Sincerely,

A handwritten signature in blue ink, appearing to read "TK", is written over a light blue circular stamp.

Tyson Kamuf
Corporate Attorney,
Big Rivers Electric Corporation
tyson.kamuf@bigrivers.com

cc: Service List
Roger D. Hickman

1 COMMONWEALTH OF KENTUCKY
2 BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION
3
4

RECEIVED

5 In the Matter of:

SEP 14 2018

6
7 THE 2017 INTEGRATED RESOURCE) CASE NO. PUBLIC SERVICE
8 PLAN OF BIG RIVERS ELECTRIC) 2017-00384 COMMISSION
9 CORPORATION)

10
11
12 **PETITION OF BIG RIVERS ELECTRIC CORPORATION FOR**
13 **CONFIDENTIAL TREATMENT**
14

15 1. Big Rivers Electric Corporation (“Big Rivers”) hereby petitions the
16 Kentucky Public Service Commission (“Commission”), pursuant to 807 KAR 5:001
17 Section 13 and KRS 61.878, to grant confidential treatment to certain information
18 contained in Big Rivers’ responses and/or the attachments to Big Rivers’ responses
19 to Item 8 of the Commission Staff’s Second Request for Information (“PSC 2-8”);
20 Item 9 of the Attorney General’s Supplemental Request for Information (“AG 2-9”);
21 and Items 1, 2, 7, 10, 23, and 32 of Ben Taylor and the Sierra Club’s Supplemental
22 Request for Information (“SC 2-1,” “SC 2-2,” “SC 2-7,” “SC 2-10,” “SC 2-23,” and “SC
23 2-32,” respectively).

24 2. The information for which Big Rivers seeks confidential treatment is
25 hereinafter referred to as the “Confidential Information.” The Confidential
26 Information consists of the confidential terms of power sales agreements; projected
27 staffing costs; projected variable operating costs; projected power market prices and
28 costs; projected costs to restart idled generating units, retire generating units, or to
29 convert generating units to natural gas; and other terms, such as totals and

1 projected net margins on transactions, that can be used to calculate other
2 Confidential Information.

3 3. One (1) copy of the paper pages containing Confidential Information,
4 with the Confidential Information highlighted with transparent ink, printed on
5 yellow paper, or otherwise marked "CONFIDENTIAL," is being filed with this
6 petition. A copy of those pages, with the Confidential Information redacted, or a
7 sheet noting that the entirety of the pages have been redacted, is being filed with
8 the original and each of the ten (10) copies of Big Rivers' responses to the
9 information requests filed with this petition. 807 KAR 5:001 Section 13(2)(a)(3).

10 4. A copy of this petition and a copy of Big Rivers' responses to the
11 information requests with the Confidential Information redacted have been served
12 on all parties to this proceeding. 807 KAR 5:001 Section 13(2)(b). A copy of the
13 Confidential Information has been provided to all parties that have executed a
14 confidentiality agreement.

15 5. If and to the extent the Confidential Information becomes generally
16 available to the public, whether through filings required by other agencies or
17 otherwise, Big Rivers will notify the Commission in writing. *See* 807 KAR 5:001
18 Section 13(10)(b).

19 6. As discussed below, the Confidential Information is entitled to
20 confidential treatment based upon 807 KAR 5:001 Sections 13(4) and (9) and/or
21 KRS 61.878(1)(c)(1). *See* 807 KAR 5:001 Section 13(2)(a)(1).

22

1 2. If a request for confidential treatment of the material is pending, a
2 written notice identifying the person who made the request and the
3 date on which the request was submitted.

4 10. The Commission granted confidential treatment to the Confidential
5 Information in the Nebraska contracts by order dated September 10, 2014, in *In the*
6 *Matter of: Big Rivers Electric Corporation Filing of Wholesale Contracts Pursuant to*
7 *KRS 278.280 and KAR 5:011 Section 13*, P.S.C. Case No. 2014-00134, and the
8 Commission should continue to afford confidential treatment to that information for
9 the reasons stated in that order and the related petition, which Big Rivers requests
10 be incorporated herein by reference.

11 11. On January 10, 2018, the Commission's Executive Director issued
12 three letters granting confidential treatment to the Confidential Information
13 contained in Big Rivers' April 1, 2016, October 3, 2016, and April 3, 2017, focused
14 audit progress reports, and the Commission should continue to afford confidential
15 treatment to that information for the reasons stated in those letters and the related
16 petitions, which Big Rivers requests be incorporated herein by reference.

17 12. On August 5, 2016, Big Rivers filed the KyMEA contract with the
18 Commission in Case No. 2016-00306, along with a petition for confidential
19 treatment of the Confidential Information contained in that agreement. On October
20 21, 2016, and June 1, 2018, Big Rivers filed the NextEra contracts with the
21 Commission along with petitions for confidential treatment of the Confidential
22 Information contained in those agreements. *See* TFS 2016-00584 and TFS 2018-
23 00272. On June 27, 2018, Big Rivers filed the OMU contract with the Commission
24 along with a petition for confidential treatment of the Confidential Information

1 contained in that agreement. *See* TFS 2018-00318. All of these petitions for
2 confidential treatment are pending.

3 13. 807 KAR 5:001 Section 13(4) provides, “Pending action by the
4 [C]ommission on a motion for confidential treatment or by its executive director on
5 a request for confidential treatment, the material specifically identified shall be
6 accorded confidential treatment.” As such, the Confidential Information relating to
7 the KyMEA, NextEra, and OMU agreements should be afforded confidential
8 treatment while the petitions are pending and thereafter for the reasons stated in
9 those petitions, which Big Rivers requests be incorporated herein by reference.

10 **II. Information Exempted from Public Disclosure by KRS 61.878(1)(c)(1)**

11 14. KRS 61.878(1)(c)(1) protects “records confidentially disclosed to an
12 agency or required by an agency to be disclosed to it, generally recognized as
13 confidential or proprietary, which if openly disclosed would permit an unfair
14 commercial advantage to competitors of the entity that disclosed the records.”
15 Section A below explains that Big Rivers operates in competitive environments in
16 the wholesale power market and in the credit market. Section B below shows that
17 the Confidential Information is generally recognized as confidential or proprietary.
18 Section C below demonstrates that public disclosure of the Confidential Information
19 would permit an unfair commercial advantage to Big Rivers’ competitors.

20 **A. Big Rivers Faces Actual Competition.**

21 15. As a generation and transmission cooperative, Big Rivers competes in
22 the wholesale power market. This includes not only the short-term bilateral energy
23 market, the day-ahead and real time energy and ancillary services markets, and the

1 capacity market to which Big Rivers has access by virtue of its membership in
2 Midcontinent Independent System Operator, Inc. (“MISO”), but also forward
3 bilateral long-term agreements and wholesale agreements with utilities and
4 industrial customers. Big Rivers’ ability to successfully compete in the market is
5 dependent upon a combination of its ability to: (i) obtain the maximum price for the
6 power it sells, and (ii) keep its cost of production as low as possible. Fundamentally,
7 if Big Rivers’ cost of producing a unit of power increases, its ability to sell that unit
8 in competition with other utilities is adversely affected.

9 16. Big Rivers also competes for reasonably priced credit in the credit
10 markets, and its ability to compete is directly impacted by its financial results.
11 Lower revenues and any events that adversely affect Big Rivers’ margins will
12 adversely affect its financial results and potentially impact the price it pays for
13 credit. A competitor armed with Big Rivers’ proprietary and confidential
14 information will be able to increase Big Rivers’ costs or decrease Big Rivers’
15 revenues, which could in turn affect Big Rivers’ apparent creditworthiness. A
16 utility the size of Big Rivers that operates generation and transmission facilities
17 will always have periodic cash and borrowing requirements for both anticipated and
18 unanticipated needs. Big Rivers expects to be in the credit markets on a regular
19 basis in the future, and it is imperative that Big Rivers improve and maintain its
20 credit profile.

1 and costs. The Confidential Information in Big Rivers' response to AG 2-9 consists
2 of project staffing costs. The Confidential Information in Big Rivers' response to SC
3 2-7 consists of projections of power market prices and projected revenues that reveal
4 Big Rivers' projections of power market prices. The Confidential Information in Big
5 Rivers' response to SC 2-23 and in the attachment to Big Rivers' response to SC 2-
6 10 consists of the projected costs to restart idled generating units, retire generating
7 units, or convert generating units to natural gas. This information provides insight
8 into Big Rivers' cost of producing power; the prices at which Big Rivers is willing to
9 buy or sell power; and the amounts Big Rivers is willing to pay for capital projects.
10 Information such as this which bears upon a company's detailed inner workings is
11 generally recognized as confidential or proprietary. *See, e.g., Hoy v. Kentucky*
12 *Indus. Revitalization Authority*, 907 S.W.2d 766, 768 (Ky. 1995) ("It does not take a
13 degree in finance to recognize that such information concerning the inner workings
14 of a corporation is 'generally recognized as confidential or proprietary'"); *Marina*
15 *Management Servs. v. Cabinet for Tourism, Dep't of Parks*, 906 S.W.2d 318, 319 (Ky.
16 1995) (unfair commercial advantage arises simply from "the ability to ascertain the
17 economic status of the entities without the hurdles systemically associated with the
18 acquisition of such information about privately owned organizations").
19 Additionally, the Commission has previously granted confidential treatment to
20 similar information. *See, e.g., In the Matter of: 2014 Integrated Resource Plan of Big*
21 *Rivers Electric Corporation*, Order, P.S.C. Case No. 2014-00166 (August 26, 2014)
22 (granting confidential treatment to fuel cost projections, power price projections,

1 projected environmental compliance-related capital and O&M costs, NPV results of
2 production cost model runs, and rate projections); *In the Matter of: Big Rivers*
3 *Electric Corporation Filing of Wholesale Contract Pursuant to KRS 278.180 and*
4 *KAR 5:011 Section 13*, Order, P.S.C. Case No. 2014-00134 (September 30, 2014)
5 (granting confidential treatment to projected energy and capacity prices); *id.*, Order
6 (October 9, 2014) (granting confidential treatment to financial forecast, projections
7 of capital expenditures, projects of revenues and expenses from off-system sale, and
8 commercial negotiations); *id.*, Order (November 21, 2014) (granting confidential
9 treatment to forecasted rates, revenues, and costs).

10 21. The Confidential Information is not publicly available, is not
11 disseminated within Big Rivers except to those employees and professionals with a
12 legitimate business need to know and act upon the information, and is not
13 disseminated to others without a legitimate need to know and act upon the
14 information.

15 22. Accordingly, the information for which Big Rivers seeks confidential
16 treatment is recognized as confidential or proprietary under Kentucky law and is
17 entitled to confidential protection as further discussed below.

18 **C. Public Disclosure of the Confidential Information Would Permit an**
19 **Unfair Commercial Advantage to Big Rivers' Competitors.**

20 23. Public disclosure of the Confidential Information would permit an
21 unfair commercial advantage to Big Rivers' competitors. As discussed above, Big
22 Rivers faces actual competition in the wholesale power market and in the credit

1 market. It is likely that Big Rivers would suffer competitive injury if that
2 Confidential Information was publicly disclosed.

3 24. The Confidential Information includes material such as Big Rivers'
4 projections of operating costs, power prices, capital project costs, and other
5 information revealing Big Rivers' cost of producing power. If that information is
6 publicly disclosed, market participants would have insight into the prices at which
7 Big Rivers is willing to buy and sell power, and the amount Big Rivers is willing to
8 pay for capital projects, and those market participants could manipulate the bidding
9 process when selling to or buying from Big Rivers, increasing Big Rivers' costs or
10 reducing its revenues. Increased costs would impair Big Rivers' ability to generate
11 power at competitive rates and thus to compete in the wholesale power markets.
12 Furthermore, any competitive pressure that adversely affects Big Rivers' revenue
13 and margins could make the company appear less creditworthy and thus impair its
14 ability to compete in the credit markets. These effects were recognized in P.S.C.
15 Case No. 2003-00054, in which the Commission granted confidential treatment to
16 bids submitted to Union Light, Heat & Power ("ULH&P"). ULH&P argued, and the
17 Commission implicitly accepted, that if the bids it received were publicly disclosed,
18 contractors on future work could use the bids as a benchmark, which would likely
19 lead to the submission of higher bids. *In the Matter of: Application of the Union*
20 *Light, Heat and Power Company for Confidential Treatment*, Order, P.S.C. Case No.
21 2003-00054 (August 4, 2003); *see also In the Matter of: An Examination of the*
22 *Application of the Fuel Adjustment Clause of East Kentucky Power Cooperative, Inc.*

1 *from May 1, 2007 through October 31, 2007*, Letter, P.S.C. Case No. 2007-00523
2 (February 27, 2008). The Commission also implicitly accepted ULH&P's further
3 argument that the higher bids would lessen ULH&P's ability to compete with other
4 gas suppliers. *In the Matter of: Application of the Union Light, Heat and Power*
5 *Company for Confidential Treatment*, Order, P.S.C. Case No. 2003-00054 (August 4,
6 2003).

7 25. Similarly, the Commission recently granted confidential treatment to
8 pricing information provided by Cumberland Valley Electric, Inc. ("Cumberland
9 Valley") in P.S.C. Case No. 2018-00056. *In the Matter of: Application of*
10 *Cumberland Valley Electric, Inc. for Commission Approval for a Certificate of Public*
11 *Convenience and Necessity to Install an Advanced Metering Infrastructure (AMI)*
12 *System Pursuant to KRS 807 KAR 5:001 and KRS 278.020*, Order, P.S.C. Case No.
13 2018-00056 (May 9, 2018). In that case, the Commission recognized "that the
14 specific cost information may be used to the financial detriment of Cumberland
15 Valley and its ratepayers by allowing potential future vendors to bid just under the
16 cost of its current vendor, which, in turn, would place Cumberland Valley at a
17 competitive disadvantage." *Id.*

18 26. The same competitive harm that the Commission recognized in P.S.C.
19 Case Nos. 2003-00054 and 2018-00056 would befall Big Rivers if the Confidential
20 Information in this case were publicly disclosed.

21 27. Public disclosure of the Confidential Information would provide
22 potential purchasers of power from Big Rivers; potential sellers of power to Big

1 Rivers; potential contractors on capital projects; and other wholesale power
2 providers competing against Big Rivers for purchases or sales power with insight
3 into the prices and the terms under which Big Rivers is willing to buy and sell.
4 These market participants could use this information as a benchmark, leading to
5 higher costs, lower revenues, or less favorable terms to Big Rivers, hurting Big
6 Rivers' ability to compete in the wholesale power and credit markets.

7 28. Public disclosure of the confidential terms of special contracts would
8 also cause competitive harm to Big Rivers. In P.S.C. Case No. 2003-00054, the
9 Commission additionally implicitly accepted ULH&P's argument that the bidding
10 contractors would not want their bid information publicly disclosed, and that
11 disclosure would reduce the contractor pool available to ULH&P, which would drive
12 up ULH&P's costs, hurting its ability to compete with other gas suppliers. *In the*
13 *Matter of: Application of the Union Light, Heat and Power Company for*
14 *Confidential Treatment*, Order, P.S.C. Case No. 2003-00054 (August 4, 2003).
15 Similarly, in *Hoy v. Kentucky Indus. Revitalization Authority*, the Kentucky
16 Supreme Court found that without protection for confidential information provided
17 to a public agency, "companies would be reluctant to apply for investment tax
18 credits for fear the confidentiality of financial information would be compromised.
19 *Hoy v. Kentucky Indus. Revitalization Authority*, 907 S.W.2d 766, 769 (Ky. 1995).

20 29. In Big Rivers' case, Big Rivers is currently in negotiations with
21 potential counterparties for power purchase and sale agreements, and expects to
22 engage in negotiations with other counterparties in the future. If confidential

1 treatment of the confidential terms of the power sales contracts is denied, potential
2 counterparties would know that the confidential terms of their contracts could be
3 publicly disclosed, which could reveal information to their competitors about their
4 competitiveness. Because many companies would be reluctant to have such
5 information disclosed, public disclosure of the Confidential Information would likely
6 reduce the pool of counterparties willing to negotiate with Big Rivers, reducing Big
7 Rivers' ability to buy and sell power on favorable terms and impairing its ability to
8 compete in the wholesale power and credit markets.

9 30. Accordingly, the public disclosure of the information that Big Rivers
10 seeks to protect pursuant to KRS 61.878(1)(c)(1) would provide Big Rivers'
11 competitors with an unfair commercial advantage. As such, the Commission should
12 grant confidential treatment to the Confidential Information.

13 **III. Time Period**

14 31. Pursuant to 807 KAR 5:001 Section 13(2)(a)(2), Big Rivers requests
15 that the Confidential Information be afforded confidential treatment for the time
16 periods explained below.

17 32. With regard to Big Rivers' responses and/or the attachments to Big
18 Rivers' responses to PSC 2-8, SC 2-2, and SC 2-32, Big Rivers requests that the
19 Confidential Information in the Nebraska contracts be afforded confidential
20 treatment indefinitely pursuant to the Commission's September 10, 2014, order in
21 P.S.C. Case No. 2014-00134. Big Rivers requests that the confidential terms of the
22 other power sales agreements, and the related revenue projects, also remain
23 confidential indefinitely because the competitive harm resulting from public

1 disclosure of confidential contract terms is not time dependent for the reasons
2 stated above.

3 33. Big Rivers requests that the Confidential Information contained in the
4 focused audit progress reports attached to its response to SC 2-1 be afforded
5 confidential treatment for the time periods contained in the Commission's letters
6 granting confidential treatment to that information, for the reasons stated in those
7 letters and the related petitions.

8 34. Big Rivers requests that all other Confidential Information remain
9 confidential for a period of five (5) years from the date of this petition, which should
10 allow sufficient time for the projected data to become sufficiently outdated such that
11 it could not be used to determine similar confidential information at that time or to
12 competitively disadvantage Big Rivers.

13 **IV. Conclusion**

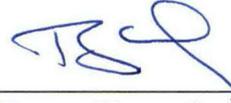
14 35. Based on the foregoing, the Confidential Information is entitled to
15 confidential treatment pursuant to 807 KAR 5:001 Section 13 and KRS 61.878. If
16 the Commission disagrees that Big Rivers' Confidential Information is entitled to
17 confidential treatment, due process requires the Commission to hold an evidentiary
18 hearing. *See Utility Regulatory Comm'n v. Kentucky Water Serv. Co., Inc.*, 642
19 S.W.2d 591 (Ky. App. 1982).

20 WHEREFORE, Big Rivers respectfully requests that the Commission grant
21 this petition and classify and treat as confidential the Confidential Information.

22

1 On this the 14th day of September, 2018.

2 Respectfully submitted,

3
4 

5
6 _____
7 Tyson Kamuf
8 Corporate Attorney
9 Big Rivers Electric Corporation
10 201 Third Street
11 P.O. Box 727
12 Henderson, Kentucky 42419-0024
13 Phone: (270) 844-6185
14 Facsimile: (270) 827-1201
15 tyson.kamuf@bigrivers.com

16 *Counsel for Big Rivers Electric*
17 *Corporation*

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SEP 14 2018

PUBLIC SERVICE
COMMISSION



Your Touchstone Energy® Cooperative 

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

2017 INTEGRATED RESOURCE PLAN OF)
BIG RIVERS ELECTRIC CORPORATION)

Case No.
2017-00384

Responses to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated
August 16, 2018

FILED: September 14, 2018

ORIGINAL

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 1)** *Refer to Big Rivers' response to PSC 1-6, which is referenced in*
2 *your response to SC 1-3(a).*

3 *a. Produce the April 4, 2017, Progress Report referenced therein.*

4 *b. Produce each and every other Progress Report that Big Rivers has*
5 *created in response to the 2014 Focused Management and*
6 *Operations Audit.*

7 *c. Produce any workpapers, modeling input and output files, and*
8 *documents regarding the evaluation of various considerations for*
9 *the Coleman Station referenced therein.*

10 *d. Identify the date or time frame in which the evaluation referenced*
11 *therein was carried out.*

12 *e. State whether Big Rivers is implementing any recommendations*
13 *regarding the Coleman Station made in the evaluation referenced*
14 *therein.*

15 *i. If so, identify each such recommendation and what steps Big*
16 *Rivers is taking to implement it.*

17 *ii. If not, explain why not.*

18

19 **Response)**

20 *a. Please see Big Rivers' response to sub-part b.*

21 *b. REDACTED versions of the requested Focused Management Audit*
22 *Progress Reports for April 6, 2016, October 6, 2016, April 6, 2017, and*

Case No. 2017-00384

Response to SC 2-1

**Witnesses: Robert W. Berry (a. and b. only) and
Michael T. Pullen (c., d., and e. only)**

Page 1 of 2

BIG RIVERS ELECTRIC CORPORATION
2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384

Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018

September 14, 2018

1 October 6, 2017, are attached hereto. CONFIDENTIAL versions of these
2 reports are provided with a Petition for Confidential Treatment.

3 c. Please see Big Rivers' response to sub-part b.

4 d. Coleman Analysis was presented to the Big Rivers' Board of Directors on
5 February 17, 2017.

6 e. Please see Big Rivers' response to sub-part b.

7

8

9 Witnesses) Robert W. Berry (*a. and b. only*) and

10 Michael T. Pullen (*c., d., and e. only*)

11

Case No. 2017-00384

SC 2-1b (RWB) (Att) - Focused Audit Progress Reports

- April 1, 2016

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

I. RECOMMENDATION REFERENCE

Chapter: VI
Recommendation Number: 1
Recommendation Statement: Big Rivers should consider adding a member with energy expertise to the Board of Directors.
Implementation Priority: Medium
Utility Person Responsible: Robert W. Berry

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> x </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Assess with Board the areas of energy expertise that could be of most assistance to Board of Directors and consider pros and cons of adding new director with energy expertise.	11/20/2015	01/21/2016
2. Board of Directors to consider adding a new director with energy expertise.	01/21/2016	04/06/2016
3. If adding new Board member or undertaking any corresponding or alternative next steps, complete that action.	04/06/2016	10/06/2016

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 1.1

Big Rivers' Board of Directors ("Board") engaged ACES to prepare a Gap Analysis to assess the Directors' knowledge of critical energy issues and the number and depth of potential knowledge gaps as a resource for the Board to use as it considers whether a new Board member with energy expertise is needed. ACES completed its work on the Gap Analysis during an on-site visit at Big Rivers' headquarters building on February 22, 2016. The Directors will receive the evaluation from ACES prior to the April Board meeting.

Implementation Step 1.2

The Directors will review and discuss the results of the Gap Analysis prepared by ACES during the April Board meeting. The results will assist the Board in determining if the Board should add a new Board member with energy expertise.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 1.1

This step is complete.

Implementation Step 1.2

The Directors will evaluate the Gap Analysis prepared by ACES as they consider adding a new Board member with energy expertise. Big Rivers anticipates completion of this step during the second quarter of 2016.

Implementation Step 1.3

Big Rivers' Board of Directors will take action on this step, if necessary, pending the outcome of its evaluation of the need to add a new Board member with energy expertise.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

I. RECOMMENDATION REFERENCE

Chapter: VII

Recommendation Number: 2

Recommendation Statement: Big Rivers should continue to develop in-house expertise in terms of price forecasting and MISO market knowledge to develop more informed price forecasts, but only to the degree that it supports Big Rivers' mission and core business.

Implementation Priority: High

Utility Person Responsible: Mark J. Eacret

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> x </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

Implementation Steps	Start Date	Projected Completion Date
1. Design organization to implement Recommendation.	2014 Q3	12/31/2015
2. Recruit and retain qualified individuals to fill organizational requirements.	2014 Q3	2016 Q2
3. Begin development of models necessary to utilize price forecasts and support wholesale market interactions.	2015 Q1	2016 Q2

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

Implementation Steps (continued)	Start Date	Projected Completion Date
4. Develop and implement ongoing training programs to maintain and improve expertise of Big Rivers' personnel to achieve the goals of this Recommendation.	2016 Q1	2016 Q2
5. Continue to leverage ACES' expertise in the development of price forecasts and MISO market knowledge.	On-Going	On-Going

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 2.1

With a number of critical business decisions and many possibilities to be analyzed, Big Rivers determined it needed a team dedicated to strategic planning. In 2014, Big Rivers made plans to restructure its Strategic Planning and Risk Management department to be that dedicated strategic planning team. This restructuring involved the creation of three new positions and the purchase of production cost modeling software, enabling modeling and analysis to be completed in-house.

Additionally, during 2015, Big Rivers made several changes within the Energy Services department that aligned with implementation of the recommendation. Two vacant positions were filled and a new position was created. This additional manpower added depth to Big Rivers' MISO¹ market knowledge and freed existing personnel to focus in more detail on MISO market issues.

Implementation Step 2.2

Big Rivers completed the restructure of the Strategic Planning and Risk Management department by March 2015 when it filled the three new positions and purchased PLEXOS from Energy Exemplar as the production cost modeling software. The team members are listed below:

Duane Braunecker accepted the position of Director Strategic Planning and Risk Management in November 2014. He will lead the team and be responsible for corporate strategic planning, modeling and risk management. Duane began his

¹ MISO=Midcontinent Independent System Operator, Inc.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

career with Big Rivers in 2003 as a Chemical Engineer and served as the plant liaison and lab supervisor for Coleman Station during the construction of the Coleman Station flue gas desulfurization system. In 2007, Duane worked as Production Supervisor for Coleman Station, and in 2010, he was promoted to Manager Production Services working out of the company headquarters. Duane holds a Bachelor of Science degree in Chemical Engineering from Rose Hulman Institute of Technology.

Chris Warren accepted the position of Manager Financial Planning and Analysis in January 2015. He will be responsible for managing and overseeing all activities associated with financial forecasting and analysis. Chris has over 19 years of experience in accounting and finance. Since joining Big Rivers over 14 years ago, he has held lead roles in budgeting and forecasting along with various other assignments, including involvement in the last two rate case proceedings. Chris holds Bachelor of Science degrees in Accounting and Business Administration from Kentucky Wesleyan College.

Charles Jones accepted the position of Manager Generation Planning and Analysis in January 2015. He will be responsible for managing and overseeing all activities associated with production cost modeling and analysis. Charles began working for Big Rivers in 2004 as a Chemical Engineer supervising the lab at Sebree Station. In 2006, Charles became a Production Supervisor at Green Station and then moved into the position of Performance/Environmental Specialist in 2010. Charles received his Bachelor of Science degree in Chemical Engineering from the University of Kentucky.

Charles Shelton accepted the position of Risk Analyst in March 2015. He will be responsible for assisting with the identification, planning and execution of Big Rivers' strategic planning activities and in the continued development of Big Rivers' risk management program. Charles has over 10 years of experience working in the utility and financial services industries. Charles joined Big Rivers in 2014 as the Debt and Regulatory Accountant. He is a Certified Public Accountant in the Commonwealth of Kentucky. Charles holds a Bachelor of Science degree in Business Administration from the University of Louisville and a Bachelor of Science degree in Accounting and Professional Services from the University of Southern Indiana.

The staffing changes made in the Energy Services Department were as follows:

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 1, 2016

The position of Vice President of Energy Services was filled in April of 2015 by Mark Eacret. Mark has over thirty years of energy industry experience at Cinergy and Ameren, with over twenty years of that in electricity marketing and trading environments. He also spent a year as part of a team transitioning Sunflower Electric Corp into an RTO². He holds Bachelor of Science in Accounting and Master of Business Administration with a concentration in finance degrees from Indiana University.

In June of 2015, Big Rivers filled the vacant Energy Analyst position with Michael Schulz. While at Alcoa's Warrick Plant for nearly ten years, Michael was deeply involved in Alcoa's MISO activities, including topics such as settlements, disputes, meter data management, behind the meter generation, ancillary services, load modifying resources, and routine MISO interactions. Michael is a Navy veteran, with undergraduate degrees in Human Resources Management from the Milano School of Urban Management and a bachelor's degree in Organizational Management and master's degree in Entrepreneurship from Ashford University.

In December of 2015, Big Rivers filled the new position of MISO Settlements Supervisor in the Energy Services organization with Elizabeth Tutor, who has extensive RTO experience that complements Big Rivers' existing accounting expertise and will assist in critical evaluation of MISO settlement statements. Before joining Big Rivers, Elizabeth was Manager of Accounting - Retail at Dynegy Inc. Prior to working for Dynegy Inc., she held several settlement and accounting positions across Ameren Corporation between 1999 and 2013, including Supervisor of Retail Settlements. In those positions, she gained experience and expertise in large customer invoicing, retail settlement, RTO Settlements, including MISO and PJM, trade analysis, margin reporting, revenue budgeting and forecasting, emissions settlement, and many other areas related to utility settlements. Elizabeth is a 1999 graduate of Kennesaw State University in Kennesaw, Georgia with a Bachelor of Business Administration degree in Accounting as well as a 2009 Master of Business Administration graduate of Webster University in Webster, Missouri.

Implementation Step 2.3

Big Rivers completed contract negotiations with Power Costs, Inc. ("PCI") for licensing of PCI's P&L Analyzer, which is part of PCI's MISO Market software solution system. The P&L Analyzer will be a hosted system accessed via web

² RTO=Regional Transmission Organization.

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 1, 2016

browser to gain a detailed look at daily profit and loss across DA/RT³ Market interactions in order to recognize opportunities for improvement in Big Rivers' daily resource allocation and load consumption hedging plans as well as a detailed analysis of MISO expenses. Implementation is expected by year-end 2016.

Big Rivers purchased PLEXOS, a production cost modeling software, from Energy Exemplar in February 2015. PLEXOS was set up and running in March 2015. The Strategic Planning and Risk Management team completed 28 hours of training to use PLEXOS. The training was in the form of five webinars. Big Rivers completed its portfolio model in PLEXOS in February 2016 and began utilizing this model for forecasting and scenario analysis.

Big Rivers also re-evaluated its sources for market information. Historical and forward prices of electricity, natural gas, and capacity and the industry background information needed to evaluate that data are critical inputs to any price forecast. Big Rivers replaced several smaller sources for such information with SNL Financial ("SNL"). The prior services limited the number of employees who could have access, while SNL may be used by any Big Rivers employee. SNL also has more in-depth data and background information than was available from the other sources. This change creates savings of over \$10 thousand annually and provides a more comprehensive enterprise-wide solution.

Implementation Step 2.4

Big Rivers incorporated a MISO online training requirement into its 2016 Individual Development Plans for appropriate Energy Services employees. Big Rivers incorporated PLEXOS training requirements in its 2016 performance objectives for appropriate Strategic Planning and Risk Management employees. Big Rivers will continue to utilize Energy Exemplar's on-line service support, training webinars and user group training to gain expertise and knowledge in using PLEXOS.

Implementation Step 2.5

Big Rivers is an owner of ACES, which employs 240 people in the energy risk management business including wholesale trading. ACES transacts nationwide for its members and has successfully developed and executed hedge plans for excess energy and capacity for the last 10 years. The aggregated size of ACES' members and customers exceeds 50,000 MW of resources and load, with a high concentration

³ DA/RT=day-ahead/real-time.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

in structured markets like MISO. ACES employs sophisticated modeling tools in risk management and position management.

ACES has worked closely with Big Rivers for the last six months on several recommendations to support Big Rivers' wholesale market interaction. Some of the proposals evaluated for Big Rivers in the last six months include [REDACTED]. Additionally ACES' Transmission group analyzes the congestion, or basis, component for all Big Rivers' applicable pricing nodes. ACES updates the basis component semi-annually, with the most recent update occurring in early 2016.

In late 2015, ACES formed the position of Managing Director of Capacity Markets. This position is charged with keeping up with changes to the MISO capacity market and also developing a methodology to forecast MISO auction clearing prices for capacity across multiple zones. In the last six months, Big Rivers has evaluated multiple power sales agreements. Some of the power sales agreements that were evaluated possessed zonal capacity basis risk to Big Rivers. ACES used its internally developed MISO capacity price forecast to evaluate the risks associated with such agreements. ACES also provided LMP⁵ basis forecasts from the Transmission group to evaluate the risks associated with energy delivery at different points across the grid, according to particular power sales agreements.

With regard to the evaluation of power sales agreements, ACES has engaged in significant work associated with a potential contract with [REDACTED] and the Nebraska wholesale agreements in particular. The evaluation process for these agreements has involved numerous departments within ACES to dissect settlements, transmission arrangements, contractual terms, and operational details in terms of strategy and implementation. ACES formed a team in 2015 to specifically track and manage the implementation of the Nebraska municipal loads into Big Rivers' portfolio.

ACES has also made several recommendations with regard to short to mid-term energy and capacity sales according to a three year hedging strategy developed by Big Rivers and ACES in 2015 to address price risk in the energy and capacity markets, while Big Rivers continues to evaluate the best future use of its plants for the benefit of its Members. The work that ACES does in the areas of trade execution, marketing, risk management, credit, contracting, legal, analytical support, and settlements complements and supports the work that is done in Risk

⁴ [REDACTED]

⁵ LMP=Locational Marginal Pricing.

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 1, 2016

Management and Energy Services. As an ACES owner, Big Rivers is able to utilize the services of ACES in these areas on an as-needed basis, rather than maintaining a large staff of its own. This is a cost-effective way for Big Rivers to access additional price forecasting, wholesale market, and RTO expertise. Big Rivers interacts with ACES daily and we meet onsite at least quarterly to discuss, strategize, and execute initiatives that are important to organizational success.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 2.1

This step is complete. Big Rivers does not contemplate further action.

Implementation Step 2.2

This step is complete. Big Rivers does not contemplate further action.

Implementation Step 2.3

Big Rivers will begin implementation of the PCI P&L Analyzer.

Implementation Step 2.4

Big Rivers will continue training efforts related to PLEXOS software and continue the development of models and scenarios in PLEXOS.

Big Rivers will continue to include a MISO training component in Energy Services employees' development plans.

Implementation Step 2.5

Big Rivers will continue to work with ACES on price forecasts and MISO market knowledge and hold period meetings to discuss issues and review results.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

I. RECOMMENDATION REFERENCE

Chapter: VIII

Recommendation Number: 3

Recommendation Statement: Big Rivers should commence a study on the sale, retirement or redevelopment of the Coleman facility, maintain the optionality around Wilson at this time and revisit strategic options for the facility in the next two to three years.

Implementation Priority: High

Utility Person Responsible: Robert W. Berry

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> x </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Develop scope and timeline for strategic study to analyze decommissioning and redevelopment of Coleman Station.	2016 Q1	2016 Q2
2. Commence and/or continue financial analysis regarding sale and decommissioning of Coleman Station.	2015 Q2	2016 Q 4

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

Implementation Steps (continued)	Start Date	Projected Completion Date
3. Complete strategic options analysis study.	N/A	2016 Q4

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 3.1

The scope of the strategic study to be performed by Big Rivers is:

- o sale at [REDACTED]
- o sale at [REDACTED]
- o conversion of Coleman Station to natural gas
- o decommissioning and retiring in place
- o decommissioning and repurposing the facility for future development (brown field)
- o valuation of Coleman Station related to Clean Power Plan compliance options in Kentucky

Big Rivers anticipates completing the first five strategic items by year-end 2016. The last item regarding the Clean Power Plan compliance options will not be complete until there is more clarity surrounding the Clean Power Plan. Big Rivers expects this could be as late as mid-year 2018.

Implementation Step 3.2

Big Rivers completed a financial analysis on Coleman Station for (1) sale at [REDACTED], (2) sale at [REDACTED] and (3) decommissioning and retiring in place. This financial analysis utilized Big Rivers' 2014-2028 long-term financial plan and was presented to the Big Rivers' Board of Directors at the July 2015 board meeting. Big Rivers will update this financial analysis utilizing the 2015-2029 long-term financial plan and updates to the assumptions used in the previous analysis.

Implementation Step 3.3

Big Rivers engaged Burns and McDonnell to perform a formal decommissioning study for Coleman Station. The study was completed by Burns and McDonnell and is under final review by Big Rivers' management. Big Rivers intends to use the results from the study in its financial modeling activities related to this recommendation.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

Big Rivers and the boiler OEM¹ have had discussions regarding natural gas conversion and costs for Coleman Station. Big Rivers' personnel are developing expected operating and maintenance costs for potential operation as a gas fired unit. Big Rivers will utilize these costs and operational inputs in its models to provide a financial analysis regarding converting Coleman Station to natural gas.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 3.1

Development of the scope and timeline for the strategic study to analyze decommissioning and redevelopment of Coleman Station is complete. Big Rivers does not contemplate further action.

Implementation Step 3.2

The financial analysis regarding the sale and decommissioning of Coleman Station will continue throughout the next reporting period.

Implementation Step 3.3

The financial analysis regarding the conversion of Coleman Station to natural gas will continue throughout the next reporting period.

¹ OEM=Original Equipment Manufacturer.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

I. RECOMMENDATION REFERENCE

Chapter: VIII
Recommendation Number: 4
Recommendation Statement: Big Rivers should continue to pursue increased sales to existing and new load, including new Members.
Implementation Priority: High
Utility Persons Responsible: Robert W. Berry and Mark J. Eacret

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> x </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Continue to pursue fundamental activities under the Mitigation Plan.	On-Going	On-Going
2. Proactively evaluate strategies to improve the effectiveness of Mitigation Plan efforts.	On-Going	On-Going
3. Report on activities in first and second six-month reports.	04/06/2016	10/06/2016

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 4.1

Big Rivers continues to hedge its price exposure until long-term contracts can be put in place:

Date	MWs
[REDACTED]	

Also since September 30, 2015, the following activities have occurred relative to short-term capacity marketing:

1. [REDACTED]
2. [REDACTED]

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

3.

4.

5.

6.

Longer Term Marketing Activity Since September 30, 2015

1.

2.

3.

4.

5.

6.

7.

8.

Implementation Step 4.2

Big Rivers' Energy Services Department discusses its hedging and marketing strategies with Big Rivers' senior management and the Board of Directors at least monthly and confers with ACES on potential transactions.

1

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

Big Rivers' Board of Directors has approved increased transaction authority for Big Rivers' President and Chief Executive Officer. This increase provides the flexibility to hedge higher volumes up to three years forward.

Energy Services asked ACES to survey the market for prices on monthly call options. Big Rivers has not used this product in the past. The market is thin and prices are low. Big Rivers has taken no action for now.

Big Rivers has developed a work plan and had begun working through the steps necessary to begin service to new Nebraska customers² beginning in 2018.

Other actions taken by Big Rivers related to the Mitigation Plan are described in this report in the sections on Recommendations 2, 3, and 5.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Steps 4.1, 4.2 and 4.3

Big Rivers will continue to work through contractual issues with potential long-term counterparties.

Big Rivers will participate in the 2015/2016 MISO Planning Resource Auction to sell any capacity not otherwise committed beforehand.

Big Rivers will continue to leverage its existing Nebraska customer base to secure additional long-term Nebraska load.

Other actions contemplated by Big Rivers related to the Mitigation Plan are described in this report in the sections on Recommendations 2, 3, and 5.

² Nebraska customers are the Northeast Nebraska Public Power District; the City of Wake-field, Nebraska; and the City of Wayne, Nebraska.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

I. RECOMMENDATION REFERENCE

Chapter: VIII

Recommendation Number: 5

Recommendation Statement: Big Rivers should pursue discussions with Lenders and the Commission to address restrictions around the sale of Coleman and commence a study on the strategic options for the facility.

Implementation Priority: High

Utility Persons Responsible: Robert W. Berry and Lindsay N. Barron

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> x </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Review and analyze credit documents.	2015 Q1	2016 Q1
2. Meet with Lenders as necessary to discuss ways to reduce or eliminate applicable restrictions.	2016 Q2	2016 Q4
3. If applicable, seek necessary approvals for modified credit agreements or documents.	TBD	TBD

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 1, 2016

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 5.1

Big Rivers engaged its external financial counsel to review and analyze its credit documents in an effort to address restrictions that may be present regarding the sale of, or other options related to, Coleman Station. Counsel completed the analysis and provided it to Big Rivers during the first quarter of 2016.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 5.1

This step is complete. Big Rivers does not contemplate further action.

Implementation Steps 5.2 and 5.3

Big Rivers is currently reviewing the analysis of its credit documents that was prepared by its external financial counsel. Big Rivers continues to study the options surrounding Coleman Station as described in the report for Recommendation 3. Big Rivers plans to discuss any needed changes with Lenders and propose to incorporate these changes to the Indenture at the time of its next Indenture modification, currently anticipated in the next 12 months.

Case No. 2017-00384

SC 2-1b (RWB) (Att) - Focused Audit Progress Reports

- October 3, 2016

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

I. RECOMMENDATION REFERENCE

Chapter: VI
Recommendation Number: 1
Recommendation Statement: Big Rivers should consider adding a member with energy expertise to the Board of Directors.
Implementation Priority: Medium
Utility Person Responsible: Robert W. Berry

II. RECOMMENDATION STATUS

 x COMPLETE Utility considers this action plan complete and requests that it be closed.

 ON-GOING The implementation of this action plan is still in progress.

 OTHER

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Assess with Board the areas of energy expertise that could be of most assistance to Board of Directors and consider pros and cons of adding new director with energy expertise.	11/20/2015	01/21/2016
2. Board of Directors to consider adding a new director with energy expertise.	01/21/2016	04/06/2016
3. If adding new Board member or undertaking any corresponding or alternative next steps, complete that action.	04/06/2016	10/06/2016

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 1.2

Big Rivers' Board of Directors ("Board") engaged ACES to prepare a knowledge assessment ("Gap Analysis") to assess the Directors' knowledge of critical energy issues and the number and depth of potential knowledge gaps as a resource for the Board to use while it considered whether a new Board member with energy expertise was needed. ACES completed its work on the Gap Analysis on February 22, 2016. Based on the outcome of the Gap Analysis, the Board determined that it would be beneficial to the organization for all Board members to receive some additional training. The training was provided to the Board on July 15, 2016. Confidential copies of the Gap Analysis, training outline and the training document prepared by ACES are provided as Attachment 1, Attachment 2 and Attachment 3, respectively, to this report.

Overall, ACES found in its Gap Analysis that Big Rivers' Board has an appropriate level of knowledge regarding most of the risks associated with long-term power supply contracts. ACES noted only a few minor areas in which the Board should try to acquire more knowledge. ACES further stated in its conclusions and recommendations that the Board is appropriately informed, and continues to become better informed through training and its willingness to call on the expertise of Big Rivers' staff.¹ Big Rivers continues to develop that in-house expertise in price forecasting and MISO market knowledge, as is further described in the Progress Report for Focused Audit Recommendation 2. Big Rivers' Board attended the annual Member Energy Conference sponsored by ACES in June 2016 where current electric market and gas market issues are discussed and analyzed. Big Rivers anticipates that the Board will attend this conference each year.

Big Rivers' Board member Bill Denton is on the Board of Directors for ACES, serving since 2003. Big Rivers' President and CEO Bob Berry is also on the ACES Board, serving since 2014. The ACES Board meets quarterly. Mr. Denton's participation in these Board meetings provides him with exposure to additional training, experience, and a special level of knowledge related to electric markets and market activity.

As a result of the Board's consideration of the Gap Analysis, its participation in and commitment to additional training, and actions taken on implementation steps for Focused Audit Recommendation 2, it has determined that adding a new director

¹ Big Rivers Electric Corporation Board Knowledge Assessment, ACES, April 8, 2016

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

with energy expertise is not warranted. The Board and Big Rivers have concluded that the better way to position Big Rivers to mitigate the loss of the smelter load is to enhance the knowledge of the entire Board on the complexities and challenges of operating in a competitive market, while assuring the Board access, as desired, to the expertise of management and outside resources, such as ACES. This improves each director's ability to make informed judgments on behalf of Big Rivers, and to discuss these issues with his or her respective distribution cooperative board.

Implementation Step 1.3

After careful consideration, and based on the Board's determination that adding a new director with energy expertise is not warranted, Big Rivers does not contemplate further action on this Recommendation.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 1.1

This step was complete as of the first progress report. Big Rivers does not contemplate further action.

Implementation Step 1.2

This step is complete.

Implementation Step 1.3

This step is complete.

In the Matter of:

2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION

) Case No. 2017-00384
)

CONFIDENTIAL RESPONSE

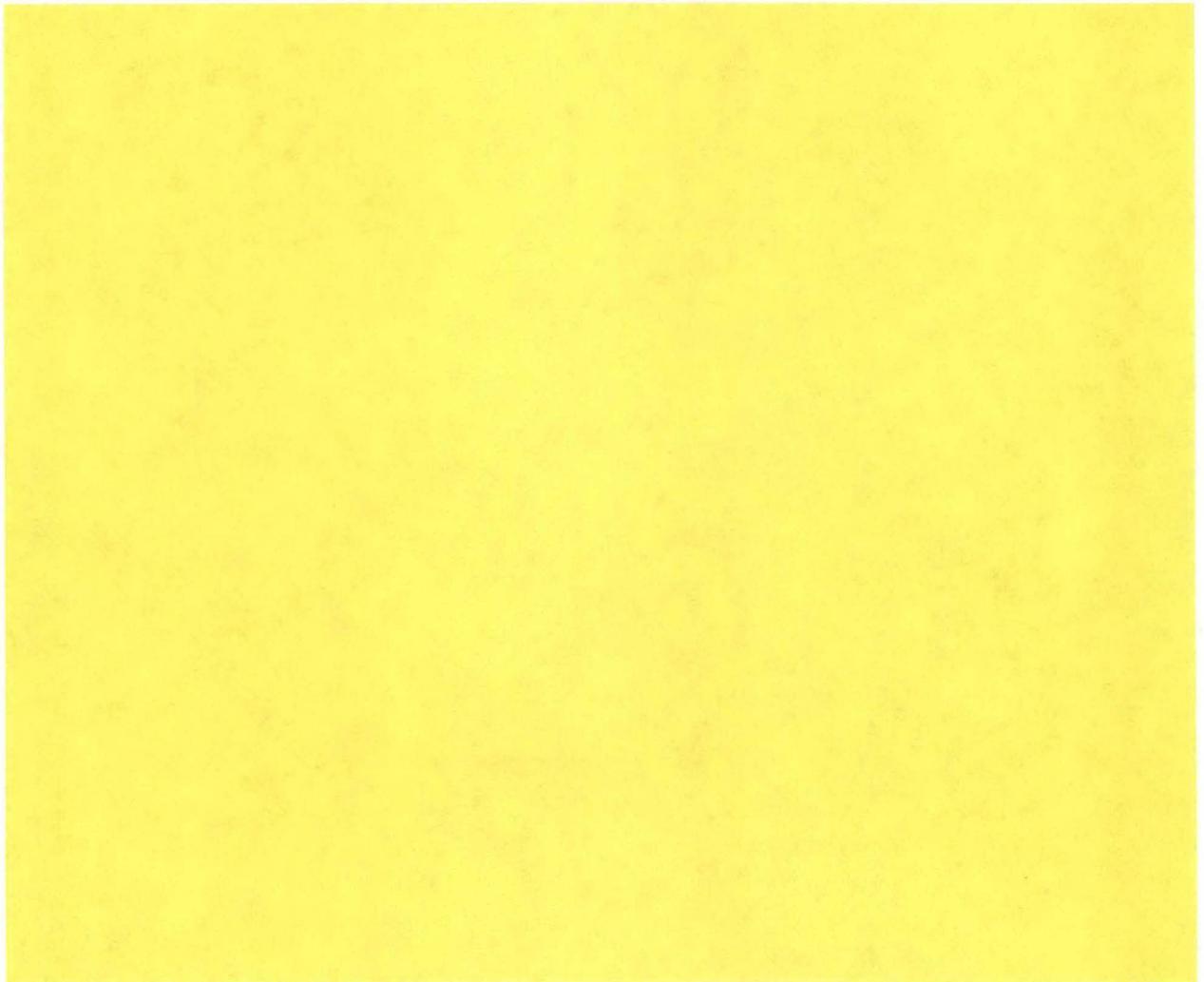
to Item 1b of Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018

FILED: September 14, 2018

Attachment 1

October 3, 2016, Focused Audit Progress Report – Recommendation 1
Big Rivers' Board Knowledge Assessment from ACES

**INFORMATION SUBMITTED UNDER PETITION FOR CONFIDENTIAL
TREATMENT**



In the Matter of:

2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION

)
) Case No. 2017-00384

CONFIDENTIAL RESPONSE

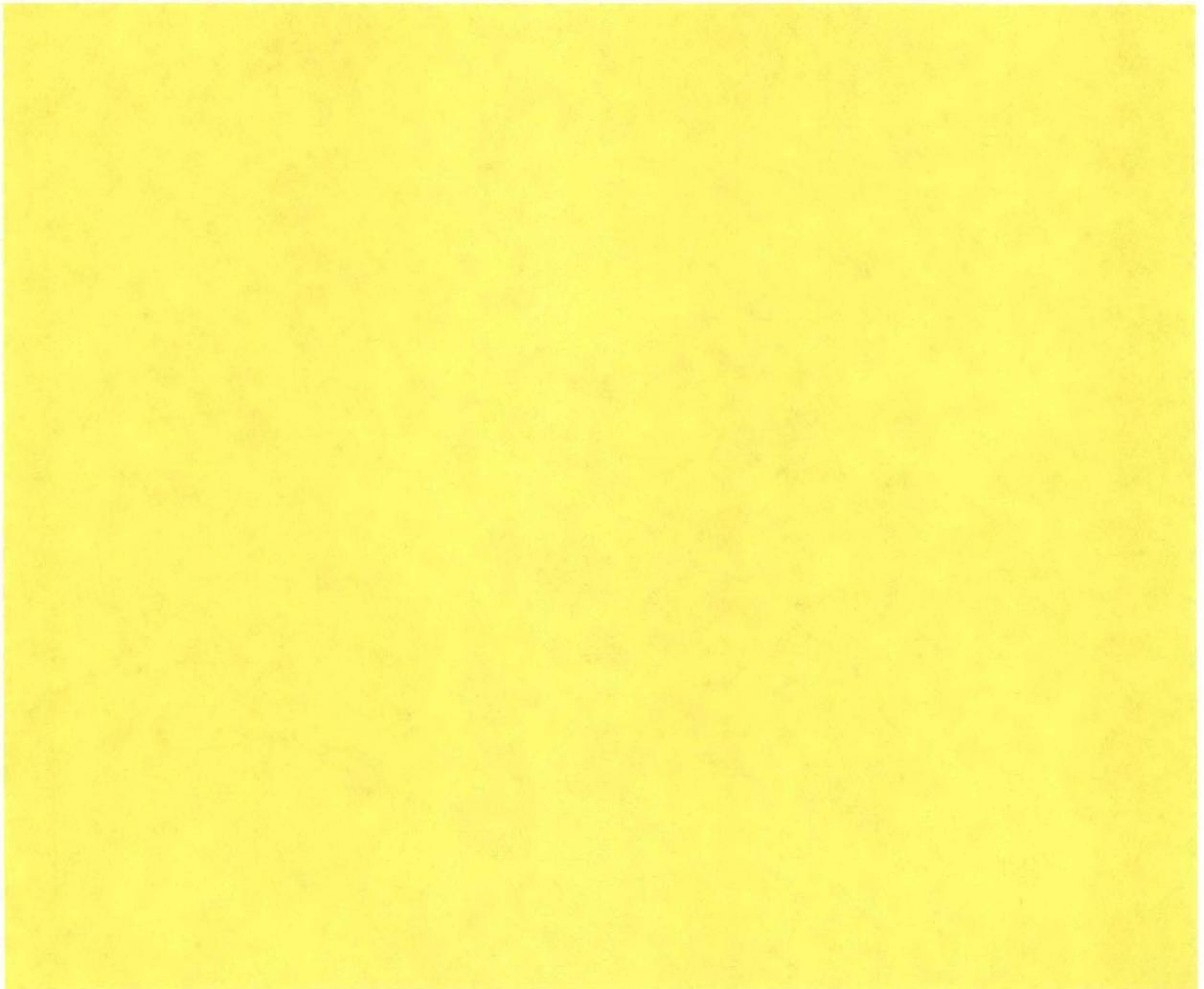
to Item 1b of Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018

FILED: September 14, 2018

Attachment 2

October 3, 2016, Focused Audit Progress Report – Recommendation 1
ACES's Training Outline – Key Long-Term Contract Risks
for Big Rivers' Board Training

**INFORMATION SUBMITTED UNDER PETITION FOR CONFIDENTIAL
TREATMENT**



In the Matter of:

2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION

)
) Case No. 2017-00384

CONFIDENTIAL RESPONSE

to Item 1b of Ben Taylor and the Sierra Club's
Supplemental Request for Information

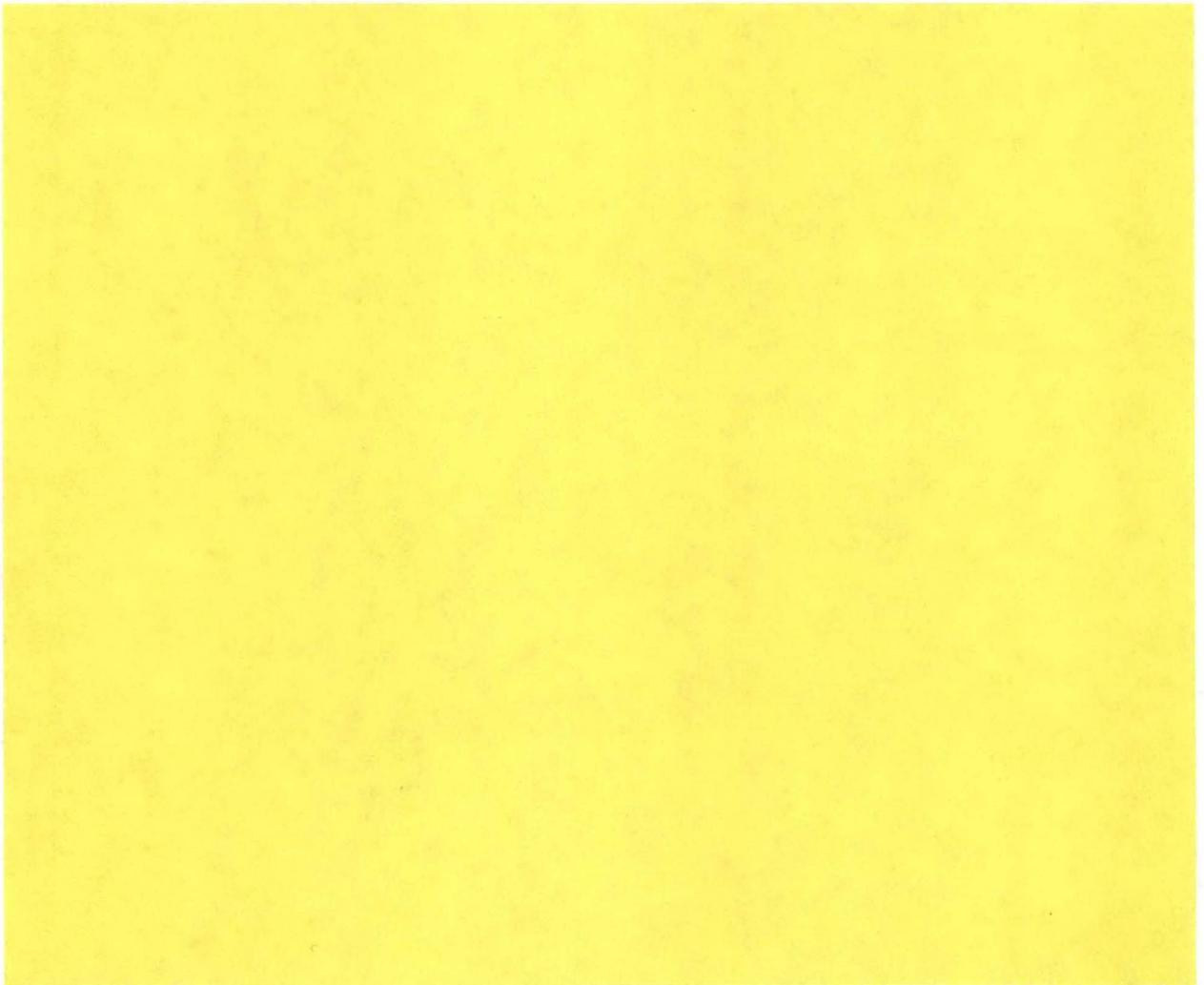
dated August 16, 2018

FILED: September 14, 2018

Attachment 3

October 3, 2016, Focused Audit Progress Report – Recommendation 1
ACES's Training – Key Long-Term Power Supply Contract Risks
for Big Rivers' Board Training

**INFORMATION SUBMITTED UNDER PETITION FOR CONFIDENTIAL
TREATMENT**



**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

I. RECOMMENDATION REFERENCE

Chapter: VII

Recommendation Number: 2

Recommendation Statement: Big Rivers should continue to develop in-house expertise in terms of price forecasting and MISO market knowledge to develop more informed price forecasts, but only to the degree that it supports Big Rivers' mission and core business.

Implementation Priority: High

Utility Person Responsible: Mark J. Eacret

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> X </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

Implementation Steps	Start Date	Projected Completion Date
1. Design organization to implement Recommendation.	2014 Q3	12/31/2015
2. Recruit and retain qualified individuals to fill organizational requirements.	2014 Q3	2016 Q2
3. Begin development of models necessary to utilize price forecasts and support wholesale market interactions.	2015 Q1	2016 Q2

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: October 3, 2016

Implementation Steps (<i>continued</i>)	Start Date	Projected Completion Date
4. Develop and implement ongoing training programs to maintain and improve expertise of Big Rivers' personnel to achieve the goals of this Recommendation.	2016 Q1	2016 Q2
5. Continue to leverage ACES' expertise in the development of price forecasts and MISO market knowledge.	On-Going	On-Going

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 2.3

In the past six months, the PCI P&L Analyzer project has been progressing at or ahead of schedule. Big Rivers data tables and historical meter files were loaded earlier than anticipated. PCI then built a hosted system on a test platform, which was tested satisfactorily and at an earlier date than expected. Then, PCI moved the system from the test platform to a permanent production hosted server, which also tested satisfactorily. Since then, there have been two training sessions on-site with two trainers, each lasting two days. The first training session centered mostly on the purpose, daily use, and functionality of the new tool. The second training provided a deeper dive into the analytics through case studies of Big Rivers-specific issues. The second training also provided Qlik-View training – the commercial software behind the P&L Analyzer – enabling the ability to create custom screens that would be more applicable to the individual user. Site Acceptance Test (SAT) of the hosted system was completed, and Big Rivers is now moving to correct a few issues so that PCI can call the installation project complete and move it to support status. At this time, users have been asked to start using the tool on a daily basis and to identify issues with_login, software, or data. Users are also starting to use the P&L Analyzer to analyze current operations.

Three issues remain to be resolved before PCI can move to support status. Regarding the first issue, data for HMP1 Generator was not completely integrated into the system due to a coding issue that has already been identified and corrected. Big Rivers is now exploring backfilling the data to May 1, 2016, to be in line with the other generators. If this is successful, Big Rivers will also explore the possibility of backfilling all data to January 1, 2016, in order to have the best representation of

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

2016. The second and third issues are related to each other. First, the PCI system is having a problem pulling data from the OATI WebTrans system in order to populate the hosted system database with the eTag and transaction schedules. Big Rivers believes the issue is related to permissions, and is working with both MISO Scheduling and OATI IT Support to identify and correct the issue. Second, as part of our contract and scope of work, Big Rivers requested to have a specific screen created to input bilateral transactions tool in order to account for the physical and financial Schedules in the overall P&L. A template is being created for that screen so that PCI can build it. Big Rivers anticipates the three issues will be resolved by the end of 2016. When these issues are complete, the installation project will be considered complete.

There are three employees primarily responsible for implementation and operation of the system. Michael Schulz, Energy Services Analyst, has primary responsibility for the implementation and operation of the PCI P&L Analyzer. Michael has prior experience with the software and software provider. Elizabeth Tutor, MISO Settlements Supervisor and Wayne O'Bryan, Director Power Supply and Market Operations, provide additional support in the effort.

Implementation Step 2.4

The Individual Development Plan of the following employees includes a requirement to complete MISO online training modules:

Natalie Hankins – Senior Power Portfolio Optimization Analyst
Wayne O'Bryan – Director Power Supply and Market Operation
Marlene Parsley – Director Resources & Forecasting
Russ Pogue – Manager Member Relations
Michael Schulz – Energy Services Analyst
Elizabeth Tutor – Supervisor MISO Settlements
Mark Eacret – Vice President Energy Service
Vickie King – Administrative Assistant

Each employee completes these modules as time permits and MISO is constantly adding new modules. Big Rivers anticipates that all employees will complete the process by the end of 2017.

Charles Jones, Manager Generation Planning and Analysis has the responsibility of being the main user of PLEXOS, Big Rivers' production cost model software. Charles completed 28 hours of webinar training and attended three days of

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

PLEXOS beginners' training at Energy Exemplar's facility in Columbus, Ohio, in May 2016. Charles also utilizes Energy Exemplar's online support service for answers to questions. Charles continues to improve his skills and understanding of PLEXOS with daily on the job use of the program. Big Rivers anticipates that Charles will be fully trained to perform all of Big Rivers' modeling needs by the first quarter of 2017 although with any software there will always be ongoing updates and training.

The remaining members of the Strategic Planning and Risk Management department have the task of acquiring the ability to operate the PLEXOS software at least at a beginner's level. They have completed this task by completing 28 hours of webinar training from Energy Exemplar. The group will continue to learn and improve their PLEXOS knowledge with future Energy Exemplar training (webinars) and on the job training/use of the software. These employees are:

Duane Braunecker – Director Strategic Planning and Risk Management
Chris Warren – Manager Financial Planning and Analysis
Charles Shelton – Risk Analyst III

Implementation Step 2.5

Big Rivers has been working to expand the number of counterparties with which it has enabling agreements. The contract group at ACES has been assisting in the effort, and several enabling agreements have been executed over the past few months. Additionally, Big Rivers has been working on long-term contracts with a group of five municipalities in Missouri, the KyMEA, and an energy marketing company over the past six months. ACES contract support is used to work through initial drafting and review, prior to utilizing our legal counsel to work toward final contracts.

ACES assists in the review of the potential of Requests for Proposals received. ACES transmission personnel evaluate the price basis between Big Rivers' generation and the delivery point specified in the document, both for capacity and for energy, and provide input on any unique provisions of the request.

As Big Rivers prepares to serve its Nebraska customers beginning January 1, 2018, ACES transmission personnel have been submitting the necessary Transmission Service Requests and monitoring SPP Resource Adequacy and transmission requirements to ensure that the customers are served reliably at the lowest cost.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

Big Rivers Energy Services and occasionally Risk Management participate in quarterly meetings with ACES support personnel. Meetings during 2016 have been held on February 16, May 10, and August 16. The meetings generally last four to six hours. Typical topics will include a review of portfolio strategy, wholesale customer-specific issues, portfolio modeling, capacity and capacity markets, settlements, and transmission. Big Rivers attendees usually include:

Natalie Hankins – Senior Power Portfolio Optimization Analyst
Wayne O'Bryan – Director Power Supply and Market Operation
Marlene Parsley – Director Resources & Forecasting
Russ Pogue – Manager Member Relations
Michael Schulz – Energy Services Analyst
Elizabeth Tutor – Supervisor MISO Settlements
Mark Eacret – Vice President Energy Service
Charles Jones – Manager Generation Planning and Analysis
Charles Shelton – Risk Analyst III
Duane Bruanecker – Director Strategic Planning and Risk Management

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 2.1

This step was complete as of the first progress report. Big Rivers does not contemplate further action.

Implementation Step 2.2

This step was complete as of the first progress report. Big Rivers does not contemplate further action.

Implementation Step 2.3

The PCI P&L Analyzer installation will be complete by year end.

Implementation Step 2.4

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

Big Rivers will continue training efforts related to PLEXOS software and continue the development of models and scenarios in PLEXOS.

Big Rivers will continue to include a MISO training component in Energy Services employees' development plans.

The development and implementation of the training programs is complete. Big Rivers does not contemplate further action for this implementation step.

Implementation Step 2.5

Big Rivers will continue to work with ACES on price forecasts and MISO market knowledge and hold periodical meetings to discuss issues and review results.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

I. RECOMMENDATION REFERENCE

Chapter: VIII

Recommendation Number: 3

Recommendation Statement: Big Rivers should commence a study on the sale, retirement or redevelopment of the Coleman facility, maintain the optionality around Wilson at this time and revisit strategic options for the facility in the next two to three years.

Implementation Priority: High

Utility Person Responsible: Robert W. Berry

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> X </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Develop scope and timeline for strategic study to analyze decommissioning and redevelopment of Coleman Station.	2016 Q1	2016 Q2
2. Commence and/or continue financial analysis regarding sale and decommissioning of Coleman Station.	2015 Q2	2016 Q 4

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

Implementation Steps (continued)	Start Date	Projected Completion Date
3. Complete strategic options analysis study.	N/A	2018

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 3.1

The scope of the strategic study to be performed by Big Rivers is:

1. sale at [REDACTED]
2. sale at [REDACTED]
3. conversion of Coleman Station to natural gas
4. decommissioning and retiring in place
5. decommissioning and repurposing the facility for future development (brown field)
6. valuation of Coleman Station related to Clean Power Plan compliance options in Kentucky

Big Rivers anticipates completing the first five strategic items by year-end 2016. The last item regarding the Clean Power Plan compliance options will not be complete until there is more clarity surrounding the Clean Power Plan. Big Rivers expects this could be as late as mid-year 2018.

The sales price values were determined for each of the two Coleman Station sale scenarios to provide Big Rivers the anticipated bounds of the likely sales price scenarios that will allow Big Rivers to analyze future bids for Coleman Station. The analysis of the [REDACTED] sales price will give Big Rivers information assuming a sale of the Coleman Station near net book value. The analysis of the [REDACTED] sales price will provide information assuming a sale of the Coleman Station near scrap value. Together, these two scenarios provide Big Rivers the bounds for analysis of future bids for Coleman Station.

Implementation Step 3.2

Big Rivers completed a financial analysis on Coleman Station for (1) sale at [REDACTED], (2) sale at [REDACTED] and (3) decommissioning and retiring in place. This financial analysis utilized Big Rivers' 2014-2028 long-term financial plan and was presented to the Big Rivers' Board of Directors at the July 2015 board meeting. Big

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

Rivers will update this financial analysis utilizing the 2015-2029 long-term financial plan and updates to the assumptions used in the previous analysis.

Big Rivers expects to present the updated analysis to the Board by year-end 2016.

Implementation Step 3.3

Big Rivers engaged Burns and McDonnell to perform a formal decommissioning study for Coleman Station. The study was completed and reviewed during this reporting period. Big Rivers intends to use the results from the study in its financial modeling activities related to this recommendation.

Big Rivers and the boiler OEM¹ have had discussions regarding natural gas conversion and costs for Coleman Station during this reporting period. Big Rivers' personnel have developed expected operating and maintenance costs for potential operation as a gas fired unit. Big Rivers will utilize these costs and operational inputs in its models to provide a financial analysis regarding converting Coleman Station to natural gas.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 3.1

Development of the scope and timeline for the strategic study to analyze decommissioning and redevelopment of Coleman Station is complete. Big Rivers does not contemplate further action.

Implementation Step 3.2

The financial analysis regarding the sale of Coleman Station, decommissioning of Coleman Station in place, and decommissioning and repurposing the facility for future development (brown field) will be updated utilizing the 2015-2029 long term financial forecast and presented to the board prior to the next progress report filing in April 2017. This work is anticipated to be completed by the end of year 2016.

Implementation Step 3.3

¹ OEM=Original Equipment Manufacturer.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

Big Rivers anticipates completing the financial analyses related to conversion of Coleman to natural gas prior to the next progress report filing. In fact, this work is anticipated to be completed by the end of year 2016. As stated earlier, the last item regarding the Clean Power Plan compliance options will not be complete until there is more clarity surrounding the Clean Power Plan. Big Rivers expects this could be as late as mid-year 2018.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

I. RECOMMENDATION REFERENCE

Chapter: VIII
Recommendation Number: 4
Recommendation Statement: Big Rivers should continue to pursue increased sales to existing and new load, including new Members.
Implementation Priority: High
Utility Persons Responsible: Robert W. Berry and Mark J. Eacret

II. RECOMMENDATION STATUS

<u> X </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Continue to pursue fundamental activities under the Mitigation Plan.	On-Going	On-Going
2. Proactively evaluate strategies to improve the effectiveness of Mitigation Plan efforts.	On-Going	On-Going
3. Report on activities in first and second six-month reports.	04/06/2016	10/06/2016

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 4.1, 4.2 and 4.3

Hedging:

Big Rivers continues to hedge its price exposure until long-term contracts can be put in place:

For the fourth quarter of 2016, ████████ MWh of physical and financial hedges have been executed. This, when combined with member sales, is estimated to hedge ████████ of forecasted on-peak generation and ████████ of forecasted off-peak generation.

For 2017, ████████ MWh of physical and financial hedges have been executed. This, when combined with member sales, is estimated to hedge ████████ of forecasted on-peak generation and ████████ of forecasted off-peak generation.

For 2018, ████████ MWh of physical and financial hedges have been executed. This, when combined with member sales, is estimated to hedge ████████ of forecasted on-peak generation and ████████ of forecasted off-peak generation.

Big Rivers has not formalized its hedging and marketing strategies into a written document. However, the strategy is to find long-term cost-based customers for the generation made available by the loss of the smelters.

The tactics for finding long-term cost-based replacement load are to encourage organic load growth with economic development rates and to seek additional off-system customers through responding to RFPs, making proposals to potential counterparties, contacts at conferences and seminars, ACES intermediaries, our existing customers in Nebraska, and cold calls. However, such contracts are hard to find, time-consuming to negotiate, and usually involve long notice requirements to incumbent suppliers.

For instance, Big Rivers' existing Nebraska customers provided notice to their incumbent supplier in 2013. While their contract with Big Rivers was signed that same year, deliveries will not begin to phase in until 2018 and 2019. Full-requirements service from Big Rivers does not begin until 2022.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

Similarly, the members of the Kentucky Municipal Energy Agency (“KyMEA”) provided notice to their incumbent supplier in 2014. Big Rivers was among a group of three successful respondents to an RFP issued by the KyMEA in 2015. The contract between the KyMEA and Big Rivers was signed in July of 2016. Service will begin in June of 2019.

So until additional long-term, cost-based customers are identified, Big Rivers will hedge its exposure to the energy spot market with bilateral hedges. In general,

- [REDACTED]
- [REDACTED]
- [REDACTED]

This hedging activity will reduce the exposure of Big Rivers to the volatile spot energy markets and contribute to the stability of earnings and cash flow found desirable by the credit rating agencies.

Relative to short-term capacity marketing:

In April of 2015, the 2015/2016 MISO Planning Resource Auction (“PRA”) cleared for Zone 6 at \$3.48/MW/Day.¹ [REDACTED]

In April of 2016, the 2016/2017 MISO PRA cleared for Zone 6 at \$72/MW/Day.² [REDACTED]

¹ Link to the MISO news release for the 2015/2016 Planning Resource Auction:
<https://www.misoenergy.org/AboutUs/MediaCenter/PressReleases/Pages/MISOClearsThirdAnnualPlanningResourceAuction.aspx>.

² Link to the MISO news release for the 2016/2017 Planning Resource Auction:
<https://www.misoenergy.org/AboutUs/MediaCenter/PressReleases/Pages/MISOClearsFourthAnnualPlanningResourceAuction.aspx>.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Longer-term marketing:

Big Rivers executed an agreement with the KyMEA in July, with deliveries to begin in 2019. The transaction is contingent upon regulatory approvals, approval by local municipal government, and acquisition of necessary transmission. State regulatory and creditor approval requests have been filed, the local municipalities have approved the transaction, and transmission requests are being processed.

As Big River stated in Recommendation #4 on page 4 of the Progress Report dated April 1, 2016, Big Rivers continues to leverage its existing Nebraska customer base to secure additional long-term Nebraska load. [REDACTED]

[REDACTED]

[REDACTED]

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: October 3, 2016

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 4.1, 4.2 and 4.3

Big Rivers will continue to pursue fundamental activities under the Mitigation Plan and proactively evaluate strategies to improve the effectiveness of Mitigation Plan efforts as part of its normal course of business. As Big Rivers achieves further successes, long-term contracts will be submitted to the Commission for approval. Big Rivers is currently seeking regulatory approval for the KyMEA contract. Big Rivers reported on activities related to this Recommendation in its first and second six-month reports as contemplated by Implementation Step 4.3. With the filing of this progress report, all Implementation Steps for Recommendation 4 have been completed.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 3, 2016

I. RECOMMENDATION REFERENCE

Chapter: VIII

Recommendation Number: 5

Recommendation Statement: Big Rivers should pursue discussions with Lenders and the Commission to address restrictions around the sale of Coleman and commence a study on the strategic options for the facility.

Implementation Priority: High

Utility Persons Responsible: Robert W. Berry and Lindsay N. Barron

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> x </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Review and analyze credit documents.	2015 Q1	2016 Q1
2. Meet with Lenders as necessary to discuss ways to reduce or eliminate applicable restrictions.	2016 Q2	2016 Q4
3. If applicable, seek necessary approvals for modified credit agreements or documents.	TBD	TBD

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: October 3, 2016

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 5.1

Big Rivers engaged its external financial counsel to review and analyze its credit documents in an effort to address restrictions that may be present regarding the sale of, or other options related to, Coleman Station. Counsel completed the analysis and provided it to Big Rivers during the first quarter of 2016.

The analysis by counsel evaluated potential covenants relating to the retirement or sale of the Coleman Station included in Big Rivers' Indenture, RUS Loan Contract, CoBank Loan Agreement, CFC Loan Agreement, and the Syndicated Credit Facility.

The analysis by counsel indicated that the key possible impediments to a potential sale or retirement of Coleman Station could be 1) gaining RUS approval, 2) potential impacts to equity levels required in the Syndicated Credit Facility, 3) impacts to future borrowing potential as a result of diminishing Bondable Additions in the Indenture.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 5.1

This step is complete. Big Rivers does not contemplate further action.

Implementation Steps 5.2 and 5.3

Big Rivers continues to study the options surrounding Coleman Station as described in the report for Recommendation 3. Big Rivers has begun discussing potential changes with Lenders and intends to propose to incorporate these changes to the Indenture at the time of its next Indenture modification, currently anticipated in the next 12 months.

Case No. 2017-00384

SC 2-1b (RWB) (Att) - Focused Audit Progress Reports

- April 3, 2017

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 3, 2017

I. RECOMMENDATION REFERENCE

Chapter: VII

Recommendation Number: 2

Recommendation Statement: Big Rivers should continue to develop in-house expertise in terms of price forecasting and MISO market knowledge to develop more informed price forecasts, but only to the degree that it supports Big Rivers' mission and core business.

Implementation Priority: High

Utility Person Responsible: Mark J. Eacret

II. RECOMMENDATION STATUS

<u> X </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Design organization to implement Recommendation.	2014 Q3	12/31/2015
2. Recruit and retain qualified individuals to fill organizational requirements.	2014 Q3	2016 Q2
3. Begin development of models necessary to utilize price forecasts and support wholesale market interactions.	2015 Q1	2016 Q2

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 3, 2017

Implementation Steps (continued)	Start Date	Projected Completion Date
4. Develop and implement ongoing training programs to maintain and improve expertise of Big Rivers' personnel to achieve the goals of this Recommendation.	2016 Q1	2016 Q2
5. Continue to leverage ACES' expertise in the development of price forecasts and MISO market knowledge.	On-Going	On-Going

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 2.1

This step is complete. Big Rivers does not contemplate further action.

Implementation Step 2.2

This step is complete. Big Rivers does not contemplate further action.

Implementation Step 2.3

As of November 15, 2016, the PCI P&L Analyzer installation project team handed our hosted services off to the PCI Client Services department. However, there were three outstanding issues to be resolved before sending the remaining installation project invoice and payment. Two of those issues have been resolved. The first issue involved a coding error that did not completely integrate the HMP1 Generator data into the system. This error has been corrected and tested – the system is now integrating HMP1 Generator data. Additionally, Big Rivers had requested that PCI backfill data to May 1, 2016, so that all Generators have the same beginning point of data. This step has also been completed. The second issue involved a coding issue that prevented the P&L Analyzer from pulling our MISO¹ Grandfathered Agreement (“GFA”) eTag data from the OATI e-Tagging system. This error required the implementation of coding solutions by the MISO IT department. With OATI support, this issue has been resolved for all MISO Market Participants and now the system is extracting our GFA data properly.

¹ Midcontinent Independent System Operator, Inc.

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 3, 2017

The last remaining issue involved ISO² bilateral hedging transactions that were pulled into P&L Analyzer, but were not segregated in a way that facilitated analysis. Some transactions were combined rather than being visible individually. Financial bilateral hedges or hedges originating outside of MISO were not visible at all. Big Rivers originally requested that PCI create a bilateral input screen to help simplify the need, but PCI decided to approach this issue in a manner that would enhance their system for other users. PCI has implemented coding changes that allow a search, segregation, and aggregation by transaction name for physical MISO hedges. This solution is currently being tested. Once testing is complete, the new coding will be placed into production. The issue of financial or non-MISO hedges remains unresolved, but it is a very small part Big Rivers' hedging strategy. The PCI Project team continues to work on this issue, but considers it an enhancement. The PCI Client Service team is now our direct contact with any issues, updates, or other needed services. The PCI P&L Analyzer is being used by both Energy Services and Production personnel on a regular basis.

Implementation Step 2.4

This step is complete. Big Rivers does not contemplate further action.

Implementation Step 2.5

Big Rivers continues to leverage ACES³ expertise in the development of price forecasts and MISO market knowledge. Big Rivers does not contemplate further reporting action.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 2.1

This step was complete as of the first progress report. Big Rivers does not contemplate further action.

Implementation Step 2.2

This step was complete as of the first progress report. Big Rivers does not contemplate further action.

² Independent System Operator.

³ ACES is a nationwide energy management company.

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 3, 2017

Implementation Step 2.3

Big Rivers continues to work with ACES as described in previous progress reports. The PCI software is now in production and subject to normal maintenance and enhancements as requested. Big Rivers does not contemplate further action.

Implementation Step 2.4

This step was complete as of the second progress report. Big Rivers does not contemplate further action.

Implementation Step 2.5

Big Rivers will continue to work with ACES on price forecasts and MISO market knowledge and hold periodic meetings to discuss issues and review results. Big Rivers does not contemplate further reporting action on this implementation step.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 3, 2017

I. RECOMMENDATION REFERENCE

Chapter: VIII

Recommendation Number: 3

Recommendation Statement: Big Rivers should commence a study on the sale, retirement or redevelopment of the Coleman facility, maintain the optionality around Wilson at this time and revisit strategic options for the facility in the next two to three years.

Implementation Priority: High

Utility Person Responsible: Robert W. Berry

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> X </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

Implementation Steps	Start Date	Projected Completion Date
1. Develop scope and timeline for strategic study to analyze decommissioning and redevelopment of Coleman Station.	2016 Q1	2016 Q2
2. Commence and/or continue financial analysis regarding sale and decommissioning of Coleman Station.	2015 Q2	2016 Q 4

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 3, 2017

<u>Implementation Steps (continued)</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
3. Complete strategic options analysis study.	N/A	2016 Q4

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 3.1

Development of the scope and timeline for the strategic study to analyze decommissioning and redevelopment of Coleman Station is complete. Big Rivers does not contemplate further action.

Implementation Step 3.2

The financial analysis regarding the sale and decommissioning of the Coleman Station was presented to the Big River's Board of Directors during its regularly scheduled board meeting on February 17, 2017. This presentation is included with this report as confidential Attachment 1.

The results of the updated Coleman Analysis are:

1. Sale of the Coleman Station at [REDACTED] results in a base rate [REDACTED].
2. Sale of the Coleman Station at [REDACTED] results in a base rate [REDACTED].
3. Conversion to natural gas generation of Coleman units 1, 2, and 3 results in an effective rate [REDACTED].
4. Decommissioning and retiring in place of the Coleman Station results in a base rate [REDACTED].
5. Decommissioning and repurposing the Coleman Station for future development (brown field) results in a base rate [REDACTED].

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 3, 2017

Natural gas availability

Big Rivers has been in discussion with natural gas providers regarding availability of natural gas transportation to the Coleman Station. To provide sufficient natural gas service for Coleman units 1, 2, and 3, an 11.74 mile, twelve-inch pipeline installation connecting the Coleman Station to the Midwestern Gas main pipeline is required. The indicative cost for this project is [REDACTED]. A summary of the Coleman gas conversion analyses is contained in confidential Attachment 1.

Big Rivers has also had discussions with natural gas providers regarding availability of natural gas transportation to its Sebree Station. The scope of the natural gas pipeline installation varies considerably depending on the number of units at Sebree that are converted to natural gas. The indicative costs range from [REDACTED] to [REDACTED] for conversion of the Green units to the entire Sebree Station respectively.

Big Rivers has not obtained information regarding the natural gas availability for its Wilson Station.

Big Rivers has not identified a preferred plant or unit for conversion to natural gas. It continues to analyze natural gas conversion as an option to achieve compliance with future environmental regulations such as the Effluent Limitation Guidelines (ELG.)

Implementation Step 3.3

No decision has been made by the Board of Directors regarding the future of Coleman Station as of this time. Big Rivers intends to update the Board of Directors again once the future of the Clean Power Plan and its impact on Big Rivers is known. Big Rivers expects this could be no earlier than 4th quarter of 2018.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 3.1

This step was complete as of the second progress report. Big Rivers does not contemplate further action.

Implementation Step 3.2

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 3, 2017

Big Rivers does not contemplate further action regarding the financial analysis during this reporting period.

Implementation Step 3.3

As stated in the October 3, 2016 Progress Report, the financial analysis regarding the Clean Power Plan compliance options will not be complete until there is more clarity surrounding the Clean Power Plan. Big Rivers expects this could be no earlier than 4th quarter of 2018.

In the Matter of:

2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION

) Case No. 2017-00384
)

CONFIDENTIAL RESPONSE

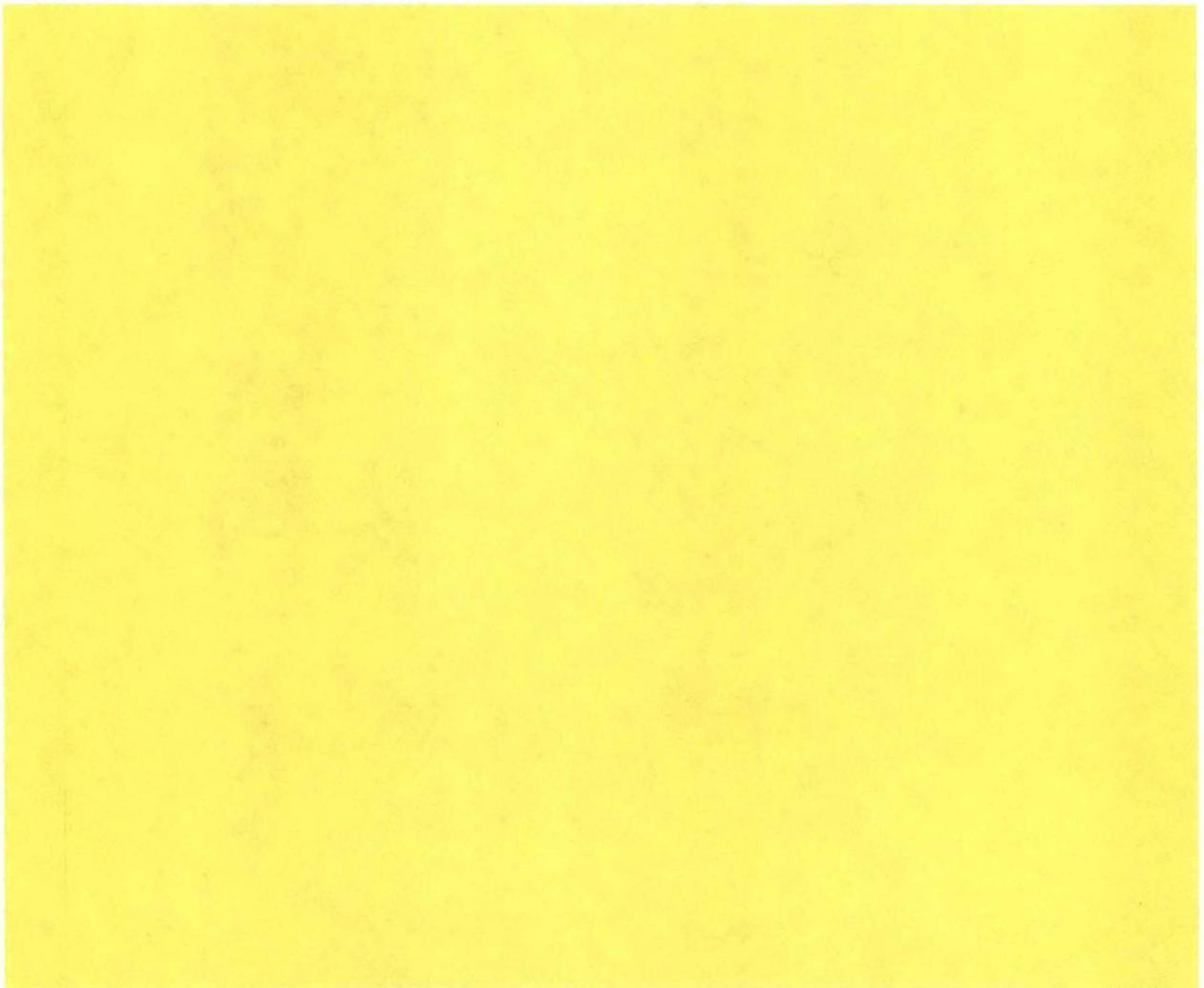
to Item 1b of Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018

FILED: September 14, 2018

Attachment

April 3, 2017, Focused Audit Progress Report – Recommendation 3
Coleman Station Analysis Presentation to Big Rivers' Board –
February 17, 2017

**INFORMATION SUBMITTED UNDER PETITION FOR CONFIDENTIAL
TREATMENT**



**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 3, 2017

I. RECOMMENDATION REFERENCE

Chapter: VIII

Recommendation Number: 4

Recommendation Statement: Big Rivers should continue to pursue increased sales to existing and new load, including new Members.

Implementation Priority: High

Utility Persons Responsible: Robert W. Berry and Mark J. Eacret

II. RECOMMENDATION STATUS

<u> X </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Continue to pursue fundamental activities under the Mitigation Plan.	On-Going	On-Going
2. Proactively evaluate strategies to improve the effectiveness of Mitigation Plan efforts.	On-Going	On-Going
3. Report on activities in first and second six-month reports.	04/06/2016	10/06/2016

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 3, 2017

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Steps 4.1, 4.2 and 4.3

Hedging:

Big Rivers continues to follow the hedging strategy described in the Progress Report dated October 3, 2016.

Through the end of February 2016, Big Rivers has hedged [REDACTED] of expected 2017 generation. This, when combined with Member sales, is estimated to hedge [REDACTED] of forecasted on-peak generation and [REDACTED] of forecasted off-peak generation.

Additionally, over [REDACTED] of expected 2018 generation has been hedged. This, when combined with Member sales, is estimated to hedge [REDACTED] of forecasted on- and off-peak generation.

All of these transactions are settled at MISO's¹ IndyHub pricing node. Through ACES², Big Rivers monitors market prices and watches for opportunities to execute hedges at prices that are consistent with achievement of financial targets and that are compliant with board-approved risk management policies. When such an opportunity is identified, Big Rivers submits a Transaction Request Form to ACES, describing the desired transaction in terms of term, product (on- or off-peak), and minimum price. ACES then seeks bids from other market participants that meet those criteria. If a satisfactory bid is received, ACES will execute the transaction on behalf of Big Rivers. Shortly thereafter, Big Rivers receives a confirmation from the counterparty through which the terms of the transaction are verified.

Under the standard transaction, Big Rivers receives a fixed contract price for the megawatt hours sold and pays the MISO hourly day-ahead price at IndyHub. The generation being hedged receives the MISO hourly day-ahead price at the generator node. In a perfect world, the day-ahead price paid at IndyHub and the day-ahead hourly price received at the generator node offset, and Big Rivers is left with the fixed contract price.

The two day-ahead prices rarely offset each other perfectly, however. Normally, there is a price difference (Basis) between the two points, which consists of

¹ Midcontinent Independent System Operator, Inc.

² ACES is a nationwide energy management company.

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 3, 2017

congestion and losses. Big Rivers partially protects itself from the congestion component of Basis volatility through the use of MISO Financial Transmission Rights ("FTR's"). In conjunction with ACES, Big Rivers evaluates the level and cost of FTR protection required for each month.

The primary hedge for the generation of Big Rivers is always Member load. In each hour, Big Rivers sells its generation into the MISO market at the floating market price and pays that same floating market price (subject to Basis as described above) for its load. The portion of Big Rivers' generation that is not hedged by Member load is hedged as described above.

Relative to short-term capacity marketing:

Big Rivers finalized a three-year sale of Zone 6 capacity to a group of municipal utilities in Missouri. The agreement was approved by the Kentucky Public Service Commission ("Commission") on November 21, 2016, and the United States Department of Agriculture's Rural Utilities Service ("RUS") on November 22, 2016.

Big Rivers finalized a six-year sale of [REDACTED] to a marketer. The agreement was approved by the Commission on November 18, 2016, and the RUS on November 22, 2016.

[REDACTED]

Additionally, over the course of the year, Big Rivers posts offers with capacity brokers to identify potential counterparties.

For the 2017/2018 MISO Planning Year, [REDACTED]

[REDACTED]

Longer-term marketing:

The 100 MW agreement with the Kentucky Municipal Energy Agency ("KyMEA") was approved by the Commission³ on December 12, 2016, and by the RUS on

³ In the Matter of: Filing of Agreement for the Purchase and Sale of Firm Capacity and Energy between Big Rivers Electric Corporation and the Kentucky Municipal Energy Agency, Case No. 2016-00306.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 3, 2017

August 18, 2016. This agreement will provide [REDACTED]
[REDACTED] There are still outstanding contingencies [REDACTED]
[REDACTED], but KyMEA advises Big Rivers that all requests are being processed
and no issues have been identified.

[REDACTED]

[REDACTED]

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 4.1, 4.2 and 4.3

Big Rivers will continue to pursue fundamental activities under the Mitigation Plan and proactively evaluate strategies to improve the effectiveness of Mitigation Plan efforts as part of its normal course of business. As Big Rivers achieves further successes, long-term contracts will be submitted to the Commission for approval. Big Rivers reported on its strategy and activities related to this Recommendation in its first and second six-month reports as contemplated by Implementation Step 4.3. All Implementation Steps for Recommendation 4 have been completed, and no further reporting action is contemplated.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: April 3, 2017

I. RECOMMENDATION REFERENCE

Chapter: VIII

Recommendation Number: 5

Recommendation Statement: Big Rivers should pursue discussions with Lenders and the Commission to address restrictions around the sale of Coleman and commence a study on the strategic options for the facility.

Implementation Priority: High

Utility Persons Responsible: Robert W. Berry and Lindsay N. Barron

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> x </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Review and analyze credit documents.	2015 Q1	2016 Q1
2. Meet with Lenders as necessary to discuss ways to reduce or eliminate applicable restrictions.	2016 Q2	2016 Q4
3. If applicable, seek necessary approvals for modified credit agreements or documents.	TBD	TBD

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 3, 2017

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 5.1

In its Second Progress Report, Big Rivers identified three potential impediments to the sale or retirement of Coleman Station. The analysis by counsel indicated that the possible impediments could be 1) gaining RUS¹ approval, 2) potential impacts to equity levels required in the Syndicated Credit Facility, and 3) impacts to future borrowing potential resulting from diminishing Bondable Additions in the Indenture. The following are updates to the three potential impediments to the sale or retirement of Coleman Station identified by Big Rivers on page 2 of

Recommendation 5 in the Second Progress Report:

1. Big Rivers will be unable to determine whether RUS will approve a sale or retirement until the transaction occurs.
2. Due to Big Rivers' lack of investment grade rating, Big Rivers is in an unfavorable position to negotiate changes to the terms of the Syndicated Credit Facility, thus the potential impact to equity will be best addressed when Big Rivers regains its investment grade credit rating.
3. Big Rivers and the RUS discussed the changes to the Indenture that will be required to mitigate the impacts to future borrowing potential resulting from diminishing Bondable Additions. Please see the section for Implementation Steps 5.2 and 5.3 immediately following this paragraph for additional details.

Implementation Steps 5.2 and 5.3

Big Rivers has had discussions with each of its three major Lenders since the last Progress Report. Big Rivers received RUS approval of the two outstanding RUS loans in September 2016. As a result, changes to the Indenture will be required to support the new loans. Big Rivers also intends to use this opportunity to make changes to the definition of retirements in the Indenture to help mitigate impacts to future borrowing potential resulting from diminishing Bondable Additions. Big Rivers had discussions with NRUCFC² and CoBank to ensure their understanding of the changes to Big Rivers' Indenture with RUS. Both Lenders verbally indicated that approval is likely.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

¹ United States Department of Agriculture Rural Development Rural Utilities Service

² National Rural Utilities Cooperative Finance Corporation

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: April 3, 2017

Implementation Step 5.1

This step is complete. Big Rivers does not contemplate further action.

Implementation Step 5.2 and 5.3

Big Rivers continues to study the options surrounding Coleman Station as described in the report for Recommendation 3. Big Rivers intends to propose to incorporate changes to the Indenture that may reduce restrictions at the time of its next Indenture modification, currently anticipated in the next 6 months.

Case No. 2017-00384

SC 2-1b (RWB) (Att) - Focused Audit Progress Reports

- October 4, 2017

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 4, 2017

I. RECOMMENDATION REFERENCE

Chapter: VII

Recommendation Number: 2

Recommendation Statement: Big Rivers should continue to develop in-house expertise in terms of price forecasting and MISO market knowledge to develop more informed price forecasts, but only to the degree that it supports Big Rivers' mission and core business.

Implementation Priority: High

Utility Person Responsible: Mark J. Eacret

II. RECOMMENDATION STATUS

<u> X </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Design organization to implement Recommendation.	2014 Q3	12/31/2015
2. Recruit and retain qualified individuals to fill organizational requirements.	2014 Q3	2016 Q2
3. Begin development of models necessary to utilize price forecasts and support wholesale market interactions.	2015 Q1	2016 Q2

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 4, 2017

<u>Implementation Steps (continued)</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
4. Develop and implement ongoing training programs to maintain and improve expertise of Big Rivers' personnel to achieve the goals of this Recommendation.	2016 Q1	2016 Q2
5. Continue to leverage ACES' expertise in the development of price forecasts and MISO market knowledge.	On-Going	On-Going

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 2.1

This step is complete. Big Rivers does not contemplate further action.

Implementation Step 2.2

This step is complete. Big Rivers does not contemplate further action.

Implementation Step 2.3

Big Rivers now considers the PCI P&L Analyzer software project complete. All outstanding issues for its implementation and usage have been resolved satisfactorily, including requests and considerations presented by Big Rivers to PCI. Big Rivers has made its final payment to PCI for this project. This project has moved to support status within Big Rivers and PCI.

Implementation Step 2.4

This step is complete. Big Rivers does not contemplate further reporting action.

Implementation Step 2.5

This step is complete. Big Rivers does not contemplate further reporting action.

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: October 4, 2017

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 2.1

This step was complete as of the first progress report. Big Rivers does not contemplate further action.

Implementation Step 2.2

This step was complete as of the first progress report. Big Rivers does not contemplate further action.

Implementation Step 2.3

This step is complete. Big Rivers does not contemplate further reporting action.

Implementation Step 2.4

This step was complete as of the second progress report. Big Rivers does not contemplate further reporting action.

Implementation Step 2.5

This step was complete as of the third progress report. Big Rivers does not contemplate further reporting action.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 4, 2017

I. RECOMMENDATION REFERENCE

Chapter: VIII

Recommendation Number: 3

Recommendation Statement: Big Rivers should commence a study on the sale, retirement or redevelopment of the Coleman facility, maintain the optionality around Wilson at this time and revisit strategic options for the facility in the next two to three years.

Implementation Priority: High

Utility Person Responsible: Robert W. Berry

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> X </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Develop scope and timeline for strategic study to analyze decommissioning and redevelopment of Coleman Station.	2016 Q1	2016 Q2
2. Commence and/or continue financial analysis regarding sale and decommissioning of Coleman Station.	2015 Q2	2016 Q 4

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 4, 2017

Implementation Steps (<i>continued</i>)	Start Date	Projected Completion Date
3. Complete strategic options analysis study.	N/A	2019 Q1

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 3.1

This step is complete. Big Rivers does not contemplate further action.

Implementation Step 3.2

There is no new or additional information regarding the future of Coleman as of the date of this October 2017 Progress Report.

Implementation Step 3.3

No decision has been made by the Board of Directors regarding the future of Coleman Station as of this time. Big Rivers intends to update the Board of Directors again once the future of the Clean Power Plan and its impact on Big Rivers is known. Big Rivers expects this could be no earlier than 4th quarter of 2018.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 3.1

This step was complete as of the second progress report. Big Rivers does not contemplate further action.

Implementation Step 3.2

Big Rivers does not contemplate further action regarding the financial analysis during this reporting period.

Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report

Date Filed: October 4, 2017

Implementation Step 3.3

As stated in the April 4, 2017, Progress Report, the financial analysis regarding the Clean Power Plan compliance options will not be complete until there is more clarity surrounding the Clean Power Plan. Big Rivers expects this could be no earlier than 4th quarter of 2018.

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 4, 2017

I. RECOMMENDATION REFERENCE

Chapter: VIII

Recommendation Number: 5

Recommendation Statement: Big Rivers should pursue discussions with Lenders and the Commission to address restrictions around the sale of Coleman and commence a study on the strategic options for the facility.

Implementation Priority: High

Utility Persons Responsible: Robert W. Berry and Lindsay N. Durbin

II. RECOMMENDATION STATUS

<u> </u>	COMPLETE	Utility considers this action plan complete and requests that it be closed.
<u> X </u>	ON-GOING	The implementation of this action plan is still in progress.
<u> </u>	OTHER	

III. IMPLEMENTATION STEPS TO ACCOMPLISH RECOMMENDATION

<u>Implementation Steps</u>	<u>Start Date</u>	<u>Projected Completion Date</u>
1. Review and analyze credit documents.	2015 Q1	2016 Q1
2. Meet with Lenders as necessary to discuss ways to reduce or eliminate applicable restrictions.	2016 Q2	2016 Q4
3. If applicable, seek necessary approvals for modified credit agreements or documents.	TBD	TBD

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 4, 2017

IV. ACTIONS TAKEN ON IMPLEMENTATION STEPS

Implementation Step 5.1

This step is complete. Big Rivers does not contemplate further action.

Implementation Steps 5.2 and 5.3

Big Rivers has had continued discussions with each of its three major Lenders since the last Progress Report. Big Rivers continues to work with the USDA's Rural Utilities Service (RUS) to complete loan documentation for the two RUS loans described in Case No. 2017-00281.¹ As noted, Big Rivers received RUS approval of the two outstanding RUS loans in September 2016. In Case No. 2017-00281, Big Rivers received Commission approval² of the Eighth Supplemental Indenture including the modifications necessary to secure the RUS loans as well as changes to the definition of retirements needed to help mitigate impacts to future borrowing potential resulting from diminishing Bondable Additions. The Eighth Supplemental Indenture is expected to be executed between now and year end when the RUS loan documents are finalized and executed. The details and terms of the two RUS loans were described by Big Rivers in Case No. 2017-00281, and the RUS loan documents will be filed with the Commission following closing of the loan, as required by the Commission's final order in that case.

V. ACTIONS CONTEMPLATED PRIOR TO NEXT RESPONSE FILING

Implementation Step 5.1

This step is complete. Big Rivers does not contemplate further action.

Implementation Step 5.2

This step is complete. Big Rivers does not contemplate further action.

¹ *In the Matter of:* Application of Big Rivers Electric Corporation for Approval to Issue Evidences of Indebtedness

² By order of the Commission dated September 18, 2017

**Big Rivers Electric Corporation
2014 Focused Management and Operations Audit
Management Audit Action Plan Progress Report**

Date Filed: October 4, 2017

Implementation Step 5.3

Big Rivers received Commission approval of the Indenture changes noted above and anticipates Step 5.3 will be complete at the closing of the RUS loans before year end.

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 2) Refer to Big Rivers' response to PSC 1-7, which is referenced in**
2 **your response to SC 1-3(c)**

3 **a. Identify the amount of capacity and the price for the contract with**
4 **Owensboro Municipal Utilities for the period June 1, 2020 through**
5 **December 31, 2026.**

6 **b. Produce a copy of the contract with Owensboro Municipal Utilities**
7 **for the period June 1, 2020 through December 31, 2026.**

8 **c. For each of the years 2020 through 2026 identify:**

9 **i. The projected gross revenues before application of expenses**
10 **for sales to Owensboro Municipal Utilities.**

11 **ii. The projected net revenues or margins after the application**
12 **of expenses for the sales to Owensboro Municipal Utilities.**

13 **iii. Each category of costs that are factored into calculating**
14 **such expenses.**

15

16 **Response)**

17 **a. Big Rivers will supply the full-requirements of Owensboro Municipal**
18 **Utilities ("OMU"), which has a peak load of approximately 180 MWs, net**
19 **of OMU's 25 MWs Southeastern Power Administration ("SEPA")**
20 **allocation. Therefore, the net supply from Big Rivers is approximately**
21 **155 MWs. After May 31, 2022, OMU has the right, but not the obligation,**
22 **to partially displace purchases from Big Rivers with up to 36 MWs of solar**

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 resources. The contract price is [REDACTED] for energy supplied from the
2 Big Rivers fleet.

3 b. Please see the Commission-approved, PUBLIC version of the OMU
4 Contract attached to this response. The CONFIDENTIAL versions of any
5 redacted pages therein are provided with a Petition for Confidential
6 Treatment.

7 c. Please see the attached PUBLIC version of a schedule of revenues and
8 expenses related to the OMU Contract. The CONFIDENTIAL version of
9 this schedule is provided with a Petition for Confidential Treatment

10

11

12 Witness) Mark J. Eacret

13

Case No. 2017-00384

**SC 2-2b (MJE)(Att) – Big Rivers–OMU Contract –
PSC-Approved 2018-07-26**

Matthew G. Bevin
Governor

Charles G. Snavely
Secretary
Energy and Environment Cabinet



Commonwealth of Kentucky
Public Service Commission

211 Sower Blvd.
P.O. Box 615
Frankfort Kentucky 40602-0615
Telephone: (502) 564-3940
Fax: (502) 564-3460
psc.ky.gov

July 26, 2018

Michael J. Schmitt
Chairman

Robert Cicero
Vice Chairman

Talina R. Mathews
Commissioner

Tyson Kamuf
Big Rivers Electric Corporation
201 Third Street
P.O. Box 24
Henderson, KY 42419-0024

RE: Filing No. **TFS2018-00318**
Agreement for the Purchase and Sale of Full-Requirements Capacity and Energy
between Big Rivers Electric Corporation and City Utility Commission of the City of
Owensboro, Kentucky.

Dear Tyson Kamuf:

The above referenced filing has been received and reviewed. An accepted copy is enclosed for your files. You may also use the following link to access documents related to this filing.

<https://psc.ky.gov/trf4/TRFListFilings.aspx?ID=TFS2018-00318>

Sincerely,

A handwritten signature in cursive script that reads "Gwen R. Pinson".

Gwen R. Pinson
Executive Director

EXECUTION VERSION

**AGREEMENT FOR THE PURCHASE AND SALE
OF FULL-REQUIREMENTS CAPACITY AND ENERGY**

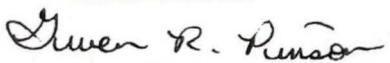
BETWEEN

BIG RIVERS ELECTRIC CORPORATION

AND THE

CITY UTILITY COMMISSION OF THE CITY OF OWENSBORO, KENTUCKY

June 22, 2018

KENTUCKY PUBLIC SERVICE COMMISSION
Gwen R. Pinson Executive Director 
EFFECTIVE 7/27/2018 PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

Section 8.6.	<u>Audit</u>	17
Section 8.7.	<u>Records</u>	17
ARTICLE IX CREDITWORTHINESS		17
Section 9.1.	<u>Buyer's Obligations</u>	17
Section 9.2.	<u>Seller's Obligations</u>	18
Section 9.3.	<u>No Margining</u>	18
ARTICLE X TRANSMISSION ARRANGEMENTS; MISO MARKET		18
Section 10.1.	<u>Transmission Service on the MISO Transmission System</u>	18
Section 10.2.	<u>Other Transmission Service</u>	18
Section 10.3.	<u>MISO Market Changes</u>	18
Section 10.4.	<u>Interconnection</u>	19
ARTICLE XI DEFAULT AND REMEDIES		19
Section 11.1.	<u>Seller Event of Default</u>	19
Section 11.2.	<u>Buyer Event of Default</u>	20
Section 11.3.	<u>Procedure and Remedies</u>	21
Section 11.4.	<u>Rights of Specific Performance</u>	21
ARTICLE XII INDEMNIFICATION		21
Section 12.1.	<u>Indemnity by Seller</u>	21
Section 12.2.	<u>Indemnity by Buyer</u>	21
Section 12.3.	<u>Further Qualifications Respecting Indemnification</u>	22
Section 12.4.	<u>Procedures Respecting Third Party Claims</u>	22
ARTICLE XIII ASSIGNMENT		23
Section 13.1.	<u>Assignment by Buyer</u>	23
Section 13.2.	<u>Assignment by Seller</u>	23
Section 13.3.	<u>Other Assignments</u>	24
Section 13.4.	<u>Notice</u>	24
Section 13.5.	<u>Effect of Assignment on Party Status</u>	24
ARTICLE XIV FORCE MAJEURE		25
Section 14.1.	<u>Force Majeure</u>	25
Section 14.2.	<u>Effect on Performance</u>	25
ARTICLE XV DISPUTE RESOLUTION		26
Section 15.1.	<u>Attempts to Resolve Dispute</u>	26
Section 15.2.	<u>Jurisdiction</u>	26
Section 15.3.	<u>Voluntary Binding Arbitration</u>	26
Section 15.4.	<u>Binding Arbitration for Certain Disputes</u>	27
ARTICLE XVI REPRESENTATIONS AND WARRANTIES		28
Section 16.1.	<u>Mutual Representations</u>	28
Section 16.2.	<u>Exclusivity of Representations</u>	28
Section 16.3.	<u>Buyer Additional Representations</u>	28
Section 16.4.	<u>Opinions of Counsel</u>	28

**KENTUCKY
PUBLIC SERVICE COMMISSION**

Gwen R. Pinson
Executive Director

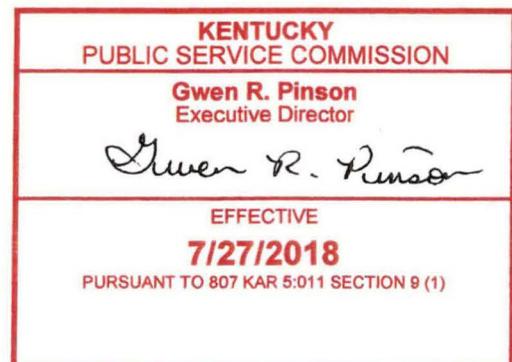
Gwen R. Pinson

EFFECTIVE
7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

ARTICLE XVII NOTICES	29
ARTICLE XVIII MISCELLANEOUS.....	30
Section 18.1. <u>No Consequential Damages</u>	30
Section 18.2. <u>Entire Agreement</u>	30
Section 18.3. <u>Governing Law; Venue and Jurisdiction</u>	30
Section 18.4. <u>Non-Waiver</u>	30
Section 18.5. <u>Severability</u>	30
Section 18.6. <u>Interpretation; Headings</u>	31
Section 18.7. <u>No Partnership or Joint Venture</u>	31
Section 18.8. <u>Confidentiality</u>	31
Section 18.9. <u>No Third-Party Benefits</u>	31
Section 18.10. <u>Amendment</u>	31
Section 18.11. <u>Further Assurances</u>	31
Section 18.12. <u>Counterparts; Electronic Copies</u>	31
Section 18.13. <u>Expenses</u>	31
ARTICLE XIX ADDITIONAL COOPERATION	32
Section 19.1. <u>Additional Cooperation and Obligations of Seller and Buyer</u>	32

EXHIBITS

Exhibit A	Monthly Energy Charge
Exhibit B	Additional Cooperation and Obligations of Seller and Buyer
Exhibit C	Addresses for Notice to Parties
Exhibit D	Form of Qualifying Letter of Credit
Exhibit E	Calculation of Price Cap(s) for Extension of Term under Article II
Exhibit F	Form of Instrument of Assignment and Assumption
Exhibit G	Mutual Confidentiality Agreement



**AGREEMENT FOR THE PURCHASE AND SALE
OF FULL-REQUIREMENTS CAPACITY AND ENERGY
BETWEEN BIG RIVERS ELECTRIC CORPORATION AND
THE CITY UTILITY COMMISSION OF THE CITY OF OWENSBORO, KENTUCKY**

This AGREEMENT FOR THE PURCHASE AND SALE OF FULL-REQUIREMENTS CAPACITY AND ENERGY (this "Agreement") is made and entered into as of this 22nd day of June, 2018 ("Effective Date"), between **Big Rivers Electric Corporation**, a generation and transmission cooperative organized and existing under the laws of the Commonwealth of Kentucky (hereinafter referred to as "Seller"), and **THE CITY UTILITY COMMISSION OF THE CITY OF OWENSBORO KENTUCKY**, a Kentucky body politic and corporate organized under KRS 96.530, also known as and doing business as Owensboro Municipal Utilities (hereinafter referred to as "Buyer").

WHEREAS, Seller is a generation and transmission cooperative engaged in, among other things, the sale of electric power at wholesale;

WHEREAS, Seller owns, operates, or has rights to several electric generating resources with a current total Installed Capacity of 1,889 megawatts, including [REDACTED] (the "Facility"); and

WHEREAS, Buyer wishes to purchase from Seller, and Seller wishes to sell to Buyer, full requirements electric energy and capacity, as set forth herein;

NOW THEREFORE, in consideration of the foregoing premises, the mutual agreements herein contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby covenant and agree as follows:

ARTICLE I

DEFINITIONS

Section 1.1. Definitions. When used in this Agreement, including any exhibits hereto, the following terms, whether used in the singular or plural, shall have the following definitions. Capitalized terms that are not defined herein shall have the meanings assigned to them in the MISO Tariff.

"AAA" has the meaning set forth in Section 15.3(a).

"Affiliate" means, with respect to any Person, any other Person that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such Person. For this purpose, "control" means the direct or indirect ownership of a majority of the outstanding capital stock or other equity interests having ordinary voting power, or otherwise having the power, directly or indirectly, to direct or cause the policies of a Person.

KENTUCKY
PUBLIC SERVICE COMMISSION
Gwen R. Pinson
Executive Director

Gwen R. Pinson

EFFECTIVE
7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

“Agreement” has the meaning set forth in the preamble.

“Bankruptcy Proceeding” means with respect to a Person, such Person (i) becomes insolvent or is unable to pay its debts or fails or admits in writing its inability generally to pay its debts as they become due, (ii) makes a general assignment, arrangement or composition with or for the benefit of its creditors, (iii) institutes or has instituted against it a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency Law or other similar Law affecting creditors’ rights, or a petition is presented for its winding-up or liquidation, and solely with respect to any such proceeding or petition that is instituted or presented by a party other than the Party with respect to which such petition or proceeding relates is not dismissed within sixty (60) days after the filing thereof, (iv) has a resolution passed for its winding-up, official management or liquidation (other than pursuant to a consolidation, amalgamation or merger), (v) seeks or becomes subject to the appointment of an administrator, provisional liquidator, conservator, receiver, trustee, custodian or other similar official for it or for all or substantially all of its assets, (vi) causes or is subject to any event with respect to it which, under applicable Law, has an analogous effect to any of the events specified in clauses (i) through (v), or (vii) takes any action in furtherance of, or indicating its consent to, approval of, or acquiescence in, any of the foregoing acts.

“Business Day” means a day that is not a Saturday, a Sunday or a day on which banking institutions are not required to be open, or are authorized or required to close, in the Commonwealth of Kentucky.

“Buyer” has the meaning set forth in the preamble.

“Buyer Event of Default” has the meaning set forth in Section 11.2.

“Buyer Investment Grade Rating” means any rating of Buyer’s general credit, or of Buyer’s long-term bonds, of at least BBB- from Fitch, BBB- from S&P, or Baa3 from Moody’s.

“Capacity” means the ability of generating equipment to produce Energy, measured in megawatts.

“Claim Notice” has the meaning set forth in Section 12.4.

“Contract Term” has the meaning set forth in Section 2.1.

“Credit Rating” means with respect to an entity providing a Qualifying Letter of Credit, on the relevant date of determination, the respective ratings then assigned to such entity’s unsecured, senior long-term debt, or deposit obligations (not supported by third party credit enhancement) by a Ratings Agency. If no rating is assigned to such entity’s unsecured, senior long-term debt or deposit obligations by any Ratings Agency, then “Credit Rating” shall mean the general corporate credit rating or long-term issuer rating assigned by a Ratings Agency, as the case may be.

“Day-Ahead Schedule” has the meaning set forth in Section 5.1(b).

“Default Interest Rate” means, for any date, the lesser of Law or (ii) the Interest Rate plus an annual rate of 2% converted 1

KENTUCKY
PUBLIC SERVICE COMMISSION
Steven R. Pinson
Executive Director
EFFECTIVE
7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

"Delivery Point" means the [REDACTED].

"Demand" has the meaning set forth in Section 15.3(a).

"Eastern Prevailing Time" means Eastern standard time or Eastern daylight time, as in effect and observed by MISO on a given day.

"Effective Date" has the meaning set forth in the preamble.

"Energy" means electricity (measured in kilowatt-hours or megawatt-hours, as the case may be).

"Facility" has the meaning set forth in the recitals.

"FERC" means the Federal Energy Regulatory Commission or its successor.

"Fitch" means Fitch Ratings, Inc. or its successor.

"Force Majeure" has the meaning set forth in Section 14.1.

"Full Requirements Service" means the energy management services and Capacity and Energy to be provided hereunder as set forth in Section 4.1.

"Hedge Entitlement" means, whether existing as of the Effective Date or in the future, any financial transmission rights, allocations, hedges, or other instruments available to holders of long term firm transmission service on the MISO transmission system that is intended to hedge, offset, or otherwise compensate the holder of such rights for the costs of congestion or other variable charges placed upon such transmission service. As of the Effective Date, Hedge Entitlements under the MISO Tariff include auction revenue rights, long term transmission rights, and financial transmission rights. Hedge Entitlement shall also include any MISO credits to Buyer for over collected losses between the Delivery Point and the Settlement Point. MISO refers to over collected losses as Real Time Distribution of Loss Amounts.

"Indemnitee" has the meaning set forth in Section 12.3.

"Indemnitor" has the meaning set forth in Section 12.3(a).

"Installed Capacity" means the installed Capacity described in the preamble and any subsequently acquired or operated electric generating resource by Seller, or right of Seller in other Capacity. Nothing in this Agreement shall be interpreted to prohibit Seller from acquiring, constructing, selling, idling, retiring, or otherwise adjusting Seller's generating resources portfolio, so long as Seller maintains sufficient Capacity to be able to satisfy its obligations under Section 4.4(a).

"Interest Rate" means, for any date, the prime rate reported in *The Wall Street Journal's* "Money Rates" column (or any similar column published in *The Wall Street Journal* in replacement thereof) for the immediately preceding Business Day. If *The Wall Street Journal* ceases to report the prime rate, the prime rate shall be the prime rate reported in *The Wall Street Journal* on the last day that it reported the prime rate.



this Agreement shall be the prevailing prime rate (or base rate) charged by major banks in the United States of America.

“KPSC” means the Public Service Commission of Kentucky.

“KU/LGE Losses” means the physical losses on the KU/LGE System, per Schedule 11 “Loss Compensation Service” of the KU/LGE Tariff, between the delivery point for each resource delivered hereunder (or, in the case of MISO Export Energy, the Settlement Point) and the OMUA sink for Buyer’s Retail Load.

“KU/LGE System” means the transmission system owned and/or operated by Kentucky Utilities Company and Louisville Gas and Electric Company.

“KU/LGE Tariff” means the open-access transmission tariff that governs the use of the KU/LGE System.

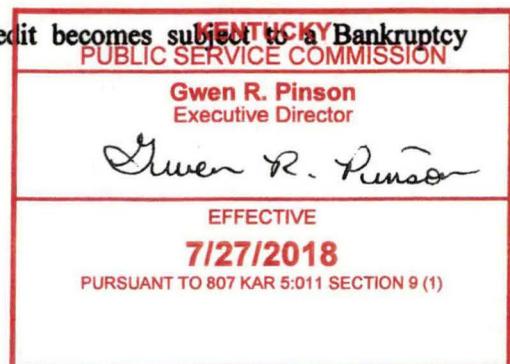
“kW” means kilowatt (a unit of Capacity).

“kWh” means kilowatt-hour (a unit of Energy).

“Law” means any law, rule, regulation, order, writ, judgment, decree or other legal or regulatory determination by a court, regulatory agency or governmental authority of competent jurisdiction.

“Letter of Credit Default” means the occurrence of any of the following events with respect to any Qualifying Letter of Credit:

- (a) The issuer of the Qualifying Letter of Credit fails to maintain a Credit Rating of at least “A-” by S&P and “A3” by Moody’s and total assets of at least \$10,000,000,000 (Ten Billion Dollars);
- (b) The issuer of the Qualifying Letter of Credit fails to comply with or perform its obligations under the Qualifying Letter of Credit;
- (c) The issuer of the Qualifying Letter of Credit disaffirms, disclaims, repudiates or rejects, in whole or in part, or challenges the validity of, such Qualifying Letter of Credit;
- (d) The issuer of the Qualifying Letter of Credit fails to honor the beneficiary Party’s properly documented request to draw on such Qualifying Letter of Credit;
- (e) Such Qualifying Letter of Credit fails or ceases to be in full force and effect at any time; or
- (f) The issuer of the Qualifying Letter of Credit becomes subject to a Bankruptcy Proceeding;



provided that no Letter of Credit Default shall occur or be continuing in any event with respect to a Qualifying Letter of Credit after the time such Qualifying Letter of Credit is canceled or returned.

“Losses” means amounts incurred by an Indemnitee as a result of Third Party Claims, including reasonable attorneys’ fees and costs of investigation, litigation, damage, expenses, settlement and judgment.

“MISO” means the Midcontinent Independent System Operator, Inc., or its successor.

“MISO Exports” has the meaning set forth in Section 4.1.

“MISO Export Energy” means, for any given period, the quantity of Energy actually delivered by MISO to LGEE for Buyer’s account in such period, as reflected on MISO’s market settlement statement to Buyer.

“MISO Tariff” means the MISO Open Access Transmission, Energy and Operating Reserve Markets Tariff, including all schedules or attachments thereto, as amended from time to time, or any successor tariff.

“Modification” has the meaning set forth in Section 15.4.

“Monthly Capacity Charge” means the charge, if any, applicable pursuant to Section 7.2.

“Monthly Energy Charge” has the meaning set forth in Section 7.1 and Exhibit A.

“Moody’s” means Moody’s Investor Services, Inc., or its successor.

“MW” means megawatt (one MW equals 1,000 kW).

“MWh” means megawatt-hour (one MWh equals 1,000 kWh).

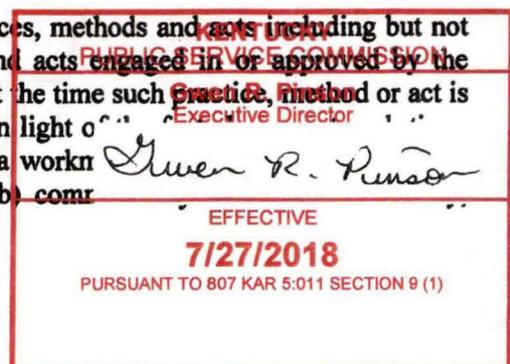
“Operating Committee” has the meaning set forth in Section 5.6.

“Party” or “Parties” means one of Seller or Buyer, or both Seller and Buyer, or their permitted assigns and transferees, as the context requires.

“Person” means any natural person, corporation, partnership, limited liability company, firm, association, trust, governmental authority or any other entity, whether acting in an individual, fiduciary or other capacity.

“Proposal” has the meaning set forth in Section 15.4.

“Prudent Utility Practices” shall mean the practices, methods and acts including but not limited to the generally accepted practices, methods and acts engaged in or approved by the operators of similar electric generating facilities which at the time such Practice, Method or act is employed, and in the exercise of reasonable judgment in light of what a prudent utility would be expected to accomplish the desired result in a work
(a) applicable Laws and governmental requirements, (b) comr



safety and environmental protection, and (c) reasonably consistent with manufacturer's technical advisory recommendations. Prudent Utility Practices shall not require the use of the optimum practice, method or act, but only require the use of acceptable practices, methods or acts generally accepted in the independent power industry in the United States.

"Qualifying Letter of Credit" means an irrevocable standby letter of credit with an initial term of at least one year for the benefit of a Party, issued by a U.S. commercial bank, a U.S. branch of a foreign bank, the National Rural Utilities Cooperative Finance Corporation or CoBank ACB, with such bank having (a) a Credit Rating of at least "A-" from S&P and "A3" from Moody's, and (b) total assets (determined in accordance with generally accepted accounting principles) of at least \$10,000,000,000 (Ten Billion Dollars), and which letter of credit (i) is substantially in the form of Exhibit D or another form of letter of credit reasonably satisfactory to the beneficiary Party, (ii) permits automatic renewal of the relevant Qualifying Letter of Credit (which may be subject to an outside stated expiration date), and (iii) may be utilized by the beneficiary Party to satisfy all present and future payment obligations of the other Party under this Agreement when due.

"Ratings Agency" means S&P, Moody's, Fitch or any other rating agency agreed to by the Parties in writing.

"Resource Adequacy Program" means any resource adequacy requirement or other form of capacity demonstration obligation applicable in any balancing authority area where Buyer's load is located, pursuant to tariffs, regulatory requirements, or other binding criteria applicable to Buyer.

"Retail Load" means Buyer's own power requirements and the power requirements of its end use customers, as measured by the revenue-quality meters used to measure Buyer's load pursuant to the KU/LGE Tariff.

"RUS" means the Rural Utilities Service, an agency of the United States Department of Agriculture.

"Schedule" or **"Scheduling"** or **"Scheduled"** means Seller's schedules for deliveries of Energy and associated NERC Tags for the entire path from the source(s) for such Energy to the OMUA sink, in accordance with Section 5.1.

"Scheduling Day" means Monday through Friday, excluding holidays observed by MISO.

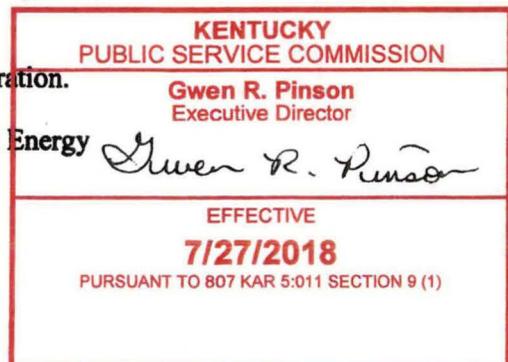
"Seller" has the meaning set forth in the preamble.

"Seller Event of Default" has the meaning set forth in Section 11.1.

"Seller Credit Rating" means any rating of Seller's general credit, or of Seller's long-term debt, from Fitch, S&P, or Moody's.

"SEPA" means the Southeastern Power Administration.

"SEPA Entitlement" means Buyer's Capacity and Energy



“Service Commencement Date” means 00:00:00 Eastern Standard Time on June 1, 2020, or such earlier date as the Parties may agree upon as provided in Section 2.2.

“Service Month” means each calendar month starting with the Service Commencement Date and ending with the month in which this Agreement terminates.

“Settlement Point” means the [REDACTED].

“Solar Entitlement” has the meaning set forth in Section 4.1.

“S&P” means S&P Global Ratings, a business division of Standard & Poor’s Financial Services, LLC, or its successor.

“Tag” or “Tagging” means electronically communicating a request for, securing approval of, and recording an energy transaction. The request will include but not be limited to the transaction size, start and end time, and the source and sink.

“Third Party Claims” has the meaning set forth in Section 12.3(a).

“Transmission Provider(s)” means the Person or Persons transmitting Energy that is Scheduled by Seller hereunder to be delivered to Buyer.

ARTICLE II

TERM

Section 2.1. Initial Term. The term of this Agreement shall commence on the Effective Date, and shall continue in effect through December 31, 2026 (the “Contract Term”), unless earlier terminated or extended in accordance with the terms of this Agreement.

Section 2.2. Service Commencement. The Parties intend that the Full Requirements Service provided for by this Agreement will begin June 1, 2020. Buyer expects that all facility additions or upgrades that are required for firm transmission service to support the provision of Full Requirements Service, as described in Section 3.3, will be completed sometime in late 2019 or the first half of 2020. Buyer shall provide at least thirty (30) days’ written notice to Seller of the completion of such facility additions or upgrades and Buyer and Seller may choose to move the Service Commence Date forward under mutually agreeable terms. The Parties’ obligations regarding Full Requirements Service shall start on the Service Commencement Date and continue through the end of the Contract Term, unless the Agreement is terminated early in accordance with the terms of this Agreement.

Section 2.3. Extension of Term. [REDACTED]

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Executive Director

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7/27/2018

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ARTICLE III

CONTINGENCIES

Section 3.1. RUS Approval.

(a) The obligations of the Parties pertaining to Scheduling, delivery, sale, purchase, and payment for Full Requirements Service under this Agreement are conditioned on approval hereof by RUS. No later than thirty (30) days after the Effective Date, Seller shall make an appropriate submission to RUS seeking the authorization for Seller to enter into and perform all of its obligations under this Agreement. Seller shall use commercially reasonable efforts to secure RUS approval. Buyer shall (at Seller's expense) cooperate with and assist Seller in securing the necessary approval from RUS; provided that to the extent any information to be provided by Buyer to RUS is deemed confidential information by Buyer, Seller will request that RUS maintain the confidentiality of any information designated by Buyer as confidential.

(b) In the event RUS should require as a condition of approval of this Agreement any material modifications of this Agreement that are unacceptable to either Seller or Buyer, each in its reasonable discretion, Seller and Buyer shall, within sixty (60) days from receipt of notice of the condition, negotiate in good faith to modify this Agreement so as to secure RUS approval. Notwithstanding the foregoing, nothing in this Section 3.1 shall be construed to require either Seller or Buyer to consent to any modification of this Agreement or any other condition or requirement imposed by RUS. If the Parties cannot agree on amendments to this Agreement that will satisfy RUS, this Agreement shall be terminated, without penalty or any further obligation on the part of Seller or Buyer, by either Party providing written notice of such termination to the other Party on or before the earlier of (i) one hundred twenty (120) days from receipt of notice of the condition, and (ii) two hundred forty (240) days from the Effective Date.

(c) If the RUS has not provided its approval by two hundred forty (240) days from the Effective Date, this Agreement may be terminated by either Party providing notice to the other Party, without penalty or further obligation on the part of Seller or Buyer.

Section 3.2. KPSC Approval.

(a) The obligations of the Parties pertaining to Scheduling, delivery, sale, purchase, and payment for Full Requirements Service under this Agreement are conditioned on approval hereof by the KPSC. No later than thirty (30) days after the Effective Date, Seller shall make an appropriate submission to KPSC seeking the authorization for Seller to enter into and perform all of its obligations under this Agreement, and requesting application. Seller shall use commercially reasonable efforts to

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7/27/2018

PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

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Executive Director

shall (at Seller's expense) cooperate with and assist Seller in securing the necessary approval from KPSC; provided that to the extent any information to be provided by Buyer to KPSC is deemed confidential information by Buyer, Seller will seek confidential treatment pursuant to the KPSC's regulations and Law of any information designated as confidential by Buyer. Buyer acknowledges that it will be required to intervene in the KPSC proceeding to protect the confidentiality of any information deemed confidential only by it.

(b) In the event KPSC should require as a condition of approval of this Agreement any material modifications of this Agreement that are unacceptable to either Seller or Buyer, each in its reasonable discretion, Seller and Buyer shall, within sixty (60) days from receipt of notice of the condition, negotiate in good faith to modify this Agreement so as to secure KPSC approval. Notwithstanding the foregoing, nothing in this Section 3.2 shall be construed to require either Seller or Buyer to consent to any modification of this Agreement or any other condition or requirement imposed by KPSC. If the Parties cannot agree on amendments to this Agreement that will satisfy KPSC, this Agreement shall be terminated, without penalty or any further obligation on the part of Seller or Buyer, by either Party providing written notice of such termination to the other Party on or before the earlier of (i) one hundred twenty (120) days from receipt of notice of the condition, and (ii) two hundred forty (240) days from the Effective Date.

(c) If the KPSC has not provided its approval by two hundred forty (240) days from the Effective Date, this Agreement may be terminated by either Party providing notice to the other Party, without penalty or further obligation on the part of Seller or Buyer.

Section 3.3. Transmission Contingency.

(a) The obligations of the Parties pertaining to Scheduling, delivery, sale, purchase, and payment for Full Requirements Service under this Agreement are conditioned on Buyer obtaining firm transmission service to support delivery of Energy to be Scheduled to Buyer hereunder. No later than sixty (60) days after the Effective Date, Buyer shall submit to the applicable transmission service providers (1) an application to include this Agreement as a new network resource under Buyer's agreement for network integration transmission service on the KU/LGE System, (2) an application for firm point-to-point transmission service on the MISO transmission system from the Delivery Point to the Settlement Point, and (3) a request for an additional interconnection to the KU/LGE System from Buyer's Elmer Smith Substation. Buyer shall use commercially reasonable efforts to obtain the transmission arrangements required by this Section 3.3.

(b) If Buyer has not been able to enter into binding agreements reasonably satisfactory to Buyer with respect to the transmission arrangements described in (a) above, then Buyer may terminate this Agreement by providing written notice to that effect to the Seller no later than February 28, 2019. Such termination shall be without penalty or further liability on the part of Seller or Buyer. If (i) one or more of Buyer's requests for firm transmission service cannot be granted in an amount sufficient to allow the entirety of Full Requirements Service to be delivered to Buyer without installation of transmission upgrades or new facilities and (ii) Buyer is willing to bear the costs of the needed upgrades or new facilities, Buyer may elect to limit the quantity of service to be provided hereunder in accordance with the applicable limitation(s) until such limitation(s) can be lifted by the installation of transmission upgrades or new facilities.

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7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

If Buyer exercises this election, its notice of such election shall be provided no later than February 28, 2019, and the Parties shall promptly meet to agree upon appropriate operating protocols (or, if necessary, amendments to this Agreement) to effectuate the reduction in service to Buyer during the period of the applicable limitation(s). If one or more of Buyer's requests for firm transmission service cannot be granted in an amount sufficient to allow the entirety of Full Requirements Service to be delivered to Buyer without installation of transmission upgrades or new facilities for which Buyer is not willing to bear the costs, Buyer may elect to permanently limit the quantity of service to be provided hereunder in accordance with the applicable firm transmission service limitation(s). If Buyer exercises this election, its notice of election, stating the manner in which the Full Requirements Service will be reduced, shall be provided no later than February 28, 2019, and the Parties shall promptly meet to agree upon appropriate operating protocols (or, if necessary, amendments to this Agreement) to effectuate the reduction in service to Buyer. Seller shall have no responsibility for costs of any upgrades or new facilities that may be needed to support the transmission requests Buyer makes pursuant to this Section 3.3(b), including the costs of studies, application fees, and construction.

Section 3.4. Deadline for Satisfaction or Waiver of Contingencies. The responsible Party for each contingency in this Article III will deliver written notice to the other Party by February 28, 2019, listing each contingency for which it is responsible and the extent to which the contingency has been satisfied, not satisfied, or not satisfied but waived. If all contingencies set forth in this Article III have not been satisfied or waived by the responsible party by February 28, 2019, this Agreement may be terminated by either Party providing notice to the other Party on or before March 29, 2019, without penalty or further obligation on the part of Seller or Buyer.

ARTICLE IV

FULL REQUIREMENTS SERVICE

Section 4.1. Nature of Full Requirements Service. Subject to and in accordance with the terms and conditions of this Agreement, during the period from the Service Commencement Date to the end of the Contract Term (including any extension thereof pursuant to Section 2.3), Seller shall provide Full Requirements Service. Full Requirements Service shall consist of Seller's energy management services and Seller's provision of Capacity and Energy from its Installed Capacity. Seller's energy management services shall include, as set forth in further detail in Article V, Scheduling and Tagging of deliveries of Energy to Buyer (sinking at its Retail Load) from its SEPA Entitlement and, as applicable, Capacity (not to exceed 36 MW) and associated Energy that is provided to Buyer from a solar generating facility pursuant to an agreement that Buyer has entered into and notified Seller of (Buyer's "Solar Entitlement"). In addition, and subject to Section 4.2, Seller shall provide, Schedule and Tag firm Energy and Capacity from Seller's Installed Capacity to the Delivery Point (with Tags sinking at Buyer's Retail Load) in amounts that will, together with the deliveries of Buyer's SEPA Entitlement and Solar Entitlement, match Buyer's Retail Load including KULGE Losses as closely as reasonably possible as it varies in real-time. Such Energy and Capacity provided pursuant to the preceding sentence is referred to herein as "MISO Exports." Seller shall [Gwen R. Pinson] for all energy imbalances incurred by Buyer under the KULGE

Retail Load and, where applicable, all generator imbalances incurred under the KU/LGE Tariff with respect to Buyer's SEPA Entitlement and Solar Entitlement and the MISO Exports.

Section 4.2. Maximum Hourly Demand. The maximum quantity of MISO Exports Seller is obligated to provide in any given hour at the pricing specified in Exhibit A shall be 285 MW. If Buyer's need for MISO Exports (*i.e.*, Buyer's Retail Load, net of any available SEPA Entitlement and/or Solar Entitlement) exceeds 285 MW in any hour, Seller will supply any excess above 285 MW at the higher of [REDACTED] (or, during any extension period, the then-applicable Energy price) or 110% of Seller's actual cost (including but not limited to MISO market costs and MISO energy costs) to provide such excess MISO Exports. If Buyer expects its need for MISO Exports to exceed 285 MW for any extended period during the Contract Term, it shall provide notice to Seller. In such event, the maximum MISO Exports under this Section 4.2 shall be adjusted to reflected Buyer's increased load, and Seller may, within thirty (30) days of receipt of Buyer's notice, propose a price at which Seller would provide an incremental amount of MISO Exports as needed to serve Buyer's increased load. If Seller has not proffered such a proposal or if Buyer declines Seller's proposal, Buyer shall have the right to acquire a supply of Energy (and, if applicable, Capacity) that will be incorporated into the Full Requirements Service hereunder in the same manner as Buyer's Solar Entitlement, in an amount not to exceed the increase in Buyer's Retail Load. If Buyer has not accepted Seller's proposal within thirty (30) days of its receipt of the proposal, Buyer shall be deemed to have declined Seller's proposal.

Section 4.3. Reliability of Service. [REDACTED]

Section 4.4. Designated Capacity for Resource Adequacy: Designated Network Resources.

(a) If at any time Buyer is subject to a Resource Adequacy Program that requires Buyer to identify specific generating resources underlying its firm power contracts, then

(i) Seller shall, upon the request of Buyer, identify Capacity from Seller's Installed Capacity (up to an amount equal to Buyer's projected annual peak hourly demand for the applicable year less any accredited Capacity attributable to Buyer's SEPA Entitlement and Solar Entitlement) that Buyer may designate as Capacity necessary to satisfy the requirements of such Resource Adequacy Program. Seller shall identify such Capacity, together with such supporting information regarding the characteristics of the resources that Buyer needs in connection with its designation of such Capacity pursuant to the terms of the Resource Adequacy Program, at least sixty (60) days prior to the deadline for Buyer's submission of such information in accordance with the Resource Adequacy Program. If at any time an entity implementing or enforcing such Resource Adequacy Program determines that such Capacity designation is not sufficient to satisfy Buyer's obligations under the Resource Ad its annual peak hourly demand (excluding plan

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7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

reasonably possible the Parties shall undertake good faith negotiations to identify revised or additional Capacity designations that are sufficient to establish Buyer's compliance with the Resource Adequacy Program.

(ii) Buyer will remain responsible for any annual capacity requirements beyond the projected annual peak hourly demand (*i.e.*, planning reserves) necessary to meet the conditions of any Resource Adequacy Program to which Buyer may become subject.

(b) If at any time additional information regarding the resources supporting Seller's obligations under this Agreement is required by any Transmission Provider(s) in order for this Agreement to qualify as a designated network resource or is otherwise required in connection with the obligations of Buyer under an applicable transmission tariff, Seller shall (at Buyer's expense) reasonably cooperate with and assist Buyer in providing the required information; provided that to the extent any information to be provided by Seller to any Transmission Provider(s) is deemed confidential information by Seller, Seller's obligation to provide such information may be conditioned upon such Transmission Provider(s) agreeing to maintain its confidentiality pursuant to a confidentiality agreement.

Section 4.5. Title and Risk of Loss. Title to and risk of loss related to MISO Exports shall transfer from Seller to Buyer at the Delivery Point. Seller warrants that it will deliver to Buyer the MISO Exports free and clear of all liens, security interests, claims and encumbrances or any interest therein or thereto by any Person arising prior to delivery at the Delivery Point.

ARTICLE V

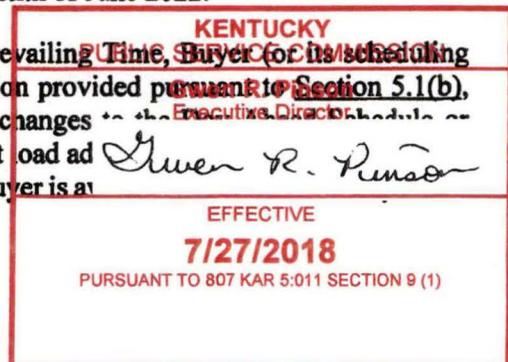
SCHEDULING; OPERATING COMMITTEE

Section 5.1. Load Forecasts: Day-Ahead Schedules.

(a) Seller shall be responsible for creating an hourly forecast of Buyer's Retail Load, including KU/LGE Losses, for each operating day.

(b) By no later than 08:00 Eastern Prevailing Time each Scheduling Day, Seller shall provide to Buyer by email or other reasonable means clearly identifying for each hour of the following operating day(s) (i) the Retail Load forecast, (ii) the quantities of Energy from Buyer's SEPA Entitlement and Solar Entitlement and the quantity of MISO Exports that Seller will Schedule and Tag for delivery to Buyer's Retail Load, which amounts shall in each hour equal in the aggregate the Retail Load forecast for that hour including KU/LGE Losses (the "Day-Ahead Schedule"). Notwithstanding the foregoing and/or any terms of the agreement for Buyer's Solar Entitlement, Seller shall have no obligation to Schedule the Solar Entitlement to serve Buyer's Retail Load under this Agreement prior to the Service Month of June 2022.

(c) By no later than 09:00 Eastern Prevailing Time, Buyer (or its scheduling agent) shall submit to Seller a response to the information provided pursuant to Section 5.1(b), which shall either (i) state that Buyer has no proposed changes to the Executive Director's schedule or (ii) provide to Seller information regarding (1) significant load and distribution facilities, or similar local changes of which Buyer is a



the forecast of Buyer's Retail Load and/or (2) a revised forecast of the hourly output available from the Solar Entitlement. Seller may use this information to adjust the Day-Ahead Schedule.

(d) In conformance with the Day-Ahead Schedule and all applicable deadlines established by NERC, MISO, the contract for Buyer's SEPA Entitlement, and the KU/LGE Tariff, Seller shall perform all day-ahead Scheduling and Tagging activities necessary for the delivery of Energy to Buyer's Retail Load from Buyer's SEPA Entitlement, Buyer's Solar Entitlement, and the MISO Exports.

(e) Absent Buyer's failure to provide the information specified in Section 5.1(c)(ii)(1), Seller shall be solely responsible for the accuracy of the forecasts of Buyer's Retail Load and any costs incurred as a result of deviations between the forecasts and actual Retail Load.

(f) Seller and Buyer may agree in writing to a different procedure for developing Day-Ahead Schedules at any time, and the Parties agree that the deadlines for exchanging information for the Day-Ahead Schedules shall be adjusted to match any changes in the day-ahead bid submission deadlines for applicable MISO markets and any applicable deadlines pursuant to the KU/LGE Tariff.

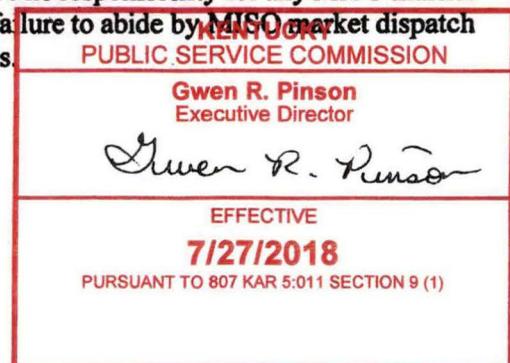
Section 5.2. Real-Time Schedule Adjustments. Buyer and Seller will coordinate their efforts to enable Seller (at its own cost) to receive, in real-time, ICCP telemetered data for (i) Buyer's Retail Load and, (ii) if applicable and available, the Solar Entitlement output. Seller shall use such data (and other data that may be made available through efforts of the Operating Committee) to update and make adjustments to the Day-Ahead Schedule in accordance with Prudent Utility Practices.

Section 5.3. MISO Provisions.

(a) Buyer shall be responsible for settling directly with MISO for all MISO Exports Energy, subject to reimbursement by Seller pursuant to Exhibit A.

(b) If Buyer receives from MISO an allocation of Hedge Entitlements between the Delivery Point and the Settlement Point that stem from the transmission service obtained by Buyer pursuant to Section 3.3(a) and would be in effect during any period on or after the Service Commencement Date, Buyer shall transfer those rights or allowances to Seller for its own use to manage congestion and losses with respect to the MISO Exports during the applicable period (not to exceed the end of the Contract Term). Effective as of the date of termination of this Agreement, Seller shall transfer all such Hedge Entitlements back to Buyer.

(c) Seller shall be responsible for payment of all uninstructed deviation or other deployment failure charges imposed under the MISO Tariff resulting from the operation of (or failure to operate) any Installed Capacity. Buyer shall have no responsibility for any MISO market penalties, charges, or other costs resulting from Seller's failure to abide by MISO market dispatch instructions and/or signals, rules, standards, and protocols.



Section 5.4. SEPA Entitlement.

(a) In performing its energy management services with respect to the SEPA Entitlement, Seller shall comply with all applicable requirements of Buyer's agreement with SEPA, a copy of which has been provided to Seller. Buyer shall promptly provide to Seller a copy of any amendments made to such agreement.

(b) Buyer shall be responsible for settling directly with SEPA for the SEPA Entitlement, subject to reimbursement by Seller pursuant to Exhibit A.

Section 5.5. Solar Entitlement.

(a) In performing its energy management services with respect to the Solar Entitlement, Seller shall comply with all applicable requirements of Buyer's agreement with the seller of such entitlement, a copy of which will be provided to Seller (subject to any necessary redactions and/or commitment by Seller to comply with confidentiality requirements). Buyer shall promptly provide to Seller a copy of any amendments made to such agreement that would affect Seller's obligations hereunder.

(b) Buyer shall be responsible for settling with the seller of the Solar Entitlement for all Energy supplied from the Solar Entitlement.

Section 5.6. Operating Committee. The Parties shall form a committee to exchange information and coordinate with respect to matters relating to the performance of this Agreement ("Operating Committee"). Each Party shall appoint at least one representative to serve on the Operating Committee. The Parties shall notify each other in writing of such appointments and any changes thereto. The Operating Committee shall have no authority to modify the terms or conditions of this Agreement. Seller shall schedule meetings of the Operating Committee by mutual agreement of the representatives no less frequently than annually. Matters to be reviewed by the Operating Committee shall include, without limitation, the following:

(a) Establishing and maintaining operating procedures including those pertaining to information transfers between the Parties. This would include but not be limited to transmission service schedules, load forecasting, telemetry, and systems required to insure data transfer quality and requirements.

(b) Discussing system planning, operations plans, and procedures as required to maintain compliance with SERC and NERC requirements as they relate to the Parties' performance of this Agreement.

(c) Discussing and reviewing any transmission line outages or deratings on the Seller's system that could potentially affect Seller's performance of its obligations under the Agreement.

(d) Establishing the means by which Hedge Entitlements will be transferred from one Party to the other in accordance with Section 5.3(b).



(e) Considering and possibly developing pseudo-tie or dynamic scheduling arrangements to support the provision of Full Requirements Service hereunder.

(f) Beginning in 2025, discussing and reviewing projections of the pricing caps for the extension of the Contract Term presented in Exhibit E.

Meetings of the Operating Committee may be conducted in person or by telephone, and each Party may elect to have one or more individuals attend any such meeting on behalf of the Party in addition to the Party's appointed representative. Within a reasonable time after the conclusion of each meeting of the Operating Committee, Seller shall provide a written summary or summaries of such meeting, including a description of issues discussed and decisions agreed upon by the Parties. The Parties intend that confidential information provided by a Party in conjunction with the activities of the Operating Committee will be subject to the Mutual Confidentiality Agreement attached to this Agreement as Exhibit G.

ARTICLE VI

FAILURE TO DELIVER OR RECEIVE

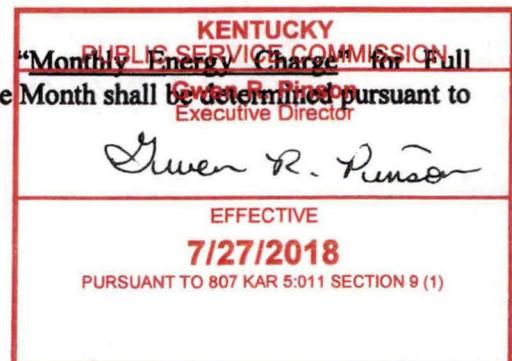
Section 6.1. Seller's Failure. Seller's obligations to provide Full Requirements Service, including selling and delivering MISO Exports, shall be excused only to the extent that, and for the period during which, such performance is prevented by Force Majeure or by the non-performance of Buyer. Seller's performance shall not be excused by full or partial unavailability of Seller's Installed Capacity, or any curtailment or interruption of transmission service supporting Seller's delivery of MISO Exports to the Delivery Point that was not caused by Force Majeure. If Seller is unable to deliver MISO Exports due to Force Majeure, it will exercise all commercially reasonable efforts to procure and deliver Energy to Buyer and Buyer shall pay Seller all costs incurred by Seller for the Energy. If Seller fails to deliver to Buyer all or part of the Full Requirements Service required by Buyer, and such failure is not excused, then Seller shall make Buyer whole for all costs Buyer incurs as a result of such performance failure that exceed the costs Buyer would have incurred hereunder if Seller had performed.

Section 6.2. Buyer's Failure. Buyer's obligation to receive Energy Scheduled by Seller for delivery to Buyer in conformance with this Agreement shall be excused only to the extent that, and for the period during which, such receipt is prevented by Force Majeure. In the event of any such failure to receive that is not excused by Force Majeure, then Buyer shall make Seller whole for its loss of revenues, net of any revenues Seller received from sale to others of the Energy not received by Buyer.

ARTICLE VII

CHARGES

Section 7.1. Monthly Energy Charge. The ~~Monthly Energy Charge~~ for Full Requirements Service provided by Seller in each Service Month shall be determined pursuant to Exhibit A.



Section 7.2. Monthly Capacity Charge.

In the event that the Contract Term is extended pursuant to Section 2.3, the Agreement will be amended to reflect any agreed-upon Monthly Capacity Charge.

ARTICLE VIII

BILLING AND PAYMENT

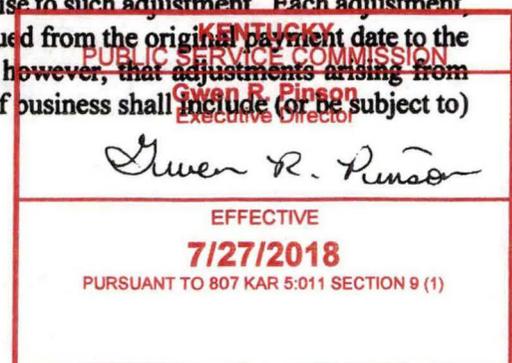
Section 8.1. Billing. Within five (5) Business Days following receipt by Buyer of the invoices for its SEPA Entitlement, MISO Exports, and network transmission service under the KU/LGE Tariff for a given Service Month, Buyer shall provide copies of such invoices to Seller. On or before the tenth (10th) Business Day following the receipt of all such Buyer invoices for a Service Month, Seller shall deliver to Buyer an invoice detailing the amounts owed by Buyer to Seller, the amounts owed by Seller to Buyer, and the net amount due from one Party to the other pursuant to Exhibit A for such Service Month. For any month in which damages for unexcused failure to deliver or receive apply pursuant to Section 6.1 or Section 6.2, the Party to which damages are due shall provide to the other documentation reasonably supporting the calculation of its damages as provided for in the relevant section.

Section 8.2. Payment. The Party owing the net amount shall make payment of the invoice within thirty (30) days after Buyer's receipt of the invoice by means of wire transfer of immediately available funds, or other acceptable method agreed to in writing by Seller and Buyer.

Section 8.3. Late Payments. If for any reason other than as permitted by and in accordance with Section 8.4 below, or as otherwise permitted by this Agreement, the Party owing a net payment under a given invoice pays less than the full amount of the invoice, interest on the unpaid amount shall accrue at the Default Interest Rate for each calendar day from the due date to the date paid.

Section 8.4. Disputes. If either Party in good faith disputes the amount of any invoice or any component thereof, it shall promptly notify the other Party of the disputed amount and the reason therefor. In the event of any such dispute, the Party owing a net payment shall pay the undisputed amount of such invoice. Any dispute with respect to the correctness of any invoice or any adjustment to an invoice rendered under this Agreement shall be barred if it was not raised within twenty four (24) months of the date of the invoice or adjustment to an invoice. Any disputes resulting from this Article VIII shall be settled in accordance with the provisions of Article XV. This Section 8.4 shall survive any termination of this Agreement for a period of two (2) years from the date on which the last invoice is rendered pursuant to this Agreement.

Section 8.5. Adjustments. Any adjustments to amounts invoiced and paid for a given Service Month (e.g., to reflect resolution of any dispute and/or billing corrections) shall be made on the next monthly invoice following the event giving rise to such adjustment. Each adjustment, to the extent allowed by Law, shall include interest accrued from the original payment date to the date of the adjustment, at the Interest Rate; provided, however, that adjustments arising from resettlement of charges by MISO in the normal course of business shall include (or be subject to) interest only as provided for under the MISO Tariff.



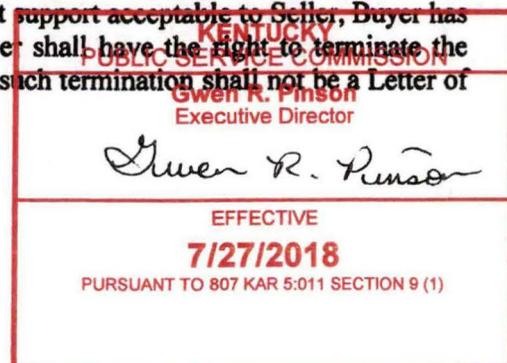
Section 8.6. Audit. Each Party has the right, with reasonable prior notice and at its sole expense, to examine the records of the other Party during regular business hours to the extent reasonably necessary to verify the accuracy of any invoice, or any component thereof or calculations provided with or supporting such invoice, rendered pursuant to this Agreement. If any such examination reveals any inaccuracy in any invoice, or any component thereof or calculations provided with or supporting such invoice, the necessary adjustments in such invoice, component or calculations provided with or supporting such invoice, and the payments made pursuant thereto, shall be adjusted in the next invoice, provided that the challenging Party brought it to the attention of the other Party within twenty four (24) months after issuance of the inaccurate invoice. This Section 8.6 shall survive any termination of this Agreement for a period of two (2) years from the date on which the last invoice is rendered pursuant to this Agreement.

Section 8.7. Records. Seller shall develop, maintain and keep originals or copies of all accounting records, statistical information, and supporting documents relating to the performance of its obligations hereunder in accordance with the longest of the applicable record-retention requirements of the RUS, KPSC, MISO and all other regulatory bodies and taxing authorities having jurisdiction over Seller; provided that all such applicable accounting records shall be retained for at least two (2) years and so long thereafter as any dispute exists regarding such information or payments due under this Agreement. All such records shall be available for inspection by Buyer during regular business hours, and Buyer shall have the right (at Buyer's expense) to make copies thereof, subject to Buyer's obligations under the Mutual Confidentiality Agreement attached to this Agreement as Exhibit G.

ARTICLE IX

CREDITWORTHINESS

Section 9.1. Buyer's Obligations. Seller shall have no right to require Buyer to provide and/or maintain any form of security in favor of Seller in connection with the service provided under this Agreement during any period in which Buyer has a Buyer Investment Grade Rating. On or after March 31, 2019, for any period in which Buyer does not have a Buyer Investment Grade Rating, Seller may request that Buyer provide a Qualifying Letter of Credit or other credit support acceptable to Seller for the benefit of Seller in an amount equal to Seller's two (2) largest anticipated monthly invoices to Buyer for the then-current calendar year (or for 2020, if Seller's request is made prior to the Service Commencement Date), as reasonably calculated by Seller and stated in the written request for the Qualifying Letter of Credit, which amount shall in no event exceed [REDACTED]. Upon receipt of such written notice, Buyer shall have ten (10) Business Days to provide to Seller the Qualifying Letter of Credit or other credit support acceptable to Seller. In the event that Buyer fails to provide the Qualifying Letter of Credit or other form of credit support acceptable to Seller within the time period stated herein, such failure shall be a Letter of Credit Default under Section 11.2(f). If, subsequent to the provision of a Qualifying Letter of Credit or other credit support acceptable to Seller, Buyer has (or again has) a Buyer Investment Grade Rating, Buyer shall have the right to terminate the Qualifying Letter of Credit or other credit support, and such termination shall not be a Letter of Credit Default under Section 11.2(f).



Section 9.2. Seller's Obligations. Buyer shall have no right to require Seller to provide and/or maintain any form of security in favor of Buyer in connection with the service provided under this Agreement during any period in which Seller has a Seller Credit Rating of at least BB from Fitch, BB from S&P, and Ba2 from Moody's. On or after March 31, 2019, for any period in which Seller does not have a Seller Credit Rating of at least BB from Fitch, BB from S&P, and Ba2 from Moody's, Buyer may request that Seller provide a Qualifying Letter of Credit or other credit support acceptable to Buyer for the benefit of Buyer in the amount of up to [REDACTED]. Upon receipt of such written notice, Seller shall have ten (10) Business Days to provide the Qualifying Letter of Credit to Buyer. In the event that Seller fails to provide the Qualifying Letter of Credit within the time period stated herein, such failure shall be a Letter of Credit Default under Section 11.1(f). If, subsequent to the provision of a Qualifying Letter of Credit, Seller has (or again has) a Seller Credit Rating of at least BB from Fitch, BB from S&P, and Ba2 from Moody's, Seller shall have the right to terminate the Qualifying Letter of Credit, and such termination shall not be a Letter of Credit Default under Section 11.1(f).

Section 9.3. No Margining. No collateral posting will be required for Buyer or Seller for margining on the mark-to-market value of this Agreement. Further, and notwithstanding anything herein to the contrary, Buyer and Seller each hereby irrevocably and unconditionally waives any rights it may have under applicable Law, other than Title 11 of the United States Code, to request "adequate assurances" or other performance assurance or security for the other Party's obligations hereunder other than as provided for in Section 9.1 and Section 9.2.

ARTICLE X

TRANSMISSION ARRANGEMENTS; MISO MARKET

Section 10.1. Transmission Service on the MISO Transmission System. As set forth in Section 3.3, Buyer will make application for point-to-point service under the MISO Tariff for service from the Delivery Point to the Settlement Point. Buyer will be the transmission customer for such point-to-point service and (as between the Parties) will be solely responsible for the costs of such transmission service. However, Seller shall act as Buyer's agent for purposes of Scheduling and Tagging the use of such service for Seller's deliveries of MISO Exports to Buyer (with the sink of Buyer's Retail Load). In addition, Seller shall be responsible for all generator-related MISO market charges related to the Facility or any Installed Capacity. Seller shall take all commercially reasonable actions as may be required by MISO to facilitate Buyer's receipt of MISO Exports at the Delivery Point and transmission thereof from the Delivery Point to the Buyer.

Section 10.2. Other Transmission Service. Buyer shall arrange and be responsible for the costs of network transmission service within the KU/LGE System and, if applicable, any service on other transmission systems necessary for delivery of Buyer's SEPA Entitlement and/or Solar Entitlement to the KU/LGE System. However, Seller shall ~~act as Buyer's agent for purposes of~~ Scheduling and Tagging the use of all such service for the provision of Full Requirements Service hereunder.

Section 10.3. MISO Market Changes. If (a) the MISO operation are changed to the extent that they would, in the rea

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7/27/2018

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materially change the economic bargain under this Agreement or the procedures specified herein for the provision of Full Requirements Service, or (b) for any reason, the MISO Tariff and/or MISO rules of market operation no longer apply to Seller, then the Parties agree to undertake in good faith negotiations to amend this Agreement to restore the economic bargain or to modify the procedures under this Agreement to comply with then-applicable tariff and market rules. The Parties recognize that a key element of the economic bargain for Buyer will be lost if the Settlement Point hereunder is not located within either MISO or the KU/LGE System (or any regional transmission organization encompassing that transmission system). If the Parties cannot agree on such an amendment within one hundred twenty (120) days after notice from one Party to the other of such changes, either Party may initiate dispute resolution in accordance with Section 15.4.

Section 10.4. Interconnection. At Buyer's option, the Parties will undertake commercially reasonable efforts to construct a physical interconnection that would connect Buyer's Retail Load directly to Seller's transmission facilities, as further described in item #4 in Exhibit B. In the event that such an interconnection is established, the Parties shall in good faith negotiate revisions to this Agreement to reflect such changed circumstances. If the Parties cannot agree on such an amendment at least 120 days prior to the energization of the interconnection, either Party may initiate dispute resolution in accordance with Section 15.4.

ARTICLE XI

DEFAULT AND REMEDIES

Section 11.1. Seller Event of Default. The following shall constitute events of default on the part of Seller ("Seller Event of Default"):

- (a) Seller fails to pay or credit any amount due to Buyer under this Agreement and such failure continues for five (5) days following receipt of written notice thereof from Buyer.
- (b) Seller becomes subject to a Bankruptcy Proceeding.
- (c) Any representation or warranty made by the Seller herein or required of Seller by this Agreement is false or misleading in any material respect when made.
- (d) Seller consolidates or amalgamates with, or merges with or into, or transfers all or substantially all of its assets to, another entity and, at the time of such consolidation, amalgamation, merger or transfer, the resulting, surviving or transferee entity (i) fails to assume all the obligations of the Seller hereunder pursuant to an agreement reasonably satisfactory to Buyer, absent Buyer's consent permitting Seller to retain the Agreement pursuant to Section 13.2(b), or (ii) does not meet the creditworthiness requirements for Seller in Section 9.2.
- (e) Seller commits a breach of its material covenants or obligations under this Agreement not otherwise excused by Force Majeure, other than a payment default as set forth in Section 11.1(a), unless:

- (i) Seller commences and diligently proceeds with the delivery of written notice of such breach from Buyer

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Gwen R. Pinson

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7/27/2018

PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

(ii) the breach is cured within ten (10) days of delivery of such written notice; provided, however, that if (A) such breach is not, by its nature, capable of being cured within such ten (10) day period, and (B) Seller is diligently and in good faith proceeding to attempt to cure such breach, Seller shall be allowed such additional time, which shall in no event exceed an additional twenty (20) days, as may reasonably be required to cure such breach.

(f) The occurrence of a Letter of Credit Default where such Letter of Credit Default is not cured within three (3) Business Days after its occurrence by Seller providing to Buyer a valid Qualifying Letter of Credit, provided that if the Letter of Credit Default is the result of the issuer of the Qualifying Letter of Credit failing to maintain the required Credit Rating and total assets, Seller shall be allowed such additional time, which shall in no event exceed an additional twenty (20) days, as may reasonably be required to cure such breach.

Section 11.2. Buyer Event of Default. The following shall constitute an event of default on the part of Buyer ("Buyer Event of Default"):

(a) Buyer fails to pay any amount due to Seller under this Agreement and such failure continues for five (5) days following receipt of written notice thereof from Seller.

(b) Buyer becomes subject to a Bankruptcy Proceeding.

(c) Any representation or warranty made by Buyer herein or required of Buyer by this Agreement is false or misleading in any material respect when made.

(d) Buyer consolidates or amalgamates with, or merges with or into, or transfers all or substantially all of its assets to, another entity and, at the time of such consolidation, amalgamation, merger or transfer, the resulting, surviving or transferee entity (i) fails to assume all the obligations of Buyer under this Agreement by operation of Law or pursuant to an agreement reasonably satisfactory to the Seller, or (ii) does not meet the creditworthiness requirements for Buyer in Section 9.1.

(e) Buyer commits a breach of its material covenants or obligations under this Agreement not otherwise excused by Force Majeure, other than a payment default as set forth in Section 11.2(a), unless:

(i) Buyer commences and diligently proceeds to cure such breach upon delivery of written notice of such breach from Seller; and

(ii) the breach is cured within ten (10) days of delivery of such written notice; provided, however, that if (A) such breach is not, by its nature, capable of being cured within such ten (10) day period, and (B) Buyer is diligently and in good faith proceeding to attempt to cure such breach, Buyer shall be allowed such additional time, which shall in no event exceed an additional twenty (20) days, as may reasonably be required to cure such breach.

(f) The occurrence of a Letter of Credit Default where such Letter of Credit Default is not cured within three (3) Business Days after its occurrence by Seller providing to Buyer a valid Qualifying Letter of Credit, provided that if the Letter of Credit Default is the result of the issuer of the Qualifying Letter of Credit failing to maintain the required Credit Rating and total assets, Seller shall be allowed such additional time, which shall in no event exceed an additional twenty (20) days, as may reasonably be required to cure such breach.

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Gwen R. Pinson

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7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

Seller a valid Qualifying Letter of Credit, provided that if the Letter of Credit Default is the result of the issuer of the Qualifying Letter of Credit failing to maintain the required Credit Rating and total assets, Buyer shall be allowed such additional time, which shall in no event exceed an additional twenty (20) days, as may reasonably be required to cure such breach.

Section 11.3. Procedure and Remedies.

(a) Upon the occurrence and during the continuance of a Seller Event of Default, Buyer shall have the right, in its sole and absolute discretion, to do any or all of the following: (i) terminate this Agreement effective upon the provision of at least thirty (30) days' written notice to Seller (or upon such later date as may be specified in such notice); (ii) suspend performance during the notice period specified in the notice; and/or (iii) pursue any and all other remedies available at Law or in equity, subject to the dispute resolution procedures set forth in Article XV and the other limitations set forth in this Agreement.

(b) Upon the occurrence and during the continuance of a Buyer Event of Default, Seller shall have the right, in its sole and absolute discretion, to do any or all of the following: (i) terminate this Agreement, effective upon the provision of at least thirty (30) days' written notice to Buyer (or upon such later date as may be specified in such notice); (ii) if (and only if) the Buyer Event of Default occurs under Section 11.2(a), suspend performance during such notice period; and/or (iii) pursue any and all other remedies against Buyer available at Law or in equity, subject to the dispute resolution procedures set forth in Article XV and the other limitations set forth in this Agreement.

Section 11.4. Rights of Specific Performance. In addition to the remedies specified hereunder, upon the occurrence of a Seller Event of Default or a Buyer Event of Default, which does not arise from the failure to make a payment of money hereunder, the non-defaulting Party shall have a right to obtain equitable relief, including specific performance of the defaulting Party's non-monetary obligations hereunder.

ARTICLE XII

INDEMNIFICATION

Section 12.1. Indemnity by Seller. Subject to the terms and conditions set forth in this Article XII and except to the extent caused by the fraud, negligence or the willful misconduct or willful breach of any obligation under this Agreement of any Indemnitee, Seller shall indemnify and hold Buyer and its Affiliates, members, directors, officers, attorneys, employees, subcontractors, agents and assigns harmless for, from and against any and all Losses that any of them may sustain or suffer as a consequence of the breach of any covenant or agreement made or undertaken by Seller in this Agreement.

Section 12.2. Indemnity by Buyer. Subject to the terms and conditions set forth in this Article XII and except to the extent caused by the fraud, negligence or the willful misconduct or willful breach of any obligation under this Agreement of any Indemnitee, Buyer shall indemnify and hold Seller and its Affiliates, members, directors, officers, attorneys, employees, subcontractors, agents and assigns harmless for, from and against any and all Losses that any of them may sustain or suffer as a consequence of the breach of any covenant or agreement made or undertaken by Buyer in this Agreement.

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7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

them may sustain or suffer as a consequence of the breach of any covenant or agreement made or undertaken by Buyer in this Agreement.

Section 12.3. Further Qualifications Respecting Indemnification. The right of a Person listed as being entitled to indemnification in Section 12.1 or Section 12.2 (an "Indemnitee") to be indemnified hereunder shall be subject to the following further qualifications:

(a) Upon receipt of notice of any demand, assertion, claim, action or proceeding, judicial, governmental or otherwise, from any third party (such third party actions being collectively referred to herein as "Third Party Claims"), the Indemnitee shall give written notice thereof to the indemnifying Party (the "Indemnitor") as soon as reasonably practicable, but not later than thirty (30) days after the date the Indemnitee obtains actual knowledge of the basis or alleged basis for the right of indemnity;

(b) In computing Losses, such amounts shall be computed net of any related recoveries to which the Indemnitee is entitled under insurance policies, or other related payments received from third parties, and net of any tax benefits actually received by the Indemnitee or for which it is eligible, taking into account the income tax treatment of such indemnification; and

(c) The Indemnitee shall use commercially reasonable efforts to mitigate all Losses for which indemnification may be available hereunder, including availing itself of any defenses, limitations, rights of contribution, claims against third parties and other rights at Law or equity. The Indemnitee's commercially reasonable efforts shall include the reasonable expenditure of money to mitigate or otherwise reduce or eliminate any Loss for which indemnification would otherwise be due, such expenditures being included in indemnified Losses hereunder.

Section 12.4. Procedures Respecting Third Party Claims. In notifying the Indemnitor of any Third Party Claim (the "Claim Notice"), the Indemnitee shall provide the Indemnitor with a copy of such Third Party Claim or other documents received and shall otherwise make available to the Indemnitor all relevant information material to the defense of such claim and within the Indemnitee's possession. The Indemnitor shall have the right, by written notice given to the Indemnitee within fifteen (15) days after the date of the Claim Notice, to assume and control the defense of the Third Party Claim that is the subject of such Claim Notice, including the employment of counsel selected by the Indemnitor after consultation with the Indemnitee, and the Indemnitor shall pay all expenses of, and the Indemnitee shall cooperate fully with the Indemnitor in connection with, the conduct of such defense. The Indemnitee shall have the right to employ separate counsel in any such proceeding and to participate in (but not control) the defense of such Third Party Claim, but the fees and expenses of such counsel shall be borne by the Indemnitee unless the Indemnitor shall otherwise agree in writing; provided, however, if the named parties to any such proceeding (including any impleaded parties) include both the Indemnitee and the Indemnitor, the Indemnitor requires that the same counsel represent both the Indemnitee and the Indemnitor, and representation of both Parties by the same counsel would be inappropriate due to actual or potential differing interests between them, then the Indemnitee shall have the right to retain its own counsel. If the Indemnitor shall have failed to assume the defense of any Third Party Claim in accordance with the provisions among the Parties, the Indemnitee shall have the absolute right

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Third Party Claim, and, if and when it is finally determined that the Indemnitee is entitled to indemnification from the Indemnitor hereunder, the fees and expenses of the Indemnitee's counsel shall be borne by the Indemnitor; provided that the Indemnitor shall be entitled, at its expense, to participate in (but not control) such defense. The Indemnitor shall have the right to settle or compromise any such Third Party Claim for which it is providing indemnity so long as such settlement does not impose any obligations on the Indemnitee (except with respect to (a) obligations to pay money (which amounts, if payable by the Indemnitee, shall constitute Losses) and (b) providing releases of the third party). The Indemnitor shall be liable for any settlement effected by the Indemnitee without the Indemnitor's consent only if the Indemnitee has assumed the defense because the Indemnitor has failed or refused to do so.

ARTICLE XIII

ASSIGNMENT

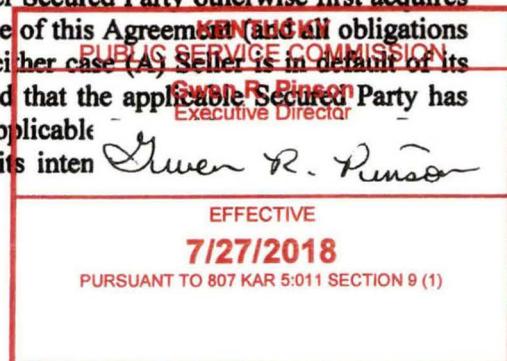
Section 13.1. Assignment by Buyer.

(a) Buyer may, with prompt prior notice to but without the need for consent of Seller, assign all of its rights and obligations hereunder to any entity that (i) acquires all or substantially all of Buyer's business and/or assumes Buyer's obligations to serve the Retail Load, (ii) is of at least equal creditworthiness, and (iii) assumes in writing all of Buyer's obligations hereunder, which assumption shall be materially in the form attached as Exhibit F hereto or otherwise in form and substance reasonably acceptable to Seller.

(b) Unless Seller consents in writing to Buyer retaining this Agreement (which consent may be denied by Seller in its sole discretion), if Buyer transfers all or substantially all of its business to another party, Buyer shall assign all of its rights and obligations hereunder to the entity that acquires such business.

Section 13.2. Assignment by Seller.

(a) Notwithstanding any other provision of this Agreement to the contrary, and without any other action being required pursuant to this Agreement, Seller may, without the written consent of Buyer and without relieving itself from liability hereunder or committing a Seller Event of Default, assign, transfer, mortgage or pledge this Agreement to create a security interest for the benefit of the United States of America, acting through the RUS, or other secured party (directly or through an indenture trustee or other collateral agent; collectively, including such indenture trustee or other collateral agent, a "Secured Party"). Thereafter, a Secured Party, without the written consent of Buyer and without committing a Seller Event of Default, may (i) cause this Agreement (and all obligations hereunder) to be sold, assigned, transferred or otherwise disposed of to a third party pursuant to the terms governing such security interest, or (ii) if RUS first acquires this Agreement pursuant to 7 U.S.C. § 907 or if any other Secured Party otherwise first acquires this Agreement, sell, assign, transfer or otherwise dispose of this Agreement (and all obligations hereunder) to a third party; provided, however, that in either case (A) Seller is in default of its obligations that are secured by such security interest and that the applicable Secured Party has given Buyer written notice of such default; and (B) the applicable Secured Party has not less than thirty (30) days' prior written notice of its intention to do so.



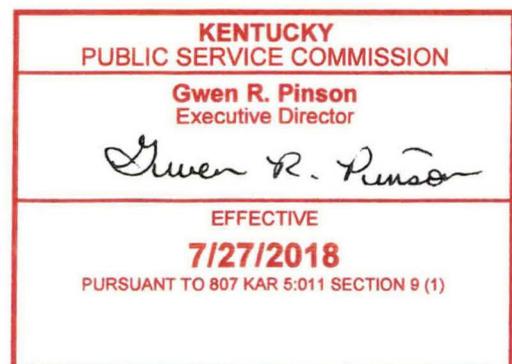
otherwise dispose of this Agreement (and all obligations hereunder) indicating the identity of the intended third-party assignee or purchaser.

(b) If Seller transfers all or substantially all of its business (including the Facility) to another Person whose creditworthiness meets the creditworthiness criteria of Section 9.2 of this Agreement and whose capability of performing this Agreement is at least equal to Seller's, then unless Buyer consents in writing to the Seller retaining this Agreement (which consent may be denied by Buyer in its sole discretion), Seller shall, with prompt prior notice to but without the need for consent of Buyer, assign this Agreement and all of Seller's rights and interest hereunder to the Person to which Seller's business is being transferred, and shall require such assignee to assume in writing all obligations of Seller, which assumption shall be materially in the form attached as Exhibit F hereto or otherwise in form and substance reasonably acceptable to Buyer.

Section 13.3. Other Assignments. Except as provided in Section 13.1 and Section 13.2, any proposed assignment by Buyer shall require the prior written consent of Seller, and any proposed assignment by Seller shall require the prior written consent of Buyer. In each case, consent shall not be unreasonably withheld, conditioned or delayed; provided, however, that it shall be reasonable for Buyer to require as condition(s) to its consent to an assignment of this Agreement to a Person by Seller that (i) the Facility and Installed Capacity will be assigned and transferred to the same Person, (ii) such Person has sufficient Capacity resources to provide equivalent or greater support for the performance of Seller's obligations hereunder, and/or (iii) such Person has creditworthiness that meets the creditworthiness criteria of Section 9.2 of this Agreement. It shall be reasonable for Seller to require as condition to its consent to an assignment of this Agreement to a Person by Buyer that such Person meets the creditworthiness requirements of Section 9.1 of this Agreement.

Section 13.4. Notice. Except for any assignment under Section 13.2(a), irrespective of whether consent is required, notice of any proposed assignment shall be given to the other Party at least sixty (60) days prior to the date of the assignment. Any purported assignment made without complying with the requirements of this Article XIII shall be null and void.

Section 13.5. Effect of Assignment on Party Status. No assignment shall relieve the assignor of its obligations hereunder in the event the assignee fails to perform, unless the other Party agrees in writing in advance to waive the assignor's continuing obligations pursuant to this Agreement. To the extent an assignment occurs in accordance with the terms of this Article XIII other than Section 13.2(a), the assignee's creditworthiness meets the applicable creditworthiness criteria of Article IX of this Agreement and its ability to perform this Agreement is at least equal to that of the assignor, and the assignee expressly agrees in writing to assume all of the assignor's rights and obligations so assigned, the other Party shall release the assignor from any further liability in respect of the rights and obligations so assigned.



ARTICLE XIV

FORCE MAJEURE

Section 14.1. Force Majeure. The term "Force Majeure" shall mean causes beyond the reasonable control of, and without the fault or negligence (including failure to comply with Prudent Utility Practices) of, the Party claiming Force Majeure, including, but not limited to, acts of God; earthquake; storm; fire; lightning; epidemic; war; riot or civil disturbance; or sabotage. Notwithstanding the foregoing, under no circumstances shall Force Majeure include any of the following: (i) changes in market conditions that affect the cost of or demand for power; (ii) change in Law; (ii) any lack of profitability to a Party or other financial consideration of a Party; (iii) unavailability of the Facility or other Installed Capacity of Seller; (iv) unavailability of transmission service to the Delivery Point from any specific source of supply; or (v) unavailability of transmission service from the Delivery Point to Buyer's load; provided, however, that any interruption or curtailment of transmission service that is caused by force majeure as defined in the tariff of the applicable Transmission Provider shall constitute Force Majeure hereunder.

Section 14.2. Effect on Performance.

(a) If a Party is rendered wholly or partly unable to perform its obligations under this Agreement because of Force Majeure, that Party shall be excused from whatever performance it is unable to perform due to the Force Majeure to the extent so affected, provided that:

(i) the Party affected by such Force Majeure, as soon as reasonably practical after the commencement of such effect, gives the other Party prompt oral notice, followed by a written notice within forty-eight (48) hours after such oral notice, fully describing the particulars of the occurrence;

(ii) the suspension of performance is of no greater scope and of no longer duration than is required by the Force Majeure;

(iii) the Party whose performance is affected by such Force Majeure uses its commercially reasonable efforts to overcome and remedy its inability to perform as soon as possible; and

(iv) the event of Force Majeure must not have been caused by or contributed to by any negligent or intentional act, error or omission of the affected Party or any of its Affiliates, and must not be caused by or contributed to by any failure to comply with any Law by the affected Party or any of its Affiliates, or by any breach or default of this Agreement by the affected Party or any of its Affiliates.

(b) Notwithstanding anything in this Article XIV to the contrary, no payment obligation arising under this Agreement prior to the date of an event of Force Majeure shall be excused by such event of Force Majeure.

KENTUCKY
UTILITY SERVICE COMMISSION
Executive Director
Gwen R. Punsaw
EFFECTIVE
7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

ARTICLE XV

DISPUTE RESOLUTION

Section 15.1. Attempts to Resolve Dispute. Except for matters within the exclusive jurisdiction of the KPSC or the FERC, any controversy between Seller and Buyer, arising out of or relating to this Agreement, or any breach hereof or default hereunder may be submitted to binding arbitration upon written agreement of the Parties as to the particular controversy, or otherwise may be resolved in a forum of competent jurisdiction as specified in Section 18.3; provided, however, that, except when a Party in good faith seeks injunctive relief because it claims that it is suffering or will suffer immediate and irreparable injury, loss or damage, neither Party shall seek to arbitrate or litigate a controversy between the Parties without the Party's most senior executive first attempting in good faith to resolve the dispute with the most senior executive of the other Party. Such executives shall decide, within ten (10) Business Days of a written notice of the dispute, the negotiation period during which they will attempt to resolve the dispute before a Party may initiate arbitration or litigation. If such executives fail for any reason to agree upon a negotiation period during which they will attempt to resolve the controversy, then the negotiation period shall end forty-five (45) days after the written notice of dispute.

Section 15.2. Jurisdiction. Except for matters within the exclusive jurisdiction of the KPSC or the FERC, each of the Parties irrevocably waives, to the fullest extent permitted by Law, any objection it may now or hereafter have to the exclusive jurisdiction of the courts as specified in Section 18.3 or the laying of the venue of any such proceeding brought as specified in such a court and any claim that any such proceeding brought in such a court has been brought in an inconvenient forum. Each of the Parties hereby consents to service of process by registered mail at its address set forth herein and agrees that its submission to jurisdiction and its consent to service of process by mail is made for the express benefit of the other Party.

Section 15.3. Voluntary Binding Arbitration. If, following failure of negotiations pursuant to Section 15.1, the Parties agree in writing to binding arbitration of a dispute, the following procedures will be used (absent agreement of the Parties to different procedures):

(a) The dispute shall be finally settled by binding arbitration before a panel of three arbitrators in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("AAA") then in effect, except as modified herein. The Party seeking relief from the other Party shall prepare and submit a request for arbitration (the "Demand"), which will include statements of the facts and circumstances surrounding the dispute, the legal obligation breached by the other Party, the amount in controversy and the requested relief. The Demand shall be accompanied by all relevant supporting documents.

(b) Arbitration shall be held in Owensboro, Kentucky. The arbitration shall be governed by the United States Arbitration Act, 9 U.S.C. §§ 1 et seq.

(c) Each Party shall select one arbitrator within ten (10) days of the receipt of the Demand, or if a Party fails to make such selection within ten (10) days from the receipt of the Demand, the AAA shall make such appointment upon the written consent of both Parties. The two arbitrators thus appointed shall select the third arbitrator, who shall be a neutral arbitrator.



panel. If the two arbitrators fail to agree on a third arbitrator within thirty (30) days of the selection of the second arbitrator, the AAA shall make such appointment. Neither the Parties nor the Party-appointed arbitrators shall be limited to selecting arbitrators (or mediators, if the Parties elect to undertake mediation) named on any list of arbitrators provided by AAA. All arbitrators shall be knowledgeable in the subject area of the dispute, and recently active by employment or otherwise in the subject area of the dispute. The third arbitrator shall be qualified under the standards of the AAA Commercial Arbitration Rules Section R-18(a).

(d) The award shall be in writing (stating the award and the reasons therefor) and shall be final and binding upon the Parties, and shall be the sole and exclusive remedy regarding any claims, counterclaims, issues, or accountings presented to the arbitration panel. The arbitration panel shall be authorized in its discretion to grant pre-award and post-award interest at commercial rates. Judgment upon any award may be entered in any court having jurisdiction as specified in Section 18.3.

(e) This Agreement and the rights and obligations of the Parties shall remain in full force and effect pending the award in any arbitration proceeding hereunder.

(f) Unless otherwise ordered by the arbitrators, each Party shall bear its own costs and fees, including attorneys' fees and expenses. The Parties expressly agree that the arbitrators shall have no power to consider or award any form of damages barred by Section 18.1, or any other multiple or enhanced damages, whether statutory or common law.

(g) Each Party understands that, to the extent it agrees to binding arbitration pursuant to this section, it will not be able to bring a lawsuit concerning the affected dispute, except as necessary to enforce this Section 15.3, or an arbitration award, or as permitted by applicable Law.

Section 15.4. Binding Arbitration for Certain Disputes. Following failure of negotiations pursuant to Section 10.3 or Section 10.4, and if the dispute is not within the exclusive jurisdiction of the KPSC or the FERC, the aggrieved Party may require that the dispute be resolved by binding arbitration, which shall generally follow the procedures specified in Section 15.3, except as follows. Each Party shall submit to the arbitrators and exchange with each other thirty (30) days in advance of the hearing its proposed amendments to the Agreement (a "Proposal") together with its arguments and other materials to support its Proposal; (ii) a Party may modify its Proposal (a "Modification") and any Modification and support therefor shall be submitted to the arbitrators and to the opposing Party no later than ten (10) days before the arbitration hearing; (iii) the arbitrators shall only consider the most recent Modification submitted by a Party, and shall not consider any previous Proposal or Modification submitted by a Party; and (iv) in reaching their decision, the arbitrators shall be limited to selecting only one or the other of the Proposals (or Modifications, if applicable) submitted by the Parties.



ARTICLE XVI

REPRESENTATIONS AND WARRANTIES

Section 16.1. Mutual Representations. Each Party represents and warrants to the other Party that, as of the Effective Date, but with respect to Big Rivers, subject to the approvals described in Sections 3.1 and 3.2:

(a) it is duly organized, validly existing and in good standing under the Laws of the jurisdiction of its organization or incorporation;

(b) it has the power to execute and deliver this Agreement and to perform its obligations under this Agreement and has taken all necessary corporate, company, partnership, governmental and/or other actions to authorize such execution and delivery and performance of such obligations;

(c) its execution and delivery of this Agreement and its performance of its obligations under this Agreement do not violate or conflict with any Law applicable to it; with any provision of its charter or bylaws (or comparable constituent documents); with any order or judgment of any court or other agency of government applicable to it or any of its assets; or with any contractual restriction binding on or affecting it or any of its assets;

(d) except as otherwise permitted herein, it has neither initiated nor received written notice of any action, proceeding or investigation pending, nor to its knowledge is any such action, proceeding or investigation threatened (or any basis therefor known to it) that questions the validity of this Agreement, or that would materially or adversely affect its rights or obligations as a Party;

(e) all authorizations of and exemptions, actions or approvals by, and all notices to or filings with, any governmental authority that are required to have been obtained or made by it at the time this representation is made with respect to this Agreement have been obtained or made and are in full force and effect, and all conditions of any such authorizations, exemptions, actions or approvals have been complied with; and

(f) subject to the approval of RUS and/or KPSC to the extent applicable, this Agreement constitutes the Party's legal, valid and binding obligation, enforceable against it in accordance with its terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar Laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application, regardless of whether enforcement is sought in a proceeding in equity or at Law).

Section 16.2. Exclusivity of Representations. The representations and warranties made by a Party in this Agreement are in lieu of and are exclusive of all other representations and warranties, including any implied warranties of merchantability, suitability or fitness for any particular purpose or any other implied warranty. Each Party hereby disclaims any such other or implied representations or warranties, notwithstanding the delivery of the information by the Party or its directors, officers, employees, agents or representatives.

RENTON, PUBLIC SERVICE COMMISSION
 Executive Director
 Gwen R. Punsan
 EFFECTIVE
 7/27/2018
 PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

Section 16.3. Buyer Additional Representations. Buyer represents, warrants and agrees to and with Seller that except as otherwise provided herein, or as provided by applicable Law, with respect to its contractual obligations hereunder and performance thereof, it will not claim immunity on the grounds of its status as a municipality or municipal entity under Law or similar grounds with respect to itself or its revenues or assets from (i) suit, (ii) jurisdiction of court (including a court located outside the jurisdiction of its organization), (iii) relief by way of injunction, order for specific performance or recovery of property, (iv) attachment of assets, or (v) execution or enforcement of any judgment.

Section 16.4. Opinions of Counsel. As a condition to the Effective Date, each Party shall provide to the other Party an opinion of counsel that the Party providing the opinion:

(a) is duly organized, validly existing and in good standing under the Laws of the jurisdiction of its organization or incorporation;

(b) subject to receipt of necessary approvals of RUS and KPSC, has the power to execute and deliver this Agreement and to perform its obligations under this Agreement and has taken all necessary corporate, company, partnership, governmental and/or other actions to authorize such execution and delivery and performance of such obligations;

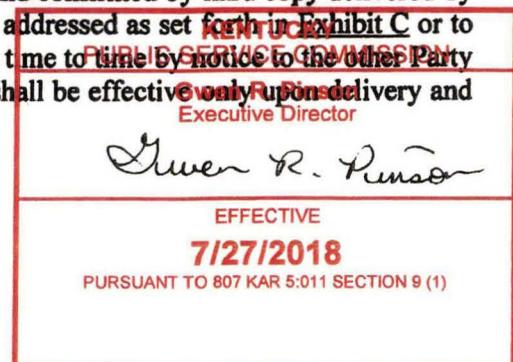
(c) its execution and delivery of this Agreement and its performance of its obligations under this Agreement do not violate or conflict with any Law applicable to it; with any provision of its charter or bylaws (or comparable constituent documents); with any order or judgment of any court or other agency of government applicable to it or any of its assets; or with any contractual restriction binding on or affecting it or any of its assets; and

(d) this Agreement constitutes the Party's legal, valid and binding obligation, enforceable against it in accordance with its terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar Laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application, regardless of whether enforcement is sought in a proceeding in equity or at Law).

ARTICLE XVII

NOTICES

Except as otherwise specified in this Agreement, any notice, request, demand, statement or the payment provided for in this Agreement shall be in writing and shall be sufficiently given if (a) delivered by overnight mail, overnight courier or hand delivered against written receipt, or (b) transmitted and received by electronic transmission and confirmed by hard copy delivered by one of the methods specified in part (a); and in all cases addressed as set forth in Exhibit C or to such other address as may be designated by a Party from time to time by notice to the other Party in accordance with this Article XVII. Any such notice shall be effective only upon delivery and receipt thereof.



ARTICLE XVIII

MISCELLANEOUS

Section 18.1. No Consequential Damages. Except to the extent (a) awarded on a Third Party Claim (except a Third Party Claim brought by a distribution member of Seller that could have been asserted as claim for breach of this Agreement by Seller), or (b) arising out of fraud or criminal conduct, in the event of any breach of the obligations of a Party hereto, the breaching Party shall be liable hereunder solely for direct and actual damages and under no circumstances shall a Party be liable hereunder for any consequential (including, but not limited to, lost profits and business interruption), incidental, special, punitive, exemplary, indirect or other similar damages.

Section 18.2. Entire Agreement. This Agreement, including the exhibits hereto and all amendments hereto, contain the complete agreement between the Parties with respect to the matters contained herein and supersedes all other negotiations or agreements, whether written or oral, with respect to the subject matter hereof.

Section 18.3. Governing Law; Venue and Jurisdiction.

(a) This Agreement shall be governed by, construed, interpreted and applied in accordance with the laws of the Commonwealth of Kentucky, without giving effect to any principle regarding conflict of laws that would result in the application of the laws of any other jurisdiction.

(b) The Parties hereby irrevocably submit to the jurisdiction of the United States District Court for the Western District of Kentucky (or, if that court refuses jurisdiction, in the Daviess County, Kentucky Circuit Court) for the purposes of any cause of action arising out of or based upon this Agreement or relating to the subject matter hereof that is not subject to the exclusive jurisdiction of the KPSC or the FERC, or for the enforcement of any arbitration award hereunder.

Section 18.4. Non-Waiver. No delay or failure by a Party to exercise any of its rights, powers or remedies under this Agreement following any breach or default by the other Party shall be construed to be a waiver of any such breach or default, or any acquiescence therein, or of or in any similar breach or default thereafter occurring, nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind on the part of a Party of any breach or default, or any waiver on the part of a Party of any provision or condition of this Agreement, shall be effective only if in writing and then only to the extent specifically set forth in such writing.

Section 18.5. Severability. If an arbitration panel, court or regulatory agency having jurisdiction over the Parties or over this Agreement determines that any of the provisions of this Agreement, or any part thereof, is invalid, void, illegal or unenforceable, the remainder of this Agreement, or the application of such provision to Persons or circumstances other than those as to which it is held invalid, will nevertheless remain in full force and effect. Notwithstanding to which it is held invalid, will nevertheless remain in full force and effect as to legal substance of the transactions contemplated is not affected.

REPUBLIC SERVICE COMMISSION
Gwen R. Pinson
Executive Director

Gwen R. Pinson

EFFECTIVE
7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

adverse to either Party. Upon any such determination of invalidity, the Parties shall, within ten (10) days of such determination, commence to negotiate in good faith new provisions to restore this Agreement as nearly as possible to its original intent and effect.

Section 18.6. Interpretation: Headings. All pronouns and any variations thereof refer to the masculine, feminine or neuter, singular or plural, as the context may require. Unless otherwise expressly provided, the words "include," "includes" and "including" do not limit the preceding words or terms and shall be deemed to be followed by the words "without limitation." The headings herein are for convenience and reference purposes only and shall in no way affect the meaning or interpretation of the provisions of this Agreement.

Section 18.7. No Partnership or Joint Venture. This Agreement does not establish and should not be construed as establishing any partnership or joint venture by and between the Parties, and neither of the Parties shall have any duties, obligations or liabilities arising under such a relationship.

Section 18.8. Confidentiality. Concurrently with the Effective Date hereof, the Parties have entered into the Confidentiality Agreement attached hereto as Exhibit G. The obligations of the Parties under that Confidentiality Agreement shall survive the expiration or termination of this Agreement.

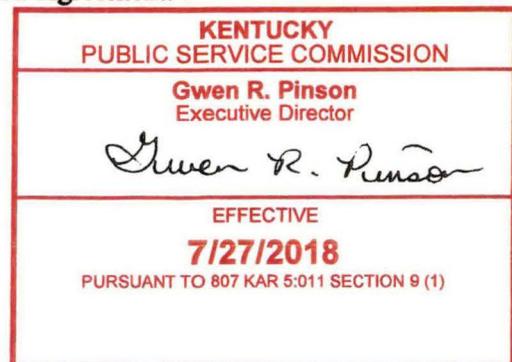
Section 18.9. No Third-Party Benefits. This Agreement shall not impart any rights enforceable by any third party (other than permitted successors or assignees bound by this Agreement). Nothing in this Agreement, express or implied, shall be construed to create any interest, beneficial or otherwise, for any third party.

Section 18.10. Amendment. Except as provided in Section 3.3(b) and Section 15.4, this Agreement may not be amended or modified except by a written instrument signed by Seller and Buyer that receives required review and approval by the KPSC and the RUS.

Section 18.11. Further Assurances. Each Party agrees to execute and deliver all further instruments and documents, and take any further action that may be reasonably necessary to effect the purpose and intent expressed in this Agreement.

Section 18.12. Counterparts: Electronic Copies. This Agreement may be executed in any number of counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument. Any true and accurate electronic copies hereof or signature hereon shall, for all purposes, be deemed originals.

Section 18.13. Expenses. Each Party shall pay its own costs and expenses, including the fees and expenses of its agents, representatives, advisors, counsel and accountants, necessary for the negotiation, preparation, execution and delivery of this Agreement.



ARTICLE XIX

ADDITIONAL COOPERATION

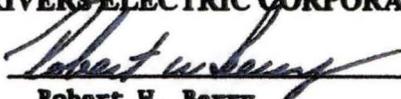
Section 19.1. Additional Cooperation and Obligations of Seller and Buyer. The additional obligations of the Parties set forth in Exhibit B are an integral part of this Agreement and incorporated herein by reference.

[Signatures appear on next page]

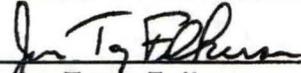


IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed as of the date first above written.

BIG RIVERS ELECTRIC CORPORATION

By: 
Name: **Robert W. Berry**
Title: **President and CEO**

CITY UTILITY COMMISSION OF THE CITY OF OWENSBORO KENTUCKY

By: 
Name: **Jim Tony Fulkerson**
Title: **Chairman**

KENTUCKY PUBLIC SERVICE COMMISSION
Gwen R. Pinson Executive Director 
EFFECTIVE 7/27/2018 PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

MONTHLY ENERGY CHARGE



[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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Gwen R. Pinson
Executive Director

Gwen R. Pinson

EFFECTIVE
7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

ADDITIONAL COOPERATION AND OBLIGATIONS OF SELLER AND BUYER

1. At Buyer's request, Seller agrees to purchase coal contracted by Buyer (not to exceed 200,000 tons), but with deliveries deferred beyond the December 31, 2018 contract termination date under Force Majeure provisions from Armstrong Coal Sales, LLC and KenAmerican Resources, at a mutually agreed upon price.
2. Except as prohibited by Seller's labor agreements, immediately upon the Effective Date, Seller agrees to post all employment opportunities with Buyer after they have been posted internally but before they have been published externally. Any employee of Buyer, (1) whose employment with Buyer will end with the retirement of the Elmer Smith Generating Station, (2) who is qualified for and (3) who is interested in employment with Seller in a posted position, will be given that position, subject to Seller's rules, policies, and standard hiring practices. Seller will continue this practice for the term of the Agreement, unless earlier directed by Buyer, in writing, to discontinue the practice. Seller will make commercially reasonable efforts to accommodate the hiring, for Seller positions that come available before the retirement of the Elmer Smith Generating Station, of eligible Buyer employees who would not become available until after the retirement of the Elmer Smith Generating Station.
3. To the extent necessary due to attrition in Buyer's workforce, Seller agrees to make operating personnel available to assist with activities at the Elmer Smith Generating Station after its retirement has been announced. Seller shall pay for their training, and Buyer would be responsible for their labor at the Elmer Smith Generating Station after such training.
4. Upon Buyer's request, Seller and Buyer will construct, and share equally in the cost of the construction of, facilities to physically interconnect their systems. Such facilities shall consist of (i) the new 161/138 kV Sorgho Substation connected to Seller's 138 kV Transmission Line 6-E, to be owned and operated by Seller, and (ii) an approximately four-mile 138 kV transmission line connecting the new substation to Buyer's existing Substation "M," which line shall be owned and operated by Seller. The new Sorgho Substation will include a 224 MVA 161/138 kV transformer and be expandable to provide 69 kV support to Seller's transmission system, as necessary. Buyer and Seller agree to share only in those costs necessary to establish the interconnection between the transmission systems of the Parties described herein. Each Party will be responsible for any costs on its system beyond the scope described above. It is estimated that approval, design, and construction will take approximately 18 to 24 months. Either Party may terminate this proposed construction

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Executive Director

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EFFECTIVE
7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

shows that the Parties' aggregate costs will exceed \$10 million. Buyer will have three years from the Effective Date to exercise this option for construction of the substation and interconnection with Substation "M."

**KENTUCKY
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Gwen R. Pinson
Executive Director

Gwen R. Pinson

EFFECTIVE

7/27/2018

PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

ADDRESSES FOR NOTICE TO PARTIES

TO SELLER:

Robert Berry
President and CEO
Big Rivers Electric Corporation
201 Third Street
Henderson, KY 42420
Email: Bob.Berry@bigrivers.com

With copies to:

Mark Eacret
Vice President Energy Services
Big Rivers Electric Corporation
201 Third Street
Henderson, KY 42420
Email: Mark.Eacret@bigrivers.com

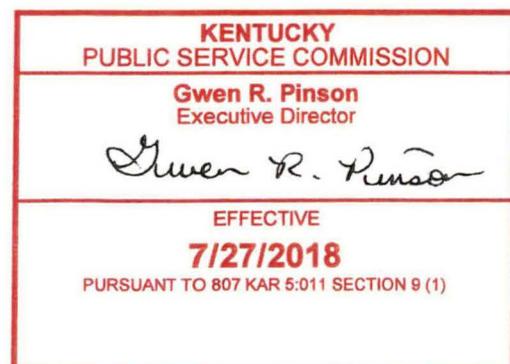
Tyson Kamuf
Corporate Attorney
Big Rivers Electric Corporation
201 Third Street
Henderson, KY 42420
Email: Tyson.Kamuf@bigrivers.com

TO BUYER:

Owensboro Municipal Utilities
c/o General Manager
Owensboro Municipal Utilities
2070 Tamarack Road
Owensboro, KY 42302
Email: FrizzellKD@omu.org

With copies to:

Kamuf Pace & Kamuf
Legal Counsel
221 W 2nd St
Owensboro, KY 42303
Attention: Patrick Pace
Email: PPace@kyandp.com



FORM OF QUALIFYING LETTER OF CREDIT

[Date]

[Issuing Bank Letterhead]

Irrevocable Standby Letter of Credit No. _____
Issue Date: _____, 20__
Initial Expiry Date: _____, 20__

Beneficiary:

Ladies and Gentlemen:

At the request of and based on instructions from our customer, [_____] a [_____] ("Account Party"), we hereby establish this Irrevocable Standby Letter of Credit ("Letter of Credit") in your favor as [Buyer/Seller] under the Power Purchase Agreement dated as of [_____] between Big Rivers Electric Corporation, as Seller, and The City of Owensboro Utility Commission of the City of Owensboro, Kentucky as Buyer (as heretofore or hereafter amended and/or restated at any relevant time the "PPA") for drawings up to a total of [_____] Dollars (US\$[_____]).

As used in this Letter of Credit: (a) each of "Dollars" and "US\$" mean lawful currency of the United States of America; (b) "ISP98" means the International Standby Practices, International Chamber of Commerce Publication No. 590; and (c) "Business Day" means a day that is not a Saturday, a Sunday or any other day on which banking institutions are not required to be open, or are authorized or required to close, in the State of our office location set forth below.

Drawings may be made by you from time to time by presentation of your certificate in the form of Appendix A hereto appropriately completed (a "Certificate") to us at our office in the United States located at:

[_____]
[_____]
[_____]
[_____]
Attn: [_____]
Telephone No: [_____]
Telecopy No: [_____]

or at another office in the United States designated by us with at least fifteen (15) Business Days prior written notice to and received by you.

In the alternative, presentation of any Certificate may be transmitted to us (a) by telecopy to our telecopy number set forth above; or (b) in another electronic permission which has been provided by us to you in our so] presentation is made by telecopy transmission or in another permitted electronic medium, you must: (a) provide telephone notice thereof to us at our telephone number set forth above prior to

KENTUCKY PUBLIC SERVICE COMMISSION
Gwen R. Pinson
Gwen R. Pinson
7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

or substantially simultaneously with such transmission; and (b) send the original Certificate by overnight courier to us at our office address set forth above. However, our receipt of such telephone notice or original Certificate will not be a condition to payment of the drawing described in the Certificate. Items delivered by telecopy transmission or in another permitted electronic medium will be the equivalent of originals of such items for purposes of this Letter of Credit.

We will honor each drawing made in compliance with this Letter of Credit by wire transfer of immediately available funds in the amount specified in the Certificate provided to us in connection with such drawing to the account specified in that Certificate. If any such drawing is presented by you on a Business Day at or before 12:00 noon local time at our address or telecopy number set forth above, such payment will be made not later than the close of business on the first Business Day after such presentation; drawings presented after 12:00 noon will be paid not later than close of business on the second Business Day after such presentation.

This Letter of Credit is effective immediately and will expire on the first to occur of the: (a) above Initial Expiry Date, subject to extension as described below (as so extended the "Expiry Date"); or (b) surrender by you to us of the original of this Letter of Credit, with any amendment(s) hereto, with your written consent to cancellation thereof (a "Cancellation Date"). The earliest to occur of the final extended Expiry Date or a Cancellation Date will be the "Termination Date." The Initial Expiry Date and each subsequent Expiry Date will be automatically extended for an additional consecutive period of one year unless we notify you in writing by nationally recognized overnight courier service, at least sixty (60) days prior to the then applicable Expiry Date, of our decision that the then applicable Expiry Date will not be automatically extended. Subject to the provisions herein, we authorize you to make drawings hereunder in an aggregate sum not in excess of the above amount from the date hereof through our close of business on the Termination Date. If this Letter of Credit expires during an interruption of business as described in Rule 3.14 of ISP98, we specifically agree to effect payment if this Letter of Credit is drawn against within thirty (30) days after the resumption of business.

Communications with respect to this Letter of Credit, including delivery of Certificates, shall, except as otherwise expressly provided above, be in writing and provided to you and us at our respective addresses and numbers set forth above by delivery in person or facsimile transmission at such address, as provided in this Letter of Credit, or as and in the medium otherwise permitted in writing by the recipient.

This Letter of Credit, except as otherwise expressly stated herein, is subject to ISP98, and as to matters not addressed by ISP98 the Laws of the [State/Commonwealth of _____], including the Uniform Commercial Code as in effect in such State, will control.

KENTUCKY PUBLIC SERVICE COMMISSION
Gwen R. Pinson Executive Director

EFFECTIVE 7/27/2018 PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

This Letter of Credit sets forth in full our undertaking, which will not in any way be amended, amplified or limited by reference to any document, instrument or agreement referred to herein, except for the preceding paragraph and appendices hereto, and any such reference will not incorporate herein by reference any document, instrument or agreement except as set forth above. Our obligations under this Letter of Credit are our individual obligations and not contingent on any reimbursement of us with respect thereto. Any drawing under this Letter of Credit will be paid from our general funds and not directly or indirectly from funds or collateral deposited with us or for our account by the Account Party or any other person or entity.

Very truly yours,

By
Authorized Signator

KENTUCKY PUBLIC SERVICE COMMISSION
Gwen R. Pinson Executive Director 
EFFECTIVE 7/27/2018 PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

Appendix A to Qualifying Letter of Credit

[Beneficiary Letterhead]

DRAWING CERTIFICATE
LETTER OF CREDIT NO. _____

_____, 20__

[_____

_____]

Attn: [_____]
Telephone No: [_____]
Telecopy No: [_____]

The undersigned authorized signator of _____, as [Buyer/Seller] ("Beneficiary"), hereby certifies to _____ Bank ("Issuing Bank"), with reference to Irrevocable Standby Letter of Credit No. _____ (the "Letter of Credit") issued by Issuing Bank and now in favor of Beneficiary (except as otherwise set forth herein, capitalized terms used and not defined herein have the meanings set forth in the Letter of Credit or, if not defined therein, in the PPA), that:

- 1. Beneficiary is making this drawing under the Letter of Credit in the amount of _____ Dollars (US\$ _____) (the "Drawing Amount").
2. The Drawing Amount does not exceed US\$[insert face amount of letter of credit] minus the amount of all payments of any previous drawings made under the Letter of Credit.
3. Beneficiary is entitled to make this drawing because [Check one]:

[] [Seller/Buyer] has failed to pay one or more amounts due and payable to one or more [Seller/Buyer] under the PPA ("Required Payments"), all applicable grace periods for the Required Payments have expired, and the sum of such unpaid Required Payments is not now less than the sum of (a) the Drawing Amount plus (b) any amounts that are being drawn from one or more other Qualifying Letters of Credit in respect of such Required Payments; or

[] The Letter of Credit is not now a Qualifying Letter of Credit and has not been replaced with a Qualifying Letter of Credit for a period of ten (10) consecutive Business Days (as defined in the PPA) after the Letter of Credit no longer constituted a Qualifying Letter of Credit; or

[] The now effective Expiry Date of the Letter of Credit is less than thirty (30) days after the date of this Certificate.

4. You are hereby directed to make payment of the requested Drawing Amount to _____ Bank, at _____ ABA No. _____ to _____ Account No. _____ Re: Gwen R. Penson

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IN WITNESS WHEREOF, Beneficiary has executed and delivered this Certificate.

[Beneficiary]

By: _____

Name: _____

Title: _____

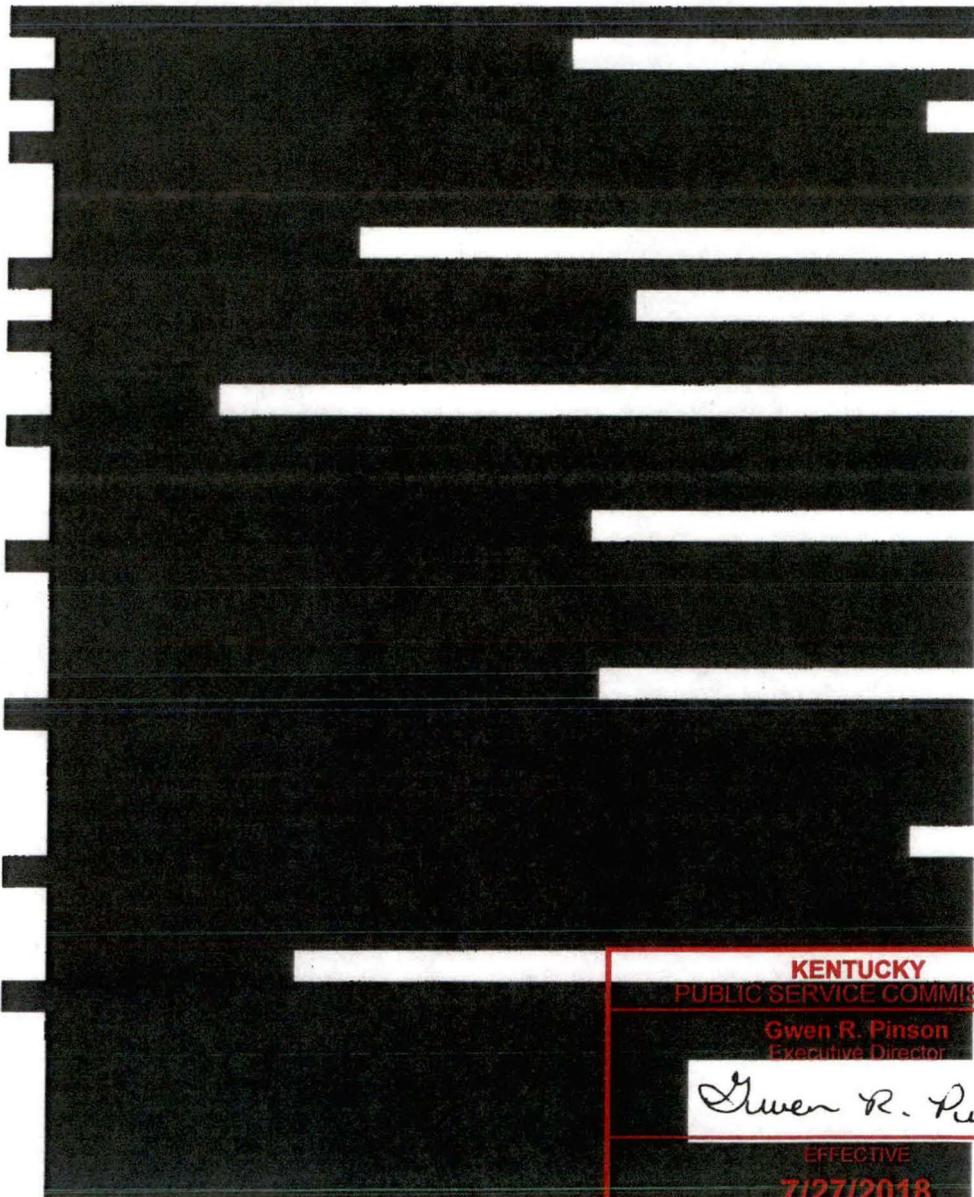
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Gwen R. Pinson Executive Director 
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**CALCULATION OF PRICE CAP(S) FOR EXTENSION OF TERM
UNDER ARTICLE II**

I. Procedure

The Capacity Price to be offered by Seller for the period of possible extension pursuant to Section 2.3 of this Agreement shall be capped by the amount computed in accordance with Sections I through III of this Exhibit E.

The Capacity Price will be computed in accordance with the following.



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[REDACTED]

II. Definitions

When used in this Exhibit E, the following capitalized terms shall have the meanings ascribed to them below.

[REDACTED]

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[REDACTED]

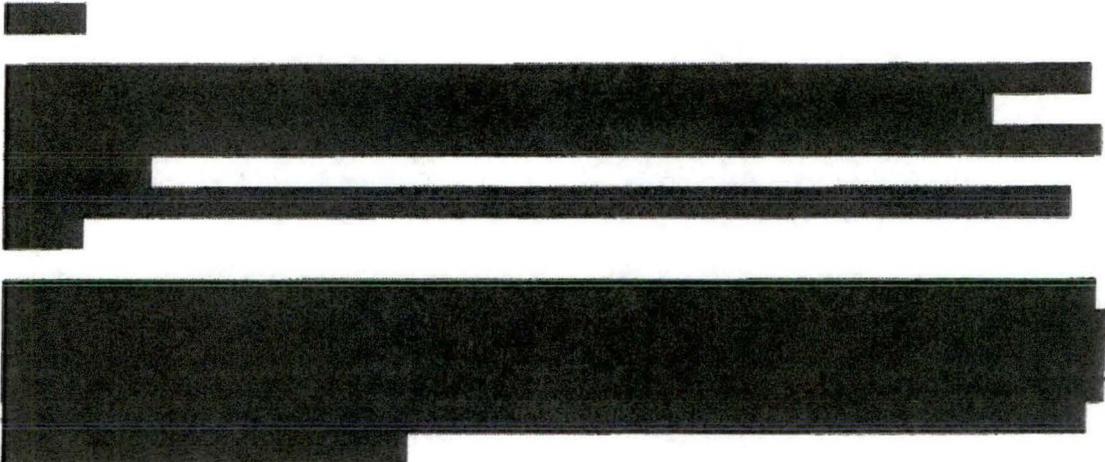
III. Capacity Price

[REDACTED]

IV. Energy Price

[REDACTED]

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V. Account Numbers

The Parties understand and agree that the pricing for an extension to this Agreement is intended to be cost-based, whereby the projected costs of the Facility provide the basis for the charges to be assessed by Seller to Buyer. To aid the Parties in their determination of costs, references to specific account numbers have been made in this Exhibit E. The Parties have made commercially reasonable efforts to ensure the accuracy of the account numbers referenced hereunder. However, if at any time during the Term either Party determines that an account number referenced in this Exhibit E has been included in error or that an account number has been erroneously omitted, the Parties agree to properly amend this Exhibit E to correct such error.

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7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FORM OF INSTRUMENT OF ASSIGNMENT AND ASSUMPTION

This Instrument of Assignment and Assumption (this "Assignment"), dated as of [____], 20[] (the "Effective Date"), is entered into by and between [Assignor], a [____] ("Assignor"), and [Assignee], a [____] ("Assignee").

WHEREAS, Assignor and [Buyer/Seller] are parties to that certain Agreement for the Purchase and Sale of Full-Requirements Capacity and Energy, dated as of [____] (as amended through the date hereof, the "PPA").

WHEREAS, in accordance with Section [____] of the PPA, Assignor intends to assign to Assignee all of Assignor's rights and interests under the PPA, and Assignee intends to assume all of Assignor's obligations arising from and after the Effective Date, and the parties intend Assignor to be released from any further liability thereunder to the extent arising from and after the Effective Date.

WHEREAS, the parties hereto desire to execute and deliver this Assignment for the purpose of effecting the assignment and transfer by Assignor to Assignee, and the acceptance and assumption by Assignee, of the PPA and all rights, liabilities and obligations of "[Seller/Buyer]" (as defined in the PPA) thereunder.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor and Assignee, intending to be legally bound, agree and covenant as follows:

1. Assignor hereby assigns and transfers to Assignee, and Assignee hereby accepts and assumes and agrees to perform the PPA, and all of Assignor's rights, liabilities and obligations thereunder, to the extent arising from and after the Effective Date. Assignee hereby assumes and agrees to pay, discharge, perform and be responsible for all liabilities and obligations arising or accruing under or in respect of the PPA to the extent arising from and after the Effective Date.

2. Nothing in this Assignment, express or implied, is intended or shall be construed to confer upon or give to any Person, other than Assignor and Assignee, and their respective successors and assigns, any remedy or claim under or by reason of this Assignment or any term, covenant, condition, promise or agreement hereof, and all of the terms, covenants, conditions, promises and agreements contained in this Assignment shall be for the sole and exclusive benefit of Assignor and Assignee, and their respective successors and assigns.

3. This Assignment shall be governed by and construed and enforced in accordance with, and this Assignment and all matters arising out of or relating in any way whatsoever (whether in contract, tort or otherwise) to this Assignment shall be governed by, the laws of the Commonwealth of Kentucky.

EXECUTED AND ENFORCED IN ACCORDANCE WITH PUBLIC SERVICE COMMISSION
Gwen R. Penson
Executive Director

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7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

4. This Assignment may be executed in two or more counterparts, each of which shall be deemed an original and all of which shall, taken together, be considered one and the same agreement. Delivery of an executed signature page of this Assignment by facsimile or other electronic image scan transmission shall be effective as delivery of a manually executed counterpart of this Assignment.

5. Assignor and Assignee each agrees to provide a fully executed copy of this Assignment to Big Rivers Electric Corporation ("BREC") and to The City Utility Commission of the City of Owensboro Kentucky (OMU) if requested by either BREC or OMU.

IN WITNESS WHEREOF, the parties hereto have executed this Instrument of Assignment and Assumption as of the date first written above.

[signature blocks to be added]

KENTUCKY PUBLIC SERVICE COMMISSION
Gwen R. Pinson Executive Director

EFFECTIVE 7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

MUTUAL CONFIDENTIALITY AGREEMENT

This Mutual Confidentiality Agreement ("**Agreement**") is made as of June 22, 2018 ("**Effective Date**") between **City Utility Commission of the City of Owensboro, Kentucky, doing business as Owensboro Municipal Utilities**, a Kentucky body politic and corporate, ("**OMU**"), and **Big Rivers Electric Corporation**, a Kentucky generation and transmission cooperative corporation ("**Company**"). OMU and Company are each a "**Party**" in this Agreement and both are referred to as "**Parties**".

WHEREAS, the Parties have entered into an "Agreement for the Purchase and Sale of Full Requirements Capacity and Energy Between Big Rivers Electric Corporation and the City Utility Commission of the City of Owensboro, Kentucky" dated June 22, 2018 (the "**PPA**");

WHEREAS, during the term of the PPA, the Parties may disclose to each other, orally, in writing, by inspection or otherwise, Confidential Information (as defined herein) necessary for the Parties to perform and administer the PPA, including but not limited to participating in the "Operating Committee" created in Article V of the PPA; and

WHEREAS, both Parties desire to establish and set forth their individual rights and obligations with respect to Confidential Information (as defined herein) that may be exchanged between them in connection with the performance and administration of the PPA.

NOW THEREFORE, in consideration of the mutual covenants set forth in this Agreement and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties mutually agree as follows:

- 1. Disclosure of Confidential Information.** For purposes of this Agreement, an "**Affiliate**" is a person or entity directly or indirectly controlling, controlled by, or under common control with a Party, including a member. "**Representatives**" are a Party's or its Affiliate's directors, officers, employees, agents, advisors (including attorneys, accountants and financial advisors) and consultants. Either Party, when it or its Representatives disclose information to the other Party or its Representatives or when it or its Representatives otherwise give the other Party or its Representatives access to information, is sometimes referred to herein as a "**Disclosing Party**," and either Party, when receiving information from a Disclosing Party or its Representatives, is sometimes referred to herein as a "**Receiving Party**." Each Party shall be deemed to be a Receiving Party with respect to Confidential Information that is developed or created by the joint efforts of the Parties. Confidential Information requested by a Party for use solely by its consultant in advising that Party may be provided directly to that Party's consultant by the Disclosing Party and made subject to the consultant agreeing to accept, in writing, the terms and conditions of this Agreement. "**Confidential Information**" as used in this Agreement shall mean the information of or relating to a Disclosing Party or the PPA that is (i) normally kept confidential by the Disclosing Party, (ii) disclosed (whether orally or in writing) or made available to or observable by the Receiving Party or its

Gwen R. Pinson

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Executive Director
EFFECTIVE
7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

Representatives in any form or media (whether tangible, digital, magnetic or otherwise) at any time after the Effective Date, and (iii) expressly designated by the Disclosing Party in writing as Confidential Information at the time of disclosure to the Receiving Party. Confidential Information does not include information that would otherwise constitute Confidential Information of a Disclosing Party to the extent that the Receiving Party can demonstrate (and bear the burden of proof) that:

- (a) the Confidential Information of the Disclosing Party is, at the time of disclosure, part of the public domain;
- (b) the Confidential Information of the Disclosing Party became part of the public domain, by publication or otherwise, except by breach of the provisions of this Agreement;
- (c) the Confidential Information of the Disclosing Party can be established by written evidence or digital or other electronic records to have been in the possession of the Receiving Party at the time of disclosure;
- (d) the Confidential Information of the Disclosing Party is received by the Receiving Party from a third party without similar restrictions and without breach of this Agreement; or
- (e) the Confidential Information of the Disclosing Party was developed by employees or agents of the Receiving Party independently of and without reliance upon any Confidential Information of the Disclosing Party and demonstrated by the written records thereof.

2. Treatment of Confidential Information.

(a) The Receiving Party shall hold the Disclosing Party's Confidential Information in trust and confidence and shall use reasonable care to preserve the confidential nature of Confidential Information of the Disclosing Party and in any event use at least the same degree of care as the Receiving Party uses in the protection of its own confidential and proprietary information. The Receiving Party shall not disclose Confidential Information to any third party other than its Representatives, and will disclose Confidential Information only to its Representatives as may be permitted by applicable law and who need to know the Confidential Information in connection with the performance and administration of the PPA, who are informed of its confidential nature and are directed to hold the Confidential Information in trust and confidence. The Receiving Party shall be fully responsible for any breach of this Agreement by any of its Representatives.

(b) In the event that a Receiving Party is requested or required by deposition, interrogatory, request for documents, subpoena, civil investigative demand, request under the Kentucky Open Records Act, or similar process to disclose any Confidential Information, the Receiving Party shall, upon request, promptly, by law, provide the Disclosing Party with prompt

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7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

requirement prior to making such disclosure, (2) exercise its reasonable efforts to obtain reliable assurance that confidential treatment will be accorded such Confidential Information, (3) at the request and expense of the Disclosing Party, cooperate with the Disclosing Party in any effort to obtain an appropriate protective order or other reliable assurance that confidential treatment will be accorded the Confidential Information or to resist or narrow the scope of such request or requirement, and (4) furnish only that portion of the Confidential Information which the Receiving Party is advised by legal counsel is legally required.

(c) Notwithstanding the foregoing provisions of this Section 2, a Receiving Party may disclose Confidential Information in connection with any application or other communication to a governmental authority or any related proceeding that may be required in connection with the PPA.

(d) Notwithstanding the foregoing provisions of this Section 2, if OMU receives a request under the Kentucky Open Records Act (KRS 61.870 et seq.) to disclose any Confidential Information, OMU shall, in addition to any other duty under this Agreement, notify the Company of such request within 24 hours of receipt of the request and at that time provide to the Company a copy of the request. OMU shall permit the Company to participate in OMU's analysis of the request, the determination of the appropriate response to the request, and any subsequent review or appeal of OMU's response to the request. OMU shall immediately, and no less than 24 hours before providing any response to the request, notify the Company of its final decision on a response to the Open Records Act request. If, in the absence of an express waiver under this Agreement, OMU is, in the opinion of OMU's legal counsel, required to disclose the Confidential Information in response to the Open Records Act request, OMU may disclose only such of the Confidential Information to the party requiring disclosure as, in the opinion of OMU's legal counsel, is required by applicable law, rule or regulation.

3. **Materials.** All materials containing Confidential Information furnished to the Receiving Party by the Disclosing Party in any form (whether tangible, digital, magnetic or otherwise) and any tangible, digital, magnetic or other machine-readable embodiments of the Disclosing Party's Confidential Information created by the Receiving Party shall remain the property of the Disclosing Party. Upon the expiration or termination of this Agreement and at the written request of the Disclosing Party, the Receiving Party shall return to the Disclosing Party or destroy all materials containing Confidential Information that were provided to the Receiving Party by the Disclosing Party within two years prior to the expiration or termination of this Agreement, and all copies thereof. Notwithstanding the foregoing requirements for a Receiving Party's return or destruction of a Disclosing Party's Confidential Information: (a) a Receiving Party's accounting, legal, financial and other advisors may retain copies of a Disclosing Party's Confidential Information and work product that includes such Confidential Information in accordance with policies and procedures implemented by such advisors in order to comply with

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EFFECTIVE
7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

applicable law, regulation or professional standards; and (b) a Receiving Party shall not be required to return, erase or destroy (1) information that is commingled with other electronic records that are collected and maintained by the Receiving Party as an archived computer system backup in a separate secure facility as part of information technology backup procedures in accordance with security and/or disaster recovery procedures maintained in the normal course of business, (2) information that is included in a Receiving Party's disclosures to its (or an Affiliate's) board of directors or similar governing body or the record of deliberations of its (or an Affiliate's) board of directors or similar body in connection with the consideration of matters related to the performance or administration of the PPA and maintained with the Receiving Party's official records of such proceedings, (3) information that is incorporated into an agreement between the Parties, or (4) information in the possession of the Receiving Party or its Representatives if, in the opinion of legal counsel to the Receiving Party or its Representatives, such destruction would be unlawful or would violate any order, judgment, writ or decree to which the Receiving Party or its Representatives are subject to or by which they are bound. Notwithstanding the return or destruction of Confidential Information or the foregoing right to retain Confidential Information, the Receiving Party and its Representatives will continue to be bound by the obligations of confidentiality hereunder.

4. **No Representations or Warranties.** The Disclosing Party does not make any representations or warranties as to the accuracy or completeness of Confidential Information that the Disclosing Party or its Representatives may disclose or make available to the Receiving Party or its Representatives or the fitness of any such information for any particular purpose of the Receiving Party or any other person, except for such representations and warranties that may be included in the PPA.
5. **Term and Termination.**
 - (a) This Agreement shall terminate two years after the expiration or other termination of the PPA. If this Agreement is terminated prior to the expiration or other termination of the PPA, the Receiving Party's obligations under Sections 2 and 3 shall survive until the latter of (i) two years after the expiration or other termination of the PPA and (ii) the final return or destruction of materials containing Confidential Information by the Receiving Party pursuant to Section 3 of this Agreement.
 - (b) Upon termination of this Agreement, the Receiving Party shall cease to use the Disclosing Party's Confidential Information and shall comply with Section 3 within sixty (60) days after receipt of a Disclosing Party's written request for return and/or destruction of materials and records that include the Disclosing Party's Confidential Information. Upon the request of the Disclosing Party, an officer of the Receiving Party shall certify that the Receiving Party has complied with its obligations in Section 3.
6. **Successors and Assigns.** Neither Party shall assign its rights or obligations arising under this Agreement without the other Party's prior written consent. This Agreement will be for the benefit of the Disclosing Party's successors and assigns, and will be binding on Receiving Party's successors and assigns, and shall be assigned and assigned and assigned with any assignment by a Party of its rights and obligations.

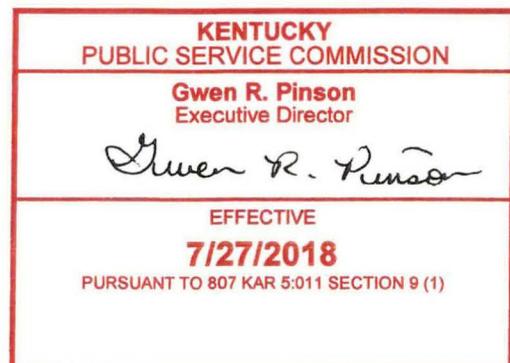
ACCEPTED
This Agreement will be
binding on
Executive Director

Gwen R. Punsler

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7/27/2018
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

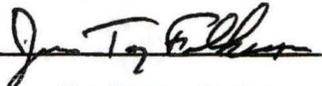
7. **General Provisions.**

- (a) This Agreement shall be governed by and construed in accordance with the laws of the United States and of the Commonwealth of Kentucky, without reference to its conflicts of laws provisions.
- (b) Any notice provided for or permitted under this Agreement will be treated as having been given when given as notice is required to be given in the PPA.
- (c) The Receiving Party agrees that breach of the provisions of this Agreement by the Receiving Party or its Representatives may cause the Disclosing Party irreparable damage for which recovery of money damages would be inadequate. The Disclosing Party will, therefore, be entitled to seek timely injunctive relief, without proof of actual damages, in any court of competent jurisdiction to protect the Disclosing Party's rights under this Agreement, in addition to all remedies available at law.
- (d) In the event of litigation relating to this Agreement, if a court of competent jurisdiction determines in a final order, not subject to further appeal, that a Party or its Representatives has breached the provisions of this Agreement, the non-breaching Party shall be entitled to recover its costs and expenses (including reasonable attorneys' fees and expenses) incurred in connection with such litigation.
- (e) This Agreement may be amended or supplemented only by a writing that is signed by duly authorized representatives of both Parties.
- (f) No term or provision hereof will be considered waived by either Party, and no breach excused by either Party, unless such waiver or consent is in writing signed on behalf of the Party against whom the waiver is asserted. No consent by either Party to, or waiver of, a breach by either Party, whether express or implied, will constitute a consent to, waiver of, or excuse of any other, different, or subsequent breach by either Party.
- (g) If any part of this Agreement is found invalid or unenforceable, that part will be amended to achieve as nearly as possible the same economic effect as the original provision and the remainder of this Agreement will remain in full force.
- (h) This Agreement constitutes the entire agreement between the Parties relating to this subject matter and supersedes all prior or simultaneous representations, discussions, negotiations, and agreements, whether written or oral.



IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

City Utility Commission of the City of Owensboro, Kentucky

By: 

Printed Name: Jim Tony Fulkerson

Title: Chairman

Big Rivers Electric Corporation

By: 

Printed Name: Robert W. Berry

Title: President and CEO

KENTUCKY PUBLIC SERVICE COMMISSION
Gwen R. Pinson Executive Director 
EFFECTIVE 7/27/2018 PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

Big Rivers Electric Corporation
Case No. 2017-00384
Schedule of OMU Contract Revenues and Expenses

	2020	2021	2022	2023	2024	2025	2026
Revenue							
System Average Variable Cost							
OMU SEPA							
MISO Market Costs							
Total Incremental Costs							
Contribution to Fixed Cost							

Note(s): 1. LG&E = Louisville Gas and Electric Company.

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 3)** *Refer to Big Rivers' response to SC 1-7. Produce historic*
2 *forecast variances for system energy, peak summer and peak winter since*
3 *2010.*

4

5 **Response)** Weather-adjusted actual forecast variance data for rural customers as
6 presented in the response to SC 1-7 is not available.

7

8

9 **Witness)** Marlene S. Parsley

10

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

- 1 **Item 4) Refer to Big Rivers' response to PSC 1-7 and SC 1-8.**
2 **a. Explain how the Unexecuted sales shown in the table provided in**
3 **SC 1-8 are reflected in the Capacity Position shown in the graph**
4 **provided in PSC 1-7.**
5 **b. Produce this graph with the unexecuted sales broken out from the**
6 **executed sales**
7 **c. State whether the non-member unexecuted sales shown in the table**
8 **provided in response to SC 1-8b reflect the change in capacity of**
9 **197 MW that will result from the termination of the operating**
10 **agreement with HMP&L for Station Two.**
11 **i. If not, produce an updated version of this table that reflects**
12 **the change in projected executed and unexecuted demand**
13 **d. State whether there are any costs associated with the termination**
14 **of the agreement with HMP&L for Station Two.**
15 **i. If so, identify these costs**

16
17 **Response)**

- 18 **a. Unexecuted sales are not included in the graph provided in Big Rivers'**
19 **response to Item 7 of Commission Staff's first request for information in**
20 **this case.**
21 **b. Not applicable. Please see the response to sub-part a.**
22 **c. The non-member unexecuted sales shown in the table provided in**
23 **response to Item 8b of Ben Taylor and the Sierra Club's initial request for**

**Case No. 2017-00384
Response to SC 2-4**

**Witness: Mark J. Eacret (a., b., and c. only) and
Paul G. Smith (d. only)**

Page 1 of 2

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 information in this case do not reflect the change in capacity of 197 MW
2 that will result from the termination of the operating agreement with
3 HMP&L for Station Two.

4 i. Such a table is not available; however, relevant data is available in
5 Big Rivers' response to Item 8 of Commission Staff's second request
6 for information in this case.

7 d. Yes.

8 i. Costs will include, but are not limited to, consultants, attorneys,
9 costs of proceedings before the Commission, severance, unrecovered
10 investment, and decommissioning.

11
12
13 **Witness)** Mark J. Eacret (*a., b., and c. only*) and
14 Paul G. Smith (*d. only*)
15

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 5) Refer to Big Rivers' response to SC 1-8(d). With regards to the**
2 **termination of the operating agreements for HMP&L Station Two:**

3 **a. Explain why that termination leads Big Rivers to expect a**
4 **reduction of about 200 MWs in Projected Non-Member Peak**
5 **Demand beginning in 2019.**

6 **b. Explain whether the impact of the HMP&L Station Two operating**
7 **agreement termination is reflected in each of Revised Tables 3.1,**
8 **3.2, 3.3, and 3.4 produced as Attachments to Big Rivers' response to**
9 **PSC 1-37.**

10 **i. If so, explain how that impact is reflected.**

11 **ii. If not, explain how each of those Revised Tables should be**
12 **adjusted to reflect the impacts of the termination**

13

14 **Response)**

15 **a. Termination of the operating agreements for HMP&L Station Two means**
16 **Big Rivers no longer has rights to generation in excess of HMP&L annual**
17 **reservation amount, which has over the past several years allocated 197**
18 **MW's to Big Rivers. This reduces the amount of Big Rivers' capacity in**
19 **excess of native load needs, which is the determinant of Non-Member**
20 **sales.**

21 **b. The impact of the HMP&L Station Two operating agreement termination**
22 **is not reflected in those tables.**

23 **i. Not Applicable.**

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

- 1 ii. To reflect the impacts of termination of the HMP&L Station Two
2 operating agreement, the Demand and Energy Requirements for
3 HMP&L would be removed in Tables 3.1, 3.2, 3.3, and 3.4.

4

5

6 Witness) Marlene S. Parsley

7

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 6) Refer to Big Rivers' response to SC 1-9 and to Revised Table 3.4**
2 **produced in response to PSC 1-37.**

3 **a. Explain why your response to SC 1-9 identifies a projected non-**
4 **member peak requirement of 462.4 MW for June 2018 through May**
5 **2019, while Revised Table 3.4 identifies a projected non-member**
6 **peak requirement of 513 MWs for each month from June 2018**
7 **through April 2019, and 509 MW for May 2019**

8 **b. Explain why, according to your response to SC 1-9, non-member**
9 **peak requirements are projected to drop from 462.4 MW in May**
10 **2019 to 247.8 MW for each month of June 2019 through December**
11 **2019.**

12 **c. Explain why your response to SC 1-9 identifies a projected non-**
13 **member peak requirement of 247.8 MW for each month of June 2019**
14 **through December 2019 while Revised Table 3.4 identifies a**
15 **projected non-member peak requirement of 512 MW for each of**
16 **those months.**

17

18 **Response)**

19 **a. The 462.4 MWs identified in the response to SC 1-9 includes only executed**
20 **capacity transactions. Revised Table 3.4 updated projected values for**
21 **January 2018 through May 2018 with actual loads.**

22 **b. Non-Member Peak requirements in response to SC 1-9 include executed**
23 **capacity sales. Capacity available for Non-Member sales is reduced by**

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 the termination of the HMPL Station Two contracts and the
2 commencement of the KyMEA contract.

3 c. The 247.8 MWs identified in the response to SC 1-9 includes only executed
4 capacity transactions. Revised Table 3.4 updated projected values for
5 January 2018 through May 2018 with actual loads.

6

7

8 Witness) Marlene S. Parsley

9

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 7) *Refer to Big Rivers' response to SC 1-12 and PSC 1-11. Provide***
2 ***any studies, analysis and projections that were used to develop the Short***
3 ***Term Optimization MWh sales and revenue projection.***

4
5 **Response)** Big Rivers' response to SC 1-12 did not use the model results of the
6 IRP base case. The Short Term Optimization MWh Sales and Revenue projection
7 shown on the table at the top of the following page correctly utilizes the IRP base
8 case model results. Portions of that table contain confidential information which is
9 filed with a Petition for Confidential Treatment. Please note the generation and
10 load MWh are included in Table 7.9 Base Case Volume Summary on page 124 of
11 Big Rivers' IRP, and the generation revenue for energy and capacity and load costs
12 for energy and capacity are included in Table 7.11 Net Present Value Base Case on
13 page 125.

14 All the modeling inputs and results were provided in Big Rivers' 2017 IRP
15 and in Big Rivers' response to Item 14 of Ben Taylor and the Sierra Club's initial
16 request for information in this case.

17

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1

Big Rivers Electric Corporation Short Term Optimization (MISO Energy and Capacity)				
Year	Volume		Revenue	
	MWh		\$	\$ / MWh
2018	1,816,425			
2019	1,527,050			
2020	445,308			
2021	439,315			
2022	389,391			
2023	351,377			
2024	341,498			
2025	303,869			
2026	399,313			
2027	562,514			
2028	541,402			
2029	1,242,655			
2030	1,793,962			
2031	2,543,522			

2

3

4 Witness) Duane E. Braunecker

5

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 8)** *Refer to the Attachment to Big Rivers' response to SC 1-12(c) and*
2 *(d).*

3 *a. For each of the months listed therein, explain how the forecasted*
4 *revenue amounts were calculated.*

5 *b. For each of the months listed therein, identify the energy price*
6 *assumed in calculating the forecasted revenue amounts.*

7 *c. Identify the source, date, and basis for any energy price forecast*
8 *used in calculating the forecasted revenue amounts.*

9 *d. State whether the forecasted revenue amounts reflect net revenues*
10 *after accounting for expenses, or gross revenues before accounting*
11 *for expenses.*

12 *e. If the answer to subpart (d) is gross revenues, then identify the*
13 *forecasted net revenues for the projected short-term optimization*
14 *sales for each of the months from June 2018 through December*
15 *2031.*

16

17 **Response)**

18 a. Please see Big Rivers' response to Item 7 of Ben Taylor and the Sierra
19 Club's supplemental request for information in this case. The table
20 provided in that response correctly utilizes the IRP base case model
21 results.

22 b. The forecasted energy prices were provided by ACES dated May 2, 2017,
23 and are included in the attachment to Big Rivers' response to Item 14 of

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

- 1 Ben Taylor and the Sierra Club's initial request for information in this
2 case.
3 c. Please see sub-part b.
4 d. The forecasted revenue amounts do not have any production variable
5 expenses included.
6 e. The LT Plan model does not project the production variable cost for the
7 short-term optimization sales.

8

9

10 Witnesses) Mark J. Eacret and

11 Duane E. Braunecker

12

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 9)** *Refer to Big Rivers' response to SC 1-13. The "Expected*
2 *Retirement Dates" for each unit came from a 2012 Burns and McConnell*
3 *Comprehensive Depreciation Study.*

4 *a. Identify how many hours each unit has operated annually since*
5 *2012.*

6 *b. Explain how each units annual (and cumulative) operational*
7 *hours compare to the "Typical Operating Hours per Year"*
8 *estimated in the study.*

9 *c. Produce updated estimated retirement dates based on the actual*
10 *hours that each unit has operated.*

11

12 **Response)** The "Expected Retirement Dates" for each unit came from a 2012
13 Burns and McConnell Comprehensive Depreciation Study.

14 *a. The annual operating hours for each unit since 2012 are shown in the*
15 *table at the top of the following page.*

16

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1

Big Rivers Electric Corporation Generating Unit Operating Hours since 2012					
Unit	Years				
	2013	2014	2015	2016	2017
Coleman 1	7,780	2,453			
Coleman 2	8,308	2,555			
Coleman 3	8,349	2,707			
Green 1	7,966	8,288	7,052	7,782	7,239
Green 2	8,537	8,101	7,013	8,278	6,841
HMP&L 1	8,132	8,036	7,931	6,776	3,963
HMP&L 2	7,076	8,393	3,729	8,039	5,543
Reid 1	450	4,891	22		
Wilson 1	8,476	7,349	8,323	8,148	7,387

2

3

4

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10

- b. The comparison of the annual and cumulative operating hours for each unit since 2012 and the "Typical Operating Hours per Year" are shown in the table at the top of the following page. The Coleman Units were not included since they have been idled since early 2014. Reid Unit 1 was not included since it has been idled since early 2016. HMP&L Units 1 and 2 were not included due to their planned retirement in 2019.

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1

Big Rivers Electric Corporation Operating Hour Comparisons by Unit since 2012						
Unit	Cumulative Actual Operating Hours 2013-2017	Cumulative Typical Operating Hours for 5 Years	Actual to Typical Operating Hours Cumulative Variance	Average Annual Operating Hours 2013-2017	Typical Operating Hours per Year	Average to Typical Operating Hours Variance
Green 1	38,328	37,230	1,098	7,666	7,446	220
Green 2	38,770	37,230	1,540	7,754	7,446	308
Wilson 1	39,683	39,200	483	7,937	7,840	97

2

3

c. Big Rivers is currently in the process of updating its depreciation study
for filing in April of 2019.

4

5

6

7

Witness) Michael T. Pullen

8

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 10) *Refer to Big Rivers' response to SC 1-14. Provide an itemized***
2 ***breakdown of all components of costs in the "Unit Retirement Costs 2017-***
3 ***2031", including (but not limited to) "Net Salvage Value – Brownfield" and***
4 ***"Net Book Value."***

5

6 **Response) Please see attached exhibit displaying the components that were**
7 **included in the "Unit Retirement Cost 2017-2031.csv" file.**

8

9

10 **Witness) Duane E. Braunecker**

11

Big Rivers Electric Corporation
Case No. 2017-00384
Breakdown of Components Costs in "Unit Retirement Costs 2017-2031"

		In Fixed Costs	In Fixed Costs			
	NBV	ECP	Pond Closures	Coal Assests Stranded on Natural Gas	Natural Gas Conversion Costs	Cost to take to Brown Field
2017	\$ 167,240,114	\$ -	\$ -	\$ 52,536,945		\$ 24,000,000
2018	\$ 165,904,249					
2019	\$ 163,923,850					
2020	\$ 183,988,436					
2021	\$ 193,281,466					
2022	\$ 188,759,980					
2023	\$ 187,447,344					
2024	\$ 183,131,323					
2025	\$ 178,921,049					
2026	\$ 174,818,584					
2027	\$ 170,826,031					
2028	\$ 170,367,634					
2029	\$ 169,909,236					
2030	\$ 166,142,978					
2031	\$ 162,460,205					

Green Station

Big Rivers Electric Corporation

Case No. 2017-00384

Breakdown of Components Costs in "Unit Retirement Costs 2017-2031"

	Retire Coal Unit	Retire Natural Gas Unit	Convert to Natural Gas		
			Build Costs	Stranded Assets	\$/kW
2017	\$ 191,240,114				
2018					
2019					
2020					
2021					
2022					
2023					
2024					
2025					
2026					
2027					
2028					
2029					
2030					
2031					
	\$				

Green Station

Big Rivers Electric Corporation

Case No. 2017-00384

Breakdown of Components Costs in "Unit Retirement Costs 2017-2031"

	Retirement Cost per Unit Coal		Retirement Cost per Unit Natural Gas	
	\$	\$000	\$	\$000
2017	\$ 95,620,057	\$ 95,620		
2018	[REDACTED]			
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
2027				
2028				
2029				
2030				
2031				

Green Station

Big Rivers Electric Corporation
Case No. 2017-00384
Breakdown of Components Costs in "Unit Retirement Costs 2017-2031"

Station 2

		In Fixed Costs	In Fixed Costs			
	Net Book Value	Environmental Compliance Plan	Pond Closures	Coal Assests Stranded on Natural Gas	Natural Gas Conversion Costs	Cost to take to Brown Field
2017	\$ 87,961,597	\$ -	\$ -	\$ 24,504,572		\$ 10,000,000
2018	\$ 85,926,949					
2019	\$ 88,697,731					
2020	\$ 88,932,903					
2021	\$ 98,415,695					
2022	\$ 104,874,187					
2023	\$ 103,677,640					
2024	\$ 102,534,162					
2025	\$ 101,401,552					
2026	\$ 100,324,101					
2027	\$ 99,279,561					
2028	\$ 99,204,394					
2029	\$ 99,129,228					
2030	\$ 99,084,008					
2031	\$ 99,038,811					

Big Rivers Electric Corporation
Case No. 2017-00384
Breakdown of Components Costs in "Unit Retirement Costs 2017-2031"

Station 2

	Retire Coal Unit	Retire Natural Gas Unit	Convert to Natural Gas		
			Build Costs	Stranded Assets	\$/kW
2017	\$ 97,961,597				
2018					
2019					
2020					
2021					
2022					
2023					
2024					
2025					
2026					
2027					
2028					
2029					
2030					
2031					

Big Rivers Electric Corporation
Case No. 2017-00384
Breakdown of Components Costs in "Unit Retirement Costs 2017-2031"

Wilson

		In Fixed Costs	In Fixed Costs			
	Net Book Value	Environmental Compliance Plan	Pond Closures	Coal Assests Stranded on NG	NG Conv Costs	Cost to take to Brown Field
2017	\$ 477,746,615					\$ 47,200,000
2018	\$ 487,183,415					
2019	\$ 490,677,815					
2020	\$ 496,989,815					
2021	\$ 473,152,659					
2022	\$ 452,059,138					
2023	\$ 428,180,090					
2024	\$ 407,344,926					
2025	\$ 383,614,539					
2026	\$ 363,605,056					
2027	\$ 340,029,185					
2028	\$ 319,741,658					
2029	\$ 299,454,131					
2030	\$ 276,038,862					
2031	\$ 254,454,507					

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 11)** *Refer to Big Rivers' response to SC 1-15(d). Explain the basis*
2 *for the belief that modeling scenarios where MISO market capacity prices*
3 *were lower than in the base case assumption would produce similar results*
4 *"to the market prices scenarios that were completed."*

5

6 **Response)** Please see Big Rivers' response to Item 24 of the Commission Staff's
7 second request for information in this case.

8

9

10 **Witness)** Duane E. Braunecker

11

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 12) Refer to Big Rivers' response to SC-18.**

2 **a. Explain the rationale for keeping the Coleman and Reid plants**
3 **idling on the system but not including them in the PLEXOS**
4 **modeling to understand how they could fit into the system over the**
5 **long term.**

6 **b. Explain the modeling and analysis Big River has done to**
7 **understand the conditions required to make Coleman and Reid**
8 **economic to operate.**

9

10 **Response)**

11 **a. In the PLEXOS® modeling results for the 2017 IRP there was no new**
12 **capacity built in the base case and all the scenarios, except the Renewable**
13 **Portfolio Standards scenario, where renewable capacity was a**
14 **requirement to be built. The 2017 IRP PLEXOS® modeling provides a**
15 **least-cost solution and since no new capacity was built, it made sense to**
16 **keep Coleman and Reid 1 plants idling on the system as either bringing**
17 **the units back into operation or retiring the units would increase costs.**

18 **b. There was no modeling or analysis performed on the Coleman and Reid 1**
19 **units for the 2017 IRP.**

20

21

22 **Witness) Duane E. Braunecker**

23

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item.13) *Refer to Big Rivers' response to SC 1-19(a). Explain why and***
2 ***how the "Net Salvage Value - Brownfield" costs were used and included in***
3 ***the total retirement cost or total exit contract cost as inputs in the LT Plan***
4 ***modeling.***

5

6 **Response) *PLEXOS® LT Plan modeling solved for the least-cost option and the***
7 ***net salvage value taken to brownfield costs should be included in the retirement***
8 ***cost.***

9

10

11 **Witness) Duane E. Braunecker**

12

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 14) Refer to Big Rivers' response to SC 1-19(b). With regards to the**
2 **inclusion of Net Book Value costs for the Wilson and Green units in the LT**
3 **Plan modeling:**

4 **a. Confirm that Net Book Value is a sunk cost that Big Rivers would**
5 **seek to recover from its customers for each of its Wilson and Green**
6 **units regardless of whether or when those units retire.**

7 **i. If not confirmed, explain why not.**

8 **b. Explain why you included Net Book Value as a retirement cost for**
9 **each of the Wilson and Green units in the LT Plan modeling of each**
10 **of those units.**

11

12 **Response)**

13 **a. Yes. Big Rivers would seek to recover the current Net Book Value of the**
14 **Wilson and Green units should they be retired.**

15 **b. The PLEXOS® LT Plan model solved for the least-cost option and the Net**
16 **Book Value should be included in the retirement cost.**

17

18

19 **Witness) Duane E. Braunecker**

20

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 15)** *Refer to Big Rivers' response to SC 1-23. Explain why Big Rivers*
2 *used the EIA Capital Cost estimates from 2016 in 2017 without adjusting for*
3 *inflation or decreasing project build costs.*

4

5 **Response)** EIA Capital Cost estimates are in 2016\$ and Big Rivers should have
6 adjusted the 2016\$ for 2017. Since the model did not build any new capacity,
7 increasing the build cost for the natural gas units in 2017 by an inflation rate would
8 not change the modeling results. For the solar build cost option, the Solar Energy
9 Industries Association (SEIA) reports that solar “[m]odule prices fell steadily until
10 2017 when the Section 201 Solar Tariff case was announced. The uncertainty
11 surrounding the decision caused module prices to rise in late 2017,..” See:
12 <https://www.seia.org/solar-industry-research-data>. Therefore, keeping the solar
13 price projection in 2016\$ for 2017 is valid and would not change the modeling
14 results.

15

16

17 **Witness)** Duane E. Braunecker

18

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 16) Refer to Big Rivers' response to SC 1-26 and the accompanying**
2 **attachment, and to pages 114-115 of the IRP.**

3 **a. State whether, in modeling whether to retire the Wilson plant or**
4 **Green units, Big Rivers ran any scenarios in which the model could**
5 **choose only the level of replacement capacity needed to achieve**
6 **approximately the 15.8% minimum reserve margin.**

7 **i. If so, identify the results of that modeling, and produce any**
8 **reports, workpapers, or modeling input and output files for**
9 **such modeling.**

10 **ii. If not, explain why not.**

11 **b. Given the reserve margins shown in the attachment to your**
12 **response to SC 1-26 that would result from a 702 MW combined**
13 **cycle plant, explain why the 429 MW advanced natural gas**
14 **combined cycle plant identified in Table 7.4 of the IRP was not**
15 **included as a new asset in the IRP modeling.**

16 **c. Given the reserve margins shown in the attachment to your**
17 **response to SC 1-26 that would result from a 702 MW combined**
18 **cycle plant, explain why the 237 MW advanced combustion turbine**
19 **identified in Table 7.4 of the IRP was not included as a new asset**
20 **in the IRP modeling.**

21 **d. Explain the statement "the model could add generation capacity**
22 **for economics even if the resource was not needed to serve the**

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 *load,” and clarify if this generation capacity is built in order to*
2 *export and sell into the market.*

3 *i. Provide the export price assumptions used in the PLEXOS*
4 *model runs where Big Rivers built capacity beyond what was*
5 *needed to serve native load for sale into MISO.*

6
7 **Response)**

8 a. Yes, all modeling had the option to retire the Wilson plant or Green units
9 and all scenarios had the 15.8% minimum reserve margin.

10 i. Please see Chapter 7, Appendix F and Appendix H of Big Rivers' IRP
11 and the attachment to Big Rivers' response to Item 14 of Ben Taylor
12 and the Sierra Club's initial request for information in this case.

13 ii. Not Applicable.

14 b. The *PLEXOS*® modeling results did not build any new resources when
15 solving for the least-cost solution. The attachment in Big Rivers' response
16 to Item 26 of Ben Taylor and the Sierra Club's initial request for
17 information in this case was used to display why the 105% maximum
18 reserve margin was selected. Big Rivers would have refined its modeling
19 options to include the other natural gas plant types if the least-cost option
20 would have built a new natural gas plant.

21 c. Please see response to sub-part b.

22 d. Please see Big Rivers' response to sub-part b. of Item 26 of Ben Taylor and
23 the Sierra Club's initial request for information in this case.

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

- 1 i. There were no *PLEXOS*® modeling results where the least-cost
2 solution had Big Rivers building capacity (except for the Renewable
3 Portfolio Standard [RPS] scenario where building renewable
4 capacity was a requirement).

5

6

7 Witness) Duane E. Braunecker

8

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 17) *Refer to Big Rivers' responses to SC 1-26 and SC 1-28. Explain***
2 ***why the model needed a 105% reserve margin in order to build a new NCGG***
3 ***but is then short of load and importing from MISO from 2021-2026.***

4

5 **Response) Big Rivers is not short of load in terms of capacity and the reserve**
6 **margin is based on capacity (MW), not energy (MWh). The model is providing the**
7 **least-cost solution and the model purchased more load from MISO than generation**
8 **to MISO in years 2021-2026 because it was more economic for Big Rivers to**
9 **purchase load from MISO than to generate. In MISO, Big Rivers purchases all its**
10 **load from MISO and receives revenue for all its generation. Please see page 109 of**
11 **Big Rivers' 2017 IRP, lines 2-7 explaining MISO and the LT Plan model.**

12

13

14 **Witness) Duane E. Braunecker**

15

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 18) *Refer to Big Rivers' response to SC 1-28. Provide the import***
2 ***price assumptions used in the PLEXOS model runs where Big Rivers'***
3 ***internal generation is short of load and MISO imports are used to meet the***
4 ***outstanding load.***

5

6 **Response) There is no "import price" for MISO when Big Rivers' generation is**
7 **short of load as Big Rivers purchases all its load from MISO whether it is short or**
8 **long load. Please see Big Rivers' response to Item 17 of Ben Taylor and the Sierra**
9 **Club's supplemental request for information in this case.**

10

11

12 **Witness) Duane E. Braunecker**

13

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 19)** *Refer to Big Rivers' response to SC 1-29. For each of Big Rivers'*
2 *coal-fired generating units, identify the types of coal, and the percentage of*
3 *the total for each type of coal, that you plan to burn in each of the years of*
4 *the IRP.*

5

6 **Response)** All of the Big Rivers coal-fired generating units are planned to burn
7 Illinois Basin Coals for all of the years of the IRP.

8

9

10 **Witness)** Michael T. Pullen

11

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 20) Refer to Big Rivers' response to SC 1-30(b). State whether Big**
2 **Rivers attempted to obtain the market data needed to include power**
3 **purchase agreements for renewables as a resource option in any of the**
4 **modeling scenarios or sensitivities presented in the IRP.**

5 **a. If so, detail the efforts Big Rivers made to obtain the necessary**
6 **market data.**

7 **b. If not, explain why not.**

8
9 **Response) Big Rivers did not attempt to obtain the market data needed to include**
10 **power purchase agreements for renewables as a resource option in any of the**
11 **modeling scenarios or sensitivities presented in the IRP.**

12 **a. Not applicable.**

13 **b. Big Rivers does not believe that reliable indicative quotes for hypothetical**
14 **renewable projects three, eight, and thirteen years forward are available.**

15

16

17 **Witness) Mark J. Eacret**

18

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 21) Refer to Big Rivers' response to SC 1-31(c). State whether Big**
2 **Rivers attempted to obtain the data needed to evaluate building, acquiring,**
3 **or contracting wind generating sources beyond its western Kentucky service**
4 **area.**

5 **a. If so, detail the efforts Big Rivers made to obtain the necessary**
6 **market data.**

7 **b. If not, explain why not.**

8
9 **Response) Big Rivers did not attempt to obtain the data needed to evaluate**
10 **building, acquiring, or contracting wind generating sources beyond its western**
11 **Kentucky service area.**

12 **a. Not applicable.**

13 **b. Big Rivers does not believe that modeling a generic wind generating**
14 **source outside of western Kentucky which could be used as a hedge for**
15 **Big Rivers load would provide meaningful results. Identifying such a**
16 **source would necessitate studies of wind, transmission, and locational**
17 **market prices which would be very site-specific.**

18

19

20 **Witness) Mark J. Eacret**

21

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 22)** *Refer to Big Rivers' response to SC 1-33(c). If the Project*
2 *Coleman EHV-Aleris 161 kV Line additions (2 circuits) are unrelated to the*
3 *idled Coleman station, identify which facility the upgrades are related to.*

4

5 **Response)** The Coleman EHV substation, which includes 161 kV and 345 kV
6 networked transmission facilities, is utilized to provide electric service to an
7 expanded aluminum rolling mill via the described 161 kV line additions.

8

9

10 **Witness)** Christopher S. Bradley

11

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

- 1 **Item 23) Refer to Big Rivers' responses to SC 1-37(b) and AG 1-8. With**
2 **regards to the currently idled Reid Unit 1, and the potential for restarting**
3 **that plant:**
- 4 **a. Identify the overall cost of restarting Reid Unit 1.**
 - 5 **b. Identify, by project and cost, any capital expenditures that Big**
6 **Rivers would have to incur under each of the following**
7 **environmental regulations in order to restart Reid Unit 1.**
 - 8 **i. Clean Air Act Mercury and Air Toxics Standard ("MATS")**
 - 9 **ii. Clean Water Act Effluent Limitation Guidelines ("ELGs")**
 - 10 **iii. Section 316(b) of the Clean Water Act**
 - 11 **iv. Cross State Air Pollution Rule ("CSAPR")**
 - 12 **v. Coal Combustion Residuals ("CCR") Rule**
 - 13 **vi. Any other environmental law or regulation.**
 - 14 **c. Identify any potential capital and/or major maintenance projects**
15 **that would be necessary to restart Reid Unit 1.**
 - 16 **d. Produce any studies, analyses, modeling, and data evaluating**
17 **whether or when to restart Reid Unit 1.**
 - 18 **e. State whether Big Rivers has evaluated the levels to which energy**
19 **prices, capacity prices, peak demand, and/or energy requirements**
20 **would have to increase in order for it to be economic to bring Reid**
21 **Unit 1 back online.**

Case No. 2017-00384
Response to SC 2-23

Witnesses: Michael T. Pullen (a., c., d., e., and g. only),
Dr. Thomas L. Shaw (b. only), and
Paul G. Smith (f. only)

Page 1 of 4

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

- 1 *i. If so, explain the methods and conclusions of such*
2 *evaluation, and provide any reports, workpapers, or other*
3 *documents relied on in the course of such evaluation.*
4 *ii. If not, explain why not.*
5 *f. Identify the annual cost of keeping Reid Unit 1 idled.*
6 *g. Explain in detail the "economic market conditions" that could*
7 *develop and allow Reid Unit 1 to return to service and that have*
8 *prevented you from evaluating Reid Unit 1 for retirement.*

9
10 **Response)**

- 11 a. The overall cost of restarting Reid Unit 1 is estimated to be [REDACTED].
12 b. Capital expenditures Big Rivers would incur for selected environmental
13 regulations in order to restart Reid Unit 1 are as follow:
14 i. Clean Air Act Mercury and Air Toxics Standard ("MATS"): Natural
15 gas conversion costs included in sub-part (a).
16 ii. Clean Water Act Effluent Limitation Guidelines ("ELGs"): Natural
17 gas conversion costs included in sub-part (a).
18 iii. Section 316(b) of the Clean Water Act: No additional cost to return
19 Reid Unit 1 to service. The intake structure utilized for Reid Unit 1
20 is a part of the common intake structure for the Green and HMP&L
21 Station 2 Units. The KPDES permit that is effective October 1, 2018,

**Case No. 2017-00384
Response to SC 2-23**

**Witnesses: Michael T. Pullen (a., c., d., e., and g. only),
Dr. Thomas L. Shaw (b. only), and
Paul G. Smith (f. only)**

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

- 1 will require the completion of a 316(b) study for the common intake
2 structure.
- 3 iv. Cross State Air Pollution Rule ("CSAPR"): No additional capital cost
4 for Reid Unit 1 to return to service.
- 5 v. Coal Combustion Residuals ("CCR") Rule: Natural gas conversion
6 costs included in sub-part (a).
- 7 vi. None known.
- 8 c. To return Reid Unit 1 to service will require converting the unit to burn
9 natural gas, and making typical unit maintenance outage repairs and
10 inspections. The table below provides the cost estimate
11

Big Rivers Electric Corporation Estimated Cost to Convert Reid Unit 1 to Natural Gas	
Natural Gas Conversion Capital Cost	
Restoration Capital Cost	
Miscellaneous FDE ^a Restoration Cost	
Total Estimated Cost	

Note(s): a. FDE = Fixed Departmental Expenses

- 12
- 13 d. Please see the REDACTED attachment hereto. The CONFIDENTIAL
14 version is provided with a Petition for Confidential treatment.
- 15 e. Big Rivers has not evaluated the exact levels required to bring Reid Unit
16 1 back online.

**Case No. 2017-00384
Response to SC 2-23**

**Witnesses: Michael T. Pullen (a., c., d., e., and g. only),
Dr. Thomas L. Shaw (b. only), and
Paul G. Smith (f. only)**

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

- 1 i. Big Rivers' continues to monitor forward capacity and energy sales.
2 The market conditions required to bring Reid Unit 1 back online
3 would need to support the natural gas conversion costs and provide
4 an economic benefit to our Member-Owners.
5 ii. Not applicable.
6 f. For calendar year 2017, the actual cost of keeping Reid Unit 1 idled was
7 approximately \$2.5 million.
8 g. The economic market conditions would include MISO market prices for
9 both capacity and energy, natural gas prices, natural gas availability,
10 industrial load, the retirement of other utilities' generation assets and/or
11 environmental regulations of coal-fired generation.

12
13
14 **Witnesses)** Michael T. Pullen (*a., c., d., e., and g. only*),
15 Dr. Thomas L. Shaw (*b. only*), and
16 Paul G. Smith (*f. only*)
17

Big Rivers Electric Corporation
Case No. 2017-00384
Reid Unit 1 Natural Gas Conversion and Restart Costs

Capital Conversion Cost	
Titan Labor	
Burners	
Scaffolding/Insulation	
Inst/Elec. Maintenance Labor	
Inst/Elec. Maintenance Material	
Gas Line Inspection/Repairs	
Burner Management	
Turbine Controls Replacement	
BOP/DAS Replacement	
Misc. Burner Material	
SKOTCH VALVE REPAIRS	
FGR DUCT REPAIRS	
Contingency	
Total Estimated Conversion Cost	
Miscellaneous Capital Costs	
R1 - Expansion Joints	
R1 - Boiler Insulation & Lagging	
Total Estimated Miscellaneous Capital Costs	
Miscellaneous Fixed Departmental Expenses (FDE)	
Rebuild Turbine Valves	
R1 - Primary Superheat Elements (6)	
Boiler Header Inspections and Condition Assessment	
Boiler Safety Valves	
Condenser Cleaning & Inspection	
Ductwork Inspection	
4160v Switchgear Inspection / Testing	
HP / LP FW Heaters Inspection / Testing	
Deaerator Inspection	
Soot Blower Removal and Cap Penetrations	
Generator Inspection	
High Energy Piping Inspection	
Pipe Hanger Inspection	
Total Estimated Miscellaneous FDE	
Total Estimated Conversion / Restart Costs	

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 24)** *Refer to Big Rivers' July 6, 2018, filed revisions to your DSM*
2 *programs, which are referenced in your response to SC 1-40(b).*

3 *a. Fully explain why Big Rivers has proposed to phase out four DSM*
4 *programs with a Total Resource Cost ("TRC") greater than 1.0,*
5 *including three near or greater than 2.0.*

6 *b. Produce any studies, analyses, modeling, and data that were used*
7 *to come to the decision to phase out the programs.*

8
9 **Response)**

10 *a. The TRC values have continued to trend down with most programs*
11 *becoming non-cost effective, meaning the benefit to cost ratio is reduced.*
12 *As a result, management at Big Rivers and its Member-Owners have*
13 *made the decision to phase out spending on incentives, except for a low-*
14 *income weatherization initiative, but to continue energy efficiency*
15 *education.*

16 *b. See Appendix B: Energy Efficiency and Demand Response Potential*
17 *Study of Big Rivers' 2017 Integrated Resource Plan.*

18
19
20 **Witness)** Russell L. Pogue,

21

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 25)** *Refer to Big Rivers' response to SC 1-41. State whether the*
2 *Energy Efficiency and Demand Response Potential Study factored in the*
3 *cost savings from the retirement of existing generating units that could*
4 *result from increased levels of demand response and energy efficiency, in*
5 *assessing the cost effectiveness of such demand response and energy*
6 *efficiency.*

7 **a.** *If so, explain how.*

8 **b.** *If not, explain why not.*

9

10 **Response)** The DSM Potential Study, Appendix B of Big Rivers' 2017 IRP, did not
11 factor in the cost savings from the retirement of existing generating units.

12 **a.** Not Applicable.

13 **b.** The consideration of hypothetical cost savings from the retirement of
14 generating units is not part of the typical scope of energy efficiency or
15 demand response potential studies, nor was it included in the scope of
16 work for Big Rivers' DSM Potential Study. Furthermore, the assessment
17 of cost-effectiveness according to the Total Resource Cost ("TRC") Test
18 was the standard used in the DSM Potential Study. That assessment does
19 not include these hypothetical cost savings as either a benefit or a cost in
20 the screening calculation.

21

22 **Witness)** Russell L. Pogue

23

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 26)** *Refer to Big Rivers' response to SC 1-41. Explain how the Energy*
2 *Efficiency and Demand Response programs were included in the PLEXOS*
3 *modeling runs.*

4

5 **Response)** The \$1.0 million spend for Energy Efficiency and Demand Response
6 programs was utilized to develop the 2017 load forecast which was used in the
7 *PLEXOS®* modeling runs. *PLEXOS®* modeling runs were not utilized to evaluate
8 the cost-effectiveness of this \$1.0 million spend. A scenario that included an
9 additional \$1.0 million spend (total \$2.0 million spend) was evaluated by *PLEXOS®*
10 modeling. Please see Big Rivers' response to Item 23 of Commission Staff's first
11 request for information in this case.

12

13

14 **Witness)** Duane E. Braunecker

15

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 27)** *Refer to Big Rivers' response to AG 1-4. Explain the efforts that*
2 *Big Rivers has taken to evaluate the economics surrounding solar*
3 *generation.*

4

5 **Response)** Big Rivers' staff annually reviews the U.S. Solar Photovoltaic System
6 Cost Benchmark (latest edition First Quarter 2017) published by the National
7 Renewable Energy Laboratory ("NREL"). NREL is a national laboratory of the U.S.
8 Department of Energy's Office of Energy Efficiency & Renewable Energy. The
9 Alliance for Sustainable Energy, LLC operates the NREL.

10

11

12 **Witness)** Russell L. Pogue

13

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

- 1 **Item 28)** *Refer to the attachment to Big Rivers' response to AG 1-7. With*
2 *regards to the "Mandatory Environmental Upgrades" identified therein.*
3 **a.** *Identify the estimated time it would take to complete each of those*
4 *upgrades.*
5 **b.** *State whether Big Rivers has commenced any of the upgrades.*
6 **i.** *If so, identify the status and estimated completion date of*
7 *each such upgrade.*
8 **ii.** *If not, explain why not.*
9 **c.** *State whether the pond closures would have to be carried out even if*
10 *Coleman is never returned to service.*
11 **i.** *If not, explain why not, and describe Big Rivers' long-term plan*
12 *for those ponds if Coleman is never returned to service.*
13

14 **Response)**

- 15 **a.** The estimated time it would take to complete each of those upgrades is
16 unknown until the scope of the work involved is developed in detail and a
17 schedule developed on that basis.
18 **b.** Big Rivers has not yet commenced any of the upgrades.
19 **i.** Not Applicable.
20 **ii.** Big Rivers will not commence any of the upgrades until a
21 determination has been made to return Coleman Station to service.
22 **c.** Until the United State Court of Appeals for the District of Columbia
23 Circuit ("DC Circuit") ruling on August 21, 2018, the ponds were

Case No. 2017-00384
Response to SC 2-28

Witnesses: Michael T. Pullen (*a. and b. only*) and
Dr. Thomas L. Shaw (*c. only*)

Page 1 of 2

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 exempted from closure under the Coal Combustion Residuals Rule.
2 Currently the ponds maintain a Kentucky Pollutant Discharge
3 Elimination System ("KPDES") permit to discharge and with the KPDES
4 permit the ponds have a permit by rule under Chapter 45 of the Kentucky
5 Special Waste Rules. The ruling by the DC Circuit, if upheld, will require
6 the closure of the ponds. The timing on closing the ponds will be
7 determined by the legal process that will follow the DC Circuit ruling and
8 subsequent regulation development by the United States Environmental
9 Protection Agency to comply with the final ruling.

- 10 i. Until the requirement is in place to close the ponds, Big Rivers will
11 continue to inspect and maintain the embankments.

12
13
14 **Witnesses) Michael T. Pullen (*a. and b. only*) and**
15 **Dr. Thomas L. Shaw (*c. only*)**
16

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 29)** *Refer to Big Rivers' response to AG 1-7(d). State whether you*
2 *have evaluated whether to retire the Coleman Station even if the Clean*
3 *Power Plan is repealed and not replaced with any carbon regulations.*

4 *a. If so, describe the results of that evaluation and produce any*
5 *reports, workpapers, or other documents regarding that*
6 *evaluation.*

7 *b. If not, explain why not.*

8
9 **Response) Yes.**

10 a. Please see Big Rivers' response to Item 6a of the Commission Staff's first
11 request for information in this case.

12 b. Not Applicable.

13

14

15 **Witness)** Michael T. Pullen

16

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 30) Refer to Big Rivers' response to AG 1-7(f) and Section 7.2 of the**
2 **IRP.**

3 **a. State whether returning Coleman to service would provide a**
4 **positive economic benefit to Big Rivers' Members under the**
5 **forecasted market conditions (i.e. coal market energy, capacity,**
6 **and gas prices) assumed in your base case IRP modeling.**

7 **i. If so, explain why.**

8 **ii. If not, explain why not.**

9 **b. State whether returning Coleman to service would provide a**
10 **positive economic benefit to Big Rivers' Members under the**
11 **forecasted market conditions assumed in any of the seven**
12 **scenarios discussed in Section 7.2.3 of the IRP.**

13 **i. If so, identify under which market conditions and explain**
14 **why.**

15 **c. State whether you have estimated the likelihood that, at some**
16 **point during the IRP planning period, the economics would be**
17 **such that returning Coleman to service would provide a positive**
18 **economic benefit to Big Rivers' Members.**

19 **i. If so, identify that estimated likelihood, explain the basis for**
20 **that estimate, and produce any reports, workpapers, or other**
21 **documents relied on in making such estimate.**

22 **ii. If not, explain why not.**

23

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Response)**

2 a. Coleman was not included in Big Rivers' IRP modeling process.

3 i. Not Applicable.

4 ii. Coleman was addressed in Big Rivers' 2015 Focused Management
5 Audit.

6 b. Coleman was not included in Big Rivers' IRP modeling process.

7 i. Not Applicable.

8 c. Coleman was not included in Big Rivers' IRP modeling process.

9 i. Not Applicable

10 ii. Coleman was addressed in Big Rivers' 2015 Focused Management
11 Audit.

12

13

14 **Witness) Michael T. Pullen**

15

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 31) Refer to Big Rivers' response to AG 1-12.**

2 **a. State whether a final treatment plan for the Wilson plant has been**
3 **completed.**

4 **i. If so, identify the status and estimated completion date of each**
5 **such upgrade.**

6 **b. Fully explain the coal ash management plan, including related**
7 **cost, at Wilson.**

8
9 **Response)**

10 **a. A treatment plan for the Wilson plant is in the final stages of**
11 **development. Big Rivers will present the completed plan to the Division**
12 **of Waste Management within the Kentucky Energy and Environment**
13 **Cabinet's Department of Environmental Protection ("DWM") for its**
14 **review. Upon completion of the DWM review, the treatment system will**
15 **be installed.**

16 **i. See the response to sub-part a.**

17 **b. Big Rivers maintains a plan called Disposal of Coal Combustion Residuals**
18 **("CCR") from Electric Utilities Final Rule Closure and Post-closure Care**
19 **Plan. That document is attached.**

20

21

22 **Witness) Dr. Thomas L. Shaw**

23

Case No. 2017-00384

SC 2-31b (TLS) (Att) - DB Wilson CCR Landfill

Closure-Post Closure Care Plan - 2016-10-11



Your Touchstone Energy® Cooperative 

D.B. Wilson Station CCR Landfill

Disposal of Coal Combustion Residuals (CCR) from Electric Utilities Final Rule Closure and Post-closure Care Plan

October 11, 2016

Prepared By:



Project ID: 160030A

Big Rivers Electric Corporation
Disposal of Coal Combustion Residuals (CCR) from Electric Utilities Final Rule
Closure and Post-closure Care Plan

CCR Landfill Information

Name: D.B. Wilson Station CCR Landfill
Operator: D.B. Wilson Generating Station
Address: 5663 State Route 85 West
Centertown, KY 42328

Qualified Professional Engineer

Name: David A. Lamb
Company: Associated Engineers, Inc.
Kentucky P.E. Number: 17822

Regulatory Applicability

The owner or operator of a CCR unit must prepare a written closure plan that describes the steps necessary to close the CCR unit at any point during the active life of the CCR unit and a written post-closure care plan consistent with recognized and generally accepted good engineering practices as specified below. The owner or operator of an existing CCR unit must prepare the written initial closure and post-closure care plans no later than October 17, 2016 as follows:

§ 257.102 Criteria for conducting the closure or retrofit of CCR units.

- (a) Closure of a CCR unit or any lateral expansion of a CCR unit must be completed either by leaving the CCR in place and installing a final cover system or through removal of the CCR and decontamination of the CCR unit, as described in paragraphs (b) through (j) of this section. Retrofit of a CCR surface impoundment must be completed in accordance with the requirements in paragraph (k) of this section.
- (b) *Written closure plan - (1) Content of the plan.* The owner or operator of a CCR unit must prepare a written closure plan that describes the steps necessary to close the CCR unit at any point during the active life of the CCR unit consistent with recognized and generally accepted good engineering practices. The written closure plan must include, at a minimum, the information specified in paragraphs (b)(1)(i) through (vi) of this section.
 - (i) A narrative description of how the CCR unit will be closed in accordance with this section.

- (ii) If closure of the CCR unit will be accomplished through removal of CCR from the CCR unit, a description of the procedures to remove the CCR and decontaminate the CCR unit in accordance with paragraph (c) of this section.
 - (iii) If closure of the CCR unit will be accomplished by leaving CCR in place, a description of the final cover system, designed in accordance with paragraph (d) of this section, and the methods and procedures to be used to install the final cover. The closure plan must also discuss how the final cover system will achieve the performance standards specified in paragraph (d) of this section.
 - (iv) An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.
 - (v) An estimate of the largest area of the CCR unit ever requiring a final cover as required by paragraph (d) of this section at any time during the CCR unit's active life.
 - (vi) A schedule for completing all activities necessary to satisfy the closure criteria in this section, including an estimate of the year in which all closure activities for the CCR unit will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to close the CCR unit, including identification of major milestones such as coordinating with and obtaining necessary approvals and permits from other agencies, the dewatering and stabilization phases of CCR surface impoundment closure, or installation of the final cover system, and the estimated timeframes to complete each step or phase of CCR unit closure. When preparing the written closure plan, if the owner or operator of a CCR surface impoundment estimates that the time required to complete closure will exceed the timeframes specified in paragraph (f)(1) of this section, the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under paragraph (f)(2) of this section.
- (c) Closure by removal of CCR. An owner or operator may elect to close a CCR unit by removing and decontaminating all areas affected by releases from the CCR unit. CCR removal and decontamination of the CCR unit are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed and groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to § 257.95(h) for constituents listed in appendix IV to this part.
- (d) Closure performance standard when leaving CCR in place - (1) The owner or operator of a CCR unit must ensure that, at a minimum, the CCR unit is closed in a manner that will:
- (i) Control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere;

- (ii) Preclude the probability of future impoundment of water, sediment, or slurry;
- (iii) Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and post-closure care period;
- (iv) Minimize the need for further maintenance of the CCR unit; and
- (v) Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.

§ 257.103 Alternative closure requirements.

The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit that is subject to closure pursuant to § 257.101(a)[detected at statistically significant levels above the groundwater protection standard], (b)(1) [not demonstrated compliance with any location standard], or (d)[not demonstrated compliance with the location restriction for unstable areas], may continue to receive CCR in the unit provided the owner or operator meets the requirements of either paragraph (a) or (b) of this section.

(a)(1) *No alternative CCR disposal capacity.* Notwithstanding the provisions of § 257.101(a), (b)(1), or (d), a CCR unit may continue to receive CCR if the owner or operator of the CCR unit certifies that the CCR must continue to be managed in that CCR unit due to the absence of alternative disposal capacity both on-site and off-site of the facility.

(b)(1) *Permanent cessation of a coal-fired boiler(s) by a date certain.* Notwithstanding the provisions of § 257.101(a), (b)(1), and (d), a CCR unit may continue to receive CCR if the owner or operator certifies that the facility will cease operation of the coal- fired boilers within the timeframes specified in paragraphs (b)(2) through (4) of this section, but in the interim period (prior to closure of the coal-fired boiler), the facility must continue to use the CCR unit due to the absence of alternative disposal capacity both on- site and off-site of the facility.

§ 257.104 Post-closure care requirements.

(a) *Applicability.*

- (1) Except as provided by either item (2) or (3) of this section, post-closure requirements apply to the owners or operators of CCR landfills, CCR surface impoundments, and all lateral expansions of CCR units that are subject to the closure criteria under § 257.102.
- (2) An owner or operator of a CCR unit that elects to close a CCR unit by removing CCR as provided by § 257.102(c) is not subject to the post- closure care criteria under this section.
- (3) An owner or operator of an inactive CCR surface impoundment that elects to close a CCR unit pursuant to the requirements under § 257.100(b) [Inactive Surface Impoundments] is not subject to the post-closure care criteria under this

section.

(b) *Post-closure care maintenance requirements.* Following closure of the CCR unit, the owner or operator must conduct post-closure care for the CCR unit, which must consist of at least the following:

(1) Maintaining the integrity and effectiveness of the final cover system, including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(c) *Post-closure care period.*

(1) Except as provided by paragraph (c)(2) of this section, the owner or operator of the CCR unit must conduct post-closure care for 30 years.

(2) If at the end of the post-closure care period the owner or operator of the CCR unit is operating under assessment monitoring in accordance with § 257.95 [Assessment Monitoring Program], the owner or operator must continue to conduct post-closure care until the owner or operator returns to detection monitoring in accordance with § 257.95.

(d) *Written post-closure plan*

(1) *Content of the plan.* The owner or operator of a CCR unit must prepare a written post-closure plan that includes, at a minimum, the information specified in paragraphs (d)(1)(i) through (iii) of this section.

(i) A description of the monitoring and maintenance activities required in paragraph (b) of this section for the CCR unit, and the frequency at which these activities will be performed;

(ii) The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period; and

(iii) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this subpart. Any other disturbance is allowed if the owner or operator of the CCR unit demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must be certified by a qualified professional engineer, and notification shall be provided to the State Director that the demonstration has been placed in the operating record and on the owners or operator's publicly accessible Internet site.

(2) Deadline to prepare the initial written post-closure plan - Existing CCR landfills and

existing CCR surface impoundments. No later than October 17, 2016.

- (3) Amendment of a written post-closure plan.
 - (i) The owner or operator may amend the initial or any subsequent written post-closure plan developed pursuant to paragraph (d)(1) of this section at any time.
 - (ii) The owner or operator must amend the written closure plan whenever:
 - (A) There is a change in the operation of the CCR unit that would substantially affect the written post-closure plan in effect; or
 - (B) After post-closure activities have commenced, unanticipated events necessitate a revision of the written post-closure plan.
 - (iii) The owner or operator must amend the written post-closure plan at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written post-closure plan. If a written post-closure plan is revised after post-closure activities have commenced for a CCR unit, the owner or operator must amend the written post-closure plan no later than 30 days following the triggering event.
- (4) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the initial and any amendment of the written post-closure plan meets the requirements of this section.
- (e) *Notification of completion of post-closure care period.* No later than 60 days following the completion of the post-closure care period, the owner or operator of the CCR unit must prepare a notification verifying that post-closure care has been completed. The notification must include the certification by a qualified professional engineer verifying that post-closure care has been completed in accordance with the closure plan specified in paragraph (d) of this section and the requirements of this section. The owner or operator has completed the notification when it has been placed in the facility's operating record.

Description of Landfill

An aerial photo of the CCR unit is provided as Attachment A and an excerpt from U.S. Geological Survey (USGS) 7.5 minute Equality topographic quadrangle map showing the location of the CCR unit is provided as Attachment B.

The CCR unit is used for the placement of coal combustion residual material; currently fly ash, bottom ash and related material. The approximate total volume of CCR contained in the unit at the time of inspection is 1.8 million cubic yards. This volume was calculated from available flight derived pre-disposal baseline topography compared to December 2015 flight derived topographic contours. The D.B. Wilson CCR landfill is raised above adjacent ground to a

maximum elevation of approximately 520 feet AMSL. The original ground surface within the landfill footprint was irregular and the predominant features were the headwaters of Elk Creek and small stream valleys draining south. Other small tributaries drained west towards the Green River and north towards the Rough River.

D.B. Wilson CCR Landfill Closure Plan

The closure plan for the D.B. Wilson CCR landfill includes, at a minimum:

1. Narrative description of how the CCR unit will be closed in accordance with this section:

At any time that closure may occur, the D.B. Wilson CCR landfill will be closed by either removing CCR, with existing CCR in place, or a combination of both. Temporary cover will be placed on areas where placement of CCR has been completed until such time as the required final low permeability cover material is placed. The final cover system will be designed to minimize infiltration and erosion, and at a minimum, meet the requirements listed below or the requirements of an alternative final cover system.

- a. The permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} centimeters/second (cm/sec), whichever is less.
- b. The infiltration of liquids through the CCR unit must be minimized by the use of an infiltration layer that contains a minimum of 18 inches of earthen material.
- c. The erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of 6 inches of earthen material that is capable of sustaining native plant growth.
- d. The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

2. If closure of the CCR unit will be accomplished through removal of CCR from the CCR unit, a description of the procedures to remove the CCR and decontaminate the CCR unit in accordance with paragraph (c) of this section.

If CCR material is removed, it will be placed on the CCR landfill area which will be covered in place. CCR removal and decontamination of the CCR unit will be considered complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed and groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to this rule.

3. If closure of the CCR unit will be accomplished by leaving CCR in place, a description of the final cover system, designed in accordance with paragraph (d) of this section, and the methods and procedures to be used to install the final cover. The closure plan must also discuss how the final cover system will achieve the performance standards specified in paragraph (d) of this section.

The D.B. Wilson CCR landfill will be closed and covered with the CCR material in place. CCR material will be covered by 24 inches of temporary cover material until the final low permeability soil cover is placed to facilitate closure. The 18-inch low permeability soil cover will be placed and compacted to meet the required permeability of not more than 1×10^{-5} centimeters/second (cm/sec). Appropriate soils testing will be conducted to document that the required thickness and permeability specifications have been met and may include laboratory and field testing procedures. The final cover will be vegetated with appropriate cover species and erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of 6 inches of earthen material that is capable of sustaining native plant growth. The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

4. An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.

The approximate total volume of CCR contained in the unit at the time of inspection is 1.8 million cubic yards. This volume was calculated from available flight derived pre-disposal baseline topography compared to December 2015 flight derived topographic contours. The D.B. Wilson CCR landfill is raised above adjacent ground to a maximum elevation of approximately 520 feet AMSL.

5. An estimate of the largest area of the CCR unit ever requiring a final cover at any time during the CCR unit's active life.

The estimated largest area of the CCR unit ever requiring a final cover at any time during the CCR unit's active life is approximately 65 acres.

6. A schedule for completing all activities necessary to satisfy the closure criteria in this section, including an estimate of the year in which all closure activities for the CCR unit will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to close the CCR unit, including identification of major milestones such as coordinating with and obtaining necessary approvals and permits from other agencies, the dewatering and stabilization phases of CCR surface impoundment closure, or installation of the final cover system, and the estimated timeframes to complete each step or phase of CCR unit closure. When preparing the written closure plan, if the owner or operator of a CCR surface impoundment estimates that the time required to complete closure will exceed the timeframes specified in paragraph (f)(1) of this section, the written closure plan must include the site-specific information, factors and considerations that would support any time extensions sought

under paragraph (f)(2) of this section.

The closure of the D.B. Wilson CCR landfill will be implemented within any required timeframes per applicable environmental rules and regulations and in consideration of any operational and financial constraints. The time required to complete closure is proposed not to exceed five years from commencing closure activities. Based on the current fill rate the landfill will not be closed until beyond the year 2050.

D.B. Wilson CCR Landfill Post-closure Plan

The post-closure plan for the D.B. Wilson CCR landfill includes, at a minimum:

1. The monitoring and maintenance activities will include maintaining the integrity and effectiveness of the final cover system, including making repairs to the final as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover.
2. The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period follows:

Thomas Shaw, Director Environmental
Big Rivers Electric Corporation
Address: 201 3rd Street Henderson, KY 42420
Telephone Number: 270-844-6031
Email Address: Thomas.Shaw@bigrivers.com

3. The planned uses of the property during the post-closure period will consist of maintaining the integrity of the power generating facility. Post-closure use of the property will not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in the rule or other environmental regulations or to facilitate operating considerations that are allowed if the owner or operator of the CCR unit demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must be certified by a qualified professional engineer.

Sources of Information

Geotechnical and other information provided by Associated Engineers, Inc.

Engineering design drawings and other information provided by Big Rivers Electric Corporation

United States Geological Survey U.S. Geological Survey (USGS) 7.5 minute Equality topographic quadrangle map

**Professional Engineer Certification [Per 40 CFR § 257.102-104]
D.B. Wilson CCR Landfill Closure and Post-closure Care Plan**

I hereby certify that myself or an agent under my review has prepared this Closure and Post-closure Care Plan (Plan), and being familiar with the provisions of the final rule to regulate the disposal of coal combustion residuals (CCR) as solid waste under subtitle D of the Resource Conservation and Recovery Act (RCRA), attest that this Plan has been prepared in accordance with good engineering practices and meets the intent of 40 CFR Part 257.102-104. To the best of my knowledge and belief, the information contained in this Plan is true, complete, and accurate.



David A. Lamb
State of Kentucky License No. 17822



Date: 10/11/16



Attachment A. Aerial Photo of the D.B. Wilson CCR Landfill



Attachment B. Topographic Map showing the D.B. Wilson CCR Landfill

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 32)** *Refer to the table on page 3 of Big Rivers' response to PSC 1-5(a).*
2 *For each of the purchasers identified therein, and each of the relevant years*
3 *from 2017 – 2029:*

- 4 *a. Identify the actual or projected net revenues or margins after*
5 *application of expenses.*
6 *b. Explain how the expenses are calculated*
7 *c. Identify each category of costs factored in to calculating the*
8 *expenses.*

9
10 **Response)**

- 11 *a. The contracts with the Missouri Municipals and NextEra are capacity-*
12 *only contracts. Therefore, there are no associated incremental expenses;*
13 *all revenues represent a contribution to fixed costs. Please see the*
14 *attached PUBLIC version of a schedule of revenues and expenses related*
15 *to the Nebraska and KyMEA contracts. The CONFIDENTIAL version of*
16 *this schedule is provided with a Petition for Confidential Treatment.*
17 *b. All categories of expenses represent the incremental costs incurred in*
18 *supplying the customer load.*
19 *c. Please see the response to sub-part a.*

20
21
22
23

Witness) Mark J. Eacret

Big Rivers Electric Corporation
Case No. 2017-00384
Schedule of Revenues and Expenses for KyMEA and Nebraska Customers

	2018	2019	2020	2021	2022	2023
KyMEA						
Revenue						
Contribution to Fixed Cost						
Nebraska Customers						
Revenue						
MISO Energy						
SPP Capacity						
Other SPP Costs						
G&A Expenses of Transaction						
Total Expenses						
Net Margin						

Big Rivers Electric Corporation
Case No. 2017-00384
Schedule of Revenues and Expenses for KyMEA and Nebraska Customers

	2024	2025	2026	2027	2028	2029
	KyMEA					
Revenue						
Contribution to Fixed Cost						
	Nebraska Customers					
Revenue						
MISO Energy						
SPP Capacity						
Other SPP Costs						
G&A Expenses of Transaction						
Total Expenses						
Net Margin						

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 33)** *Refer to Big Rivers' response to PSC 1-7. With regards to the*
2 *table on page 2 of the response:*

3 *a. Produce any workpaper or other file used to make the table.*

4 *b. Identify each category of system demand reflected in the table for*
5 *each of the years 2018 through 2024.*

6 *c. Identify each capacity resource reflected in the table for each of*
7 *the years 2018 through 2024.*

8

9 **Response)** See the response to Item 8 of the Commission Staff's second request
10 for information in this case.

11

12

13 **Witness)** Mark J. Eacret

14

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

- 1 **Item 34)** *Refer to the attachment to Big Rivers' response to PSC 1-11.*
2 *a. For each of the months listed therein, explain how the revenue*
3 *amounts were calculated.*
4 *b. For each of the months listed therein, identify the energy price used*
5 *in calculating the revenue amounts.*
6 *c. State whether the revenue amounts reflect net revenues after*
7 *accounting for expenses, or gross revenues before accounting for*
8 *expenses.*
9 *d. If the answer to subpart (c) is gross revenues, identify the net*
10 *revenues for the short-term optimization sales for each of the*
11 *months from January 2014 through May 2018.*

12
13
14 **Response)**

- 15 *a. Revenue amounts are calculated based on individual customer contract*
16 *price and terms.*
17 *b. The revenue amounts in PSC 1-11 reflect total non-member load which*
18 *includes multiple customers at multiple energy prices. The attached*
19 *spreadsheet provides the average monthly energy price.*
20 *c. The revenue amounts reflect gross revenues before accounting for*
21 *expenses.*
22 *d. Due to a change in methodology implemented in 2017, and for*
23 *comparability in PSC 1-11, Big Rivers does not have the comparable net*

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 revenues for January 2014 through December 2016. The net revenues for
2 January 2017 through May 2018 are shown in the spreadsheet attached
3 for the response to sub-part b.

4

5

6 **Witness) Paul G. Smith**

7

Big Rivers Electric Corporation
Case No. 2017-00384
Non-Member Load

Month	MWh	Revenue (\$000s)	Average Energy Price (\$ / MWh) (b)	Net Revenue (\$000s) (d)
January 2014	198,693	9,251	46.56	Not Available
February 2014	498,575	23,279	46.69	Not Available
March 2014	602,446	24,945	41.41	Not Available
April 2014	591,172	22,315	37.75	Not Available
May 2014	330,327	12,200	36.93	Not Available
June 2014	260,254	9,378	36.03	Not Available
July 2014	450,394	15,090	33.50	Not Available
August 2014	495,309	16,333	32.98	Not Available
September 2014	494,467	16,496	33.36	Not Available
October 2014	464,350	15,255	32.85	Not Available
November 2014	541,332	19,197	35.46	Not Available
December 2014	513,447	15,929	31.02	Not Available
January 2015	419,349	13,865	33.06	Not Available
February 2015	397,609	14,924	37.53	Not Available
March 2015	438,649	14,322	32.65	Not Available
April 2015	258,949	8,360	32.28	Not Available
May 2015	469,315	14,418	30.72	Not Available
June 2015	415,353	12,766	30.74	Not Available
July 2015	349,932	13,559	38.75	Not Available
August 2015	306,951	10,519	34.27	Not Available
September 2015	265,903	9,907	37.26	Not Available
October 2015	240,268	8,738	36.37	Not Available
November 2015	302,629	9,933	32.82	Not Available
December 2015	316,841	9,821	31.00	Not Available
January 2016	333,199	11,908	35.74	Not Available
February 2016	354,935	12,107	34.11	Not Available
March 2016	418,800	11,175	26.68	Not Available
April 2016	397,230	11,510	28.98	Not Available

Big Rivers Electric Corporation
Case No. 2017-00384
Non-Member Load

Month	MWh	Revenue (\$000s)	Average Energy Price (\$ / MWh) (b)	Net Revenue (\$000s) (d)
May 2016	392,576	11,959	30.46	Not Available
June 2016	294,047	8,911	30.30	Not Available
July 2016	397,161	13,037	32.83	Not Available
August 2016	380,757	12,914	33.92	Not Available
September 2016	279,851	11,437	40.87	Not Available
October 2016	347,527	10,536	30.32	Not Available
November 2016	363,107	10,496	28.91	Not Available
December 2016	455,078	14,322	31.47	Not Available
January 2017	443,233	14,706	33.18	2,048
February 2017	350,737	11,840	33.76	2,170
March 2017	339,228	11,530	33.99	1,890
April 2017	326,238	11,037	33.83	2,007
May 2017	366,827	12,119	33.04	1,992
June 2017	346,873	11,264	32.47	1,004
July 2017	341,387	12,006	35.17	2,269
August 2017	319,658	11,381	35.60	2,182
September 2017	325,250	12,048	37.04	2,253
October 2017	378,221	13,160	34.79	1,712
November 2017	369,364	12,176	32.96	1,757
December 2017	384,539	12,768	33.20	1,526
January 2018	298,259	10,118	33.92	1,809
February 2018	192,526	7,011	36.42	1,643
March 2018	287,085	9,435	32.86	1,959
April 2018	353,222	12,304	34.83	3,244
May 2018	348,409	12,149	34.87	3,359

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 35) Refer to Big Rivers' response to 1-32(d) and to slide 18 of the**
2 **June 7, 2018 PSC powerpoint presentation entitled "Electricity Generation**
3 **in Kentucky" that is available at:**

4 ***[http://www.lrc.ky.gov/CommitteeMeetingDocuments/262/11393/Jun%207%202018%](http://www.lrc.ky.gov/CommitteeMeetingDocuments/262/11393/Jun%207%202018%20KY%20Public%20Service%20Commission%20Mathews%20PowerPoint.pptx)***
5 ***[20KY%20Public%20Service%20Commission%20Mathews%20PowerPoint.pptx](http://www.lrc.ky.gov/CommitteeMeetingDocuments/262/11393/Jun%207%202018%20KY%20Public%20Service%20Commission%20Mathews%20PowerPoint.pptx)***

6 **a. Confirm that the table entitled "Big Rivers Average Electricity**
7 **Price, 1990-2016" on slide 18 of the powerpoint accurately reflects**
8 **the average electricity price for Big Rivers' residential,**
9 **commercial, and industrial customers for each of the years 2010**
10 **through 2016.**

11 **i. If not confirmed, explain why not, and identify the average**
12 **electricity price for Big Rivers' residential, commercial, and**
13 **industrial customers for each of the years 2010 through 2016.**

14 **b. Identify the average electricity price for Big Rivers' residential,**
15 **commercial, and industrial customers for 2017.**

16 **c. Identify the projected average electricity price for Big Rivers'**
17 **residential, commercial, and industrial customers for each of the**
18 **years 2018 through 2031.**

19 **d. Explain the differences between the wholesale rates for rural and**
20 **large industrial customers identified in Big Rivers' response to 1-**
21 **32(d) versus the average electricity prices for residential,**
22 **commercial, and industrial customers identified in slide 18 of the**
23 **powerpoint.**

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1 **Response)**

2 a. Not confirmed. Rural and Large Industrial are the only rate classes for
3 Big Rivers.

4 i. Big Rivers' 2014-2016 wholesale rates for its two rate classes were
5 provided in its response to Item 32d of Ben Taylor and the Sierra
6 Club's initial request for information in this case. The wholesale
7 rates charged to Big Rivers' two rate classes in 2010-2013 are:

8

Big Rivers Electric Corporation Wholesale Rates (\$/MWh)				
Rate Classes	2010	2011	2012	2013
Rural (RDS Rate)	37.26	40.58	44.46	51.18
Large Industrial (LIC Rate)	33.93	35.39	37.04	40.94

9

10 b. The average electricity prices for Big Rivers' two rate classes in 2017 was
11 \$83.60/MWh for Rural and \$64.52/MWh for Large Industrial.

12 c. Big Rivers does not have residential or commercial rate classes, but the
13 rates for its two classes were provided in the CONFIDENTIAL table in its
14 response to Item 32e of Ben Taylor and the Sierra Club's initial request
15 for information in this case.

16 d. Big Rivers has accurately provided the wholesale rates for its Rural and
17 Large Industrial classes in the CONFIDENTIAL table in its response to
18 Item 32e of Ben Taylor and the Sierra Club's initial request for
19 information in this case.

20

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
BIG RIVERS ELECTRIC CORPORATION
CASE NO. 2017-00384**

**Response to Ben Taylor and the Sierra Club's
Supplemental Request for Information
dated August 16, 2018**

September 14, 2018

1

2 Witness) Paul G. Smith

3