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P.O. Box 24
Henderson, KY 42419-0024
270-827-2561
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September 14, 2018

RECEIVED

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

BIG RIVERS ELECTRIC CORPORATION

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

Service List

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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 Commission Staff's
Second 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**

VERIFICATION

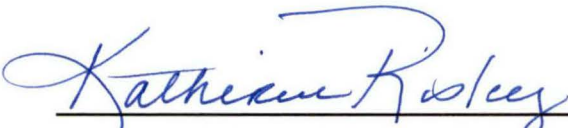
I, Robert W. (Bob) Berry, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



Robert W. (Bob) Berry

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Robert W. (Bob) Berry on this
the 13th day of September, 2018.



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




BIG RIVERS ELECTRIC CORPORATION

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

VERIFICATION

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



Christopher S. (Chris) Bradley

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Christopher S. (Chris) Bradley
on this the 13th day of September, 2018.



Notary Public, Kentucky State at Large

My Commission Expires

October 31, 2020



BIG RIVERS ELECTRIC CORPORATION

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

VERIFICATION

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



Duane E. Braunecker

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Duane E. Braunecker on this
the 13th day of September, 2018.



Notary Public, Kentucky State at Large

My Commission Expires

October 31, 2020



BIG RIVERS ELECTRIC CORPORATION

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

VERIFICATION

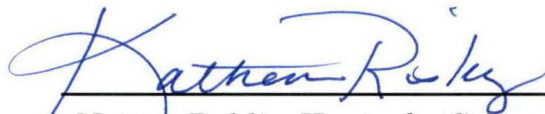
I, Mark J. Eacret, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



Mark J. Eacret

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

13th SUBSCRIBED AND SWORN TO before me by Mark J. Eacret on this the
day of September, 2018.



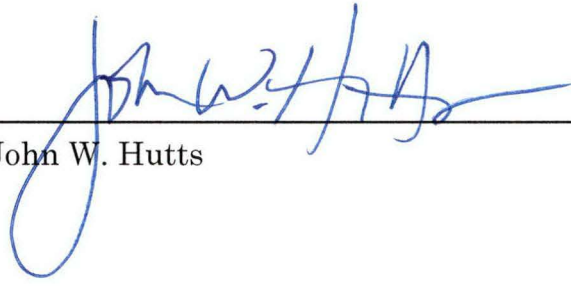
Notary Public, Kentucky State at Large
My Commission Expires October 31, 2020



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

VERIFICATION

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



John W. Hutts

STATE OF GEORGIA)
COUNTY OF COBB)

10th SUBSCRIBED AND SWORN TO before me by John W. Hutts on this the
day of September, 2018.



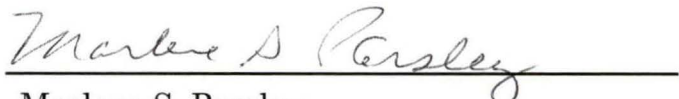

Notary Public
My Commission Expires March 3, 2022

BIG RIVERS ELECTRIC CORPORATION

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

VERIFICATION


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



Marlene S. Parsley

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

13th SUBSCRIBED AND SWORN TO before me by Marlene S. Parsley on this the
day of September, 2018.



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




BIG RIVERS ELECTRIC CORPORATION

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

VERIFICATION

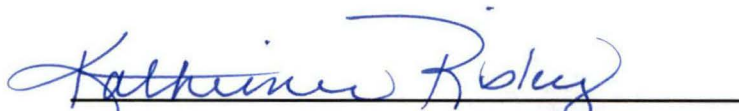
I, Russell L. (Russ) Pogue, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



Russell L. (Russ) Pogue

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Russell L. (Russ) Pogue on
this the 13th day of September, 2018.



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



BIG RIVERS ELECTRIC CORPORATION

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

VERIFICATION

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



Michael T. (Mike) Pullen

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Michael T. (Mike) Pullen on this the 13th day of September, 2018.



Notary Public, Kentucky State at Large

My Commission Expires October 31, 2020



BIG RIVERS ELECTRIC CORPORATION

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

VERIFICATION

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

Thomas L. Shaw

Dr. Thomas L. (Tom) Shaw

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Dr. Thomas L. (Tom) Shaw on this the 13th day of September, 2018.

Katherine Riley

Notary Public, Kentucky State at Large

My Commission Expires

October 31, 2020

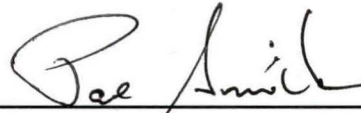


BIG RIVERS ELECTRIC CORPORATION

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

VERIFICATION

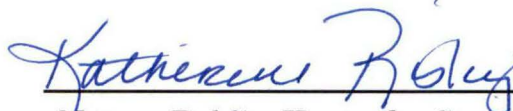
I, Paul G. Smith, verify, state, and affirm that the data request responses filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



Paul G. Smith

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

13th SUBSCRIBED AND SWORN TO before me by Paul G. Smith on this the
day of September, 2018.



Notary Public, Kentucky State at Large

My Commission Expires

October 31, 2020



BIG RIVERS ELECTRIC CORPORATION

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

**Response to Commission Staff's
Second Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 1)** *Refer to BREC's 2017 Integrated Resource Plan (IRP), Chapter*
2 *2, Section 2.1, page 23, fifth bullet point. Explain how BREC plans to*
3 *increase its portfolio diversity in terms of resource generation.*

4

5 **Response)** The fifth bullet point states, "*Continue emphasis on safe, reliable and*
6 *low-cost operations, maximize the value of existing assets and evaluate cost-effective*
7 *opportunities to increase portfolio diversity.*" In this strategic objective, Big Rivers
8 will evaluate cost-effective opportunities to increase portfolio diversity with the
9 focus being that the increase in diversity must be cost-effective. Big Rivers has
10 evaluated cost-effective opportunities through its IRP process and has stayed
11 abreast with the current technology developments. Big Rivers has installed solar
12 arrays in each of its Member-Owners' territories for educational and demonstration
13 purposes.

14

15

16 **Witness)** Michael T. Pullen

17

BIG RIVERS ELECTRIC CORPORATION

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

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1 **Item 2)** *Refer to the IRP, chapter 3, Section 3.9, page 44. Explain*
2 *whether BREC has established a timeline for deciding the ultimate*
3 *disposition of the Coleman Station.*

4

5 **Response)** Big Rivers has not yet established a detailed timeline for deciding the
6 ultimate disposition of the Coleman Station. Big Rivers is currently evaluating the
7 United States Environmental Protection Agency's new Affordable Clean Energy
8 ("ACE") bill and the effect it will have on Big Rivers' fleet compliance going forward.

9

10

11 **Witness)** Michael T. Pullen

12

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

Response to Commission Staff's
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1 **Item 3)** *Refer to the 2017 IRP, page 99, regarding the clean air*
2 *regulations. Provide the number and value of all Phase 1 and Phase 2*
3 *allowances by unit from 2016 through the known future.*

4

5 **Response)** Please see the attached schedules.

6

7

8 **Witness)** Dr. Thomas L. Shaw

9

Big Rivers Electric Corporation
Case No. 2017-00384
Phase 1 and Phase 2 Allowances by Unit

CSAPR SO₂ - Group 1 Allocations: CURRENT BANK VALUE										
	2016	2017	2018	2019	2020	2021	2022	TOTAL	Market Value of SO ₂ -G1 Allowances as of 8/20/2018	CURRENT BANK VALUE
Coleman	0	960	3,526	3,526	0	0	0	8,012	\$ 1.81	\$ 14,501.72
Green	4,729	818	3,735	3,735	3,735	3,735	3,735	29,921	\$ 1.81	54,157.01
HMP&L Station 2	0	797	2,540	2,540	0	0	0	5,877	\$ 1.81	10,637.37
Reid	553	239	228	228	228	9	9	2,030	\$ 1.81	3,674.30
Wilson	6,395	2,747	3,614	3,614	3,614	3,614	3,614	29,212	\$ 1.81	52,873.72
General Account	2,317	0	0	0	0	0	0	4,288	\$ 1.81	7,761.28
TOTAL	13,994	5,561	13,643	13,643	7,577	7,358	7,358	79,340	\$ 1.81	\$ 143,605.40

Big Rivers Electric Corporation
Case No. 2017-00384
Phase 1 and Phase 2 Allowances by Unit

CSAPR Annual NOx Allocations: CURRENT BANK VALUE										
	2016	2017	2018	2019	2020	2021	2022	TOTAL	Market Value of Annual NOx Allowances as of 8/20/2018	CURRENT BANK VALUE
Coleman	71	530	2,581	2,581	0	0	0	5,763	\$ 2.13	\$ 12,275.19
Green	1,076	2,100	2,890	2,890	2,890	2,890	2,890	20,389	\$ 2.13	43,428.57
HMP&L Station 2	0	503	1,860	1,860	0	0	0	4,223	\$ 2.13	8,994.99
Reid	183	154	166	166	166	6	6	997	\$ 2.13	2,123.61
Wilson	4,396	1,586	2,645	2,645	2,645	2,645	2,645	19,827	\$ 2.13	42,231.51
General Account	500	0	0	0	0	0	0	1,000	\$ 2.13	2,130.00
TOTAL	6,226	4,873	10,142	10,142	5,701	5,541	5,541	52,199	\$ 2.13	\$ 111,183.87

Big Rivers Electric Corporation
Case No. 2017-00384
Phase 1 and Phase 2 Allowances by Unit

CSAPR Ozone Season NOx Allocations: CURRENT BANK VALUE								
	2016	2017	2018	2019	2020	TOTAL	Market Value of Ozone Season NOx Allowances as of 8/20/2018	CURRENT BANK VALUE
Coleman		50	758	758	758	2,324	\$ 248.75	\$ 578,095.00
Green		674	831	831	831	3,167	\$ 248.75	787,791.25
HMP&L Station 2		0	457	457	0	914	\$ 248.75	227,357.50
Reid		75	42	42	42	201	\$ 248.75	49,998.75
Wilson		680	534	534	534	2,282	\$ 248.75	567,647.50
General Account		319	0	0	0	319	\$ 248.75	79,351.25
TOTAL	0	1,798	2,622	2,622	2,165	9,207	\$ 248.75	\$ 2,290,241.25

BIG RIVERS ELECTRIC CORPORATION
2017 INTEGRATED RESOURCE PLAN OF
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Response to Commission Staff's
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1 **Item 4)** *Refer to the IRP, Chapter 6, Section 6.7, page 104, Table 6.5.*
2 *Explain under what circumstances in which BREC would be required to*
3 *incur the cost for CCR/ELG compliance costs for Henderson Municipal*
4 *Power and Light (HMP&L) Station Two given BREC's current request to*
5 *terminate the contract with the City of Henderson.*

6

7 **Response)** Big Rivers would be obligated to share in the closure cost of the
8 HMP&L Station Two ash pond based upon the terms of the contract under which
9 Big Rivers operated the units.

10

11

12 **Witness)** Michael T. Pullen

13

BIG RIVERS ELECTRIC CORPORATION

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

**Response to Commission Staff's
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1 Item 5) *Refer to BREC's response to Commission Staff's first Request for*
2 *Information (Staff's First Request), Item 2.*

3 a. *Expand upon the opportunities available to BREC upon the*
4 *completion of the Duff-Coleman transmission line.*

5 b. *Provide all the steps BREC would take to procure customers within*
6 *the PJM Interconnection, LLC (PJM) footprint after the Duff-*
7 *Coleman transmission line has been completed*

8 c. *Identify any contracts that have been executed with any customers*
9 *within PJM as well as any contractual negotiations in process.*
10 *Consider this an ongoing request throughout this proceeding.*

11

12 **Response)**

13 a. If the Duff-Coleman project includes the proposed interconnection with
14 PJM at the Rockport 765 kV substation, Big Rivers would have a direct
15 connection to PJM. The primary benefit of such a connection would be
16 easier access to the PJM capacity markets, which over the past several
17 years have produced stronger prices than the MISO Planning Resource
18 Auctions and provide a mechanism to fix capacity prices three years into
19 the future, rather than just one. In addition to straight capacity sales,
20 these higher prices would be included in any capacity-backed products
21 offered to potential counterparties. Note that American Electric Power
22 has placed the connection to Rockport on hold. [https://www.pjm.com/-](https://www.pjm.com/-/media/committees-groups/committees/teac/20180308/20180308-)
23 [/media/committees-groups/committees/teac/20180308/20180308-](https://www.pjm.com/-/media/committees-groups/committees/teac/20180308/20180308-)

BIG RIVERS ELECTRIC CORPORATION
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1 [informational-rockport-duff-coleman-transmission-project-pjm-](#)
2 [letter.ashx.](#)

3 b. The steps taken would be no different than those taken in other areas of
4 the country. Big Rivers would actively pursue customers and revenue by
5 bidding on tranches in the retail auctions, responding to RFP's, engaging
6 the bilateral markets, and/or selling capacity into the PJM capacity
7 auctions.

8 c. No contracts have been executed with any customers within PJM nor are
9 there any contractual negotiations in process.

10

11

12 **Witness)** Mark J. Eacret

13

BIG RIVERS ELECTRIC CORPORATION

**2017 INTEGRATED RESOURCE PLAN OF
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CASE NO. 2017-00384**

**Response to Commission Staff's
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- 1 Item 6) *Refer to BREC's response to Staff's First Request, Item 5a.*
- 2 a. *Provide the annual revenues resulting from BREC's participation*
- 3 *in the MISO market and the annual expenses paid by BREC to*
- 4 *MISO from 2013 to 2017.*
- 5 b. *Explain the hedging strategy developed by BREC.*
- 6 c. *Explain when BREC expects a long-term contract to be put in place*
- 7 *following the implementation of a hedging strategy.*
- 8 d. *Explain the difference between the physical and financial hedges*
- 9 *used by BREC.*

10

11 **Response)**

- 12 a. Please see attached.
- 13 b. Big Rivers uses the physical and financial hedges described in Item d
- 14 below to reduce the volatility in the price that it will receive for generation
- 15 not needed for Member-Owner load or already committed in long-term
- 16 fixed-price contracts (Hourly Sales). Each year, the budgeted revenue
- 17 from Hourly Sales is established based upon the forward price curve at
- 18 the time that the budget is set and generation projections based upon that
- 19 forward price curve. With no hedges, actual revenue will be based upon
- 20 the hourly Locational Marginal Price ("LMP") at the generator. Big
- 21 Rivers can fix the price for all or part of its Hourly Sales at budgeted price
- 22 levels by executing hedges at the time that the budget is established. This
- 23 reduces the volatility of the revenue from Hourly Sales.

Case No. 2017-00384

Response to PSC 2-6

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

Page 1 of 3

BIG RIVERS ELECTRIC CORPORATION
2017 INTEGRATED RESOURCE PLAN OF
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1 If the GEN LMP and IND LMP were equal, the result would be Big Rivers
2 receiving the CP, the contract price, for its generation. If they were not
3 equal, Big Rivers receives the CP plus or minus the difference between
4 the GEN LMP and IND LMP. If the two prices are strongly correlated,
5 which is a requirement for an effective hedge, that difference will be
6 predictable.

7 For a financial hedge, the concept and the math are exactly the
8 same, but no physical purchase and sale takes place. For a given
9 quantity, the parties to the transaction simply exchange dollars based
10 upon the difference between the IND LMP and the CP. Big Rivers would
11 then add or subtract those dollars from what it received for its generation
12 at the GEN LMP.

13
14
15
16
17

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

Big Rivers Electric Corporation
CN 2017-00384
MISO Market Revenues and Expenses
2013-2017

Year	MISO Market Revenue (\$ in thousands)	MISO Market Expenses (\$ in thousands)
2013	61,587	40,508
2014	157,851	18,922
2015	70,477	17,704
2016	56,225	20,187
2017	14,869	52,841

BIG RIVERS ELECTRIC CORPORATION

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

**Response to Commission Staff's
Second Request for Information
dated August 16, 2018**

September 14, 2018

- 1 **Item 7)** *Refer to BREC's response to Staff's First Request, Item 5b.*
2 *a. Provide examples of the developing opportunities resulting in*
3 *efficiency benefits that BREC has been examining for the future.*
4 *b. Explain how BREC has incorporated these possible opportunities*
5 *as part of its future load forecasting.*
6 *c. Explain if BREC anticipates the charging of electric cars as*
7 *having an impact on future load. If so, provide the expected*
8 *impact.*
9 *d. In Case No. 2018-00236, BREC on behalf of itself and two of its*
10 *three-member distribution cooperative-owners are requesting to*
11 *withdraw or revise certain existing energy efficiency (EE) and*
12 *demand-side management (DSM) programs and tariffs.*
13 *(1) Confirm that the 2017 IRP filing does not contain the EE and*
14 *DSM assumptions associated with Case No. 2018-00236.*
15 *(2) Explain the impact this case will have on this IRP.*
16

17 **Response)**

- 18 *a. Developing opportunities, resulting in efficiency benefits, which Big*
19 *Rivers has been examining include energy storage, transportation*
20 *electrification, power factor correction and demand response.*
21 *b. Some technologies mentioned in sub-part a. have not matured to the point*
22 *where significant impacts are predictable. Integrating the impacts is not*
23 *possible at this time.*

BIG RIVERS ELECTRIC CORPORATION
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1 c. Electric cars, trucks and infrastructure are not yet common in Western
2 Kentucky. The technology and implementation in this region have not
3 progressed to the degree that projections can be made about impacts on
4 future load.

5 d.

6 (1) Big Rivers' 2017 IRP filing does not contain the EE and DSM
7 assumptions associated with Case No. 2018-00236.

8 (2) Refer to the highlighted pages from Big Rivers' 2017 Load Forecast,
9 Appendix, pages A-1 – A-3, which are attached. As these
10 highlighted pages show, the impact of withdrawing all existing
11 energy efficiency (EE) and demand-side management (DSM)
12 programs and tariffs would result in an increase in energy sales
13 and peak demand, totaling 144,454 MWhs, 21,705 kW of summer
14 peak demand, and 23,934 kW of winter peak demand by 2036.

15

16

17 **Witnesses)** Russell L. Pogue (*a., b., and c. only*)

18 John W. Hutts (*d. only*)

19

Case No. 2017-00384

PSC 2-7d (JWH) (Att) – Big Rivers 2017 Load Forecast

Appendix A – pp A-1 thru A-3

BIG RIVERS ELECTRIC CORPORATION
2017 LONG-TERM LOAD FORECAST - BASE CASE FORECAST
SYSTEM REQUIREMENTS - ADJUSTED FOR DSM

Year	Member System Retail Sales					Distr. Losses (%)	Native Sales (@distribution)		HMP&L (@ distr) (MWh)	Non-Mbr (@distr) (MWh)	Total Sales (@distribution)		Trans. Losses (%)	Native Requirements (w/transmission losses)			Total Energy Requirements (w/transmission losses)		
	Actual (MWh)	Normal (MWh)	DSM (MWh)	DSM Adj. (MWh)	Percent Growth		Actual (MWh)	Normal (MWh)			Actual (MWh)	Normal (MWh)		Actual (MWh)	Normal (MWh)	Percent Growth	Actual (MWh)	Normal (MWh)	Percent Growth
2001	3,192,415	3,281,237				2.8%	3,284,432	3,375,813	643,295		3,927,727	4,037,007	1.78%	3,343,954	3,436,992		3,998,907	4,110,168	
2002	3,120,298	3,104,723			-2.3%	2.2%	3,191,176	3,175,247	673,932		3,865,108	3,845,815	1.56%	3,241,748	3,225,566	-3.1%	3,926,360	3,906,760	-4.9%
2003	3,004,389	3,121,567			-3.7%	1.6%	3,052,582	3,171,640	628,572		3,681,154	3,824,728	1.39%	3,095,611	3,216,347	-4.5%	3,733,043	3,878,641	-0.7%
2004	3,027,344	3,143,295			0.8%	3.3%	3,129,980	3,249,862	679,204		3,809,184	3,955,080	1.27%	3,170,242	3,291,666	2.4%	3,858,183	4,005,956	3.3%
2005	3,131,950	3,170,409			3.5%	3.1%	3,233,245	3,272,948	687,000		3,920,245	3,968,384	1.12%	3,269,867	3,310,020	3.1%	3,964,649	4,013,333	0.2%
2006	3,090,437	3,218,375			-1.3%	3.1%	3,188,986	3,321,004	673,114		3,862,100	4,021,983	0.89%	3,217,623	3,350,826	-1.6%	3,896,781	4,058,101	1.1%
2007	3,219,155	3,200,079			4.2%	3.2%	3,325,859	3,306,150	690,270		4,016,129	3,992,330	0.81%	3,353,018	3,333,149	4.2%	4,048,925	4,024,932	-0.8%
2008	3,204,376	3,243,657			-0.5%	3.3%	3,313,571	3,354,190	658,517		3,972,088	4,020,779	0.78%	3,339,620	3,380,558	-0.4%	4,003,314	4,052,388	0.7%
2009	3,092,391	3,203,640			-3.5%	2.1%	3,159,286	3,272,941	588,663		3,747,949	3,882,781	0.81%	3,185,085	3,299,668	-4.6%	3,778,555	3,914,488	-3.4%
2010	3,315,474	3,227,735			7.2%	2.8%	3,411,558	3,321,276	643,103		4,054,661	3,947,360	0.80%	3,439,070	3,348,060	8.0%	4,087,360	3,979,193	1.7%
2011	3,261,662	3,301,868			-1.6%	2.5%	3,344,199	3,385,423	622,844		3,967,043	4,015,945	0.78%	3,370,489	3,412,037	-2.0%	3,998,229	4,047,515	1.7%
2012	3,163,984	3,216,815			-3.0%	3.6%	3,282,776	3,337,591	622,254		3,905,030	3,970,235	0.83%	3,310,251	3,365,525	-1.8%	3,937,713	4,003,464	-1.1%
2013	3,268,608	3,299,961			3.3%	3.0%	3,371,187	3,403,524	617,149		3,988,336	4,026,593	0.97%	3,404,208	3,436,862	2.8%	4,027,402	4,066,033	1.6%
2014	3,266,158	3,261,842			-0.1%	3.4%	3,381,575	3,377,106	632,749		4,014,324	4,009,018	1.09%	3,418,840	3,414,322	0.4%	4,058,562	4,053,198	-0.3%
2015	3,162,679	3,222,667			-3.2%	3.3%	3,270,995	3,333,037	625,367		3,896,362	3,970,266	1.37%	3,316,430	3,379,334	-3.0%	3,950,483	4,025,414	-0.7%
2016	3,133,967	3,160,708			-0.9%	3.4%	3,244,594	3,272,279	624,214		3,868,808	3,901,820	1.61%	3,297,687	3,325,825	-0.6%	3,932,115	3,965,667	-1.5%
2017		3,158,517	9,654	3,148,864	-0.4%	3.4%	3,258,532	3,258,532	629,574		3,888,106	3,888,106	2.05%	3,326,730	3,326,730	0.0%	3,969,480	3,969,480	0.1%
2018		3,252,208	19,509	3,232,699	2.7%	3.3%	3,343,114	3,343,114	632,094	-	3,975,208	3,975,208	2.29%	3,421,466	3,421,466	2.8%	4,068,374	4,068,374	2.5%
2019		3,350,489	28,836	3,321,653	2.8%	3.2%	3,432,508	3,432,508	634,623	-	4,067,131	4,067,131	2.29%	3,512,955	3,512,955	2.7%	4,162,451	4,162,451	2.3%
2020		3,400,372	38,111	3,362,261	1.2%	3.2%	3,473,299	3,473,299	637,161	-	4,110,461	4,110,461	2.29%	3,554,702	3,554,702	1.2%	4,206,796	4,206,796	1.1%
2021		3,405,530	41,690	3,363,840	0.0%	3.2%	3,474,891	3,474,891	639,710	-	4,114,601	4,114,601	2.29%	3,556,331	3,556,331	0.0%	4,211,034	4,211,034	0.1%
2022		3,417,913	50,212	3,367,701	0.1%	3.2%	3,478,946	3,478,946	642,269	-	4,121,215	4,121,215	2.29%	3,560,481	3,560,481	0.1%	4,217,803	4,217,803	0.2%
2023		3,428,167	58,478	3,369,689	0.1%	3.2%	3,481,017	3,481,017	644,838	-	4,125,855	4,125,855	2.29%	3,562,600	3,562,600	0.1%	4,222,551	4,222,551	0.1%
2024		3,445,308	66,745	3,378,562	0.3%	3.2%	3,490,159	3,490,159	647,417	-	4,137,577	4,137,577	2.29%	3,571,957	3,571,957	0.3%	4,234,548	4,234,548	0.3%
2025		3,457,423	74,040	3,383,383	0.1%	3.2%	3,495,398	3,495,398	650,007	-	4,145,405	4,145,405	2.29%	3,577,318	3,577,318	0.2%	4,242,559	4,242,559	0.2%
2026		3,470,649	81,245	3,389,404	0.2%	3.2%	3,501,719	3,501,719	652,607	-	4,154,326	4,154,326	2.29%	3,583,788	3,583,788	0.2%	4,251,690	4,251,690	0.2%
2027		3,484,428	88,266	3,396,162	0.2%	3.2%	3,508,814	3,508,814	655,218	-	4,164,032	4,164,032	2.29%	3,591,049	3,591,049	0.2%	4,261,623	4,261,623	0.2%
2028		3,502,879	95,313	3,407,566	0.3%	3.2%	3,520,620	3,520,620	657,838	-	4,178,459	4,178,459	2.29%	3,603,132	3,603,132	0.3%	4,276,388	4,276,388	0.3%
2029		3,514,239	101,708	3,412,531	0.1%	3.2%	3,526,010	3,526,010	660,470	-	4,186,479	4,186,479	2.29%	3,608,648	3,608,648	0.2%	4,284,597	4,284,597	0.2%
2030		3,529,120	107,851	3,421,270	0.3%	3.2%	3,535,190	3,535,190	663,112	-	4,198,301	4,198,301	2.29%	3,618,043	3,618,043	0.3%	4,296,696	4,296,696	0.3%
2031		3,543,879	113,951	3,429,928	0.3%	3.2%	3,544,285	3,544,285	665,764	-	4,210,049	4,210,049	2.29%	3,627,351	3,627,351	0.3%	4,308,719	4,308,719	0.3%
2032		3,562,073	120,052	3,442,021	0.4%	3.2%	3,556,815	3,556,815	668,427	-	4,225,242	4,225,242	2.29%	3,640,175	3,640,175	0.4%	4,324,268	4,324,268	0.4%
2033		3,573,397	126,152	3,447,245	0.2%	3.2%	3,562,475	3,562,475	671,090	-	4,233,566	4,233,566	2.29%	3,645,968	3,645,968	0.2%	4,332,786	4,332,786	0.2%
2034		3,588,156	132,253	3,455,903	0.3%	3.2%	3,571,571	3,571,571	673,753	-	4,245,324	4,245,324	2.29%	3,655,277	3,655,277	0.3%	4,344,820	4,344,820	0.3%
2035		3,602,914	138,353	3,464,561	0.3%	3.2%	3,580,666	3,580,666	676,416	-	4,257,082	4,257,082	2.29%	3,664,585	3,664,585	0.3%	4,356,854	4,356,854	0.3%
2036		3,621,108	144,454	3,476,655	0.3%	3.2%	3,593,196	3,593,196	679,079	-	4,272,275	4,272,275	2.29%	3,677,409	3,677,409	0.3%	4,372,403	4,372,403	0.4%

ANNUAL GROWTH RATES

2001-2006	-0.6%	-0.4%				-0.6%	-0.3%	0.9%		-0.3%	-0.1%		-0.8%	-0.5%			-0.5%	-0.3%
2006-2011	1.1%	0.5%				1.0%	0.4%	-1.5%		0.5%	0.0%		0.9%	0.4%			0.5%	-0.1%
2011-2016	-0.8%	-0.9%				-0.6%	-0.7%	0.0%		-0.5%	-0.6%		-0.4%	-0.5%			-0.3%	-0.4%
2016-2021		1.5%		1.3%			1.2%	0.5%			1.1%			1.3%			1.2%	
2021-2026		0.4%	14.3%	0.2%			0.2%	0.4%	#DIV/0!		0.2%			0.2%			0.2%	
2026-2031		0.4%	7.0%	0.2%			0.2%	0.4%	#DIV/0!		0.2%			0.2%			0.2%	
2031-2036		0.4%	4.9%	0.3%			0.3%	0.4%	#DIV/0!		0.3%			0.3%			0.3%	
2016-2036		0.7%		0.5%			0.5%	0.4%			0.5%			0.5%			0.5%	

Member system retail sales include only power supplied by Big Rivers

Total Energy Requirements include HMP&L requirements and sales to non-members and native sales anticipated from marketing efforts

Case No. 2017-00384

Attachment for Response to PSC 2-7d

Witness: John W. Hutts

BIG RIVERS ELECTRIC CORPORATION
2017 LONG-TERM LOAD FORECAST - BASE CASE FORECAST
SYSTEM REQUIREMENTS - ADJUSTED FOR DSM

Year	Native- Summer CP (@distribution)					HMP&L (@ distr)	Non-Mbr (@distr)	Total System Summer CP (@distribution)				Native Summer CP (w/transmission losses)			Total System Summer NCP (w/transmission losses)		
	Actual (kW)	Normal (kW)	DSM (kW)	DSM Adj. (kW)	Load Factor			Actual (kW)	Actual (kW)	Actual (kW)	Normal (kW)	DSM Adj. (kW)	Load Factor	Actual (kW)	Normal (kW)	DSM Adj. (kW)	Actual (kW)
2001	596,310	-	-	-	62.9%	119,000	-	715,310	-	-	62.7%	607,117	-	-	728,273	-	-
2002	602,623	587,317	-	-	60.5%	124,000	-	726,623	708,167	-	60.7%	612,173	596,624	-	738,138	719,390	-
2003	583,906	592,266	-	-	59.7%	121,000	-	704,906	714,998	-	59.6%	592,137	600,614	-	714,842	725,077	-
2004	604,155	618,850	-	-	59.1%	120,000	-	724,155	741,768	-	60.0%	611,927	626,810	-	733,471	751,310	-
2005	603,783	609,740	-	-	61.1%	124,000	-	727,783	734,963	-	61.5%	610,622	616,646	-	736,026	743,288	-
2006	619,258	627,399	-	-	58.8%	122,000	-	741,258	751,003	-	59.5%	624,819	633,033	-	747,914	757,747	-
2007	647,502	594,279	-	-	58.6%	125,000	-	772,502	709,004	-	59.3%	652,789	599,132	-	778,810	714,794	-
2008	604,334	605,923	-	-	62.6%	119,000	-	723,334	725,236	-	62.7%	609,085	610,686	-	729,021	730,937	-
2009	594,126	608,201	-	-	60.7%	111,000	-	705,126	721,831	-	60.7%	598,978	613,168	-	710,884	727,725	-
2010	656,634	613,675	-	-	59.3%	117,000	-	773,634	723,020	-	59.8%	661,929	618,624	-	779,873	728,851	-
2011	652,127	638,938	-	-	58.5%	113,000	-	765,127	749,653	-	59.2%	657,253	643,961	-	771,142	755,546	-
2012	654,200	606,718	-	-	57.3%	115,000	-	769,200	713,372	-	58.0%	659,675	611,796	-	775,638	719,342	-
2013	609,000	638,743	-	-	63.2%	108,000	-	717,000	752,018	-	63.5%	614,965	644,999	-	724,023	759,384	-
2014	601,935	603,617	-	-	64.1%	108,000	-	709,935	711,918	-	64.5%	608,569	610,269	-	717,759	719,764	-
2015	616,732	622,689	-	-	60.5%	109,000	-	725,732	732,742	-	61.3%	625,299	631,338	-	735,813	742,920	-
2016	607,440	619,950	-	619,950	61.0%	107,000	-	714,440	729,154	729,154	61.8%	617,380	630,095	630,095	726,131	741,085	741,085
2017	636,233	1,455	634,778	58.6%	107,000	487,000	1,230,233	1,228,778	36.1%	649,549	648,064	1,255,981	1,254,495				
2018	648,174	2,925	645,249	59.1%	108,000	501,000	1,257,174	1,254,249	36.2%	663,365	660,371	1,286,638	1,283,644				
2019	661,989	4,261	657,728	59.6%	108,000	500,000	1,269,989	1,265,728	36.7%	677,504	673,143	1,299,754	1,295,393				
2020	666,304	5,666	660,639	60.0%	108,432	500,000	1,274,736	1,269,071	37.0%	681,920	676,122	1,304,612	1,298,813				
2021	668,399	6,238	662,162	59.9%	108,866	500,000	1,277,265	1,271,027	37.0%	684,064	677,681	1,307,200	1,300,816				
2022	670,549	7,513	663,036	59.9%	109,301	500,000	1,279,850	1,272,337	37.0%	686,264	678,575	1,309,846	1,302,156				
2023	672,753	8,763	663,990	59.8%	109,738	500,000	1,282,492	1,273,729	37.0%	688,520	679,552	1,312,549	1,303,581				
2024	675,013	10,006	665,006	59.9%	110,177	500,000	1,285,190	1,275,184	37.0%	690,833	680,592	1,315,310	1,305,070				
2025	677,326	11,114	666,212	59.9%	110,618	500,000	1,287,945	1,276,830	37.1%	693,201	681,826	1,318,130	1,306,755				
2026	679,695	12,219	667,476	59.9%	111,061	500,000	1,290,756	1,278,536	37.1%	695,625	683,119	1,321,007	1,308,501				
2027	682,119	13,261	668,857	59.9%	111,505	500,000	1,293,623	1,280,362	37.1%	698,105	684,533	1,323,942	1,310,369				
2028	684,597	14,307	670,290	60.0%	111,951	500,000	1,296,547	1,282,241	37.2%	700,641	685,999	1,326,934	1,312,292				
2029	687,130	15,239	671,891	59.9%	112,399	490,000	1,289,528	1,274,289	37.5%	703,234	687,638	1,319,750	1,304,155				
2030	689,717	16,169	673,549	59.9%	112,848	480,000	1,282,565	1,266,397	37.8%	705,882	689,334	1,312,624	1,296,077				
2031	692,360	17,091	675,268	59.9%	113,300	480,000	1,285,659	1,268,568	37.9%	708,586	691,094	1,315,791	1,298,299				
2032	695,002	18,014	676,988	60.0%	113,753	470,000	1,278,755	1,260,741	38.3%	711,291	692,854	1,308,725	1,290,288				
2033	697,644	18,937	678,707	59.9%	114,206	470,000	1,281,850	1,262,913	38.3%	713,995	694,614	1,311,893	1,292,512				
2034	700,287	19,860	680,427	59.9%	114,659	460,000	1,274,946	1,255,086	38.6%	716,699	696,374	1,304,826	1,284,501				
2035	702,929	20,782	682,147	59.9%	115,112	460,000	1,278,041	1,257,259	38.7%	719,403	698,134	1,307,995	1,286,725				
2036	705,571	21,705	683,866	60.0%	115,566	450,000	1,271,137	1,249,432	39.0%	722,108	699,894	1,300,928	1,278,715				

ANNUAL GROWTH RATES

2001-2006	0.8%				0.5%		0.7%			0.6%		0.5%	
2006-2011	1.0%	0.4%			-1.5%		0.6%	0.0%		1.0%	0.3%	0.6%	-0.1%
2011-2016	-1.4%	-0.6%			-1.1%		-1.4%	-0.6%		-1.2%	-0.4%	-1.2%	-0.4%
2016-2021	1.5%		1.3%		0.3%		11.9%	11.8%		1.7%	1.5%	12.0%	11.9%
2021-2026	0.3%	14.4%	0.2%		0.4%	0.0%	0.2%	0.1%		0.3%	0.2%	0.2%	0.1%
2026-2031	0.4%	6.9%	0.2%		0.4%	-0.8%	-0.1%	-0.2%		0.4%	0.2%	-0.1%	-0.2%
2031-2036	0.4%	4.9%	0.3%		0.4%	-1.3%	-0.2%	-0.3%		0.4%	0.3%	-0.2%	-0.3%
2016-2036	0.6%		0.5%		0.4%		2.8%	2.7%		0.7%	0.5%	2.9%	2.8%

NCP represents the highest 1-hour peak demand recorded during the summer and winter seasons
 Summer season is May to October
 Total system peak includes native, HMP&L, and non-member load

BIG RIVERS ELECTRIC CORPORATION
2017 LONG-TERM LOAD FORECAST - BASE CASE FORECAST
SYSTEM REQUIREMENTS - ADJUSTED FOR DSM

Year	Native- Winter CP (@distribution)					HMP&L (@ distr)	Non-Mbr (@distr)	Total System Winter NCP (@distribution)				Native Winter CP (w/transmission losses)			Total System Winter NCP (w/transmission losses)		
	Actual (kW)	Normal (kW)	DSM (kW)	DSM Adj. (kW)	Load Factor	Actual (kW)	Actual (kW)	Actual (kW)	Normal (kW)	DSM Adj. (kW)	Load Factor	Actual (kW)	Normal (kW)	DSM Adj. (kW)	Actual (kW)	Normal (kW)	DSM Adj. (kW)
2001	598,797				62.6%	95,000		693,797			64.6%	609,649			706,371		
2002	530,467	556,540			68.7%	100,000		630,467	661,455		70.0%	538,874	565,360		640,459	671,937	
2003	585,549	547,253			59.5%	92,000		677,549	633,236		62.0%	593,803	554,967		687,100	642,162	
2004	562,082	535,652			63.6%	96,000		658,082	627,138		66.1%	569,312	542,542		666,547	635,205	
2005	548,765	561,077			67.3%	98,000		646,765	661,276		69.2%	554,980	567,433		654,091	668,767	
2006	576,534	599,442			63.1%	98,000		674,534	701,336		65.4%	581,711	604,825		680,591	707,634	
2007	597,267	600,568			63.6%	101,000		698,267	702,126		65.7%	602,144	605,472		703,969	707,860	
2008	611,454	616,642			61.9%	100,000		711,454	717,491		63.7%	616,261	621,490		717,047	723,131	
2009	664,788	630,115			54.3%	95,000		759,788	720,161		56.3%	670,217	635,261		765,993	726,042	
2010	646,750	616,176			60.2%	95,000		741,750	706,685		62.4%	651,966	621,145		747,732	712,384	
2011	624,191	579,769			61.2%	92,000		716,191	665,222		63.2%	629,098	584,327		721,821	670,451	
2012	568,900	617,753			65.9%	89,000		657,900	714,396		67.8%	573,661	622,924		663,406	720,375	
2013	596,800	618,319			64.5%	93,000		689,800	714,673		66.0%	602,646	624,376		696,557	721,673	
2014	740,203	698,327			52.2%	102,000		842,203	794,556		54.4%	748,360	706,022		851,484	803,312	
2015	687,696	663,894			54.3%	100,000		787,696	760,433		56.5%	697,248	673,116		798,637	770,996	
2016	600,010	605,199		605,199	61.7%	94,000		694,010	700,012	700,012	63.6%	609,828	615,102	615,102	705,367	711,466	711,466
2017		622,068	1,272	620,796	59.9%	99,000	505,000		1,226,068	1,224,796	36.2%		635,087	633,789		1,251,728	1,250,430
2018		633,071	2,576	630,495	60.5%	99,000	487,000		1,219,071	1,216,495	37.3%		647,908	645,271		1,247,642	1,245,005
2019		645,039	3,785	641,254	61.1%	99,400	501,000		1,245,439	1,241,654	37.4%		660,157	656,283		1,274,628	1,270,755
2020		658,882	5,319	653,562	60.7%	99,798	500,000		1,258,679	1,253,360	37.4%		674,324	668,880		1,288,179	1,282,735
2021		663,224	6,216	657,008	60.4%	100,197	500,000		1,263,421	1,257,205	37.4%		678,768	672,406		1,293,032	1,286,670
2022		665,347	7,634	657,713	60.4%	100,598	500,000		1,265,944	1,258,310	37.4%		680,940	673,127		1,295,614	1,287,801
2023		667,524	9,011	658,513	60.3%	101,000	500,000		1,268,524	1,259,513	37.4%		683,168	673,946		1,298,254	1,289,031
2024		669,756	10,391	659,365	60.4%	101,404	500,000		1,271,160	1,260,768	37.5%		685,452	674,818		1,300,951	1,290,317
2025		672,042	11,688	660,354	60.4%	101,810	500,000		1,273,852	1,262,163	37.5%		687,793	675,830		1,303,707	1,291,744
2026		674,383	13,155	661,228	60.5%	102,217	500,000		1,276,600	1,263,445	37.5%		690,189	676,725		1,306,520	1,293,056
2027		676,779	14,508	662,271	60.5%	102,626	500,000		1,279,405	1,264,897	37.6%		692,641	677,793		1,309,390	1,294,542
2028		679,230	15,869	663,361	60.6%	103,036	500,000		1,282,266	1,266,398	37.7%		695,149	678,908		1,312,319	1,296,078
2029		681,736	16,967	664,769	60.5%	103,448	500,000		1,285,184	1,268,217	37.7%		697,713	680,349		1,315,305	1,297,940
2030		684,296	17,973	666,323	60.6%	103,862	490,000		1,278,158	1,260,186	38.0%		700,334	681,940		1,308,114	1,289,720
2031		686,911	18,966	667,945	60.6%	104,278	480,000		1,271,189	1,252,222	38.4%		703,010	683,599		1,300,981	1,281,570
2032		689,526	19,960	669,566	60.6%	104,695	480,000		1,274,221	1,254,261	38.5%		705,686	685,259		1,304,084	1,283,657
2033		692,141	20,953	671,188	60.6%	105,112	470,000		1,267,253	1,246,299	38.8%		708,363	686,918		1,296,953	1,275,509
2034		694,756	21,947	672,809	60.6%	105,529	470,000		1,270,285	1,248,338	38.8%		711,039	688,577		1,300,056	1,277,595
2035		697,371	22,941	674,430	60.6%	105,946	460,000		1,263,317	1,240,376	39.2%		713,715	690,237		1,292,925	1,269,447
2036		699,986	23,934	676,052	60.7%	106,363	460,000		1,266,349	1,242,415	39.3%		716,391	691,896		1,296,028	1,271,533

ANNUAL GROWTH RATES

2001-2006	-0.8%				0.6%				-0.6%					-0.9%				-0.7%	
2006-2011	1.6%	-0.7%			-1.3%				1.2%	-1.1%				1.6%	-0.7%			1.2%	-1.1%
2011-2016	-0.8%	0.9%			0.4%				-0.6%	1.0%				-0.6%	1.0%			-0.5%	1.2%
2016-2021		1.8%		1.7%		1.3%			12.5%	12.4%				2.0%	1.8%			12.7%	12.6%
2021-2026		0.3%	16.2%	0.1%		0.4%	0.0%		0.2%	0.1%				0.3%	0.1%			0.2%	0.1%
2026-2031		0.4%	7.6%	0.2%		0.4%	-0.8%		-0.1%	-0.2%				0.4%	0.2%			-0.1%	-0.2%
2031-2036		0.4%	4.8%	0.2%		0.4%	-0.8%		-0.1%	-0.2%				0.4%	0.2%			-0.1%	-0.2%
2016-2036		0.7%		0.6%		0.6%			3.0%	2.9%				0.8%	0.6%			3.0%	2.9%

NCP represents the highest 1-hour peak demand recorded during the summer and winter seasons
 Winter season is November of the prior year through April of the reported year
 Total system peak includes native, HMP&L, and non-member load

Case No. 2017-00384
Attachment for Response to PSC 2-7d
Witness: John W. Hutts

BIG RIVERS ELECTRIC CORPORATION

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

**Response to Commission Staff's
Second Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 8) Refer to BREC's response to Staff's First Request, Item 7,**
2 **regarding the replacement load and the attached table. Provide a schedule**
3 **showing the source of the generation and the use of the generation as**
4 **depicted in the table for the years 2019 through 2024.**

5

6 **Response) Please see the table below.**

Big Rivers Electric Corporation Planning Year Zonal Resource Credits ("ZRCs") in MWs						
	2019	2020	2021	2022	2023	2024
ZRC Source						
Wilson	385	386	400	400	400	400
Green 1	220	223	226	226	226	226
Green 2	218	217	218	218	218	218
Reid CT	38	52	54	54	54	54
SEPA	154	154	178	178	178	178
Total ZRC Source	1,015	1,033	1,076	1,076	1,076	1,076
ZRC Use						
BR Load/ Reserves	701	706	707	709	709	710
KyMEA	100	100	100	100	100	100
NextEra						
Missouri Municipals	50					
Detroit Edison						
OMU ^a		155	155	155	155	155
Total ZRC Use						
Net ZRC Position						

7

Note: a – OMU amount net of 25 MW allocation from Southeastern Power Administration (SEPA).

8

9 **Witness) Mark J. Eacret**

10

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1 **Item 9)** *Refer to BREC's response to Staff's First Request, Item 8.*
2 *Explain whether any of the rate scenarios were included in the IRP.*

3

4 **Response)** Scenario 1 – Revised Interim Operating Plan was used for the period
5 through 2018. Scenario 3 – Original Cumberland Marketing Policy was used
6 beginning in 2019.

7

8

9 **Witness)** Marlene S. Parsley

10

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1 **Item 10) *Refer to BREC's response to Staff's First Request, Item 9.***
2 ***Explain whether BREC has any plans to expand its amount of hydro-power***
3 ***generation over the next ten years.***

4

5 **Response)** Big Rivers has no plans to expand its amount of hydropower beyond
6 the obligation to manage Owensboro Municipal Utilities' ("OMU") allocation of
7 Southeastern Power Administration hydropower when the OMU contract becomes
8 effective.

9

10

11 **Witness)** Marlene S. Parsley

12

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1 **Item 11)** *Refer to BREC's response to Staff's First Request, Item 10.*
2 *Provide an explanation for the difference between the expected and*
3 *measured AC Energy for January through March 2018 as illustrated in the*
4 *graph.*

5
6 **Response)** The expected generation is a modeled calculation, based the National
7 Renewable Energy Laboratory PVWatts calculator, provided by Locus Monitoring.
8 The modeled calculation reflects the estimated generation under average weather
9 conditions. The measured AC energy production is metered generation at the sites,
10 which reflects the solar energy conditions that were experienced at each site. An
11 abundance of cloudiness can reduce energy production.

12

13

14 **Witness)** Russell L. Pogue

15

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1 **Item 12)** *Refer to BREC's response to Staff's First Request, Item 11.*
2 *Provide an explanation for the Monthly Non-Member Load decrease in*
3 *February 2018.*

4

5 **Response)** The February 2018 reduction in non-member load was a result of a
6 reduction in available generation due to forced outages and milder than normal
7 temperatures which contributed to below normal loads across MISO.

8

9

10 **Witness)** Paul G. Smith

11

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- 1 **Item 13)** *Refer to BREC's response to Staff's First Request, Item 19, and*
2 *the Sargent & Lundy Environmental Compliance Study.*
3 *a. Explain why BREC commissioned Sargent & Lundy to prepare this*
4 *study.*
5 *b. The study is dated February 2012. Explain how the portion of the*
6 *study that pertains to the Coleman Station is still relevant six*
7 *years later, specifically with regard to the cost of controls.*

8
9 **Response)**

- 10 *a. At the time the study was commissioned, Big Rivers believed that several*
11 *proposed regulations were developed to a point that a study could be*
12 *completed and the results of the study would be representative of the final*
13 *regulations.*
14 *b. Until a date is established to return Coleman Station to an operational*
15 *status, as well as the fuel type, a new study is not warranted.*

16
17

18 **Witness)** Dr. Thomas L. Shaw
19

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1 **Item 14)** *Refer to BREC's response to Staff's First Request, Item 22. State*
2 *any instances in which BREC failed to meet these environmental*
3 *compliance programs since 2014. For each instance, explain how BREC*
4 *failed to meet the standards, how BREC remedied the issue, and the steps*
5 *taken by BREC to remain in compliance.*

6

7 **Response)** Big Rivers has received the following Notices of Violations ("NOV")
8 since 2014:

- 9 1. November 18, 2016 – Wilson Station, KPDES outfall 002 Total
10 Recoverable Arsenic limit of 340 ug/L. Reported discharge of 381 ug/L.
11 Corrective action: feed chemical to settle arsenic out of water column prior
12 to discharge.
- 13 2. January 3, 2017 – Wilson Station, Division of Waste Management. NOV
14 issued due to KPDES NOV. Corrective action: Development of a
15 treatment system as documented in an Agreed Order dated May 2018.
- 16 3. August 14, 2017 – Green Station, KPDES outfall 015 Total Suspended
17 Solids limit of 50 mg/L. Reported discharge of 52 mg/L. Corrective action:
18 Replace filter fabric and rock pack at discharge point.
- 19 4. March 20, 2018 – Green Station, KPDES outfall 004 continuous flow
20 monitoring requirement. Corrective action: Repair continuous flow
21 monitor.

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- 1 5. March 20, 2018 – Wilson Station, KPDES outfall 001 Total Recoverable
2 Copper limit of 51.7 ug/L. Reported discharge of 68 ug/L. Corrective
3 action Corrosion inhibitor chemical added to the cooling water system.
4 6. May 27, 2018 – Green Station, KPDES outfall 004 continuous flow
5 monitoring requirement. Corrective action: Repair continuous flow
6 monitor (note: monitor failed at the end of the month and was not repaired
7 until the following month resulting in two NOVs for the same failure.)
8 7. June 13, 2018 – Wilson Station KPDES outfall 001 Total Recoverable
9 Copper limit of 51.7 ug/L. Reported discharge of 98 ug/L. Corrective
10 action: Corrosion inhibitor chemical added to the cooling water system.

11
12
13
14

Witness) Dr. Thomas L. Shaw

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1 **Item 15)** *Refer to BREC's response to Staff's First Request, Item 23 in*
2 *reference to The Plexos Model-An Overview. Provide a detailed explanation*
3 *about what impact, if any, that Case No. 2018-00236, if approved by the*
4 *Commission, will have on the results of the Plexos model used in the IRP. If*
5 *no impact, explain why not.*

6

7 **Response)** There will be no impact to the Plexos model results because the base
8 case result had exiting the contracts with Henderson as the least-cost solution. In
9 regard to Staff's First Request, Item 23, there will be no impact to the DSM
10 modeling results because Plexos modeled the additional \$1M DSM spend as a
11 generation resource and exiting the contracts with Henderson would not change the
12 results that the additional DSM spend did not provide a least-cost solution.

13

14

15 **Witness)** Duane E. Braunecker

16

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1 Item 16) *Refer to BREC's response to Staff's First Request, Items 35 and*
2 *38. Also, refer to BREC's response to Commission Staff's First Request for*
3 *Information, Item 12 in Case No. 2014-00166.*

4 a. *Explain whether the economic development rate underwent any*
5 *revisions since the 2014 IRP.*

6 b. *If so, provide the revisions and explain why BREC decided to*
7 *implement those changes.*

8 c. *Explain how BREC is promoting the economic development rate to*
9 *new and existing customers.*

10

11 **Response)**

12 a. In 2018, the economic development rate was extended to five years at a
13 discounted rate and five years at the standard tariff rate.

14 b. The discounted rate represents a 90% reduction on demand and is open
15 to qualifying industries relocating or expanding with an energy load
16 greater than 1,000 kW demand. The rate will be offered through special
17 contract contingent upon board and Public Service Commission approval.
18 Big Rivers extended the term of the economic development rate upon
19 learning that the discounted rates of other utilities were up to five years.

20 c. Discounted rates are provided in writing to new and existing customers
21 who qualify for the economic development rate. In addition, officials with
22 the Kentucky Cabinet for Economic Development, as well as local
23 economic development organizations, have been notified of the extension.

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1

2

3 **Witness)** Mark J. Eacret

4

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- 1 **Item 17)** *Refer to BREC's response to Staff's First Request, Item 37.*
2 *a. Explain how transmission losses are forecasted.*
3 *b. Explain why transmission losses increased in 2016 and 2017*
4 *relative to the preceding years.*

5
6 **Response)**

- 7 a. Due to the variable nature of the factors impacting loss values (see Big
8 Rivers' response to Item 44 of Commission Staff's first request for
9 information in this case and the response to sub-part b. below), Big Rivers
10 forecasts the transmission loss percentage to remain constant at the level
11 anticipated at the time the forecast is prepared. Load is then divided by
12 1 *minus* the forecasted loss percentage to calculate forecasted load
13 including transmission loss MWhs.
- 14 b. Transmission losses can be impacted by generation dispatch, load levels,
15 transmission configuration, off system sales and purchases, parallel
16 flows, and other factors. Accordingly, the actual kWh transmission losses
17 have historically varied in a positive and negative direction. When
18 presented as a percentage of net energy available to Big Rivers'
19 customers, the loss percentage is impacted by the actual load served by
20 Big Rivers. Loss percentages calculated with a reduced Big Rivers load
21 will result in a higher percentage even with little or no change in actual
22 system losses. As the industrial load served by Big Rivers significantly
23 changed beginning in 2013, the three-year average loss percentage was

Case No. 2017-00384

Response to PSC 2-17

**Witnesses: Marlene S. Parsley (a. only) and
Christopher S. Bradley (b. only)**

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1 impacted. This began with a modest change in 2014 and increased as the
2 three-year average included additional months of reduced industrial load.
3 While the usage of a higher loss percentage ensured all system losses were
4 captured in the load forecast, users of the transmission system
5 appropriately share the cost of these losses through the MISO
6 transmission settlements process.

7
8
9
10
11

**Witnesses) Marlene S. Parsley (*a. only*)
Christopher S. Bradley (*b. only*)**

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1 **Item 18)** *Refer to Big River's response to Staff's First Request, Item 42.*
2 *The table indicates that approximately 60 percent of the sales previously*
3 *associated with the smelters is projected to be absorbed by growth and non-*
4 *member sales. Explain what BREC is projecting will happen with the*
5 *remaining 40 percent.*

6

7 **Response)** The remaining 40 percent corresponds to idled generation.

8

9

10 **Witness)** Marlene S. Parsley

11

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- 1 **Item 19)** *Refer to BREC's response to Staff's First Request, Item 47.*
2 *a. Explain how applicable the Illinois Technical Reference Manual*
3 *is to the BREC system.*
4 *b. Include any modifications made to better apply the Illinois*
5 *Technical Reference Manual information to that of BREC's*
6 *information.*

7

8 **Response)**

- 9 a. The Illinois Technical Reference Manual ("TRM") provides a transparent
10 and consistent basis for calculating energy savings generated by the
11 Illinois energy efficiency programs. However, much of the information
12 contained within the document is applicable as a useful reference for
13 conducting energy savings analysis in places outside of the state of
14 Illinois. For instance, the Big Rivers potential study leveraged the Illinois
15 TRM to develop measure-level savings estimates of various residential
16 appliances measures. The methods of developing savings estimates for
17 these types of measures are indifferent to geographic location, but rather
18 take into account factors such as federal standards and ENERGY STAR®
19 specifications. In some cases it was helpful to leverage the Illinois TRM
20 to cite savings algorithms in order to develop savings estimates for Big
21 Rivers.
22 b. In Big Rivers' and its consultant's judgment, the only instance in which
23 modifications might be necessary is if weather-sensitive data applicable

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1 to areas in Illinois informed savings estimates. In general, the Illinois
2 TRM was used only for non-weather-sensitive measures. In cases where
3 the Illinois TRM was leveraged in some way to inform weather-sensitive
4 savings estimates, the analysis customized the savings estimates to be
5 applicable to the Big Rivers system.

6

7

8 **Witness)** Warren E. Hirons

9

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1 **Item 20)** *Refer to Big River's response to Staff's First Request, Item 55.*
2 *Provide examples of the assistance that Big Rivers' has given to its*
3 *industrial customers in order to help with improving the EE in their*
4 *facilities.*

5

6 **Response)** The following list include some examples of the assistance that Big
7 Rivers has provided to industrial customers.

8

- 9 1. Collaboration with the Kentucky Industrial Assessment Center to provide
10 energy use assessments to industrial members,
11 2. Power factor correction analysis and installation of capacitors,
12 3. Participation in continuous improvement programs (kaizen and six
13 sigma),
14 4. Evaluation of efficiency measures, and
15 5. Power quality improvement assistance.

16

17

18 **Witness)** Russell L. Pogue

19

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- 1 **Item 21)** *Refer to BREC's response to the Attorney General's First*
2 *Request for Information (Attorney General's First Request), Item 2.*
3 *a. Provide a copy of the associated contract.*
4 *b. Confirm this is the same contract referred to in BREC's response*
5 *to the Attorney General's First Request, Item 4.*

6
7 **Response)**

- 8 a. See the attached *Power Purchase and Interconnection Agreement* dated
9 May 4, 2018, among Big Rivers, Big Rivers' Member-Owner Jackson
10 Purchase Energy Corporation, and the Commonwealth of Kentucky
11 Finance and Administration Cabinet, Department of Facilities
12 Management, Division of Engineering for the Kentucky National Guard.
13 This agreement was approved by the Commission on June 22, 2018, in
14 TFS2018-00255.
15 b. Yes, this is the same contract referred to in Big Rivers' response to the
16 Item 4 of the Office of the Attorney General's initial information request
17 in this case.

18
19
20 **Witness)** Christopher S. Bradley

21

Case No. 2017-00384

PSC 2-21a (CSB) (Att) - Big Rivers-Jackson Purchase

-Ky Natl Guard PPA - 2018-05-04

POWER PURCHASE AND INTERCONNECTION AGREEMENT

4th This Power Purchase and Interconnection Agreement is made and entered into this 4 day of May 2018, among Big Rivers Electric Corporation (a Kentucky cooperative corporation with its principal office at 201 Third Street, Henderson, Kentucky 42420, herein referred to as "Big Rivers"), Jackson Purchase Energy Corporation (a Kentucky cooperative corporation with its principal office at 2900 Irvin Cobb Drive, Paducah, Kentucky 42003, herein referred to as "Member"), and Commonwealth of Kentucky Finance and Administration Cabinet, Department for Facilities Management, Division of Engineering, Frankfort, Kentucky, herein referred to as "Seller").

WITNESSETH:

WHEREAS, Seller intends to own and operate a small power production facility that qualifies as a Qualifying Facility under 807 KAR 5:054 Section 1(8), and Seller desires to produce from its Qualifying Facility electric energy and capacity for its own use and in excess of its own use and to sell the energy and capacity in excess of its own use to Big Rivers;

WHEREAS, Big Rivers desires to purchase the excess electric energy from Seller's Qualifying Facility pursuant to 807 KAR 5:054 and Big Rivers' Standard Rate – QFP – Cogeneration/Small Power Production Purchase Tariff – Over 100 kW;

WHEREAS, Member is a Retail Electric Supplier of energy and capacity in the Commonwealth of Kentucky, and the Qualifying Facility is or will be located within Member's certified territory; and

WHEREAS, Big Rivers and Member are willing to permit Seller to be interconnected and operated in parallel with Member's System subject to the terms of this Agreement, so that Seller will be able to deliver to Big Rivers through Member's System such energy produced by the Qualifying Facility as will be sold to Big Rivers;

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the Parties hereby agree as follows:

ARTICLE I - DEFINITIONS

- 1.1 "Agreement" shall mean this Power Purchase and Interconnection Agreement and all schedules hereto.
- 1.2 "ANSI" shall mean the American National Standards Institute.
- 1.3 "Applicable Laws and Regulations" shall mean all duly enacted applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.
- 1.4 "Authorization" shall mean any license, permit, approval, filing, waiver,

exemption, variance, clearance, entitlement, allowance, franchise, or other authorization from or by a Governmental Authority.

1.5 "Authorization Date" shall mean the date that the last Authorization required to be given in order for the Parties to perform this Agreement is granted by the Kentucky Public Service Commission, the Administrator of the Rural Utilities Service or any other applicable Governmental Authority.

1.6 "Bankruptcy Law" shall mean Title 11 of the U.S. Code, or any similar federal or state law for the relief of debtors.

1.7 "Big Rivers" shall mean Big Rivers Electric Corporation.

1.8 "Delivery Point" shall mean the meter at the point of connection of the 12,470 volt facilities of Member and the 12,470 volt facilities of Seller.

1.9 "Early Termination Date" shall have the meaning given in Section 10.3(a).

1.10 "Energy Purchase Rate" shall mean the rate Big Rivers pays Seller for firm energy purchases.

1.11 "Environmental Attributes" shall mean: 1) production tax credits applicable to energy produced from certain renewable resources pursuant to 26 U.S.C. § 45, or any successor thereto or equivalent thereof; 2) any other federal or state tax deductions, credits or incentives for which the Qualifying Facility is eligible based upon its generation of energy from solar energy resources; 3) any grants or other payments from a Governmental Authority or non-profit entity (other than a cooperative corporation formed under KRS Chapter 279 and to the extent permitted by law) for which the Qualifying Facility is eligible based upon its generation of energy from solar energy resources; 4) environmental air quality credits, off-sets, emission reductions, allowance or other benefits related to the generation of energy from the Qualifying Facility in a manner which reduces, displaces or off-sets emissions resulting from fuel combustion at another Seller location pursuant to any law; and 5) credits, off-sets, environmental and other certificates, green pricing programs, renewable energy credit trading programs or any similar program.

1.12 "Event of Default" shall have the meaning given in Section 10.1 and Section 10.2.

1.13 "Excess Demand" shall have the meaning set forth in the Big Rivers Standard Rate – QFS – Cogeneration/Small Power Production Sales Tariff – Over 100 kW.

1.14 "Force Majeure" shall have the meaning given in Section 8.1.

1.15 "Good Utility Practice" shall mean any of the practices, methods and acts employed by owners and/or lessors, operators or maintainers of electric generation, transmission or distribution facilities similar in size and operational characteristics to the Qualifying Facility, Interconnection Facilities, Member's System and Big Rivers' transmission system which, in the exercise of reasonable judgment in the light of the facts known or that reasonably should have been known at the time that a decision was made, could reasonably have been expected to accomplish the desired result at the lowest reasonable cost, consistent with licensing and regulatory considerations, environmental considerations,

reliability, safety, protection of lives and property, expedition, the technical specifications and manufacturer's maintenance requirements, and the applicable requirements of any Governmental Authority. Good Utility Practice is not intended to be limited to the optimum practice, method or act, to the exclusion of all others, but rather to be a spectrum of possible practices, methods or acts generally accepted in the region.

1.16 "Governmental Authority" shall mean the federal government of the United States and any department thereof, and any state, county or local government, and any regulatory department, body, political subdivision, commission (including the Kentucky Public Service Commission, Federal Energy Regulatory Commission, and Rural Utilities Service), agency, instrumentality, ministry, court, judicial or administrative body, taxing authority, or other authority of any of the foregoing (including any corporation or other entity owned or controlled by any of the foregoing), any regional transmission organization or independent system operator, any national or regional reliability organization or council (including the North American Electric Reliability Corporation) or any reliability coordinator, in each case, having jurisdiction or authority over the Agreement (or any portion thereof), Seller, Big Rivers, Member, the Qualifying Facility, the Interconnection Facilities, the Member's System or Big Rivers' transmission system, whether acting under actual or assumed authority.

1.17 "IEEE" shall mean the Institute of Electrical and Electronics Engineers.

1.18 "Indemnified Party" shall have the meaning set forth in Section 9.2(a)(i).

1.19 "Indemnifying Party" shall have the meaning set forth in Section 9.2(a)(i).

1.20 "Interconnection Costs" shall mean all reasonable costs of connection, switching, metering, transmission, distribution, safety provisions and administrative costs incurred by Big Rivers or the Member directly related to the installation and maintenance of physical facilities necessary to permit interconnected operations with the Qualifying Facility, to the extent those costs are in excess of corresponding costs which Big Rivers or the Member would have incurred if either had not engaged in interconnected operations with the Qualifying Facility but instead had generated an equivalent amount of electric energy itself or purchased an equivalent amount of electric energy or capacity or both from other sources. Interconnection costs shall not include any costs included in the calculation of Big Rivers' or Member's avoided costs.

1.21 "Interconnection Facilities" shall mean all facilities, lines, equipment, appurtenances and meters, as identified and designated on Schedule A, between the Qualifying Facility and the Member's System that are necessary to physically and electrically interconnect the Qualifying Facility to the Member's System, regardless of whether owned by Big Rivers, Member or Seller.

1.22 "Interconnection Service Charge" shall have the meaning given in Schedule B hereto.

1.23 "Maintenance Service" shall have the meaning set forth in the Big Rivers Standard Rate – QFS – Cogeneration/Small Power Production Sales Tariff – Over 100 kW.

1.24 "Maximum Unscheduled Capacity" shall have the meaning given in Section 3.2.

- 1.25 “Member” shall mean Jackson Purchase Energy Corporation.
- 1.26 “Member’s System” shall mean the Member’s facilities and equipment used to distribute power to end users directly from nearby generators or from interconnection with Big Rivers’ transmission system.
- 1.27 “Notice of Early Termination” shall have the meaning given in Section 10.3(a).
- 1.28 “Operating Requirements” shall mean any operating and technical requirements that may be imposed by a regional transmission organization, independent system operator, control area coordinator, balancing authority, Governmental Authority, Member or Big Rivers, including without limitation, SERC Reliability Corporation guidelines, the most recent IEEE Standard 1547 and other applicable IEEE standards, ANSI C84.1 and other applicable ANSI standards, and in accordance with industry standard prudent engineering practices.
- 1.29 “Party” shall mean individually Big Rivers, Member, or Seller, and “Parties” shall mean Big Rivers, Member, and Seller collectively.
- 1.30 “Proprietary Information” shall have the meaning set forth in Section 13.5(f)(i).
- 1.31 “Qualifying Facility” shall mean the small power production facility satisfying the definition of same as set forth in 807 KAR 5:054 Section 1(8) that is located at Seller’s Facility, within the service territory of Member; having a nameplate rating of 210 kW dc; and, unless the context requires otherwise, including all interconnection and safety equipment owned by Seller (as designated on Schedule A) and used in connection with its solar electric generation facilities.
- 1.32 “Reactive Power” shall have the meaning set forth in Section 3.3.
- 1.33 “Reactive Power Service Charge” shall have the meaning set forth in Section 3.3.
- 1.34 “Retail Electric Supplier” shall have the meaning set forth in KRS 278.010.
- 1.35 “Secured Party” shall have the meaning set forth in Section 12.3.
- 1.36 “Seller” shall mean Commonwealth of Kentucky Finance and Administration Cabinet, Department for Facilities Management, Division of Engineering, Frankfort, Kentucky.
- 1.37 “Seller’s Facility” is the facility of Seller located at 8000 State Route 3520, West Paducah, Kentucky 42806, in McCracken County, Kentucky.
- 1.38 “Seller’s System” shall mean the Qualifying Facility and any Interconnection Facilities owned by Seller.
- 1.39 “Supplementary Service” shall have the meaning set forth in the Big Rivers Standard Rate – QFS – Cogeneration/Small Power Production Sales Tariff – Over 100 kW.
- 1.40 “Term” shall have the meaning set forth in Section 13.2.

- 1.41 "Termination Payment" shall have the meaning set forth in Section 10.3(a).
- 1.42 "Transferee" shall have the meaning set forth in Section 13.5(a).
- 1.43 "Transferor" shall have the meaning set forth in Section 13.5(a).
- 1.44 "Unscheduled Back-up Service" shall have the meaning set forth in the Big Rivers Standard Rate – QFS – Cogeneration/Small Power Production Sales Tariff – Over 100 kW.

ARTICLE II – SALES TO BIG RIVERS

2.1 Sales of Energy to Big Rivers. Except as provided in this Agreement, Seller will sell, and Big Rivers will purchase, all energy from Seller's Qualifying Facility in excess of Seller's own needs, at the Delivery Point, on a non-dispatchable basis.

a. Delivery of Energy. Seller shall interconnect with the Member's System and shall deliver energy to the Member's side of the Delivery Point consistent with the terms of this Agreement and any Operating Requirements.

b. Quality of Power. Seller must provide good quality electric power within a reasonable range of voltage, frequency, flicker, harmonic currents, and power factor, including, but not limited to:

- i. The energy delivered hereunder shall be in the form of three-phase, at a frequency of 60-hertz, alternating current and within three percent (3%) above or below a nominal voltage of 12,470 volts or a nominal operating voltage to be determined by Member from actual operating experience.
- ii. Seller shall provide for proper synchronization of the Qualifying Facility with Member's System such that synchronism is accomplished without causing undesirable harmful currents, surges, or voltage dips on Member's System or the transmission systems owned by Big Rivers and other interconnected utilities.
- iii. The energy delivered by Seller shall not cause unusual fluctuations or disturbances on the Member's System or the transmission systems owned by Big Rivers and other interconnected utilities. Accordingly, Seller shall provide, at Seller's expense, suitable apparatus which will keep such fluctuations or disturbances within reasonable limits established by Member and Big Rivers in accordance with IEEE Standard 519 and other applicable standards.
- iv. Seller shall install a safety switch that will fully disconnect the generation circuit of its Qualifying Facility from Member's System. The switch shall be of the visible break type which can be secured by a padlock by Member. The disconnect switch shall be accessible to Member and Big Rivers personnel at all times.

A. The switch shall be a type that can be secured in an open position by a lock owned by Member. If Member has locked the disconnect

switch open, Seller shall not operate or close the disconnect switch.

B. Both Big Rivers and Member shall have the right to lock the switch open when, in either's sole judgment:

1. It is necessary to maintain safe electrical operating and/or maintenance conditions,

2. The Qualifying Facility adversely affects Big Rivers' transmission system or Member's System, or

3. There is a system emergency or other abnormal operating condition warranting disconnection.

C. Big Rivers and Member reserve the right to operate the disconnect switch for the protection of their systems even if it affects Seller's System. In the event Big Rivers or Member opens and/or closes the disconnect switch:

1. Neither Big Rivers nor Member shall be responsible for energization or restoration of parallel operation of the Qualifying Facility.

2. Big Rivers or Member will make reasonable efforts to notify Seller.

3. Seller will not bypass the disconnect switch at any time for any reason.

D. Signage shall be placed by Seller at the disconnect switch indicating the purpose of the switch along with contact names and numbers of both Big Rivers and Member.

E. Should Member lose power serving Seller's Facility for any reason, Seller shall not operate the Qualifying Facility.

2.2 Rate for Sales to Big Rivers.

a. Capacity Purchase Rate. No capacity purchases by Big Rivers are agreed to or implied through this agreement.

b. Energy Purchase Rate. Big Rivers shall pay Seller for all energy purchased in accordance with Section 2.1 herein at the Energy Purchase Rate and on the terms and conditions set forth in Big Rivers' Standard Rate – QFP - Cogeneration/Small Power Production Purchase Tariff – Over 100 kW on file with the Kentucky Public Service Commission at the time of the purchase.

2.3 Adjustment for Losses. Energy purchased by Big Rivers under this Agreement shall be subject to an adjustment, as determined by Big Rivers, to reflect losses between the Delivery Point and the point of delivery to the Big Rivers transmission system, which is the Big Rivers 69 kV circuit as it terminates at the Member-owned substation. The

payment for any such adjustment shall be the responsibility of Seller.

2.4 **Exclusivity.** Seller agrees that its Qualifying Facility will be installed and, except for sales of energy to Big Rivers in accordance with this Agreement, will be used at all times for the sole purpose of Seller's benefit at Seller's Facility, and energy and capacity generated by said Qualifying Facility shall not be otherwise transmitted, shared, or sold by Seller to any person other than Big Rivers, throughout the Term of this Agreement.

2.5 **System Emergencies.** Big Rivers may discontinue purchases from the Qualifying Facility during system emergencies as provided in 807 KAR 5:054 Section 6.

ARTICLE III – SALES TO SELLER AND MEMBER

3.1 **Membership of Seller.** Seller shall remain a member of Member during the Term of this Agreement, Seller shall meet and comply with Member's membership and service requirements, and Seller shall comply with Member's applicable tariffs and Big Rivers' Standard Rate – QFP – Cogeneration/Small Power Production Purchase Tariff – Over 100 kW, which are on file with the Kentucky Public Service Commission, as revised from time to time.

3.2 **Sales of Energy and Capacity to Seller and Member.** Except as otherwise provided in this Agreement, Big Rivers shall be responsible for providing to Member and Member shall be responsible for providing to Seller all Supplementary Service up to the Maximum Unscheduled Capacity, Excess Demand, and Reactive Power support required by Seller at Seller's Facility.

a. The rates for such service provided by Big Rivers shall be according to the rates set forth in Section 3.3 of this Agreement and Big Rivers' Standard Rate - RDS tariff and Standard Rate – QFS – Cogeneration/Small Power Production Sales Tariff – Over 100 kW, which are on file with the Kentucky Public Service Commission, as revised from time to time. The rates and terms for such service provided by Member shall be subject to Member's current Schedule D - Commercial and Industrial Demand Less Than 3,000 kW tariff, contained in Schedule C of this Agreement, or other applicable tariffs which may be revised from time to time and approved by and on file with the Kentucky Public Service Commission.

b. Big Rivers shall not be required to provide to Member, and Member shall not be required to provide to Seller, Unscheduled Back-up Service or Maintenance Service as those terms are defined in Big Rivers' Standard Rate – QFS – Cogeneration/Small Power Production Sales Tariff – Over 100 kW.

c. The Maximum Unscheduled Capacity to be provided by Big Rivers to Member and Member to Seller is herein defined as 236 kW.

3.3 **Reactive Power.** Seller shall operate its Qualifying Facility to furnish its own Reactive Power (kvar) requirements, within the following parameters:

a. Under the conditions wherein the Seller generates all of its own power

requirements and/or supplies excess energy to Big Rivers, Reactive Power (kvar) flow from Member toward the Seller shall be subject to the Reactive Power Service Charge. The Reactive Power Service Charge shall be equal to the Big Rivers reactive supply and voltage control rate included within Schedule 2 of the Midcontinent Independent System Operator, Inc. Open Access Transmission Tariff, Attachment O in effect for Big Rivers at the time the service is provided.

b. Under the conditions wherein Member supplies all or a portion of Seller's power requirements, the Seller shall be subject to Member's standard tariffs applicable to Seller on file with the Kentucky Public Service Commission as revised from time to time.

c. A maximum of 115 kvar Reactive Power flow toward Member from the Seller is permitted. At any time the 115 kvar limit is exceeded, Seller will cease operation of the Qualifying Facility if directed to do so by Member. Seller shall not restart operation of its Qualifying Facility until Member approval is received.

3.4 System Emergencies. Member may discontinue service to the Qualifying Facility during system emergencies as provided in 807 KAR 5:054 Section 6.

ARTICLE IV – METERING

4.1 Separate Metering. Any energy purchased by Big Rivers from Seller shall be metered and accounted for separately from energy and capacity and Reactive Power support delivered and sold to Seller by Member.

4.2 Meters. Big Rivers and Member shall specify, own, install, operate and maintain the metering equipment, which is specified in Schedule A and which Big Rivers and Member deem appropriate, based on the size and other characteristics of the Qualifying Facility. Big Rivers and Member shall use such metering equipment to measure the energy sold by Seller to Big Rivers, measure service provided to Seller by Member, and monitor voltage and reactive power flows on the interconnection. The metering equipment for Member and the metering equipment for Big Rivers may be collectively designated by the reference "utility meter."

4.3 Readings. Big Rivers shall read the meter at the Delivery Point following the end of each month. The amount of power delivered to Big Rivers during the preceding month shall be determined from such readings, as such readings may be adjusted pursuant to Section 2.3. Member shall read its meter measuring service to Seller in accordance with Member's normal business practice and the regulations of the Kentucky Public Service Commission. Big Rivers shall read its meter measuring service to Member for Member's service to Seller in accordance with Big Rivers' normal business practice and the regulations of the Kentucky Public Service Commission.

ARTICLE V – BILLING AND PAYMENT

5.1 Billing.

- a. An accounting for amounts due Seller by Big Rivers hereunder shall be rendered by Big Rivers as soon as is reasonably practicable following the meter reading, and shall incorporate such information as may reasonably be necessary or desirable to determine the payments for power delivered by Seller to the Delivery Point during the preceding month, and other amounts due hereunder.
- b. In the event that Seller owes any amount to Big Rivers pursuant to this Agreement, Big Rivers shall send Seller a statement of the amount then due and shall incorporate such information as may be reasonably necessary or desirable to determine the payments and other amounts due hereunder.
- c. Big Rivers shall bill Member for any Supplementary Service in accordance with Big Rivers' standard billing practices.
- d. Member shall bill Seller monthly for amounts due hereunder in accordance with Member's standard billing practices.

5.2 Payment and Interest.

- a. Payments. All amounts shown to be due to one Party by another Party shall be paid no later than thirty (30) days from the date such amount is invoiced.
- b. Disputes. If the paying party, in good faith, disputes a portion of any billing statement, the paying party shall render payment for the undisputed portion of such bill to the billing party. The disputed portion shall be placed in an escrow account. Upon resolution of the dispute, any amount found to be due and payable to the billing party shall be paid to the billing party. The paying party shall render payment by wire transfer, or such other payment method as the Parties mutually agree.
- c. Interest. If the paying party fails to pay all or a portion of the undisputed amounts when due, the paying party shall owe interest on the unpaid portion of the bill, as set forth in Member's standard tariffs applicable to Seller on file with the Kentucky Public Service Commission.
- d. Offsets. Any Party may at any time offset any amounts owed by it against any and all amounts that may be due and owed to another Party under this Agreement.

ARTICLE VI – CONSTRUCTION, INTERCONNECTION, AND OPERATION OF THE QUALIFYING FACILITY AND INTERCONNECTION FACILITIES

- 6.1 Design and Construction of the Qualifying Facility and Interconnection Facilities. Seller shall design, construct and interconnect the Qualifying Facility at its own expense

and in accordance with this Agreement, Good Utility Practice, Operating Requirements, and all Applicable Laws and Regulations. Each Party shall (at Seller's expense) design, construct and install the Interconnection Facilities that they respectively own (as shown on Schedule A hereto) in accordance with this Agreement, Good Utility Practice, Operating Requirements, and all Applicable Laws and Regulations. Neither Big Rivers nor Member shall be under any obligation to design, order or install equipment or incur any other costs or expenses relating to the subject Interconnection Facilities until payment of the estimated Interconnection Costs has been received, and security for the remaining Interconnection Costs has been provided by Seller in accordance with Section 6.2 herein.

a. **Approval of Plans.** Plans, specifications, and operating characteristics for the Qualifying Facility and the Interconnection Facilities must be approved in writing by Big Rivers and Member before the Qualifying Facility is connected to Member's System, and may not be materially revised or modified without Big Rivers' and Member's written approvals. Seller shall notify Big Rivers and Member in writing at least two (2) weeks in advance of energizing the interconnection between the Qualifying Facility and Member's System to permit Big Rivers and Member to inspect and test the Qualifying Facility and Interconnection Facilities to determine that the Qualifying Facility and Interconnection Facilities are in compliance with this Agreement, Good Utility Practice, Operating Requirements, and all Applicable Laws and Regulations. Any deficiencies noted must be corrected by Seller prior to energization. Seller shall not, after energization, modify or change in any way the design or operating characteristics of the Qualifying Facility or the Interconnection Facilities without Big Rivers' and Member's written approvals.

b. **Disclaimer.** Big Rivers' and Member's acceptance of the plans specifications, and operating characteristics for the Seller's System, or any revisions or modification thereof, and Big Rivers' and Member's inspection of Seller's System and subsequent authorization to energize the interconnection, or later consent to any change or modification of the design or operating characteristics of Seller's System, shall not be construed as confirming or endorsing the design, or as warranting the safety, durability, or reliability of Seller's System. Neither Big Rivers nor Member assumes any duty to review or inspect Seller's System to assess its safety, durability, or reliability. Big Rivers and Member shall not, by reason of any review, acceptance, inspection, or failure to review or inspect, be responsible for any aspect of Seller's System, including, but not limited to its safety, details of design, adequacy, or capacity thereof, nor shall Big Rivers' or Member's acceptance or approval be deemed to be an endorsement of the safe condition of the Seller's System.

6.2 Estimated Payment and Security for Interconnection Costs. Big Rivers and Member shall be reimbursed by Seller for their respective Interconnection Costs associated with designing, acquiring, constructing and installing the Interconnection Facilities described in Schedule A. Seller's payment of the estimated Interconnection Costs set forth in Schedule B shall be made no later than thirty (30) days after the Authorization Date. Unless expressly waived in writing by both Big Rivers and Member, Seller shall provide security to Big Rivers and Member for the payment of the remaining Interconnection Costs by the furnishing of an irrevocable letter of credit satisfactory to Big Rivers and Member.

6.3 **Final Payment for Interconnection Costs.** Within thirty (30) days after completion of the Interconnection Facilities, Big Rivers and Member will invoice Seller for the final and actual Interconnection Costs. To the extent the actual Interconnection Costs exceed the estimated costs paid by Seller, Seller shall pay the remaining amount within thirty (30) days of the date of said invoice(s). To the extent the estimated costs paid by Seller exceed the actual Interconnection Costs, Big Rivers and Member shall pay any refunds due to Seller within sixty (60) days after completion of the Interconnection Facilities.

6.4 **Interconnection Service Charge.** Seller shall pay a monthly Interconnection Service Charge as specified in Schedule B hereto in order to reimburse Big Rivers and Member for any transmission, operational, maintenance and administrative costs related to the ongoing usage, operation and maintenance of the Interconnection Facilities that would not have been incurred by either of them if Big Rivers and Member did not engage in interconnected operation with Seller. These monthly charges shall be determined on the basis of utility cost recovery concepts and may be adjusted by Big Rivers and Member on an annual basis.

6.5 **Operation and Maintenance of the Qualifying Facility and Seller's Interconnection Facilities.** At all times during the Term of this Agreement, Seller has the sole duty and responsibility for operation and maintenance of Seller's System, and neither Big Rivers nor Member shall be required to furnish service personnel or material and equipment to Seller for the maintenance or operation of the Seller's System, unless separately agreed to and invoiced by Big Rivers and/or Member. Seller shall operate and maintain the Qualifying Facility in accordance with this Agreement, Good Utility Practice, Operating Requirements, and all Applicable Laws and Regulations.

6.6 **Operation and Maintenance of the Interconnection Facilities.** Each Party shall operate and maintain the Interconnection Facilities that that Party respectively owns, as set forth in Schedule A, in accordance with this Agreement, Good Utility Practice, Operating Requirements, and all Applicable Laws and Regulations.

6.7 **Disconnection.** Big Rivers and Member shall each have the right, in their sole discretion, to discontinue the interconnection of the Qualifying Facility due to reasons such as safety concerns, reliability issues, power quality issues, breach of this Agreement or any other issue, which Big Rivers or Member considers to be a reasonable basis for such action. Any disconnection may be without prior notice.

6.8 **Protection of the Qualifying Facility.** Seller shall protect the Qualifying Facility from disturbances occurring on the Member's System and the transmission systems owned by Big Rivers and other interconnected utilities. Seller shall have the sole responsibility for the safety and electrical protection of its facilities, regardless of the condition of Member's or Big Rivers' Interconnection Facilities. This protection shall include, but not be limited to, automatic sensing and immediate disconnection from a faulted or de-energized line, and shall prevent Seller from energizing a de-energized Member line.

6.9 **Parallel Operation.** Switching to place the generator in Seller's Qualifying Facility in or out of service and parallel operation with Big Rivers' or Member's system shall be coordinated with the Big Rivers system operator and designated Member operating personnel.

6.10 Modifications and Upgrades of Interconnection Facilities. Seller is responsible for all costs in relation to changes in its interconnection and protective equipment as may be required from time to time to meet changing conditions and requirements on the Member's System or the transmission systems owned by Big Rivers and other interconnected utilities. In the event that load growth or other needs on the Big Rivers transmission system or Member's System require the construction of new facilities in the future to replace or supplement the Interconnection Facilities identified in Schedule A, Big Rivers or Member, as applicable, shall give Seller six (6) months advance notice, including a cost estimate for the new facilities and a date when costs for said facilities are anticipated to be incurred. Seller shall pay such estimated costs or provide Big Rivers and/or Member with security for payment in a form acceptable to Big Rivers and/or Member by the date specified in such notice. Seller shall pay all actual costs incurred for such new interconnection facilities prior to the in-service date for such facilities.

6.11 Notice of Change in Seller's System.

a. Seller shall notify Big Rivers and Member in writing thirty (30) days in advance of Seller making any change affecting the characteristics, performance, or protection of Seller's System.

b. If any modification undertaken by Seller will create or has created conditions which may be unsafe or adversely affect Member's System or the transmission systems owned by Big Rivers and other interconnected utilities, Seller shall immediately correct such conditions or be subject to immediate disconnection from Member's System.

c. Any change in the operating characteristics of Seller's System including, but not limited to, size of generator, total facility capacity, nature of facility, fuel source, site change, hours of operation, or type used, may, at the sole discretion of either Big Rivers or Member, require a new application process, including, but not limited to, application form, appropriate interconnection agreement, and interconnection plans.

6.12 Testing and Record Keeping.

a. Seller will test all aspects of the protection systems up to and including tripping of the generator and interconnection point at start-up and thereafter as required. Testing will verify all protective set points and relay/breaker trip timing and shall include procedures to functionally test all protective elements of the system. Big Rivers and Member shall have the right to witness the testing.

b. Seller shall maintain records of all maintenance of the Qualifying Facility and Interconnection Facilities, and upon reasonable prior notice, Seller shall make those records available for inspection by Big Rivers and Member during regular business hours.

ARTICLE VII – PROPERTY RIGHTS AND ACCESS

7.1 Communications and Data Logging Systems. Seller shall provide Big Rivers with adequate space within the centralized control house or similar structure of the Qualifying

Facility to accommodate a reasonable remote terminal owned by Big Rivers. Seller shall also provide Big Rivers with access to the Qualifying Facility, upon reasonable advance notice and during normal business hours, as may be necessary and appropriate to enable Big Rivers to install and maintain such remote terminal in a manner consistent with Good Utility Practice, provided that such access shall not unreasonably interfere with Seller's normal business operations. While at the Qualifying Facility, Big Rivers personnel shall observe such safety precautions as may be reasonably required by Seller and communicated to Big Rivers in writing.

7.2 Right of Access. Persons authorized by Big Rivers or Member shall have the right to enter Seller's Facility and related property for purposes of testing, operating the disconnect switch, reading or testing the metering equipment, maintaining right-of-way, inspecting and maintaining equipment, carrying out the terms of this Agreement, and providing service to Seller. Such entry onto Seller's property may be without notice. If Seller erects or maintains locked gates or other barriers, Seller will furnish Big Rivers and Member with convenient means to circumvent the barrier for immediate full access for the above-mentioned reasons. Any inspections or testing shall not relieve Seller from its obligations to maintain the facilities in satisfactory operating conditions and shall, in no way, be deemed an endorsement of the safe condition of the Qualifying Facility. While present on the property of Seller, Big Rivers and Member personnel shall observe such safety precautions as may be reasonably required by Seller and communicated to Big Rivers and Member in writing.

7.3 Removal of Equipment. Upon termination or expiration of this Agreement for any reason, any part or all of the Interconnection Facilities then owned by Big Rivers or the Member may be removed by such owner at such owner's cost and expense. Any portion of the Interconnection Facilities owned by Seller at the termination of this Agreement shall remain Seller's property.

ARTICLE VIII – FORCE MAJEURE

8.1 Force Majeure Defined. "Force Majeure" shall mean an event or circumstance beyond the reasonable control of and without the fault or negligence of the Party claiming Force Majeure, which, despite the exercise of reasonable diligence, cannot be or be caused to be prevented, avoided or removed by such Party. Force Majeure shall include, to the extent consistent with the preceding sentence: an act of God; war (declared or undeclared); sabotage; riot; insurrection; civil unrest or disturbance; military or guerilla action; banditry; terrorist activity or a threat of terrorist activity which, under the circumstances, would be considered a precursor to actual terrorist activity; economic sanction or embargo; civil strike, work stoppage, slow-down, or lock-out that are of an industry or sector-wide nature and that are not directed solely or specifically at the affected Party; explosion; fire; earthquake or seaquake; abnormal weather condition; hurricane; flood; lightning; high winds; drought; peril of the sea; the binding order of any Governmental Authority (provided that the affected Party has in good faith considered reasonably contesting such order); the failure to act on the part of any Governmental Authority (provided that such action has been timely requested and diligently pursued); unavailability of equipment, supplies or products, but only to the extent caused by an event of Force Majeure; and failure of equipment. With respect to Seller, Force Majeure shall also include (to the extent beyond the reasonable control of and without the fault or negligence of Seller) any

interruption in distribution service on Member's side of the Delivery Point. No Party shall be deemed to have suffered an event of Force Majeure due to the failure of equipment which that Party is responsible for operating or maintaining unless the equipment has been operated and maintained in accordance with Good Utility Practice. Neither the lack of money nor changes in market conditions shall constitute an event of Force Majeure.

8.2 Effect of Force Majeure. If any Party is rendered wholly or partly unable to perform its obligations under this Agreement or its performance is delayed because of Force Majeure, that Party shall be excused from whatever performance it is unable to perform or delayed in performing due to the Force Majeure to the extent so affected, provided that: a) the Party affected by such Force Majeure, as soon as reasonably practical after the commencement of such affect, gives the other Parties prompt oral notice, followed by a written notice within forty-eight (48) hours after such oral notice, fully describing the particulars of the occurrence; b) the suspension of performance is of no greater scope and of no longer duration than is required by the Force Majeure event; and c) 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.

8.3 Effect on Payment Obligations. Notwithstanding any other provision of this Agreement, a Party suffering a Force Majeure event is not relieved from tendering payment(s) that are obligated to be paid pursuant to this Agreement. Force Majeure shall not be a defense to any payment that is lawfully owed.

8.4 Deadlines Extended; Termination. Whenever a Party is required to commence or complete any action within a specified period and is prevented or delayed by Force Majeure from commencing or completing such action within the specified period, such period shall be extended by an amount equal to the duration of such event of Force Majeure occurring or continuing during such period except as otherwise specifically provided in this Agreement; provided, however, that in no event shall a Force Majeure extend the Term of this Agreement. If any Force Majeure prevents Seller from delivering power for more than thirty (30) consecutive days, then Big Rivers may terminate this Agreement upon written notice to Seller, and no Party shall have any liability arising out of such termination.

ARTICLE IX – RISK OF LOSS AND INDEMNIFICATION

9.1 Environmental Claims. Seller assumes liability for any and all claims, demands, actions, violations, notices or causes of action of any kind arising from or relating to the design, construction, installation, operation, maintenance or dismantling of Seller's System that arise from or relate to violations of any environmental statutes, regulations, rules or orders whether federal, state or local in nature.

9.2 Indemnification. Each Party shall indemnify, defend and hold the other Parties and their respective employees, directors, officers, managers, members and agents, harmless from and against any and all third party claims, suits, damages, losses, liabilities, expenses and costs (including reasonable attorneys' fees) including, but not limited to, those arising out of property damage to the property of the indemnified Parties or others, environmental claims, and personal injury and bodily injury (including death, sickness and disease) to the extent caused by the indemnifying Party's: (i) material breach of any obligation,

representation or warranty contained in this Agreement; or (ii) negligence or willful misconduct.

a. Notice and Participation.

- i. If any Party entitled to indemnification hereunder (the "Indemnified Party") intends to seek indemnification under this Article from another Party (the "Indemnifying Party") with respect to any claim, cause or demand, the Indemnified Party shall give the Indemnifying Party notice of such claim, cause or demand upon the receipt of actual knowledge or information by the Indemnified Party of any possible claim, cause or demand or of the commencement of such claim, which notice shall in no event be later than the later of: (A) fifteen (15) business days prior to the last day for responding to such claim, cause or demand; or (B) one-half of the period allowed for responding to such claim, cause or demand. Notwithstanding any other provision of this Agreement, the Indemnifying Party shall have no liability under this Article for any claim, cause or demand for which such notice is not provided, but only to the extent that the failure to give such notice materially impairs the ability of the Indemnifying Party to respond to or to defend the claim, cause or demand.
- ii. The Indemnifying Party shall have the right to assume the defense of any claim, cause or demand, at its sole cost and expense, with counsel designated by the Indemnifying Party and reasonably satisfactory to the Indemnified Party; provided, however, that if the defendants in any such proceeding include both the Indemnified Party and the Indemnifying Party, and the Indemnified Party shall have reasonably concluded that there may be legal defenses available to it which are different from or additional to those available to the Indemnifying Party, the Indemnified Party shall have the right to select separate counsel, at the Indemnifying Party's expense, to assert such legal defenses and to otherwise participate in the defense of such claim, cause or demand on behalf of such Indemnified Party, and the Indemnifying Party shall be responsible for the reasonable fees and expenses of such separate counsel.
- iii. Should any Indemnified Party be entitled to indemnification under this Article as a result of a claim, cause or demand by a third party, and should the Indemnifying Party fail to assume the defense of such claim, cause or demand within a reasonable period of time, the Indemnified Party may, at the expense of the Indemnifying Party, contest (or, with or without the prior consent of the Indemnifying Party), settle such claim, cause or demand.
- iv. Except to the extent expressly provided herein, no Indemnified Party shall settle any claim, cause or demand with respect to which it has sought or is entitled to seek indemnification pursuant to this Article unless: (A) it has obtained the prior written consent of the Indemnifying Party; or (B) the Indemnifying Party has failed to provide, within a reasonable period of time, security, in a form reasonably satisfactory to the Indemnified Party, securing the payment of any cost or expense, up to the amount of the

proposed settlement.

- v. Except to the extent expressly provided otherwise herein, no Indemnifying Party shall settle any claim, cause or demand with respect to which it may be liable to provide indemnification pursuant to this Article without the prior written consent of the Indemnified Party, provided, however, that if the Indemnifying Party has reached a bona fide settlement agreement with the plaintiff(s) in any such proceeding, which settlement includes a full release of the Indemnified Party for any and all liability with respect to such claim, cause or demand, and the Indemnified Party does not consent to such settlement agreement, then the dollar amount specified in the settlement agreement, plus the Indemnified Party's reasonable legal fees and other costs related to the defense of the claim, cause or demand paid or incurred prior to the date of such settlement agreement, shall act as an absolute maximum limit on the indemnification obligation of the Indemnifying Party with respect to the claim, cause or demand, or portion thereof, that is the subject of such settlement agreement.

b. Net Amount. In the event that an Indemnifying Party is obligated to indemnify and hold any Indemnified Party harmless under this Article, the amount owing to the Indemnified Party shall be the amount of such Indemnified Party's actual cost and expense, net of any insurance or other recovery actually received by the Indemnified Party.

c. No Release of Insurers. The provisions of this Article shall not be deemed or construed to release any insurer from its obligation to pay any insurance proceeds in accordance with the terms and conditions of valid and collectible insurance policies.

d. Survival of Obligation. The duty to indemnify under this Article shall continue in full force and effect notwithstanding the expiration or termination of this Agreement, with respect to any cost or expense arising out of an event or condition which occurred or existed prior to such expiration or termination.

ARTICLE X - EVENTS OF DEFAULT AND REMEDIES

10.1 Events of Default by Big Rivers or Member. Big Rivers or Member, respectively, shall be in default under this Agreement upon the happening or occurrence of any of the following events or conditions, each of which shall be an "Event of Default" for purposes of this Agreement:

- a. Big Rivers or Member breaches or fails to observe or perform any of its material obligations under this Agreement, other than the obligations described in Section 10.1(c), unless within thirty (30) days after written notice from another Party specifying the nature of such breach or failure, Big Rivers or Member either cures such breach or failure or, if such cure cannot reasonably be effected by the payment of money and cannot reasonably be completed within thirty (30) days, commences such cure during the initial thirty (30) day period and thereafter diligently pursues such cure during such additional period of time as is reasonably necessary to cure such breach or failure.

b. Big Rivers or Member is dissolved, or its existence is terminated or its business is discontinued, unless: (i) this Agreement is assigned to a successor pursuant to ARTICLE XII - SALE, TRANSFER OR ASSIGNMENT; or (ii) it is merged into a successor corporation which continues substantially all of its business activities.

c. Big Rivers or Member fails to pay, when due, any amount due hereunder, and such failure continues for a period of seven (7) business days following the receipt by it of a written notice of such failure from another Party.

d. Any representation or warranty of Big Rivers or Member set forth in this Agreement was false or misleading in any material respect when made, unless: (i) the fact, circumstance or condition that is the subject of such representation or warranty is made true within thirty (30) days after another Party has given notice thereof to it; provided, however, that if the fact, circumstance or condition that is the subject of such representation or warranty cannot be corrected within such thirty (30) day period and if it commences to correct the fact, circumstance or condition that is the subject of such representation during the initial thirty (30) day period, and thereafter proceeds with all due diligence, to correct the fact, circumstance or condition that is the subject of such representation or warranty, such period shall be extended for such further period as shall be reasonably necessary for it to correct the same with all due diligence; and (ii) such cure removes any adverse effect on the other Parties of such fact, circumstance or condition being otherwise than as first represented, or such fact, circumstance or condition being otherwise than as first represented does not materially adversely affect the other Parties.

e. Big Rivers or Member shall: (i) file a voluntary petition in bankruptcy or file a voluntary petition or otherwise commence any action or proceeding seeking reorganization, liquidation, arrangement or readjustment of its debts or for any other relief under Bankruptcy Law, or consent to, approve of, or acquiesce in, any such petition, action or proceeding; (ii) apply for or acquiesce in the appointment of a receiver, liquidator, sequestrator, custodian, trustee or similar officer for it or for all or any part of its property; (iii) make an assignment of this Agreement for the benefit of creditors except for assignments permitted by Section 12.3; or (iv) be insolvent or be unable generally to pay its debts as they become due.

f. A proceeding or case is commenced, without the application or consent of Big Rivers or Member, in any court of competent jurisdiction, seeking: (i) the liquidation, reorganization, dissolution, winding-up, or composition or adjustment of its debts; (ii) the appointment of a trustee, receiver, custodian, liquidator or the like, of it or of all or any substantial part of its assets; or (iii) similar relief in respect of it under any Bankruptcy Law, and such proceeding or case shall continue undismissed, or an order, judgment or decree approving or ordering any of the foregoing shall be entered and continue un-stayed and in effect, for a period of ninety (90) days from commencement of such proceeding or case or the date of such order, judgment or decree.

g. Big Rivers or Member makes an assignment of this Agreement in violation of Article XII.

h. In no circumstance shall Big Rivers be liable for an Event of Default by Member nor shall Member be liable for an Event of Default by Big Rivers.

10.2 Events of Default By Seller. Seller shall be in default under this Agreement upon the happening or occurrence of any of the following events or conditions, each of which shall be an "Event of Default" for purposes of this Agreement:

a. Seller breaches or fails to observe or perform any of Seller's material obligations under this Agreement, other than the obligations described in Section 10.2(c), (g) and (i), unless within thirty (30) days after written notice from Big Rivers or Member specifying the nature of such breach or failure, Seller either cures such breach or failure or, if such cure cannot reasonably be effected by the payment of money and cannot reasonably be completed within thirty (30) days, commences such cure during the initial thirty (30) day period and thereafter diligently pursues such cure during such additional period of time as is reasonably necessary to cure such breach or failure.

b. Seller is dissolved, or Seller's existence is terminated or its business is discontinued, unless this Agreement is assigned to a successor pursuant to Article XII.

c. Seller fails to pay, when due, any amount due hereunder, and such failure continues for a period of seven (7) business days following the receipt by Seller of a written notice of such failure from Big Rivers or Member.

d. Any representation or warranty of Seller set forth in this Agreement was false or misleading in any material respect when made, unless: (i) the fact, circumstance or condition that is the subject of such representation or warranty is made true within thirty (30) days after Big Rivers or Member has given notice thereof to Seller; provided, however, that if the fact, circumstance or condition that is the subject of such representation or warranty cannot be corrected within such thirty (30) day period and if Seller commences to correct the fact, circumstance or condition that is the subject of such representation during the initial thirty (30) day period, and thereafter proceeds with all due diligence, to correct the fact, circumstance or condition that is the subject of such representation or warranty, such period shall be extended for such further period as shall be reasonably necessary for Seller to correct the same with all due diligence; and (ii) such cure removes any adverse effect on Big Rivers and Member of such fact, circumstance or condition being otherwise than as first represented, or such fact, circumstance or condition being otherwise than as first represented does not materially adversely affect Big Rivers or Member.

e. Seller shall: (i) file a voluntary petition in bankruptcy or file a voluntary petition or otherwise commence any action or proceeding seeking reorganization, liquidation, arrangement or readjustment of its debts or for any other relief under any Bankruptcy Law, or consent to, approve of, or acquiesce in, any such petition, action or proceeding; (ii) apply for or acquiesce in the appointment of a receiver, liquidator, sequestrator, custodian, trustee or similar officer for it or for all or any part of its property; (iii) make an assignment of this

Agreement for the benefit of creditors; or (iv) be insolvent or be unable generally to pay its debts as they become due.

f. A proceeding or case is commenced, without the application or consent of Seller in any court of competent jurisdiction, seeking: (i) the liquidation, reorganization, dissolution, winding-up, or composition or adjustment of debts of Seller; (ii) the appointment of a trustee, receiver, custodian, liquidator or the like, of Seller or of all or any substantial part of its assets; or (iii) similar relief in respect of Seller under any Bankruptcy Law, and such proceeding or case shall continue undismissed, or an order, judgment or decree approving or ordering any of the foregoing shall be entered and continue un-stayed and in effect, for a period of ninety (90) Days from commencement of such proceeding or case or the date of such order, judgment or decree.

g. Any letter of credit provided by Seller pursuant to Section 6.2 lapses or defaults.

h. Seller shall sell, assign, transfer or otherwise divert to a third party all or any portion of the energy produced from the Qualifying Facility.

i. Seller shall relinquish all possession and control of the Qualifying Facility, except for as permitted pursuant to Article XII or to a contractor of Seller in accordance with Good Utility Practice, if such relinquishment of possession and control is not cured within thirty (30) days following the receipt by Seller of a written notice thereof from Big Rivers or Member.

j. Seller makes an assignment of this Agreement in violation of Article XII.

10.3 Remedies.

a. General. Upon an Event of Default by a Party, both or either of the other Parties shall have the right, but not the obligation, to terminate this Agreement with respect to all obligations arising after the date a notice identifying the applicable Event(s) of Default and terminating the Agreement is delivered to the defaulting Party ("Notice of Early Termination"). A Notice of Early Termination is effective on the date it is delivered to the defaulting Party ("Early Termination Date"). Delivery of a Notice of Early Termination shall not relieve the non-defaulting Party of making timely payment for any amounts owed relating to obligations arising prior to the delivery of the Notice of Early Termination. If an Event of Default by a Party under this Agreement leads to termination of this Agreement, the non-defaulting Party may pursue all remedies available to it in law or equity, provided that the measure of damages for the defaulting Party's liability hereunder shall be determined as follows:

- i. For a termination arising from an Event of Default by Seller, the Seller shall be liable for a Termination Payment equal to the sum of: (A) all sums actually expended by Big Rivers and Member through the date the Notice of Early Termination is delivered to the defaulting Party, both dates inclusive; and which have not yet been paid by Seller; and (B) any amounts due for services covered by Article III, Schedule B, or Schedule C. For purposes of

the preceding sentence, "sums actually expended" shall include all payments and obligations to make future payments by Big Rivers or Member arising from or in any way relating to the terms of this Agreement, whether incurred in the planning, designing, permitting, seeking of regulatory approval, development, construction or interconnection of the Qualifying Facility and associated energy and capacity.

- ii. For a termination arising from an Event of Default by Big Rivers, Big Rivers shall be liable for a Termination Payment equal to the sum of: (A) the amount of all unpaid billing statements for power delivered by Seller; and (B) any refund due to Seller for overpayment of Interconnection Costs.
- iii. For a termination arising from an Event of Default by Member, Member shall be liable for a Termination Payment to Seller equal to the amount of any refund due to Seller for overpayment of Interconnection Costs, and a Termination Payment to Big Rivers for any amount due Big Rivers for service provided by Big Rivers to Member relating in any way to this Agreement.

b. Termination of Service. If an Event of Default exists with regard to Seller's failure to make any payment to Member when due, Member may terminate service to Seller's Facility.

c. Survival. Obligations of a Party accrued under this Agreement on the date this Agreement is terminated or otherwise expires shall survive that termination or expiration.

d. Election of Remedies. Except as specifically limited in this Agreement, each and every right, power and remedy of a Party, whether specifically stated in this Agreement, or otherwise existing, may be exercised concurrently or separately, from time to time, and so often and in such order as may be deemed expedient by the exercising Party, and the exercise or the beginning of the exercise of any such right, power or remedy shall not be deemed a waiver of the right to exercise, at the same time or thereafter, any other right, power or remedy. No delay or omission of a Party in the exercise of any right, power or remedy shall impair or operate as a waiver thereof or of any other right, power or remedy then or thereafter existing.

e. Costs, Expenses and Attorneys' Fees. In pursuing and collecting any damages pursuant to this Agreement, the non-defaulting Parties shall also be entitled to recover any reasonable costs, expenses or attorneys' fees arising from or relating to the pursuit of remedies set forth above.

10.4 No Waiver. Any waiver at any time by any Party of its rights with respect to an Event of Default under this Agreement, or with respect to any other matters arising in connection with this Agreement, shall not be deemed to be a waiver with respect to any subsequent Event of Default or other matter. Any waiver under this Agreement must be in writing.

10.5 Limitation of Liability. For a breach of any provision of this Agreement for which an express remedy or measure of damages is provided, such express remedy or measure of

damages shall be the sole and exclusive remedy. Unless expressly herein provided, no Party shall be liable for consequential, incidental, punitive exemplary or indirect damages, lost profits or other business interruption damages, by statute (to the extent permitted by law), in tort or contract or otherwise (except to the extent that an Indemnifying Party is obligated under Section 9.2 to indemnify against third party claims for consequential, incidental, punitive, exemplary or indirect damages or lost profits or business interruption damages). The limitations herein imposed on remedies and the measure of damages is without regard to the cause or causes related thereto, including the negligence of any Party, whether such negligence be sole, joint or concurrent, or active or passive. To the extent any damages required to be paid hereunder for a breach are liquidated, the Parties acknowledge that the liquidated damages are reasonable in light of the anticipated harm that would be caused by the breach, the difficulties of proof of loss, and the inconvenience or non-feasibility of otherwise obtaining an adequate remedy. EXCEPT AS SET FORTH IN THIS AGREEMENT, THERE ARE NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SUBJECT MATTER OF THIS AGREEMENT.

ARTICLE XI – INSURANCE

11.1 **Coverage and Amounts.** Seller, and all contractors and subcontractors performing any services in connection with the operation or maintenance of Seller's System, shall obtain and maintain in force commercial general liability and umbrella or excess liability insurance, public liability coverage and property insurance for injury to persons and property, automobile liability insurance and workman's compensation insurance, all in amounts and under terms which are generally carried by owners or lessees, operators or maintainers of projects similar to the Qualifying Facility, but in no case less than \$1,000,000.00 for public liability for bodily injury and \$500,000.00 for property damage. Seller's liability under this Agreement is not limited to the amount of insurance coverage required herein.

11.2 **Evidence of Insurance.** Upon request made on or after the Authorization Date, Seller shall provide Big Rivers and Member with insurance certificates reasonably acceptable to Big Rivers and Member evidencing that insurance coverages for the Qualifying Facility are in compliance with the specifications for insurance coverage set forth in this Article. Such insurance and certificates shall: (a) include Big Rivers and Member as additional insured beneficiaries under the commercial general liability and umbrella liability policies; (b) provide a waiver of any rights of subrogation against Big Rivers and Member, and their affiliates and subsidiaries; and (c) indicate that the commercial general liability and umbrella liability policies have been extended as described above. All policies shall be written with insurers with A.M. Best Company ratings of at least A-. All policies shall be written on an occurrence basis, except as provided in Section 11.4. The commercial general liability and umbrella liability policies shall: (i) provide that Seller's policy shall be primary in all instances regardless of like coverages, if any, carried by Big Rivers or Member; and (ii) provide for claims by one insured against another such that, except for the limits of insurance, the insurance shall apply separately to each insured against whom a claim is made or suit is brought.

11.3 **Modification of Insurance.** If any insurance required to be maintained by Seller

hereunder ceases to be available on commercially reasonable terms in the commercial insurance market, Seller shall provide written notice of such fact to Big Rivers and Member, accompanied by a certificate from an independent insurance advisor of recognized national standing, certifying that such insurance is not available on commercially reasonable terms in the commercial insurance market for electric generating plants of similar type, geographic location and design. Upon delivery of such notice, Seller shall be relieved of the affected obligation, and Seller shall use commercially reasonable efforts to obtain other insurance that would provide comparable protection against the risk to be insured.

11.4 Term Insurance. All insurance required under this Agreement shall cover occurrences during the Term of this Agreement. In the event that any insurance as required herein is commercially available only on a "claims-made" basis, such insurance shall provide for a retroactive date not later than the Authorization Date and such insurance shall be maintained by Seller, with a retroactive date not later than the retroactive date required above, for a minimum of three (3) years after the expiration of the Term of this Agreement.

ARTICLE XII - SALE, TRANSFER OR ASSIGNMENT

12.1 Assignment to Non-Affiliates. Except as provided in Sections 12.2 and 12.3 herein, and with the exception of Big Rivers' right, title and interest in Environmental Attributes, this Agreement may not be assigned, in whole or in part, by any Party without the prior written consent of the other Parties. Such consent may require that: (i) the assignee agrees in writing, in form and substance satisfactory to the non-assigning Parties, to assume and to perform each and every obligation of the assignor under this Agreement; (ii) the assignment does not impair any security given by the assigning Party hereunder unless the assignee posts replacement security which meets the requirements of this Agreement; and (iii) the assignee has obtained, prior to the assignment, such Authorizations as may be required by Applicable Law and Regulations. Any assignment in violation hereof shall be null and void and shall constitute an Event of Default by the assigning Party.

12.2 Assignment to Affiliates. Notwithstanding Section 12.1, any Party may assign this Agreement to an affiliate of such Party without the consent of the other Parties, provided, however, that the assigning Party shall remain liable for all of its obligations under this Agreement unless and until the consent of the non-assigning Parties is secured in accordance with Section 12.1. The assigning Party shall notify the other Parties of the occurrence of any event described in this paragraph.

12.3 Assignment by Big Rivers to Secured Parties. Notwithstanding any other provision of this Agreement to the contrary, Big Rivers may, without the written consent of the other Parties and without relieving itself from liability hereunder, assign, transfer, mortgage or pledge this Agreement to create a security interest for the benefit of the United States of America, acting through the Rural Utilities Service, 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 the other Parties hereto, 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 the Rural Utilities Service 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) Big Rivers is in default of its obligations that are secured by such security interest and that the applicable Secured Party has given the other Parties hereto written notice of such default; and (b) the applicable Secured Party has given the other Parties hereto not less than thirty (30) days' prior written notice of its intention to sell, assign, transfer or otherwise dispose of this Agreement (and all obligations hereunder) indicating the identity of the intended third-party assignee or purchaser. This Agreement shall be binding upon and inure to the benefit of the Parties hereto and their successors and permitted assigns. For the avoidance of doubt, the limitations on assignment set forth in Section 12.1 shall not apply to assignments to sales, assignments, transfers or other dispositions pursuant to this Section 12.3.

ARTICLE XIII - MISCELLANEOUS

13.1 Representations and Warranties.

a. Representations and Warranties of Big Rivers and Member. Big Rivers and Member, solely as applied to each of them in their individual capacity, make the following representations and warranties to Seller:

- i. It is a cooperative corporation duly organized and in good standing under the laws of the Commonwealth of Kentucky, and is duly qualified to conduct business in Kentucky.
- ii. It possesses all requisite legal power and authority to enter into and perform its obligations under this Agreement and to carry out the transaction(s) contemplated herein. It has all legal power and authority to transact the business in which it engages or proposes to engage, and holds or reasonably expects to obtain all Authorizations necessary and required therefore.
- iii. Its execution, delivery and performance of this Agreement have been duly authorized by, and are in accordance with, its articles of incorporation or other organization documents; this Agreement has been duly executed and delivered for it by the signatories so authorized; and this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms thereof.
- iv. Its execution and delivery of this Agreement will not result in a material breach or violation of, or constitute a material default under, any applicable law or Authorization, or any contract, lease or other agreement or instrument to which it is a party, or by which it or its properties may be bound or affected.
- v. Its performance of this Agreement: (A) will not result in a material breach or violation of, or constitute a material default under, any applicable law or Authorization, or any contract, lease or other agreement or instrument to which it is a party, or by which it or its properties may be bound or affected; and (B) does not require any Authorization, or the consent, authorization or notification of any other person, or any other actions by or with respect to

any other person, other than: (1) the approval of the Kentucky Public Service Commission; (2) the approval of the Rural Utilities Service; (3) notice to other creditors; (4) the approval of the Big Rivers Board of Directors; and (5) such Authorizations, consents, authorizations, notifications, and other actions as have already been obtained, made, or taken, as applicable..

- vi. No suit, action or arbitration, or legal, administrative or other proceeding is pending, or to its knowledge, has been threatened against it that would affect the validity or enforceability of this Agreement or its ability to perform its obligations hereunder in any material respect, or that would, if adversely determined, have a material adverse effect on its business or financial condition. There are no bankruptcy, insolvency, reorganization, receivership or other arrangements proceedings, pending against or being contemplated by it, or, to its knowledge, threatened against it.

b. Representations and Warranties of Seller. Seller makes the following representations and warranties to Big Rivers and Member:

- i. Seller is a corporation duly organized and in good standing under the laws of the Commonwealth of Kentucky, and is duly qualified to conduct business in Kentucky.
- ii. Seller possesses all requisite legal power and authority to enter into and perform its obligations under this Agreement and to carry out the transaction(s) contemplated herein. Seller has all legal power and authority to transact the business in which it engages or proposes to engage, and holds or reasonably expects to obtain all Authorizations necessary and required therefore.
- iii. Seller's execution, delivery and performance of this Agreement have been duly authorized by, and are in accordance with, its articles of incorporation or other organization documents; this Agreement has been duly executed and delivered for it by the signatories so authorized; and this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms thereof.
- iv. Seller's performance of this Agreement: (A) will not result in a material breach or violation of, or constitute a material default under, any applicable law or Authorization, or any contract, lease or other agreement or instrument to which it is a party, or by which it or its properties may be bound or affected; and (B) does not require any Authorization, or the consent, authorization or notification of any other person, or any other actions by or with respect to any other person, other than such Authorizations, consents, authorizations, notifications, and other actions as have already been obtained, made, or taken, as applicable.
- v. No suit, action or arbitration, or legal, administrative or other proceeding is pending, or to Seller's knowledge, has been threatened against Seller that would affect the validity or enforceability of this Agreement or the ability of

Seller to perform its obligations hereunder in any material respect, or that would, if adversely determined, have a material adverse effect on the business or financial condition of Seller. There are no bankruptcy, insolvency, reorganization, receivership or other arrangements proceedings, pending against or being contemplated by Seller, or, to Seller's knowledge, threatened against it.

13.2 Term. The "Term" of this Agreement shall begin as of the Authorization Date and shall extend through and include the date one (1) year from the Authorization Date, unless earlier terminated in accordance with Section 10.3, and shall automatically be extended for successive one (1) year evergreen renewal terms unless terminated in accordance with Section 10.3 or Section 13.3

13.3 Termination. Any Party may terminate this Agreement at the expiration of the initial term or any subsequent one year renewal term by giving the other Parties at least one year's written notice. Termination shall not affect any obligation accrued prior to such termination or any other obligation which, pursuant to the terms of this Agreement, survives termination.

13.4 Notices. Any notice required by this Agreement to be given in writing shall be deemed properly given if and when delivered in person, or sent by registered or certified mail, postage prepaid to the person specified below:

If to Big Rivers:

Vice President System Operations
Big Rivers Electric Corporation
201 Third Street
P.O. Box 24
Henderson, Kentucky 42419-0024

If to Member:

President & Chief Executive Officer
Jackson Purchase Energy Corporation
2900 Irvin Cobb Drive,
P.O. Box 4030
Paducah, KY 42002

If to Seller:

Energy Manager
Commonwealth of Kentucky Department of Military Affairs
Construction and Facilities Management Office
100 Minuteman Parkway, Building 162
Frankfort, KY 40601

Notice may also be delivered to such other person or address as a Party may have designated in a written notice given to the other Parties in accordance with this Section

13.5 Confidentiality.

- a. Duty of Confidentiality. Any Proprietary Information of a Party (the "Transferor") which is disclosed to or otherwise received or obtained by another Party (the "Transferee") incident to this Agreement is disclosed, and shall be held, in confidence, and the Transferee shall not (subject to paragraphs (b) and (c) below) publish or otherwise disclose any Proprietary Information of the Transferor to any person for any reason or purpose whatsoever, or use any Proprietary Information for any purpose other than performance under this Agreement, without the prior written approval of the Transferor, which approval may be granted or withheld by the Transferor in its sole discretion. Without limiting the generality of the foregoing, each Party shall observe at a minimum the same safeguards and precautions with regard to the Transferor's Proprietary Information which such Party observes with respect to its own information of the same or similar kind.
- b. Disclosures to Employees, Contractors and Affiliates. Each Party agrees that it will make available Proprietary Information received from another Party to its employees, contractors and affiliates only on a need-to-know basis, and that all persons to whom such Proprietary Information is made available will be made aware of the confidential nature of such Proprietary Information, and will be required to agree to hold such Proprietary Information in confidence under terms substantially identical to the terms hereof.
- c. Disclosures to Governmental Authorities. Notwithstanding the foregoing:
- i. A Transferee may provide any Proprietary Information to any Governmental Authority having jurisdiction over or asserting a right to obtain such information, provided that: (A) such Governmental Authority orders that such Proprietary Information be provided; and (B) unless prohibited from so doing by applicable law, the Transferee promptly advises the Transferor of any request for such information by such Governmental Authority and cooperates in giving the Transferor an opportunity to present objections, requests for limitation, and/or requests for confidentiality or other restrictions on disclosure or access, to such Governmental Authority.
 - ii. Each Party may, to the extent required, disclose Proprietary Information to any Governmental Authority in connection with the application for any required Authorization, provided that, unless prohibited from so doing by applicable law, the Transferee shall advise the Transferor of any Proprietary Information that Transferee will disclose to the Governmental Authority prior thereto and shall cooperate in giving the Transferor an opportunity to present objections, requests for limitation, and/or requests for confidentiality or other restrictions on disclosure or access, to such Governmental Authority.
 - iii. Any Party may disclose such Proprietary Information regarding the terms of this Agreement as such Party deems necessary to enable it to comply with the Securities Exchange Act of 1934, or the rules, regulations and forms of the Securities and Exchange Commission, issued thereunder or the

applicable rules of any stock exchange.

d. **Injunctive Relief.** In the event of a breach or threatened breach of the provisions of paragraph (a) of this Section 13.5 by any Transferee, the Transferor shall be entitled to an injunction restraining the Transferee from such breach. Nothing contained herein shall be construed as prohibiting the Transferor from pursuing any other remedies available at law or equity for such breach or threatened breach of this Agreement.

e. **Continuing Obligation.** The obligation to retain Proprietary Information in confidence shall continue in full force and effect during the Term of the Agreement and for a period of two (2) years thereafter, notwithstanding the expiration or termination of this Agreement, with respect to any information obtained by any Party prior to such expiration or termination.

f. **Definition of Proprietary Information:**

i. The term "Proprietary Information" means all information, written or oral, which has been or is disclosed by the Transferor, or by any person on behalf of the Transferor, or which otherwise becomes known to the Transferee, or to any person associated with such Transferee, or any other person in a confidential relationship with, the Transferee, and which the Transferor expressly designates in writing to be confidential.

ii. Notwithstanding anything to the contrary in the preceding paragraph, Proprietary Information shall exclude information falling into any of the following categories:

A. information that, at the time of disclosure hereunder, is in the public domain, other than information that entered the public domain by breach of this Agreement by Transferee;

B. information that, after disclosure hereunder, enters the public domain, other than information that enters the public domain by breach of this Agreement by Transferee;

C. information, other than that obtained from third parties, that prior to disclosure hereunder, was already in Transferee's possession, either without limitation on disclosure to others or subsequently becoming free of such limitation;

D. information obtained by Transferee from a third party having an independent right to disclose the information; or

E. information that is available through independent research without use of or access to the Proprietary Information.

13.6 **Effectiveness of Agreement.** The effectiveness of this Agreement and the Parties obligations hereunder are subject to the receipt of Authorizations from the Kentucky Public Service Commission and the Rural Utilities Service.

13.7 **No Partnership.** Notwithstanding any provision of this Agreement to the contrary, Seller, Big Rivers and Member do not intend to create hereby any lease, joint venture, partnership, association taxable as a corporation, or other entity for the conduct of any business for profit. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, another Party. The Parties agree to take, on a timely basis, all voluntary action as may be necessary to be excluded from treatment as a partnership under the Internal Revenue Code, and, if it should appear that one or more changes to this Agreement would be required in order to prevent the creation of such a business entity, the Parties agree to negotiate promptly in good faith with respect to such changes.

13.8 **No Duty To Third Parties.** This Agreement is for the sole benefit of the Parties hereto, and nothing in this Agreement nor any action taken hereunder shall be construed to create any duty, liability or standard of care to any person not a party to this Agreement. Except as specifically provided herein, no person shall have any rights or interest, direct or indirect, in this Agreement or the services to be provided hereunder, or both, except the Parties hereto. Except as provided in Article XI, the Parties specifically disclaim any intent to create any rights in any person as a third-party beneficiary to this Agreement or the services to be provided hereunder, or both.

13.9 **Dedication.** No undertaking by one Party to the other under this Agreement shall constitute the dedication of that Party's system or any portion thereof to another Party or to the public or affect the status of Seller as an independent entity and not a public utility or public service company.

13.10 **Entire Agreement.** This Agreement contains the entire agreement among the Parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings relating to such subject matter. Except for any modification which this Agreement expressly authorizes a party to make unilaterally, no modification or waiver of any term or provision of this Agreement shall be effective unless it is in writing and signed by all of the Parties.

13.11 **Interpretation.** The article and section headings in this Agreement have been inserted for convenience only and shall in no way affect the interpretation of any of the terms or provisions hereof.

13.12 **Applicable Law and Venue.** This Agreement shall be construed and interpreted in accordance with the laws of the Commonwealth of Kentucky. Any action, case, proceeding, matter or dispute shall be filed with the Kentucky Public Service Commission or in the Circuit Court of McCracken County, Kentucky.

13.13 **Severability.** Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid, but if any provision of this Agreement or the application thereof shall be prohibited or held invalid, such prohibition or invalidity shall not affect any other provision or the application of any other provision which can be given without the invalid provision or application, and to this end the provisions of this Agreement are declared to be severable.

13.14 **Counterparts.** This Agreement may be executed simultaneously in one (1) or more

counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized officers and have caused their seals to be affixed as of the date first written above.

BIG RIVERS ELECTRIC CORPORATION

By: *Robert W. Berry*

Name: Robert W. Berry

Title President and CEO

JACKSON PURCHASE ENERGY CORPORATION

By: *Dennis L. Cannon*

Name: Dennis L. Cannon

Title President and CEO

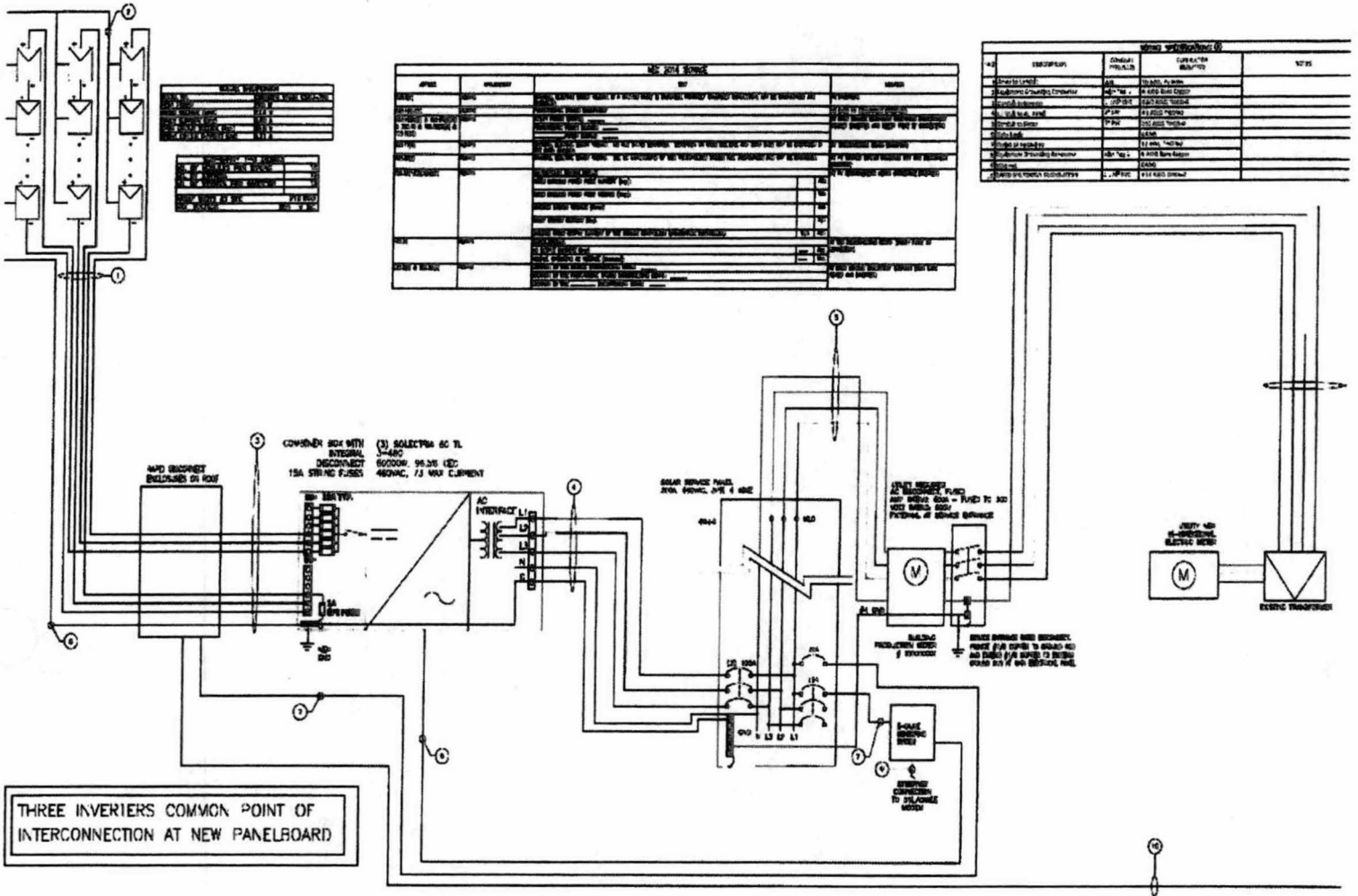
SELLER

By: *Will S. Phillips*

Name: Will S. Phillips

Title Energy Manager DHA, CFMD

Schedule A - Interconnection Facilities



APPENDIX	DESCRIPTION	NOTES
APPENDIX A	GENERAL NOTES	1. ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
APPENDIX B	PERMITS	1. ALL WORK SHALL BE PERMITTED BY THE APPROPRIATE AGENCIES.
APPENDIX C	SAFETY	1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SAFETY PROCEDURES OUTLINED IN THIS SCHEDULE.
APPENDIX D	QUALITY CONTROL	1. ALL WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE PROJECT MANAGER.
APPENDIX E	WARRANTY	1. ALL WORK SHALL BE WARRANTED FOR A PERIOD OF 12 MONTHS FROM THE DATE OF COMPLETION.
APPENDIX F	AS-BUILT	1. THE CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS TO THE PROJECT MANAGER FOR APPROVAL.
APPENDIX G	TRAINING	1. ALL PERSONNEL SHALL BE TRAINED AND CERTIFIED IN THE RELEVANT ELECTRICAL TRADES.
APPENDIX H	ENVIRONMENTAL	1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS.
APPENDIX I	COMMUNICATIONS	1. ALL WORK SHALL BE COORDINATED WITH ALL APPLICABLE COMMUNICATIONS AGENCIES.
APPENDIX J	HAZARDOUS MATERIALS	1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE HAZARDOUS MATERIALS REGULATIONS.
APPENDIX K	EMERGENCY PROCEDURES	1. ALL PERSONNEL SHALL BE TRAINED IN EMERGENCY PROCEDURES AND SHALL BE FAMILIAR WITH THE EMERGENCY PROCEDURES FOR THIS PROJECT.
APPENDIX L	REVISIONS	1. ALL REVISIONS SHALL BE DOCUMENTED AND APPROVED BY THE PROJECT MANAGER.

NO.	DESCRIPTION	QUANTITY	REMARKS	DATE
1	CONCRETE FOUNDATION	1	AS PER PLAN	10/25
2	STEEL STRUCTURE	1	AS PER PLAN	10/25
3	ROOFING	1	AS PER PLAN	10/25
4	MECHANICAL	1	AS PER PLAN	10/25
5	ELECTRICAL	1	AS PER PLAN	10/25
6	PLUMBING	1	AS PER PLAN	10/25
7	PAINT	1	AS PER PLAN	10/25
8	FINISH FLOORING	1	AS PER PLAN	10/25
9	MECHANICAL	1	AS PER PLAN	10/25
10	ELECTRICAL	1	AS PER PLAN	10/25
11	PLUMBING	1	AS PER PLAN	10/25
12	PAINT	1	AS PER PLAN	10/25
13	FINISH FLOORING	1	AS PER PLAN	10/25
14	MECHANICAL	1	AS PER PLAN	10/25
15	ELECTRICAL	1	AS PER PLAN	10/25
16	PLUMBING	1	AS PER PLAN	10/25
17	PAINT	1	AS PER PLAN	10/25
18	FINISH FLOORING	1	AS PER PLAN	10/25
19	MECHANICAL	1	AS PER PLAN	10/25
20	ELECTRICAL	1	AS PER PLAN	10/25

Schedule B – Interconnection Costs and Interconnection Service Charge

I. Big Rivers and Member Interconnection Costs

Pursuant to Section 6.3 of this Agreement, Seller shall pay to Big Rivers and Member their estimated Interconnection Costs no later than thirty (30) days after the Authorization Date, as follows:

Big Rivers' estimated Interconnection Costs: \$5,500; and

Member's estimated Interconnection costs: \$5,500.

II. Monthly Interconnection Service Charges

Pursuant to Section 6.5 of the Agreement, Seller shall pay to Big Rivers and Member monthly Interconnection Service Charges. The monthly Interconnection Service Charges are initially established as follows:

Big Rivers' monthly Interconnection Service Charge to Seller: \$100; and

Member's monthly Interconnection Service Charge to Seller: \$0.00.

Big Rivers and/or Member will review and update the applicable monthly Interconnection Service Charge on an annual basis to reflect changes in their actual and anticipated costs.

BIG RIVERS ELECTRIC CORPORATION

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

**Response to Commission Staff's
Second Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 22)** *Refer to BREC's response to the Attorney General's First*
2 *Request, Item 7.d. Explain how the stay of the Clean Power Plan is a*
3 *significant unknown with regard to the future plans of the Coleman*
4 *Station.*

5

6 **Response)** The details of the standards for the performance for existing coal-fired
7 power plants required by the Clean Power Plan would have determined the nature
8 and extents of repairs and/or modifications required to be made to the Coleman
9 Station in order to return the Coleman Units to service. The costs associated with
10 those repairs and/or modifications would then be used to determine the ultimate
11 disposition of the Coleman Station.

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 Commission Staff's
Second Request for Information
dated August 16, 2018**

September 14, 2018

1 *Item 23) Refer to BREC's response to the Attorney General's First*
2 *Request, Item 8. BREC states that it intends to keep Reid Unit 1 idled*
3 *through 2032, but also states that the remaining expected lifespan would be*
4 *calculated using an expected retirement date of 2025. Reconcile the*
5 *difference between these two dates.*

6

7 **Response)** The 2032 date comes from the 15-year planning period that is the basis
8 of Big Rivers' 2017 Integrated Resource Plan ("IRP"). The 2025 date comes from
9 the expected retirement date for Reid Unit 1 stated in Table 6.2 on page 93 of Big
10 Rivers' 2017 IRP; it was derived from Burns & McDonnell's Comprehensive
11 Depreciation Study, dated November 2012, provided as an attachment to Big
12 Rivers' response to Item 13 of Ben Taylor and the Sierra Club's initial request for
13 information in this case. The expected retirement will be re-evaluated in Big Rivers'
14 next depreciation study.

15

16

17 **Witness)** Michael T. Pullen

18

BIG RIVERS ELECTRIC CORPORATION

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

**Response to Commission Staff's
Second Request for Information
dated August 16, 2018**

September 14, 2018

1 **Item 24)** *Refer to BREC's response to Ben Taylor and the Sierra Club's*
2 *Initial Request for Information, Item 15. Expand upon why BREC believes*
3 *the modeling results would be similar if BREC modeled scenarios with*
4 *lower MISO market capacity prices.*

5

6 **Response)** If the portfolio is balanced, meaning the generation capacity is equal
7 to the load requirements, then the MISO market capacity prices, either lower or
8 higher, would have no impact on providing a least-cost solution in the PLEXOS
9 model because the generation capacity revenue would be equal the load
10 requirement capacity costs (net revenue = \$0). Big Rivers' portfolio is currently long
11 meaning it has more generation capacity than load requirements. Lower capacity
12 prices would result in lower net revenue and higher capacity prices will result in
13 higher net revenue.

14 Big Rivers' base case resulted in exiting the HMP&L Station Two contracts
15 as the least-cost solution, which reduces Big Rivers' length and reduces the impact
16 capacity prices have on providing the least-cost solution. Therefore, Big Rivers
17 believes the MISO market capacity price scenarios results will be similar to the
18 market price scenarios that were completed.

19

20

21 **Witness)** Duane E. Braunecker

22