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MAR 24 2016
PUBLIC SERVICE COMMISSION

March 24, 2016

VIA HAND DELIVERY

Chairman James W. Gardner
Acting Executive Director
Public Service Commission
211 Sower Boulevard, P.O. Box 615
Frankfort, Kentucky 40602-0615

> *In the Matter of: Joint Application of Kenergy Corp. and Big Rivers Electric Corporation for Approval of Contracts, PSC Case No. 2016-00117*

Dear Chairman Gardner:

Enclosed for filing are the following:

- On behalf of Big Rivers Electric Corporation (*"Big Rivers"*), Kenergy Corp. (*"Kenergy"*), an original and ten copies of an application ("*Application*") for approval of contracts related to retail electric service to Aleris Rolled Products, Inc. (*"Aleris"*);

- On behalf of Aleris, an original and ten copies of a motion seeking limited intervention to protect its interests in certain confidential information being filed by Big Rivers and Kenergy with the Application; and

- On behalf of Big Rivers and Aleris, an original and ten copies of a petition for confidential treatment of certain confidential information being filed by Big Rivers and Kenergy with the Application, and, in a separate envelope, one copy of the pages containing the confidential information with that confidential information highlighted in yellow transparent ink.

We represent Big Rivers in this matter. Counsel for Kenergy and Aleris are identified in the attached filings.

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The amended and restated retail electric service agreement between Kenergy and Aleris filed in this matter contains an economic development rate. Once the Commission staff, the Attorney General and any other intervenors have had an opportunity to review the application, Big Rivers and Kenergy would suggest that the Commission schedule an informal conference at which Big Rivers and Kenergy can review the mechanics of the economic development rate, and answer questions about it.

I certify that a copy of this letter and a public copy of each attachment has been hand-delivered on this date to the Kentucky Economic Development Cabinet, and the Kentucky Attorney General, and hand-delivered or sent by overnight courier to the persons identified on the attached service list. Please feel free to contact me if you have any questions.

Sincerely yours,

James M. Miller

James M. Miller
Counsel for Big Rivers Electric Corporation
jmiller@smsmlaw.com

JMM/lm
Enclosures

Copies:

Michael W. Chambliss
DeAnna Speed

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ORIGINAL

Big Rivers
ELECTRIC CORPORATION

Your Touchstone Energy® Cooperative

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

JOINT APPLICATION OF KENERGY CORP.	)	Case No.
AND BIG RIVERS ELECTRIC CORPORATION	)	2016-00117
FOR APPROVAL OF CONTRACTS	)	

JOINT APPLICATION

AND

EXHIBITS

FILED: March 24, 2016

ORIGINAL

RECEIVED

MAR 24 2016

PUBLIC SERVICE COMMISSION

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

JOINT APPLICATION OF KENERGY CORP. AND BIG RIVERS ELECTRIC CORPORATION FOR APPROVAL OF CONTRACTS	))))	Case No. 2016-00117

JOINT APPLICATION AND MOTION FOR EXPEDITED TREATMENT

Kenergy Corp. ("*Kenergy*") and Big Rivers Electric Corporation ("*Big Rivers,*" and together with Kenergy, the "*Joint Applicants*") jointly submit this application (this "*Application*") seeking expedited review and an order of the Kentucky Public Service Commission (the "*Commission*") granting approval of: (i) an amended and restated retail electric service agreement (the "*2016 Retail Agreement*") between Kenergy and Aleris Rolled Products, Inc., doing business in Kentucky as Aleris Rolled Products Manufacturing, Inc. ("*Aleris*"), and (ii) and a letter agreement amendment to the wholesale power agreements between Big Rivers and Kenergy establishing the related wholesale electric power service arrangements with Kenergy (the "*2016 Wholesale Amendment*"). The 2016 Wholesale Amendment includes an economic development rate ("*EDR*") that Big Rivers has offered to Kenergy for service to Aleris, and that Kenergy has agreed to provide to Aleris in the Aleris Retail Agreement.

I. FILING REQUIREMENTS

1. Kenergy is a member-owned, non-profit electric distribution cooperative headquartered in Henderson, Kentucky. Kenergy is incorporated in Kentucky as an electric cooperative corporation pursuant to KRS Chapter 279. Kenergy provides retail electric distribution service to its member customers in the Kentucky counties of Daviess, Hancock, Henderson, Hopkins, McLean, Muhlenberg, Ohio, Webster, Breckinridge, Union, Crittenden, Caldwell, Lyon, and Livingston. Kenergy's post office address is P.O. Box 18, Henderson, Kentucky, 42419-0018. Kenergy's street address is 6402 Old Corydon Road, Henderson, Kentucky, 42420. Its electronic mail address is KPSC@kenergycorp.com. Kenergy became the successor by consolidation to Green River Electric Corporation and Henderson Union Electric Cooperative Corp. on June 22, 1999. A copy of the articles of consolidation is filed in P.S.C. Case No. 99-136. Kenergy is in good standing in the Commonwealth of Kentucky.

2. Big Rivers is a member-owned, not-for-profit, generation and transmission cooperative headquartered in Henderson, Kentucky. It was incorporated in Kentucky as an electric cooperative corporation pursuant to KRS Chapter 279 on June 14, 1961, and is in good standing in the Commonwealth of Kentucky. Big Rivers provides wholesale electric power and services to three distribution cooperative members, one of which is Kenergy. Big Rivers' post office address is P.O. Box 24, Henderson, Kentucky, 42419-0024. Big Rivers' street address is 201 Third Street, Henderson, Kentucky, 42419-0024. Its electronic mail address is regulatory@bigrivers.com. A copy of the articles of incorporation and all amendments thereto are attached as Exhibit 14 to the *Application of*

Big Rivers Electric Corporation for Approval to Issue Evidences of Indebtedness, P.S.C. Case No. 2012-00492.

3. Copies of this Application have been served on the Kentucky Economic Development Cabinet, and on the Kentucky Attorney General, Office of Rate Intervention Division.

4. The filing requirements for this Application, and the location in the Application where those filing requirements have been satisfied by the Joint Applicants are shown in the table attached as Exhibit 1 to this Application.

5. There is no personal information in this filing that requires redaction pursuant to 807 KAR 5:001, Section 4(10).

II. FACTUAL BACKGROUND

6. Aleris is a wholly-owned subsidiary of Aleris International, Inc. ("*Aleris Parent*"). Aleris operates an aluminum rolling mill near Lewisport, Kentucky (the "*Aleris Facility*"), where it currently employs approximately 480 men and women. The Aleris Facility is located in the certified retail electric service territory of Kenergy.

7. Kenergy currently provides retail electric service to Aleris under an electric service agreement dated as of May 13, 2011 (the "*2011 Retail Agreement*"). The 2011 Retail Agreement has a one-year term that automatically renews on December 31 of each year unless Aleris has given contractual notice not to renew.

8. Kenergy acquires wholesale electric service from Big Rivers under an agreement dated as of June 11, 1962, as heretofore amended and supplemented, including by amendment dated as of May 20, 2011 (the "*2011 Wholesale Agreement*").

III. AUTHORITY FOR ACTION REQUESTED

9. The 2016 Retail Agreement and the 2016 Wholesale Amendment are filed pursuant to 807 K.A.R. 5:011§13, and related sections. The relief requested in this Application is authorized by those regulations and KRS 278.160 to -.190, and related sections.

IV. INFORMATION FILED IN SUPPORT OF APPLICATION

10. The Joint Applicants file the following information in support of this Application:

a. The testimony of David Hamilton, Vice President-Member Services of Kenergy, is filed as Exhibit 2 to this Application. Mr. Hamilton briefly describes the 2016 Retail Agreement, and the differences between it and the 2011 Retail Agreement.

b. The testimony of Michael W. Chambliss, the Vice President System Operations for Big Rivers, is filed as Exhibit 3 to this Application. Mr. Chambliss describes the aspects of the 2016 Wholesale Amendment and the 2016 Retail Agreement that relate to the EDR, and the compliance by Big Rivers with the requirements for an EDR that are established by the Commission in its September 24, 1990 order in Administrative Case No. 327 (the "*EDR Order*").[1] He also briefly describes the 2016 Wholesale Amendment.

c. The testimony of John Wolfram, Catalyst Consulting LLC, is filed as Exhibit 4 to this Application. Mr. Wolfram provides and explains a marginal

[1] *In the Matter of: An Investigation into the Implementation of Economic Development Rates by Electric and Gas Utilities*, Administrative Case No. 327, order dated September 24, 1990.

cost-of-service study he has performed for Big Rivers related to Big Rivers' compliance with the requirements of the EDR Order.

d. The 2016 Retail Agreement between Kenergy and Aleris is filed as Exhibit 5 to this Application.

e. The 2016 Wholesale Amendment between Kenergy Corp. and Big Rivers Electric Corporation is filed as Exhibit 6 to this Application.

V. MOTION FOR EXPEDITED TREATMENT

11. Kenergy and Big Rivers seek expedited review of this Application because Aleris anticipates that its load at its Lewisport facility will exceed the Maximum Contract Demand to which it is entitled in the 2011 Retail Agreement on or shortly after April of 2016. This subject is addressed in more detail in the testimony of Michael W. Chambliss, Exhibit 3 to the Application, at page 16. In order to meet Aleris' requirements for electric service, Big Rivers and Kenergy ask that the Commission review and approve the 2016 Retail Agreement and the 2016 Wholesale Amendment on an expedited basis such that an order will be issued no later than June 30, 2016.

VI. PETITION FOR CONFIDENTIAL TREATMENT

12. Some of the exhibits to this Application contain information that is confidential, proprietary information of Big Rivers or Aleris. That information is redacted in the public version of this Application, and is the subject of a Petition for Confidential Treatment filed by Big Rivers, Kenergy and Aleris with this Application.

VII. CONCLUSION

13. For the reasons stated in this Application, including the attached testimony and other exhibits, the Commission should review the Application on an expedited basis,

approve the 2016 Retail Agreement and the 2016 Wholesale Amendment, and grant the Joint Applicants any other relief to which they may appear entitled.

On this the 24th day of March, 2016.

Respectfully submitted,

J. Christopher Hopgood

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tkamuf@smsmlaw.com

Counsel for Big Rivers Electric Corporation

VERIFICATION

I, Jeffrey Hohn, President and Chief Executive Officer of Kenergy Corp., hereby state that I have read the foregoing Application and that the statements contained therein are true and correct to the best of my knowledge and belief, on this the 17th day of March, 2016.

Jeffrey Hohn
President and CEO
Kenergy Corp.

COMMONWEALTH OF KENTUCKY)

COUNTY OF HENDERSON)

The foregoing verification statement was SUBSCRIBED AND SWORN to before me by Jeffrey Hohn, President and Chief Executive Officer, Kenergy Corp., on this the 17th day of March, 2016.

Jennifer S. Bell

Notary Public, Ky.
My commission expires: 1-14-18

VERIFICATION

I, Michael Chambliss, V.P. System Operations for Big Rivers Electric Corporation, hereby state that I have read the foregoing Application and that the statements contained therein are true and correct to the best of my knowledge and belief, on this the 18th day of March, 2016.

Michael Chambliss

Michael Chambliss
V.P. System Operations
Big Rivers Electric Corporation

COMMONWEALTH OF KENTUCKY)

COUNTY OF HENDERSON)

The foregoing verification statement was SUBSCRIBED AND SWORN to before me by Michael Chambliss, V.P. System Operations for Big Rivers Electric Corporation, on this the 18th day of March, 2016.

Mary Arnett-Maske (Bowles)

Notary Public, Ky.
My commission expires: 8-8-2016

CERTIFICATE OF SERVICE

I certify that a true and accurate courtesy copy of the foregoing Application has been provided by Federal Express or by hand delivery upon the persons listed on the attached service list, on the date this Application is filed with the Kentucky Public Service Commission or the following day. The inclusion of any individual or entity in this courtesy service list does not constitute a concession that the individual or entity is, or should be, a party to this proceeding.

On this the 24th day of March, 2016

James M. Miller

Counsel for Big Rivers Electric Corporation

TABLE OF CONTENTS TO EXHIBITS

EXHIBIT 1

REFERENCES FOR COMPLIANCE WITH STATUTORY AND REGULATORY FILING REQUIREMENTS		
Law/Regulation	Filing Requirement	Location in Application
	IN GENERAL	
807 KAR 5:001 Section 14(1)	The full name, mailing address, and electronic mail address of the Applicant	¶¶1 and 2
807 KAR 5:001 Section 14(1)	A full statement of facts on which the application is based and a request for the order, authorization, permission or certificate desired	Pages 3-5; ¶13; Exhibits 2-6
807 KAR 5:001 Section 14(1)	A reference to the particular provision of law authorizing the relief requested	¶9
807 KAR 5:001 Section 7(1)	An original unbound and ten copies of the application with an additional copy for any party named therein as an interested party	Original and ten copies filed
807 KAR 5:001 Section 14(2)	State and date of incorporation; attest to good standing in state	¶¶1&2
807 KAR 5:001 Section 4(10)	Personal information redacted	¶5
807 KAR 5:001 Section 4(3)(a)	Signed by party or attorney with name, address, telephone number, facsimile number, and electronic mail address of submitting attorney or party	Page 6
KRS 278.300(2); 807 KAR 5:001 Section 4(3)(b)	Application made under oath, signed on behalf of the utility by its president, or other designated executive officer	Pages 7 and 8
	SPECIAL CONTRACTS	
807 KAR 5:011 Section 13	Each utility shall file a copy of each special contract that establishes rates, charges, or conditions of service not contained in its tariff.	Exhibits 5 & 6
	ECONOMIC DEVELOPMENT RATE	
Order dated September 24, 1990 order in Administrative Case No. 327	A jurisdictional utility filing an economic development rate contract must comply with findings 3-17 of the EDR Order, as if the same were individually so ordered	Exhibit 3, pages 4-14

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

JOINT APPLICATION OF KENERGY CORP. AND BIG RIVERS ELECTRIC CORPORATION FOR APPROVAL OF CONTRACTS	))))	**CASE NO. 2016-00117**

TESTIMONY OF DAVID HAMILTON

Q1. State your name, occupation and business address.

A. David Hamilton, Vice-President-Member Services, Kenergy Corp., Post Office Box 18, Henderson, KY 42419.

Q2. What is the purpose of your testimony in this matter.

A. To propose to the Public Service Commission ("PSC") that the tendered contract to provide retail electric service to Aleris Rolled Products, Inc. ("Aleris") in Hawesville, KY, is in the best interest of Kenergy members and the area that it serves.

Q3. How familiar are you with the tendered Aleris contract?

A. As member services vice-president my responsibility is to work with members regarding contracts and terms of power delivery. Also I am involved in economic development and working to expand existing load and attract new load.

Q4. What is different about this agreement than other electric service agreements?

A. Because this involves a significant addition of load and start-up of a new production line for Aleris, Kenergy has worked with its power supplier, Big Rivers Electric Corporation ("Big Rivers") to include an Economic Development Rate ("Big Rivers EDR") to give Aleris an incentive to locate the expanded load in Kenergy service territory. The likelihood of obtaining the Economic Development Rate was a prime reason why Aleris chose this plant for the new product line resulting in the additional load.

Q5. How is this agreement similar to the existing retail agreement with Aleris dated May 13, 2011?

A. Except for the addition of the Big Rivers EDR, the security and cost recovery mechanisms for transmission and substation improvements and the increase to the retail security deposit, the agreement is very similar to the existing retail agreement. The term of the proposed agreement extends to April 1, 2028.

Q6. Why did Kenergy support the decision to allow Aleris to have an Economic Development Rate?

A. First, Aleris is a member of Kenergy and Kenergy has an obligation to serve its members if it can be reasonably done. Secondly, the Economic Development Rate only applies to new load over and above Aleris' historical base load. The Economic Development Rate is limited in duration and will ultimately lead to additional load at the large industrial rates paid by Aleris. Adding load benefits the other Kenergy customers because Big Rivers has uncommitted generation. Finally, supporting general economic development in Western Kentucky is a prime goal of Kenergy, and the addition of 70 new jobs is important to Kenergy and Hancock County. Kenergy serves all of Hancock County.

Q7. Will the decision to allow Aleris to operate with an Economic Development Rate affect Kenergy negatively?

A. No. Kenergy will continue to earn its regular rate of return for the base load and the rate of return for increased energy for its power delivery to Aleris.

Q8. Will the decision to allow Aleris to operate with an Economic Development Rate have a negative impact on the rates of Kenergy members?

A. No. In the short term, the other members' rates will not be increased by this agreement and in the long term, additional load should ease rate pressure on the members.

Q9. Has Kenergy's board approved this transaction?

A. Yes.

Q10. Is RUS approval necessary?

No, Kenergy simply has to certify that capacity exists to service the load and it will not impair RUS obligations.

Q11. Why should the PSC approve this contract?

A. Industrial customers frequently seek out the best incentive possible for new plants or expansions and if Kenergy cannot offer an Economic Development Rate, other electric utilities will be leaving Kenergy and its territory at a competitive disadvantage. This agreement is good for Aleris, Kenergy's other members and the economy of western Kentucky.

VERIFICATION

I hereby verify that the foregoing responses are true and correct to the best of my knowledge and belief.

DAVID HAMILTON

STATE OF KENTUCKY

COUNTY OF DAVIESS

Subscribed and sworn to before me by **DAVID HAMILTON**, this 16 day of March, 2016.

My commission expires 3-20-2016

Notary Public, State of Kentucky at Large
#458992

(seal)

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

JOINT APPLICATION OF KENERGY CORP. AND BIG RIVERS ELECTRIC CORPORATION FOR APPROVAL OF CONTRACTS	)	Case No. 2016-00117

TESTIMONY OF MICHAEL W. CHAMBLISS

I. INTRODUCTION

Q. Please state your name, your position, and give a summary of your education and work experience.

A. My name is Michael W. Chambliss. My position with Big Rivers Electric Corporation ("Big Rivers") is Vice President of System Operations. I graduated from the University of Southern Indiana with a Bachelor of Science in Business Administration and from Oakland City University with a Master of Science in Management. In my 35-year career at Vectren Corporation, I served in various positions in the operations area, including roles in the transmission and energy delivery division of the organization, along with serving on multiple Midcontinent Independent System Operator ("MISO") transmission committees. I served as a District Manager, General Foreman of Substation Construction and Maintenance, Supervisor of Protective Relays and Gas Turbines, Electrical Maintenance Foreman and Director Network Operations. I was employed by Big Rivers in my current position as Vice President System Operations in January 2014.

Q. Have you previously testified before the Kentucky Public Service Commission ("Commission")?

A. No.

Q. Are you sponsoring any exhibits?

A. Yes. I have prepared the following exhibits to support my testimony:

Exhibit Chambliss_A – Economic Development Rate Guidelines

Exhibit Chambliss_B – Big Rivers' Estimated Available Capacity

Exhibit Chambliss_C – Revenue Comparison

Exhibit Chambliss_D – Calculation of Base Demand

Exhibit Chambliss_E – RUS Financial and Operating Report

Exhibit Chambliss_F – Notice to Economic Development Cabinet

II. BACKGROUND

Q. Please explain why you are filing testimony in this proceeding.

A. Big Rivers provides wholesale electric service to Kenergy Corp., referred to in my testimony as "Kenergy," including wholesale service in support of Kenergy's retail service under special arrangements to its large industrial customers that are served directly from Big Rivers' transmission system. One of those customers is Aleris Rolled Products Manufacturing, Inc., doing business in Kentucky as Aleris Rolled Products, Inc., which I refer to in my testimony as "Aleris."

Big Rivers has developed and currently offers an economic development rate to its member cooperatives for their qualifying retail members or prospective members. I will refer to the economic development rate as the "Big Rivers EDR."

Kenergy is proposing to amend and restate its retail service agreement with Aleris, an existing retail member-consumer of Kenergy, to provide for an increase in the Aleris load related to an expansion by Aleris of its facilities at its Lewisport plant. Among other things, the amended and restated retail service agreement, which I will refer to in my testimony as the "2016 Retail Agreement," will increase the Maximum Contract Demand available to Aleris, provide for the additional facilities required to serve that load, and apply the Big Rivers EDR to Aleris' expanded load. As I discuss "demand" throughout my testimony, it is important to mention that Big Rivers and Kenergy measure metered demand as the highest integrated kilowatt demand occurring during a thirty-minute period at the beginning and mid-point of a clock hour in the billing month, as measured by the coincidental sum of Customer's meters.

This is the first time a Big Rivers EDR has been offered in recent times, and this is the first opportunity for the Commission to review the Big Rivers EDR. This case is filed to obtain Commission review and authorization of the 2016 Retail Agreement between Kenergy and Aleris, and the related wholesale contract amendment letter agreement between Big Rivers and Kenergy, that I will refer to in my testimony as the "2016 Wholesale Amendment." The 2016 Wholesale Amendment is attached as Exhibit 6 to the Application. Because the Big Rivers EDR was developed and offered by Big Rivers, and Big Rivers has been closely involved in the negotiation of the 2016 Retail Agreement, I am testifying in support of the 2016 Retail Agreement, which includes the Big Rivers EDR, and the 2016 Wholesale Amendment.

III. ECONOMIC DEVELOPMENT RATE

Q. The Public Service Commission's September 24, 1990 order in Administrative Case No. 327, which we will refer to as the "EDR Order," contains 18 findings beginning on page 24 that revise and elaborate on the guidelines the Commission had previously issued regarding economic development rates. The Commission directed in the EDR Order that a jurisdictional utility filing an economic development rate contract must comply with findings 3-17 of the EDR Order, as if the same were individually so ordered. Has Big Rivers complied with those findings in this Application?

A. Yes. Findings 1, 2, 17 and 18 are policy or procedural statements by the Commission rather than requirements for an EDR, and findings 15 and 16 apply only to gas utilities. So I will focus on findings 3 through 14.

Q. Please review each of those findings, beginning with Finding 3, which provides that an economic development rate should be implemented by special contract negotiated between a utility and its large industrial customer. Has that been done?

A. Yes. Kenergy and Big Rivers, in their respective roles, are proposing to implement the Big Rivers EDR through the 2016 Retail Agreement between Kenergy and Aleris, a large industrial customer, and through the 2016 Wholesale Amendment between Big Rivers and Kenergy. My understanding is that the Commission, through its orders, has also sanctioned implementation of EDRs through tariff filings, but Big Rivers and Kenergy have elected to propose the Big Rivers EDR in a contract. The Big Rivers EDR is based upon the EDR guidelines Big Rivers has established, a copy of which is attached as Exhibit Chambliss_A to my testimony.

Q. Finding 4 in the EDR Order is that an EDR contract should specify all terms and conditions of service including, but not limited to, the applicable rate discount and other discount provisions, the number of jobs and capital investments to be created as a result of the EDR, customer-specific fixed costs associated with serving a customer, minimum bill, estimated load, estimated load factor, and length of contract. Do the contracts in this case satisfy the requirements of this finding?

A. Yes. I will address those requirements individually and in order. The 2016 Retail Agreement with Aleris specifies all terms and conditions of service. The Big Rivers EDR, including the discount, is described in detail in Exhibit C to the 2016 Retail Agreement. The discount is 90% of the Big Rivers standard LIC tariff Demand Charge for the eligible kilowatts purchased by Aleris during the four-year Credit Period, as that term is defined in Exhibit C to the 2016 Retail Agreement. Because the expanded load of Aleris will develop in four "phases," there are four Credit Periods. This is explained in more detail later in my testimony.

The number of jobs and amount of capital investment to be created by Aleris as a result of the expansion project tied to the Big Rivers EDR are described in Section 9.02(c) of the 2016 Retail Agreement. In that section, Aleris represents that the expansion of its Lewisport operations will involve an estimated capital investment of approximately $350,000,000, and increase in employment at its facility of approximately 70 persons.

Next, as stated in Section 2.07(b) of the 2016 Retail Agreement, the customer-specific fixed costs to Big Rivers associated with serving Aleris, defined as "Transmission Facilities Costs," are estimated to be $9,500,000, but in the end will be the actual cost of those facilities. These fixed costs are related to construction of new transmission facilities and a new substation that are further described in Exhibit A to the 2016 Retail Agreement, which is Exhibit 5 to the Application. The actual amount of the Transmission Facilities Costs becomes a "Termination Charge" in the 2016 Retail Agreement, as provided in Sections 2.07(b) and 2.11. The amount of the Termination Charge is reduced by $0.90 per kilowatt purchased and paid for by Aleris during the term of its 2016 Retail Agreement. If the 2016 Retail Agreement expires or is otherwise terminated, and the $0.90 per kilowatt credits have not eliminated the Termination Charge, Aleris is obligated to pay the remaining balance of the Termination Charge. Payment of the Termination Charge will be secured by an irrevocable bank letter of credit.

The transmission facilities costs incurred to date by Big Rivers for the Aleris project have been incurred and the construction performed pursuant to interim arrangements under which Aleris agrees to reimburse Big Rivers for those costs if the 2016 Retail Agreement does not become effective. Those interim obligations of Aleris are secured by an irrevocable bank letter of credit. These interim arrangements will be subsumed by the Transmission Facilities Costs arrangements I have just described once the 2016 Retail Agreement is effective.

The minimum bill Aleris is required to pay is described in Section 3.03, and is based upon "Minimum Contract Demand." The Minimum Contract Demand is never less than 60% of the Maximum Contract Demand, which is defined in Section 2.03 of the 2016 Retail Agreement. As explained in more detail further in my testimony, during the Full-Rate Term that follows each Credit Period, the Minimum Contract Demand for Aleris is adjusted as provided in Section 2.03(b)2 and Exhibit C of the 2016 Retail Agreement to assure that during the Full-Rate Term Aleris will always pay the full rate for at least the same number of kilowatts on which it has previously received a credit. This obligation of Aleris is supported by a guarantee from the Aleris parent, Aleris International, Inc. A copy of the form of parent guarantee is attached as Exhibit D to the 2016 Retail Agreement.

A reasonable way to describe the estimated increase in the load of Aleris is to look at the proposed increase in Aleris' Maximum Contract Demand, as stated in Section 2.03 of the 2016 Retail Agreement. The Maximum Contract Demand increases from 30,000 kilowatts currently to [redacted] kilowatts by approximately the end of [redacted], an increase of [redacted] kilowatts. Another way to look at Aleris' estimated increase in load is to compare Aleris' average monthly peak demand over the three calendar years ending December 31, 2014, which is 27,547 kilowatts, against the sum of that amount and the total increases in load on which Aleris will have the right to receive an EDR discount during the term of the 2016 Retail Agreement, which is [redacted] kilowatts, for a total of [redacted] kilowatts per month. Because public disclosure of more detailed information about when load increases occur is considered by Aleris to be highly confidential information that would allow knowledgeable parties to calculate very sensitive, proprietary business planning information of Aleris, Big Rivers and Kenergy have redacted and sought confidential treatment for that information as indicated by the redactions in the 2016 Retail Agreement, including Exhibit C to that agreement, and the 2016 Wholesale Amendment.

The estimated monthly load factor for the Aleris load after the conclusion of the EDR credit periods under the 2016 Retail Agreement is approximately 70%. Under the terms of the Big Rivers EDR, as provided in Exhibit C to the 2016 Retail Agreement, Aleris will not receive an EDR credit in any month in which its load factor is less than 50%.

The 2016 Retail Agreement provides for an initial term that expires on April 1, 2028. It has an "evergreen" provision, pursuant to which the agreement automatically renews annually after April 1, 2028, for successive 1-year terms unless Aleris gives Kenergy at least a 12-month notice of intent not to renew.

Q. The EDR Order provides in Finding 5 that an EDR should only be offered during periods of excess capacity. Will the load expected to be served by Kenergy, and supported by wholesale power from Big Rivers, cause Big Rivers to fall below a reserved margin that is considered to be essential for system reliability during any year of the contract period?

A. No. As a result of loss to the Big Rivers' system of two large aluminum smelter customers during the past three years, Big Rivers has more than adequate capacity on its system to serve the increased load of Aleris over the term of its contract and maintain system reliability. To demonstrate this conclusion I attach as Exhibit Chambliss_B to my testimony a table showing Big Rivers' currently-anticipated available capacity over the term of the Aleris 2016 Retail Agreement. For purposes of illustration, a 15.2% targeted planning reserve margin requirement (PRMR) was used. This target was taken directly from MISO's *Planning Year 2016-2017 Loss of Load Expectation Study Report.*

Q. The EDR Order requires in Finding 6 that Big Rivers and Kenergy demonstrate that the discounted rate offered to Aleris exceeds the marginal cost associated with serving Aleris. Is that the case?

A. Yes. Big Rivers engaged John Wolfram of Catalyst Consulting LLC to perform a marginal cost of service study for this filing. That marginal cost of service study is attached as Exhibit Wolfram_2 to his testimony, which is Exhibit 4 to the Application. Mr. Wolfram's conclusion is that the discounted rate to Aleris produces revenues that exceed the marginal cost associated with serving Aleris.

Furthermore, the reasonableness of the Big Rivers EDR can be justified by more than the marginal cost study performed by Mr. Wolfram. Big Rivers sells its available capacity and energy into MISO. Based upon Big Rivers' projection of MISO day-ahead prices in MISO over the period through the end of the Phase IV Credit Period, even with the Big Rivers EDR rate discount Big Rivers is projected to receive more revenue from the discounted sales of the EDR-related energy and capacity to Aleris than it expects will be available from selling that same volume of energy and capacity into MISO. These calculations are shown on Exhibit Chambliss_C to my testimony.

The effective discounted rate to Aleris in each year for the kilowatts on which a credit may be earned and the associated energy at the assumed Aleris load factor is shown on line 20. The effective rate for that same capacity and energy in the MISO market at projected day-ahead prices during the corresponding time period is shown on line 32. In every year it is more advantageous to Big Rivers and its members to sell that capacity and energy to Aleris rather than into the MISO day-ahead market. The estimated revenue benefit of selling that demand and energy to Aleris is shown on line 37.

Q. Will Big Rivers commit to file an annual report with the Commission detailing revenues received from Aleris and any other individual EDR customers and the marginal costs associated with serving those individual customers as required by Commission Finding 7?

A. Yes.

Q. As required by Commission Finding 8, during any rate proceedings by Big Rivers filed subsequent to the effective date of the proposed agreements related to Aleris, and during a period when Big Rivers still has an active EDR contract, will Big Rivers demonstrate through detailed cost-of- service analysis that its member distribution cooperative non-EDR rate payers are not adversely effected by the EDR rate to Aleris and any other EDR customers that may be on the Big Rivers system at that time?

A. Yes.

Q. Does the retail electric service agreement with Aleris provide for the recovery of EDR customer-specific fixed costs over the life of the contract as required by Commission Finding 9?

A. Yes. As described earlier in my testimony, the 2016 Retail Agreement with Aleris establishes a Termination Charge that assures the recovery of EDR customer-specific fixed costs over the life of the 2016 Retail Agreement. That obligation of Aleris is secured by a letter of credit, as is also required in the 2016 Retail Agreement.

Q. Does the retail electric service agreement impose any specific job creation and capital investment requirements on Aleris as discussed in Commission Finding 10?

A. No.

Q. Does Big Rivers commit, so long as it is providing wholesale service to one of its distribution cooperatives with an active EDR contract, that pursuant to Commission Finding 11 it will file an annual report with the Commission providing the information shown in Appendix A to the EDR Order?

A. Yes.

Q. Does the EDR proposed in the Aleris 2016 Retail Agreement apply only to load which exceeds a minimum base level as required by Commission Finding 12?

A. Yes. If you will refer to Exhibit C to the proposed 2016 Retail Agreement, the defined term "Base Demand" refers to the minimum base level of load that must be achieved before the EDR credit applies. The average of the monthly peak demand of Aleris over the 3-year period ending December 31, 2014, is 27,547 kilowatts. Base Demand was determined using that average and adding to it the 1,000 kilowatt threshold established in the Big Rivers' EDR guidelines for eligibility for the Big Rivers EDR. We believe that it is a reasonable methodology for determining Base Demand for purposes of the EDR credit calculation. A copy of a schedule showing the calculation of Base Demand is attached to my testimony as Exhibit Chambliss_D. Big Rivers selected an EDR threshold load or threshold incremental load increase of 1,000 kilowatts because it wants to target larger facilities that are more likely to bring economic development benefits to the area, and because it believes that the decision of a facility with a load of less than 1,000 kilowatts to locate on the Big Rivers system is less likely to be influenced by electric rates.

Q. Is the EDR contract designed to retain the load of Aleris, an existing customer, so that the requirements of Commission Finding 13 apply to this Application?

A. No. The Big Rivers EDR in the proposed 2016 Retail Agreement with Aleris is designed to encourage the expansion by Aleris of its existing operations and electrical load, not to retain the existing load of Aleris. Aleris represents in Section 9.02(c) of the proposed 2016 Retail Agreement that the economic development incentives offered to Aleris and incorporated into the 2016 Retail Agreement were a necessary factor in the decision of Aleris to expand its operations in Kentucky. Aleris estimates that the expansion of its operations will involve a capital investment of approximately $350,000,000, and an increase in employment at its facility of approximately 70 persons. The Big Rivers EDR benefits Aleris by encouraging the expansion of its Lewisport facility, but its purpose here is not to retain the existing load.

Q. The EDR Order states in Finding 14 that the term of an EDR contract should be for a period twice the length of the discount period, with the discount period not exceeding 5 years. It also states that during the second half of an EDR contract, the rates charged to the customer should be identical to those contained in a standard rate schedule that is applicable to the customer's rate class and usage characteristics. Does the 2016 Retail Agreement comply with these requirements?

A. Yes. If you refer to Exhibit C to the 2016 Retail Agreement, you see that Aleris is increasing its load in four phases. As a result, Aleris requested that the EDR apply separately to those four phases.

As I have previously stated in my testimony, and as is explained in Exhibit C to the 2016 Retail Agreement, each of those phases is treated as a separate EDR contract. So for each phase, there is a four-year Credit Period, followed immediately by a four-year Full-Rate Term. The Big Rivers wholesale rate applicable during the Full-Rate Term through Kenergy's Rate Schedule 34 is identical to the rate that applies to other large industrial customers in Aleris' rate class.

To assure that Aleris pays the full rate on a number of kilowatts equal to the number of kilowatts on which it received a discount, the 2016 Retail Agreement provides that the Minimum Contract Demand for billing purposes in a month during the Full-Rate Term of any phase will never be less than the Base Demand plus a number of kilowatts determined by dividing the sum of all kilowatts on which Aleris received a discount during the Credit Period of that phase by 48. Where the Full-Rate Terms of different phases overlap, the effect on the Minimum Contract Demand is cumulative.

Q. Why is Big Rivers offering an economic development rate?

A. Big Rivers is offering the Big Rivers EDR to increase economic activity in the service area of its member cooperatives, which the Commission notes on page 10 of the EDR Order is the "major objective of EDRs." As I discuss earlier in my testimony, Big Rivers has uncommitted generating capacity that it needs to address. Increasing sales to existing load is one option Big Rivers has been pursuing to market some of that capacity, and is one focus of Recommendation 4 in the Action Plan issued with the

October 6, 2015 report on the Focused Management Audit of Big Rivers Electric Corporation ("Focused Audit Report"). The Focused Audit Report states on page 30 that: "Promoting existing load expansion through the EDIR [economic development incentive rate] has created the opportunity for an expansion of the Aleris facility in Hawesville, Kentucky." Big Rivers is encouraged that the Big Rivers EDR has contributed to Aleris' decision to expand its production facility in Kenergy's service area, and hopes that it will produce further beneficial economic activity on the Big Rivers system. This benefits Big Rivers and its Members.

Q. Are there any issues with Big Rivers' finances that would cause questions about whether Big Rivers can afford to give the discount provided by the EDR?

A. No. Big Rivers' finances do not fall within my area of responsibility, but I am comfortable saying that Big Rivers' financial condition is good, as shown by a copy of the latest RUS Financial and Operating Report Electric Power Supply (formerly referred to as the "RUS Form 12") financial report filed by Big Rivers with RUS, which is attached to my testimony as Exhibit Chambliss _E. As I testified earlier, even after the EDR discount is applied to the Aleris rate during the Discount Periods, Big Rivers still receives a contribution to fixed costs from the rate to Aleris. And as I will show later in my testimony, Big Rivers estimates that selling capacity and energy to Aleris with the EDR discount is more advantageous to Big Rivers than selling the same capacity and energy into the MISO day-ahead market.

IV. 2016 WHOLESALE AMENDMENT

Q. Please describe the 2016 Wholesale Amendment and the relief Big Rivers is requesting with respect to it.

A. The 2016 Wholesale Amendment, attached as Exhibit 6 to the Application, is a letter agreement that supplements Big Rivers' wholesale power contract with Kenergy to accommodate the issues peculiar to service to Aleris, such as the minimum demand obligations and the EDR. For several years Big Rivers has utilized a letter agreement of similar form to supplement the wholesale power contract with Kenergy for Kenergy's retail service to a large industrial customer that is served directly from Big Rivers' transmission system. Big Rivers continues to believe that this practice is reasonable and seeks Commission approval of the 2016 Wholesale Amendment.

V. OTHER CONSIDERATIONS

Q. Are Big Rivers and Kenergy required to obtain any creditor approvals for the 2016 Retail Agreement and the 2016 Wholesale Amendment to become effective?

A. Yes. Big Rivers must submit the 2016 Wholesale Amendment to the Rural Utilities Service for review in accordance with the requirements of Big Rivers' loan contact with the Rural Utilities Service. That submittal will be made after the Aleris board approves the 2016 Retail Agreement in May of 2016. The obligations of Kenergy under the 2016 Retail Agreement are not effective against it unless and until all required approvals are received.

Q. Did Big Rivers give notice of the filing of the application in this matter to the Kentucky Cabinet for Economic Development?

A. Yes. That notice was given on the same day the Application in this matter was filed with the Commission. A copy of that notice is attached as Exhibit Chambliss_F to my testimony.

Q. Please explain why Big Rivers and Kenergy seek expedited review of this Application.

A. Aleris anticipates that its load at the Lewisport facility will exceed the current contractual Maximum Contract Demand of 30,000 kilowatts during or shortly after the month of April, 2016. Unless the 2016 Retail Agreement and 2016 Wholesale Agreement are in effect by that time, Aleris will have no right to increase its demand above that Maximum Contract Demand. In order to meet Aleris' requirements, Big Rivers and Kenergy ask that the Commission review and approve these agreements on an expedited basis such that an order will be issued no later than June 30, 2016.

V. CONCLUSION

Q. What action by the Commission does Big Rivers seek in this proceeding?

A. Big Rivers requests that the Commission approve the 2016 Retail Agreement and the 2016 Wholesale Amendment along with a finding that the EDR proposed in those agreements is reasonable. Big Rivers believes that the agreements are reasonable, and that the proposed EDR provides an appropriate incentive for existing customer expansion that is in the best interests of all Big Rivers' members.

Q. Does this conclude your testimony?

A. Yes.

Verification

I, Michael W. Chambliss, Vice President System Operations for Big Rivers Electric Corporation, hereby state and affirm that the foregoing testimony and attached exhibits were prepared by me or under my supervision, and all statements contained therein are true and correct to the best of my knowledge and belief, on this the 17th day of March, 2016.

Michael W. Chambliss

Michael W. Chambliss

COMMONWEALTH OF KENTUCKY)

COUNTY OF HENDERSON)

The foregoing verification statement was SUBSCRIBED AND SWORN to before me by Michael W. Chambliss, Vice President System Operations for Big Rivers Electric Corporation, on this the 17th day of March, 2016.

Mary Arnott-Thrasher (Bowles)

Notary Public, Ky., State at Large

My commission expires: 8-8-2016

November 30, 2015

EDR Terms and Conditions Guidelines

Big Rivers and its Member Cooperatives will offer special economic development rate credits to qualifying new and expanding commercial and industrial customers in Big Rivers' Member Cooperatives' service territories. The economic development incentive will be offered through a special contract with a maximum credit period of four years. The following additional eligibility guidelines apply:

- Applies to all qualifying new or expansion load above 1,000 kW billing demand.
- The retail customer's total bill for service in a month will be credited by an amount equal to 90% of the Big Rivers standard LIC tariff Demand Rate applied to the billing demand in that month, before application of other adjustments.
- The energy rate during the term of the EDR contract that is charged by Big Rivers to its Member Cooperative related to an EDR contract, and by the Member Cooperative to the EDR contract retail customer, will be the energy rates in their respective applicable tariffs.
- Available to businesses engaged in manufacturing or similar (Division D of the Standard Industrial Classification Code).
- The term for the credit period will not exceed four (4) years.
- The minimum EDR contract term is twice the term of the credit period. Commencing with the expiration of the credit period, the retail customer will be required to pay applicable tariff demand rates, but in any event no less than the Big Rivers standard LIC tariff Demand Rate, for a period equal to the length of the credit period, with a minimum billing demand that is the greater of 60% of the contract maximum demand or the monthly average number of kilowatts on which the retail customer received a credit during the credit period.
- For expansion load, the credit will only be applicable to the incremental load of the retail customer above the "Base Demand." The Base Demand will be the average monthly demand of the retail customer during the 24 consecutive months as close as practical to the execution date of the EDR contract, plus 1,000 kW.
- A 50% minimum load factor must be achieved each month in the credit period or the applicable demand rate will apply with no credit in that month.
- If Big Rivers and the Member Cooperative agree that a retail customer may add new or expanded load in phases, each phase will be treated separately, except that any credit period provided for in an EDR contract must commence no later than three (3) years after the effective date of the EDR contract. Big Rivers' standard tariff rates apply to wholesale service provided prior to the commencement of a credit period. If a retail customer elects to postpone commencement of a credit period in order to optimize the credit; the retail customer will still be subject to all obligations/requirements.
- Additional consideration may be given for the retail customer loads that are fully or partially interruptible.
- Customer-specific fixed cost recovery will be determined on a case-by-case basis. Preference will be given to utilizing the current methodology of providing a credit of $0.90/kW-month credit against a termination fee equal to the amount of the customer-

specific fixed costs. This must be accompanied by appropriate security for the termination fee obligation. New or expanded load will be eligible for the MRSM benefit along with the EDR credit.

- The economic development incentive rate is not automatically available to any new or expanded commercial or industrial load otherwise qualifying for the incentive. The retail customer must demonstrate that the economic development rate incentive was an important factor in the retail customer's decision to locate in Kentucky or to expand its operations in Kentucky.
- The contract should contain a good faith representation by the retail customer specifying the estimated number of jobs and amount of capital investment to be created by the new or expanded operation, although achievement of those estimates is not a condition to continuing to receive the economic development incentive.
- The continued availability of the economic development incentive will depend upon the availability of economic excess capacity on the Big Rivers system.
- The retail customer must commit to provide Big Rivers on a timely basis the information that enables it to comply with the EDR contract filing and reporting requirements of the Kentucky Public Service Commission ("Commission").

The following information will be provided or evaluated to allow for reporting to the Commission on the economic development incentive on an annual basis.

- MW Size – Annual peak demand along with timing of the peak,
- Load factor – Annual load factor,
- Capital cost – Total Big Rivers capital (including transmission costs) cost/MW of peak demand,
- Economic Impact – Evaluation of potential economic impact to the western Kentucky region as a result of this load,
- Credit risk/rating – The credit risk based on the prospects credit rating and outlook,
- Rate shift – The impact on overall Member Cooperative rates, measured as the average $/MWh shift in rates for the first five years of operation.
- SIC Code and NAICS code of proposed facility.

Big Rivers will provide evidence to the Commission demonstrating it has adequate capacity to meet anticipated load growth and all marginal costs will be covered by the transaction (current marginal cost of service study required).

Big Rivers and its MemberCooperatives will use special contracts for all eligible retail customers seeking the economic development credit. It is recognized that many of the framework criteria are based on the information provided at the time of the retail customer contact, not actual results. Big Rivers will seek to verify such information to the extent practical.

<u>All special contracts require Board, RUS, and PSC approval.</u>

Big Rivers Electric Planning Reserve Margins/Load Comparison 2016 - 2028
Planning Year 2016 Planning Reserve Margin Requirment (PRMR) target is 15.2% based on installed capacity (ICAP)
Source of ICAP PRMR: MISO *Planning Year 2016-2017 Loss of Load Expectation Study Report*

Planning Year	Forecasted Summer peak in megawatts (Native + HMPL + Nebraska)	Summer Peak plus Planning Reserve Margin of 15.2%	Capacity in megawatts without Coleman or Reid 1	Excess over PRMR without Coleman or Reid 1
2016	777	895	1399	504
2017	786	906	1399	493
2018	803	925	1399	474
2019*	827	953	1425	472
2020	836	963	1425	462
2021	845	973	1425	452
2022	871	1003	1425	422
2023	876	1009	1425	416
2024	882	1016	1425	409
2025	888	1023	1425	402
2026	894	1030	1425	395
2027	900	1037	1425	388
2028	907	1045	1425	380

*SEPA Returns to full capability in the fall of 2018

Resource Name	Effective ICAP today	Effective ICAP without Coleman or Reid 1 through 2018	Effective ICAP with return of full SEPA capability in fall 2018	
COLEMAN 1	150	0	0	
COLEMAN 2	138	0	0	
COLEMAN 3	155	0	0	
GREEN 1	231	231	231	
GREEN 2	223	223	223	
HMP 1	153	153	153	
HMP 2	155	155	155	
REID 1	50	0	0	
REID CT	56	56	56	
WILSON 1	417	417	417	
SEPA	164	164	190	
Total	1892			Total Effective ICAP Today
Total		1399		Effective ICAP without Coleman or Reid 1 thru 2018
Total			1425	*Effective ICAP without Coleman or Reid 1 after return of full SEPA capability in Fall, 2018

Exhibit Chambliss_B

Big Rivers Corporation
Aleris Expansion Financial Comparison to Market Sales

Row									
1	Phase I Annual Demand (KW)		[redacted]						
2	Phase II Annual Demand (KW)								
3	Phase III Annual Demand (KW)								
4	Phase IV Annual Demand (KW)								
5	Total Incremental Annual Demand (KW) During Credit Periods								
6	Energy @ 60% Load Factor (MWh)								
7	Demand Rate ($/KW)		$ 10.715	$ 10.715	$ 10.715	$ 10.715	$ 10.715	$ 10.715	$ 10.715
8	Energy Rate ($/MWh)		$ 38.050	$ 38.050	$ 38.050	$ 38.050	$ 38.050	$ 38.050	$ 38.050
9	Net Rate ($/MWh)		[redacted]						
10									
11	Riders ($/MWh):								
12	Fuel-Adjustment Clause		[redacted]						
13	Environmental Surcharge								
14	Non-FAC PPA								
15	Transmission Revenue/Nebraska Margin Credits								
16	Effective Rate without EDR Discount ($/MWh)								
17									
18	Economic Development Rate (EDR) Discount ($/MWh)		[redacted]						
19									
20	Effective Rate with EDR Discount ($/MWh)		[redacted]						
21									
22	**Revenue Under Aleris Expansion - During Credit Periods**	A	[redacted]						
23									
24									
25									
26	Energy Market Price ($/MWh)		[redacted]						
27	Energy Market Revenue								
28									
29	Capacity ($/MW-Day)		[redacted]						
30	Capacity Revenue								
31									
32	Effective Rate ($/MWh)		[redacted]						
33									
34	**Total Revenue - Market Sales**	B	[redacted]						
35									
36									
37	**Benefits of Aleris Expansion Contract vs. Market Sales (A - B)**	C	[redacted]						
38									
39									
40	<u>Assumptions:</u>								
41	Phase I Commencement is [redacted]								
42	Phase II Commencement is [redacted]								
43	Phase III Commencement is [redacted]								
44	Phase IV Commencement is [redacted]								
45	Demand and Energy Rates stay constant throughout [redacted]								
46	Phase I - IV Demand per Exhibit C								
47	Market and Capacity Pricing based on most recent Budget and Long-Term Forecast								
48	Market and Capacity Revenue based on Demand and Energy from Aleris Expansion								
49	Riders based on Budget and Long-Term Forecast								

Aleris Actual Load

	2012		2013		2014	
Month	Peak - KW	Load Factor	Peak - KW	Load Factor	Peak - KW	Load Factor
January	28,199	74.36	28,180	70.90	27,617	71.47
February	28,180	76.30	27,594	76.27	28,311	74.40
March	26,800	73.43	28,690	75.53	27,603	79.53
April	27,726	76.68	27,537	69.28	27,328	78.47
May	26,951	78.14	27,367	77.54	27,773	67.98
June	28,388	75.75	27,084	78.96	27,144	72.73
July	26,630	80.26	28,010	73.34	26,582	76.60
August	26,819	77.34	27,134	76.95	28,049	74.89
September	27,405	77.14	26,486	78.49	27,332	77.85
October	26,422	77.21	27,024	70.73	28,932	59.85
November	26,649	71.29	27,595	63.32	28,556	70.78
December	27,802	69.41	28,059	60.82	27,743	67.19
Average Monthly Peak	27,331		27,563		27,747	
Annual Peak	28,388		28,690		28,932	
3 year Average	27,547					
	327,971		330,760		332,970	
	27,547					

Exhibit Chambliss_D

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0572-0032. The time required to complete this information collection is estimated to average 21 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE **FINANCIAL AND OPERATING REPORT ELECTRIC POWER SUPPLY**	BORROWER DESIGNATION KY0062 PERIOD ENDED January -2016
INSTRUCTIONS - See help in the online application *This information is analyzed and used to determine the submitter's financial situation and feasibility for loans and guarantees. You are required by contract and applicable regulations to provide the information. The information provided is subject to the Freedom of Information Act (5 U.S.C. 552).*	BORROWER NAME **Big Rivers Electric Corporation**

CERTIFICATION

We recognize that statements contained herein concern a matter within the jurisdiction of an agency of the United States and the making of a false, fictitious or fraudulent statement may render the maker subject to prosecution under Title 18, United States Code Section 1001.

We hereby certify that the entries in this report are in accordance with the accounts and other records of the system and reflect the status of the system to the best of our knowledge and belief.

ALL INSURANCE REQUIRED BY PART 1788 OF 7 CFR CHAPTER XVII, RUS, WAS IN FORCE DURING THE REPORTING PERIOD AND RENEWALS HAVE BEEN OBTAINED FOR ALL POLICIES DURING THE PERIOD COVERED BY THIS REPORT PURSUANT TO PART 1718 OF 7 CFR CHAPTER XVII

(check one of the following)

X All of the obligations under the RUS loan documents have been fulfilled in all material respects.

__ There has been a default in the fulfillment of the obligations under the RUS loan documents. Said default(s) is/are specifically described in Part A Section C of this report.

Robert W Berry — 2-19-16

SIGNATURE OF PRESIDENT AND CEO — DATE

RUS Financial and Operating Report Electric Power Supply **Revision Date 2010**

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE **FINANCIAL AND OPERATING REPORT** **ELECTRIC POWER SUPPLY** **PART A - FINANCIAL**	BORROWER DESIGNATION KY0062 PERIOD ENDED Jan-16
INSTRUCTIONS - See help in the online application.	

SECTION A. STATEMENT OF OPERATIONS

ITEM	YEAR-TO-DATE			THIS MONTH (d)
	LAST YEAR (a)	THIS YEAR (b)	BUDGET (c)	
1. Electric Energy Revenues	43,847,943.29	40,989,879.03	41,959,682.00	40,989,879.03
2. Income From Leased Property (Net)	0.00	0.00	0.00	0.00
3. Other Operating Revenue and Income	1,007,748.00	1,047,505.95	633,776.00	1,047,505.95
4. **Total Operation Revenues & Patronage Capital***(1 thru 3)*	**44,855,691.29**	**42,037,384.98**	**42,593,458.00**	**42,037,384.98**
5. Operating Expense - Production - Excluding Fuel	3,731,893.29	3,384,232.36	4,316,573.00	3,384,232.36
6. Operating Expense - Production - Fuel	14,800,604.14	11,487,414.13	14,480,893.00	11,487,414.13
7. Operating Expense - Other Power Supply	11,271,747.94	12,218,193.80	8,919,435.00	12,218,193.80
8. Operating Expense - Transmission	687,082.51	722,469.97	768,746.00	722,469.97
9. Operating Expense - RTO/ISO	90,934.44	108,840.12	89,333.00	108,840.12
10. Operating Expense - Distribution	0.00	0.00	0.00	0.00
11. Operating Expense - Customer Accounts	0.00	0.00	0.00	0.00
12. Operating Expense - Customer Service & Information	11,580.09	21,142.64	51,022.00	21,142.64
13. Operating Expense - Sales	0.00	0.00	11,113.00	0.00
14. Operating Expense - Administrative & General	2,005,213.76	1,875,422.12	2,155,759.00	1,875,422.12
15. **Total Operation Expense** *(5 thru 14)*	**32,599,056.17**	**29,817,715.14**	**30,792,874.00**	**29,817,715.14**
16. Maintenance Expense - Production	2,392,816.99	2,640,041.84	2,085,397.00	2,640,041.84
17. Maintenance Expense - Transmission	382,332.35	326,785.65	451,425.00	326,785.65
18. Maintenance Expense - RTO/ISO	0.00	0.00	0.00	0.00
19. Maintenance Expense - Distribution	0.00	0.00	0.00	0.00
20. Maintenance Expense - General Plant	25,350.93	14,355.52	21,815.00	14,355.52
21. **Total Maintenance Expense** *(16 thru 20)*	**2,800,500.27**	**2,981,183.01**	**2,558,637.00**	**2,981,183.01**
22. Depreciation and Amortization Expense	1,504,557.91	1,511,456.77	1,602,697.00	1,511,456.77
23. Taxes	0.00	0.00	0.00	0.00
24. Interest on Long-Term Debt	3,509,533.34	3,484,845.57	3,550,733.00	3,484,845.57
25. Interest Charged to Construction - Credit	<72,233.00>	<122,924.00>	<92,215.00>	<122,924.00>
26. Other Interest Expense	0.00	58,770.83	0.00	58,770.83
27. Asset Retirement Obligations	0.00	24,986.13	0.00	24,986.13
28. Other Deductions	80,510.40	84,955.84	61,771.00	84,955.84
29. **Total Cost Of Electric Service** *(15 + 21 thru 28)*	**40,421,925.09**	**37,840,989.29**	**38,474,497.00**	**37,840,989.29**
30. **Operating Margins** *(4 less 29)*	**4,433,766.20**	**4,196,395.69**	**4,118,961.00**	**4,196,395.69**
31. Interest Income	149,924.76	149,937.38	143,094.00	149,937.38
32. Allowance For Funds Used During Construction	0.00	0.00	0.00	0.00
33. Income (Loss) from Equity Investments	0.00	0.00	0.00	0.00
34. Other Non-operating Income (Net)	0.00	0.00	0.00	0.00
35. Generation & Transmission Capital Credits	0.00	0.00	0.00	0.00
36. Other Capital Credits and Patronage Dividends	0.00	0.00	0.00	0.00
37. Extraordinary Items	0.00	0.00	0.00	0.00
38. **Net Patronage Capital Or Margins** *(30 thru 37)*	**4,583,690.96**	**4,346,333.07**	**4,262,055.00**	**4,346,333.07**

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE	BORROWER DESIGNATION KY0062
FINANCIAL AND OPERATING REPORT **ELECTRIC POWER SUPPLY** **PART A - FINANCIAL**	PERIOD ENDED Jan-16
INSTRUCTIONS - See help in the online application.	

SECTION B. BALANCE SHEET

ASSETS AND OTHER DEBITS		LIABILITIES AND OTHER CREDITS	
1. Total Utility Plant in Service	2,064,651,226.24	33. Memberships	75.00
2. Construction Work in Progress	71,888,800.14	34. Patronage Capital	
3. **Total Utility Plant *(1 + 2)***	**2,136,540,026.38**	a. Assigned and Assignable	
4. Accum. Provision for Depreciation and Amort.	1,057,956,135.15	b. Retired This year c. Retired Prior years	
5. **Net Utility Plant *(3 - 4)***	**1,078,583,891.23**	**d. Net Patronage Capital (a-b-c)**	0.00
6. Non-Utility Property (Net)	0.00	35. Operating Margins - Prior Years	<184,446,292.92>
7. Investments in Subsidiary Companies	0.00	36. Operating Margin - Current Year	4,196,395.69
8. Invest. in Assoc. Org. - Patronage Capital	6,727,514.80	37. Non-Operating Margins	645,495,554.23
9. Invest, in Assoc. Org. - Other - General Funds	39,187,794.66	38. Other Margins and Equities	3,761,768.20
10. Invest. in Assoc. Org. - Other - Nongeneral Funds	0.00	39. **Total Margins & Equities *(33 + 34d thru 38)***	**469,007,500.20**
11. Investments in Economic Development Projects	10,000.00	40. Long-Term Debt - RUS (Net)	235,085,756.06
		41. Long-Term Debt - FFB - RUS Guaranteed	0.00
12. Other Investments	5,333.85	42. Long-Term Debt - Other - RUS Guaranteed	0.00
13. Special Funds	22,133,774.35	43. Long-Term Debt - Other (Net)	572,211,639.97
14. **Total Other Property And Investments *(6 thru 13)***	**68,064,417.66**	44. Long-Term Debt - RUS - Econ. Devel. (Net)	0.00
		45. Payments - Unapplied	0.00
15. Cash - General Funds	1,643,789.56	46. **Total Long-Term Debt *(40 thru 44-45)***	**807,297,396.03**
16. Cash - Construction Funds - Trustee	0.00	47. Obligations Under Capital Leases - Noncurrent	0.00
17. Special Deposits	1,095,752.53		
18. Temporary Investments	45,920,973.38	48. Accumulated Operating Provisions and Asset Retirement Obligations	24,176,646.09
19. Notes Receivable (Net)	0.00		
20. Accounts Receivable - Sales of Energy (Net)	31,990,332.66	49. **Total Other NonCurrent Liabilities *(47 +48)***	**24,176,646.09**
21. Accounts Receivable - Other (Net)	3,094,523.38	50. Notes Payable	26,000,000.00
22. Fuel Stock	73,015,196.03	51. Accounts Payable	17,051,833.89
23. Renewable Energy Credits	0.00		
24. Materials and Supplies - Other	23,769,327.00	52. Current Maturities Long-Term Debt	21,716,528.73
25. Prepayments	3,113,683.23	53. Current Maturities Long-Term Debt - Rural Development	0.00
26. Other Current and Accrued Assets	599,245.31		
27. **Total Current And Accrued Assets *(15 thru 26)***	**184,242,823.08**	54. Current Maturities Capital Leases	0.00
		55. Taxes Accrued	761,167.09
28. Unamortized Debt Discount & Extraor. Prop. Losses	3,556,792.15	56. Interest Accrued	4,457,685.44
		57. Other Current and Accrued Liabilities	6,608,448.44
29. Regulatory Assets	61,593,535.75		
30. Other Deferred Debits	2,023,081.47	58. **Total Current & Accrued Liabilities *(50 thru 57)***	**76,595,663.59**
31. Accumulated Deferred Income Taxes	0.00	59. Deferred Credits	20,987,335.43
		60. Accumulated Deferred Income Taxes	0.00
32. **Total Assets And Other Debits *(5+14+27 thru 31)***	1,398,064,541.34	61. **Total Liabilities and Other Credits *(39 + 46 + 49 + 58 thru 60)***	1,398,064,541.34

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE **FINANCIAL AND OPERATING REPORT ELECTRIC POWER SUPPLY**	BORROWER DESIGNATION KY0062 PERIOD ENDED Jan-16
INSTRUCTIONS - See help in the online application.	

Part B SE - Sales of Electricity

Sale No.	Name of Company or Public Authority (a)	RUS Borrower Designation (b)	Statistical Classification (c)	Renewable Energy Program Name (d)	Primary Renewable Fuel Type (e)	Average Monthly Billing Demand (MW) (f)	Actual Average Monthly NCP Demand (g)	Actual Average Monthly CP Demand (h)
	Ultimate Consumer(s)							
	Distribution Borrowers							
1	Jackson Purchase Energy Corp.	KY0020	RQ			129	146	129
2	Kenergy Corporation	KY0065	IF					
3	Kenergy Corporation	KY0065	RQ			380	501	384
4	Meade County Rural ECC	KY0018	RQ			117	122	117
	G&T Borrowers							
	Others							
5	ADM Investor Services		OS					
6	Calpine Energy Services		OS					
7	Dairyland Power Cooperative		OS					
8	EDF Trading North America		OS					
9	Hoosier Energy Rural Electric Coop		OS					
10	Indiana Municipal Power Agency		OS					
11	Indiana Power & Light		OS					
12	Midcontinent Independent Sys. Op.		OS					
13	Morgan Stanley Capital Group		OS					
14	NextEra Energy Power Marketing		OS					
Total for Ultimate Consumer(s)						0	0	0
Total for Distribution Borrowers						626	769	630
Total for G&T Borrowers						0	0	0
Total for Others						0	0	0
Grand Total						626	769	630

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE	BORROWER DESIGNATION KY0062
FINANCIAL AND OPERATING REPORT ELECTRIC POWER SUPPLY	PERIOD ENDED Jan-16
INSTRUCTIONS - See help in the online application.	

Part B SE - Sales of Electricity

Sale No.	Electricity Sold (MWh) (i)	Revenue Demand Charges (j)	Revenue Energy Charges (k)	Revenue Other Charges (l)	Revenue Total (j + k + l) (m)
1	66,511.180	1,772,854.77	3,496,356.04		5,269,210.81
2	2,031.457		60,044.65		60,044.65
3	199,649.410	4,838,468.88	9,918,831.55		14,757,300.43
4	54,305.880	1,613,997.77	2,860,415.90		4,474,413.67
5			158,653.00		158,653.00
6			13,974.20		13,974.20
7			2,790.00		2,790.00
8	58,400.000		2,284,800.00		2,284,800.00
9	16,000.000		868,400.00		868,400.00
10			200,000.00		200,000.00
11			150,015.00		150,015.00
12	264,990.505		6,184,037.27		6,184,037.27
13			54,120.00		54,120.00
14	191,200.000		6,512,120.00		6,512,120.00
	0	0	0	0	0
	322,497.927	8,225,321.42	16,335,648.14	0.00	24,560,969.56
	0.000	0.00	0.00	0.00	0.00
	530,590.505	0.00	16,428,909.47	0.00	16,428,909.47
	853,088.432	**8,225,321.42**	**32,764,557.61**	**0.00**	**40,989,879.03**

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE	BORROWER DESIGNATION KY0062
FINANCIAL AND OPERATING REPORT ELECTRIC POWER SUPPLY	PERIOD NAME Jan-16
INSTRUCTIONS - See help in the online application.	

PART B PP - Purchased Power

Purchase No.	Name of Company or Public Authority (a)	RUS Borrower Designation (b)	Statistical Classification (c)	Renewable Energy Program Name (d)	Primary Renewable Energy Type (e)	Average Monthly Billing Demand (MW) (f)	Average Monthly NCP Demand (g)	Average Monthly CP Demand (h)
	Distribution Borrowers							
	G&T Borrowers							
	Others							
1	Henderson Municipal Power & Light		RQ					
2	Midcontinent Independent Sys. Op.		OS					
3	Southeastern Power Admin.		LF					
Total for Distribution Borrowers						0	0	0
Total for G&T Borrowers						0	0	0
Total for Others						0	0	0
Grand Total						0	0	0

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE	BORROWER DESIGNATION KY0062
FINANCIAL AND OPERATING REPORT ELECTRIC POWER SUPPLY	PERIOD NAME Jan-16
INSTRUCTIONS - See help in the online application.	

PART B PP - Purchased Power

Purchase No.	Electricity Purchased (MWh) (i)	Electricity Received (MWh) (j)	Electricity Delivered (MWh) (k)	Demand Charges (l)	Energy Charges (m)	Other Charges (n)	Total (l + m + n) (o)
1	77,690.290				4,252,175.86		4,252,175.86
2	300,602.261				7,049,345.50		7,049,345.50
3	23,597.000				827,083.69		827,083.69
	0.000				0.00		0.00
	0.000				0.00		0.00
	401,889.551				12,128,605.05		12,128,605.05
	401,889.551				**12,128,605.05**		**12,128,605.05**

RUS Financial and Operating Report Electric Power Supply — Revision Date 2010

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE **FINANCIAL AND OPERATING REPORT ELECTRIC POWER SUPPLY PART C - SOURCES AND DISTRIBUTION OF ENERGY**	BORROWER DESIGNATION KY0062 PERIOD ENDED Jan-16
INSTRUCTIONS - See help in the online application.	

SOURCES OF ENERGY **(a)**	**NO. OF PLANTS** **(b)**	**CAPACITY (kW)** **(c)**	**NET ENERGY RECEIVED BY SYSTEM (MWh)** **(d)**	**COST ($)** **(e)**
Generated in Own Plant *(Details on Parts D and F IC)*				
1. Fossil Steam	4	1,489,000	453,292.328	20,996,760.90
2. Nuclear				
3. Hydro				
4. Combined Cycle				
5. Internal Combustion	1	70,000	0.000	87,385.16
6. Other				
7. Total in Own Plant *(1 thru 6)*	5	1,559,000	453,292.328	21,084,146.06
Purchased Power				
8. Total Purchased Power			401,889.551	12,128,605.05
Interchanged Power				
9. Received Into System (Gross)			342,997.701	
10. Delivered Out of System (Gross)			326,887.000	
11. Net Interchange *(9 minus 10)*			16,110.701	
Transmission For or By Others - (Wheeling)				
12. Received Into System			0.000	
13. Delivered Out of System			0.000	
14. Net Energy Wheeled *(12 minus 13)*			0.000	
15. Total Energy Available for Sale (7 + 8 + 11 + 14)			871,292.580	
Distribution of Energy				
16. Total Sales			853,088.432	
17. Energy Furnished to Others Without Charge				
18. Energy Used by Borrower *(Excluding Station Use)*				
19. Total Energy Accounted For *(16 thru 18)*			853,088.432	
Losses				
20. Energy Losses - MWh *(15 minus 19)*			18,204.148	
21. Energy Losses - Percentage ((20 divided by 15) * 100)			2.09 %	

UNITED STATES DEPARTMENT OF AGRICULTURE
RURAL UTILITIES SERVICE

FINANCIAL AND OPERATING REPORT
ELECTRIC POWER SUPPLY
PART D - STEAM PLANT

BORROWER DESIGNATION: KY0062
PLANT: COLEMAN
PERIOD ENDED: Jan-16

INSTRUCTIONS - See help in the online application.

SECTION A. BOILERS/TURBINES

NO.	UNIT NO. (a)	TIMES STARTED (b)	FUEL CONSUMPTION COAL (1000 Lbs.) (c)	OIL (1000 Gals.) (d)	GAS (1000 C.F.) (e)	OTHER (f)	TOTAL (g)	OPERATING HOURS IN SERVICE (h)	ON STANDBY (i)	OUT OF SERVICE Scheduled (j)	Unsched (k)
1.	1	0	0.0	0.000	0.0			0.0	0.0	0.0	0.0
2.	2	0	0.0	0.000	0.0			0.0	0.0	0.0	0.0
3.	3	0	0.0	0.000	0.0			0.0	0.0	0.0	0.0
4.											
5.											
6.	**Total**	0	0.0	0.000	0.0			0.0	0.0	0.0	0.0
7.	Average BTU		0	0	0						
8.	Total BTU(10^6)		0	0	0		0				
9.	Total Del.Cost ($)		0.00	0.00	0.00						

SECTION A. BOILERS/TURBINES (CONT.)

NO.	UNIT NO. (l)	SIZE (kW) (m)	GROSS GEN. (MWh) (n)	BTU PER kWh (o)
1.	1	160,000	0.000	
2.	2	160,000	0.000	
3.	3	165,000	0.000	
4.				
5.				
6.	**Total**	485,000	0.000	0
7.	Station Service (MWh)		1,035.000	
8.	Net Generation (MWh)		<1,035.000>	0
9.	Station Service (%)		0	

SECTION B. LABOR REPORT

NO.	ITEM	VALUE
1	No. Employees Full-Time (Inc. Superintendent)	16
2.	No. Employees Part-Time	
3.	**Total Empl. - Hrs. Worked**	
4.	Oper. Plant Payroll ($)	
5.	Maint. Plant Payroll ($)	
6.	Other Accts. Plant Payroll ($)	
7.	**Total Plant Payroll ($)**	

SECTION C. FACTORS & MAX. DEMAND

NO.	ITEM	VALUE
1.	Load Factor (%)	0.00
2.	Plant Factor (%)	0.00
3.	Running Plant Capacity Factor (%)	0.00
4.	15 Minute Gross Maximum Demand (kW)	0
5.	Indicated Gross Maximum Demand (kW)	

SECTION D. COST OF NET ENERGY GENERATED

NO	PRODUCTION EXPENSE	ACCOUNT NUMBER	AMOUNT ($) (a)	MILLS/NET kWh (b)	$/10^6 BTU (c)
1.	Operation, Supervision and Engineering	500	15,045.03		
2.	Fuel, Coal	501.1	2.00		
3.	Fuel, Oil	501.2	0.00		
4.	Fuel, Gas	501.3	407.43		
5.	Fuel, Other	501.4			
6.	**Fuel Sub Total (2 thru 5)**	501	409.43		0.00
7.	Steam Expenses	502	125,941.96		
8.	Electric Expenses	505	71,813.44		
9.	Miscellaneous Steam Power Expenses	506	24,609.89		
10.	Allowances	509	0.00		
11.	Rents	507	0.00		
12.	**Non-Fuel Sub Total (1 + 7 thru 11)**		237,410.32		
13.	**Operation Expense (6 + 12)**		237,819.75		
14.	Maintenance, Supervision and Engineering	510	11,898.21		
15.	Maintenance of Structures	511	9,058.01		
16.	Maintenance of Boiler Plant	512	24,510.57		
17.	Maintenance of Electric Plant	513	2,267.06		
18.	Maintenance of Miscellaneous Plant	514	6,375.78		
19.	**Maintenance Expense (14 thru 18)**		54,109.63		
20.	**Total Production Expense (13 + 19)**		291,929.38		
21.	Depreciation	403.1	0.00		
22.	Interest	427	532,270.78		
23.	**Total Fixed Cost (21 + 22)**		532,270.78		
24.	**Power Cost (20 + 23)**		824,200.16		

UNITED STATES DEPARTMENT OF AGRICULTURE
RURAL UTILITIES SERVICE

FINANCIAL AND OPERATING REPORT
ELECTRIC POWER SUPPLY
PLANT D - STEAM PLANT

BORROWER DESIGNATION
KY0062
PLANT
REID
PERIOD ENDED
Jan-16

INSTRUCTIONS - See help in the online application.

SECTION A. BOILERS/TURBINES

NO.	UNIT NO. (a)	TIMES STARTED (b)	FUEL CONSUMPTION: COAL (1000 Lbs.) (c)	OIL (1000 Gals.) (d)	GAS (1000 C.F.) (e)	OTHER (f)	TOTAL (g)	OPERATING HOURS: IN SERVICE (h)	ON STANDBY (i)	OUT OF SERVICE: Scheduled (j)	Unsched (k)
1.	1	0	.0	.000	.0			.0	643.1	.0	100.9
2.											
3.											
4.											
5.											
6.	Total	0	.0	.000	.0			.0	643.1	.0	100.9
7.	Average BTU		0	0	0						
8.	Total BTU(10^6)		0	0	0		0				
9.	Total Del..Cost ($)		0.00	0.00	0.00						

SECTION A. BOILERS/TURBINES (CONT.)

NO.	UNIT NO. (1)	SIZE (kW) (m)	GROSS GEN. (MWh) (n)	BTU PER kWh (o)
1.	1	72,000	.000	
2.				
3.				
4.				
5.				
6.	Total	72,000	.000	0
7.	Station Service (MWh)		1,593.000	
8.	Net Generation (MWh)		<1,593.000>	0
9.	Station Service (%)		0	

SECTION B. LABOR REPORT

NO.	ITEM	VALUE
1	No. Employees Full-Time (Inc. Superintendent)	17
2.	No. Employees Part-Time	
3.	**Total Empl. - Hrs. Worked**	
4.	Oper. Plant Payroll ($)	
5.	Maint. Plant Payroll ($)	
6.	Other Accts. Plant Payroll ($)	
7.	**Total Plant Payroll ($)**	

SECTION C. FACTORS & MAX. DEMAND

NO.	ITEM	VALUE
1.	Load Factor (%)	.00
2.	Plant Factor (%)	.00
3.	Running Plant Capacity Factor (%)	.00
4.	15 Minute Gross Maximum Demand (kW)	0
5.	Indicated Gross Maximum Demand (kW)	

SECTION D. COST OF NET ENERGY GENERATED

NO	PRODUCTION EXPENSE	ACCOUNT NUMBER	AMOUNT ($) (a)	MILLS/NET kWh (b)	$/10^6 BTU (c)
1.	Operation, Supervision and Engineering	500	21,457.72		
2.	Fuel, Coal	501.1	51,929.13		0
3.	Fuel, Oil	501.2	0.00		0
4.	Fuel, Gas	501.3	0.00		0
5.	Fuel, Other	501.4			0
6.	**Fuel Sub Total (2 thru 5)**	501	51,929.13		0
7.	Steam Expenses	502	75,360.98		
8.	Electric Expenses	505	23,928.21		
9.	Miscellaneous Steam Power Expenses	506	13,332.00		
10.	Allowances	509	0.00		
11.	Rents	507	0.00		
12.	**Non-Fuel Sub Total (1 + 7 thru 11)**		134,078.91		
13.	**Operation Expense (6 + 12)**		186,008.04		
14.	Maintenance, Supervision and Engineering	510	18,949.34		
15.	Maintenance of Structures	511	8,917.70		
16.	Maintenance of Boiler Plant	512	25,232.89		
17.	Maintenance of Electric Plant	513	3,619.93		
18.	Maintenance of Miscellaneous Plant	514	9,557.33		
19.	**Maintenance Expense (14 thru 18)**		66,277.19		
20.	**Total Production Expense (13 + 19)**		252,285.23		
21.	Depreciation	403.1	41,192.60		
22.	Interest	427	58,426.03		
23.	**Total Fixed Cost (21 + 22)**		99,618.63	0	
24.	**Power Cost (20 + 23)**		351,903.86		

UNITED STATES DEPARTMENT OF AGRICULTURE
RURAL UTILITIES SERVICE

FINANCIAL AND OPERATING REPORT
ELECTRIC POWER SUPPLY
PLANT D - STEAM PLANT

BORROWER DESIGNATION: KY0062
PLANT: GREEN
PERIOD ENDED: Jan-16

ISTRUCTIONS - See help in the online application.

SECTION A. BOILERS/TURBINES

NO.	UNIT NO. (a)	TIMES STARTED (b)	FUEL CONSUMPTION: COAL (1000 Lbs.) (c)	OIL (1000 Gals.) (d)	GAS (1000 C.F.) (e)	OTHER (f)	TOTAL (g)	OPERATING HOURS: IN SERVICE (h)	ON STANDBY (i)	OUT OF SERVICE: Scheduled (j)	Unsched (k)
1.	1	3	100,832.0	64.534	.0			599.8	11.2	.0	133.0
2.	2	0	118,248.9	43.496	.0			744.0	.0	.0	.0
3.											
4.											
5.											
6.	Total	3	219,080.9	108.030	.0			1,343.8	11.2	.0	133.0
7.	Average BTU		11,623	138,000	0						
8.	Total BTU(10^6)		2,546,377	14,908	0		2,561,285				
9.	Total Del..Cost ($)		0.00	0.00	0.00						

SECTION A. BOILERS/TURBINES (CONT.)

NO.	UNIT NO. (l)	SIZE (kW) (m)	GROSS GEN. (MWh) (n)	BTU PER kWh (o)
1.	1	250,000	117,283.700	
2.	2	242,000	131,954.000	
3.				
4.				
5.				
6.	Total	492,000	249,237.700	10,276
7.	Station Service (MWh)		27,052.948	
8.	Net Generation (MWh)		222,184.752	11,528
9.	Station Service (%)		10.85	

SECTION B. LABOR REPORT

NO.	ITEM	VALUE
1	No. Employees Full-Time (Inc. Superintendent)	120
2.	No. Employees Part-Time	
3.	**Total Empl. - Hrs. Worked**	
4.	Oper. Plant Payroll ($)	
5.	Maint. Plant Payroll ($)	
6.	Other Accts. Plant Payroll ($)	
7.	**Total Plant Payroll ($)**	

SECTION C. FACTORS & MAX. DEMAND

NO.	ITEM	VALUE
1.	Load Factor (%)	66.92
2.	Plant Factor (%)	68.09
3.	Running Plant Capacity Factor (%)	75.53
4.	15 Minute Gross Maximum Demand (kW)	500,630
5.	Indicated Gross Maximum Demand (kW)	

SECTION D. COST OF NET ENERGY GENERATED

NO	PRODUCTION EXPENSE	ACCOUNT NUMBER	AMOUNT ($) (a)	MILLS/NET kWh (b)	$/10⁶ BTU (c)
1.	Operation, Supervision and Engineering	500	140,867.52		
2.	Fuel, Coal	501.1	5,887,797.85		2.31
3.	Fuel, Oil	501.2	141,077.13		9.46
4.	Fuel, Gas	501.3	0.00		0
5.	Fuel, Other	501.4			
6.	**Fuel Sub Total (2 thru 5)**	501	6,028,874.98	27.13	2.35
7.	Steam Expenses	502	1,204,686.54		
8.	Electric Expenses	505	178,179.51		
9.	Miscellaneous Steam Power Expenses	506	142,055.97		
10.	Allowances	509	249.96		
11.	Rents	507	0.00		
12.	**Non-Fuel Sub Total (1 + 7 thru 11)**		1,666,039.50	7.50	
13.	**Operation Expense (6 + 12)**		7,694,914.48	34.63	
14.	Maintenance, Supervision and Engineering	510	128,716.08		
15.	Maintenance of Structures	511	122,293.29		
16.	Maintenance of Boiler Plant	512	765,134.72		
17.	Maintenance of Electric Plant	513	78,939.24		
18.	Maintenance of Miscellaneous Plant	514	82,162.41		
19.	**Maintenance Expense (14 thru 18)**		1,177,245.74	5.30	
20.	**Total Production Expense (13 + 19)**		8,872,160.22	39.93	
21.	Depreciation	403.1	723,604.88		
22.	Interest	427	566,271.35		
23.	**Total Fixed Cost (21 + 22)**		1,289,876.23	5.81	
24.	**Power Cost (20 + 23)**		10,162,036.45	45.74	

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE **FINANCIAL AND OPERATING REPORT** **ELECTRIC POWER SUPPLY** **PLANT D - STEAM PLANT**	BORROWER DESIGNATION KY0062 PLANT WILSON PERIOD ENDED Jan-16

INSTRUCTIONS - See help in the online application.

SECTION A. BOILERS/TURBINES

NO.	UNIT NO. (a)	TIMES STARTED (b)	FUEL CONSUMPTION: COAL (1000 Lbs.) (c)	OIL (1000 Gals.) (d)	GAS (1000 C.F.) (e)	OTHER (f)	TOTAL (g)	OPERATING HOURS: IN SERVICE (h)	ON STANDBY (i)	OUT OF SERVICE: Scheduled (j)	Unsched (k)
1.	1	1	210,120.0	53.292	.0			627.6	.0	.0	116.4
2.											
3.											
4.											
5.											
6.	**Total**	1	210,120.0	53.292	.0			627.6	.0	.0	116.4
7.	Average BTU		11,855	138,000	0						
8.	Total BTU(10^6)		2,490,973	7,354	0		2,498,327				
9.	Total Del..Cost ($)		0.00	0.00	0.00						

SECTION A. BOILERS/TURBINES (CONT.)

NO.	UNIT NO. (1)	SIZE (kW) (m)	GROSS GEN. (MWh) (n)	BTU PER kWh (o)
1.	1	440,000	251,699.260	
2.				
3.				
4.				
5.				
6.	**Total**	440,000	251,699.260	9,926
7.	Station Service (MWh)		17,963.684	
8.	Net Generation (MWh)		233,735.576	10,689
9.	Station Service (%)		7.14	

SECTION B. LABOR REPORT

NO.	ITEM	VALUE
1	No. Employees Full-Time (Inc. Superintendent)	106
2.	No. Employees Part-Time	
3.	**Total Empl. - Hrs. Worked**	
4.	Oper. Plant Payroll ($)	
5.	Maint. Plant Payroll ($)	
6.	Other Accts. Plant Payroll ($)	
7.	**Total Plant Payroll ($)**	

SECTION C. FACTORS & MAX. DEMAND

NO.	ITEM	VALUE
1.	Load Factor (%)	75.10
2.	Plant Factor (%)	76.89
3.	Running Plant Capacity Factor (%)	91.15
4.	15 Minute Gross Maximum Demand (kW)	450,457
5.	Indicated Gross Maximum Demand (kW)	

SECTION D. COST OF NET ENERGY GENERATED

NO.	PRODUCTION EXPENSE	ACCOUNT NUMBER	AMOUNT ($) (a)	MILLS/NET kWh (b)	$/10^6 BTU (c)
1.	Operation, Supervision and Engineering	500	172,391.72		
2.	Fuel, Coal	501.1	5,319,870.17		2.14
3.	Fuel, Oil	501.2	86,330.42		11.74
4.	Fuel, Gas	501.3	0.00		0
5.	Fuel, Other	501.4			0
6.	**Fuel Sub-Total (2 thru 5)**	501	5,406,200.59	23.13	2.16
7.	Steam Expenses	502	739,582.14		
8.	Electric Expenses	505	129,050.26		
9.	Miscellaneous Steam Power Expenses	506	298,991.24		
10.	Allowances	509	395.04		
11.	Rents	507	0.00		
12.	**Non-Fuel Sub-Total (1 + 7 thru 11)**		1,340,410.40	5.73	
13.	**Operation Expense (6 + 12)**		6,746,610.99	28.86	
14.	Maintenance, Supervision and Engineering	510	125,396.68		
15.	Maintenance of Structures	511	73,925.58		
16.	Maintenance of Boiler Plant	512	788,061.31		
17.	Maintenance of Electric Plant	513	232,399.33		
18.	Maintenance of Miscellaneous Plant	514	90,294.27		
19.	**Maintenance Expense (14 thru 18)**		1,310,077.17	5.60	
20.	**Total Production Expense (13 + 19)**		8,056,688.16	34.47	
21.	Depreciation	403.1	0.00		
22.	Interest	427	1,601,932.27		
23.	**Total Fixed Cost (21 + 22)**		1,601,932.27	6.85	
24.	**Power Cost (20 + 23)**		9,658,620.43	41.32	

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE **FINANCIAL AND OPERATING REPORT** **ELECTRIC POWER SUPPLY** **PART F IC - INTERNAL COMBUSTION PLANT**	BORROWER DESIGNATION KY0062 PLANT REID PERIOD ENDED Jan-16
INSTRUCTIONS - See help in the online application.	

SECTION A. INTERNAL COMBUSTION GENERATING UNITS

NO.	UNIT NO. (a)	SIZE (kW) (b)	FUEL CONSUMPTION: OIL (1000 Gals.) (c)	GAS (1000 C.F.) (d)	OTHER (e)	TOTAL (f)	OPERATING HOURS: IN SERVICE (g)	ON STANDBY (h)	OUT OF SERVICE: Sche. (i)	Unsched (j)	GROSS GENERATION (MWh) (k)	BTU PER kWh (1)
1.	1	70,000	.000	0			.0	.0	.0	744.0	.000	
2.												
3.												
4.												
5.												
6.	**Total**	70,000	.000	0			.0	.0	.0	744.0	.000	0
7.	Average BTU		0	0			Station Service (MWh)				.000	
8.	Total BTU(10^6)		0	0		0	Net Generation (MWh)				.000	0
9.	Total Del..Cost ($)		0.00	0.00			Station Service % of Gross				0	

SECTION B. LABOR REPORT

NO.	ITEM	VALUE	NO.	ITEM	VALUE
1	No. Employees Full-Time (Inc. Superintendent)	0	5.	Maint. Plant Payroll ($)	
2.	No. Employees Part-Time				
3.	**Total Empl. - Hrs. Worked**		6.	Other Accounts. Plant Payroll ($)	
4.	Oper. Plant Payroll ($)		7.	**Total Plant Payroll ($)**	

SECTION C. FACTORS & MAXIMUM DEMAND

NO.	ITEM	VALUE
1.	Load Factor (%)	.00
2.	Plant Factor (%)	.00
3.	Running Plant Capacity Factor (%)	.00
4.	15 Minute Gross Maximum Demand (kW)	0
5.	Indicated Gross Maximum Demand kW)	

SECTION D. COST OF NET ENERGY GENERATED

NO	PRODUCTION EXPENSE	ACCOUNT NUMBER	AMOUNT ($) (a)	MILLS/NET kWh (b)	$/10^6 BTU (c)
1.	Operation, Supervision and Engineering	546	2,351.82		
2.	Fuel, Oil	547.1	0.00		
3.	Fuel, Gas	547.2	0.00		
4.	Fuel, Other	547.3			
5.	Energy for Compressed Air	547.4			
6.	**Fuel Sub-Total *(2 thru 5)***	547	0.00	0	0
7.	Generation Expenses	548	2,620.00		
8.	Miscellaneous Other Power Generation Expenses	549	1,321.41		
9.	Rents	550	0.00		
10.	**Non-Fuel Sub-Total *(1 + 7 thru 9)***		6,293.23		
11.	**Operation Expense *(6+ 10)***		6,293.23		
12.	Maintenance, Supervision and Engineering	551	4,430.08		
13.	Maintenance of Structures	552	1,275.85		
14.	Maintenance of Generating and Electric Plant	553	26,482.09		
15.	Maintenance of Miscellaneous Other Power Generating Plant	554	144.09		
16.	**Maintenance Expense *(12 thru 15)***		32,332.11		
17.	**Total Production Expense *(11 + 16)***		38,625.34		
18.	Depreciation	403.1,411.10	29,795.30		
19.	Interest	427	18,964.52		
20.	**Total Fixed Cost *(18+ 19)***		48,759.82		
21.	**Power Cost *(17 + 20)***		87,385.16	0	

REMARKS *(including Unscheduled Outages)*

UNITED STATES DEPARTMENT OF AGRICULTURE RURAL UTILITIES SERVICE **FINANCIAL AND OPERATING REPORT** **ELECTRIC POWER SUPPLY** **PART I - LINES AND STATIONS**	BORROWER DESIGNATION KY0062 PERIOD ENDED Jan-16
INSTRUCTIONS - See help in the online application.	

SECTION A. EXPENSE AND COSTS

ITEM	ACCOUNT NUMBER	LINES (a)	STATIONS (b)
Transmission Operation			
1. Supervision and Engineering	560	24,636.32	33,769.56
2. Load Dispatching	561	207,759.96	
3. Station Expenses	562		51,409.43
4. Overhead Line Expenses	563	87,812.45	
5. Underground Line Expenses	564	0.00	
6. Miscellaneous Expenses	566	27,189.57	39,897.82
7. **Subtotal *(1 thru 6)***		347,398.30	125,076.81
8. Transmission of Electricity by Others	565	247,936.43	
9. Rents	567	0.00	2,058.43
10. **Total Transmission Operation *(7 thru 9)***		595,334.73	127,135.24
Transmission Maintenance			
11. Supervision and Engineering	568	22,216.14	36,048.31
12. Structures	569		1,197.79
13. Station Equipment	570		160,463.87
14. Overhead Lines	571	97,205.02	
15. Underground Lines	572	0.00	
16. Miscellaneous Transmission Plant	573	6,450.02	3,204.50
17. **Total Transmission Maintenance *(11 thru 16)***		125,871.18	200,914.47
18. **Total Transmission Expense *(10 + 17)***		721,205.91	328,049.71
19. RTO/ISO Expense - Operation	575	108,840.12	
20. RTO/ISO Expense - Maintenance	576	0.00	
21. **Total RTO/ISO Expense *(19 + 20)***		108,840.12	
22. Distribution Expense - Operation	580-589	0.00	0.00
23. Distribution Expense - Maintenance	590-598	0.00	0.00
24. **Total Distribution Expense *(22 + 23)***		0.00	0.00
25. **Total Operation And Maintenance *(18 + 21 +24)***		830,046.03	328,049.71
Fixed Costs			
26. Depreciation - Transmission	403.5	167,228.34	251,862.25
27. Depreciation - Distribution	403.6	0.00	0.00
28. Interest - Transmission	427	239,374.09	249,476.82
29. Interest - Distribution	427	0.00	0.00
30. **Total Transmission *(18 + 26 + 28)***		1,127,808.34	829,388.78
31. **Total Distribution *(24 +27 +29)***		0.00	0.00
32. **Total Lines And Stations *(21 + 30 + 31)***		1,236,648.46	829,388.78

SECTION B. FACILITIES IN SERVICE

TRANSMISSION LINES		SUBSTATIONS	
VOLTAGE (kV)	MILES	TYPE	CAPACITY (kVA)
1.69 kV	849.50		
2.345 kV	68.40	13. Distr. Lines	0
3.138 kV	14.40		
4.161 kV	363.10	14. **Total *(12 + 13)***	1,295.40
5.			
6.		15. Step up at Generating Plants	1,879,800
7.			
8.		16. Transmission	3,640,000
9.			
10.		17. Distribution	0
11.			
12. **Total *(1 thru 11)***	1,295.40	18. **Total *(15 thru 17)***	5,519,800

SECTION C. LABOR AND MATERIAL SUMMARY

1. Number of Employees		54
ITEM	LINES	STATIONS
2. Oper. Labor	156,042.27	59,450.47
3. Maint. Labor	114,119.32	139,123.92
4. Oper. Material	548,132.58	67,684.77
5. Maint. Material	11,751.86	61,790.55

SECTION D. OUTAGES

1. Total	0.00
2. Avg. No. Dist. Cons. Served	104,117.00
3. Avg. No. Hours Out Per Cons.	0.00

SULLIVAN, MOUNTJOY, STAINBACK & MILLER PSC

ATTORNEYS AT LAW

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

*Also Licensed in Indiana
**Also Licensed in Indiana and New York

March 24, 2016

Hon. Erik Dunnigan
Acting Secretary
Cabinet for Economic Development
Old Capitol Annex
300 West Broadway Street
Frankfort, KY 40601
502-564-7140

In the Matter of: Joint Application of Kenergy Corp. and Big Rivers Electric Corporation for Approval of Contracts, PSC Case No. 2016-00117

Dear Secretary Dunnigan:

This letter is notice to the Economic Development Cabinet ("*Cabinet*") that Kenergy Corp. and Big Rivers Electric Corporation have today filed electric service agreements with the Kentucky Public Service Commission proposing, among other things, an economic development rate for the increased electric load of Aleris Rolled Products, Inc. ("*Aleris*") related to an expansion of the Aleris production facilities located near Lewisport, Kentucky. A copy of the joint application for approval of those agreements is attached for your information.

This notice is given in accordance with the September 24, 1990, order of the Kentucky Public Service Commission ("*Commission*") in Administrative Case No. 327 in which the Commission notes, at page 24, the interest of the Cabinet in special contracts for retail electric service that contain an economic development rate, and grants the Cabinet no more than twenty (20) days after the filing of such a contract in which to prepare and file written comments.

Comments regarding the joint application may be submitted to the Public Service Commission through its website, or by mail to Public Service Commission, Post Office Box 615, Frankfort, Kentucky 40602.

Telephone (270) 926-4000
Telecopier (270) 683-6694

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

Exhibit Chambliss_F

www.westkylaw.com

Please feel free to contact me with any questions you may have about the application.

Sincerely yours,

James M. Miller

James M. Miller
Counsel for Big Rivers Electric Corporation

JMM/lm
Enclosure

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

JOINT APPLICATION OF KENERGY CORP. AND BIG RIVERS ELECTRIC CORPORATION FOR APPROVAL OF CONTRACTS	)	**Case No. 2016-00117**

TESTIMONY OF JOHN WOLFRAM

I. INTRODUCTION

Q. Please state your name, business address, and position.

A. My name is John Wolfram. I am the Principal of Catalyst Consulting LLC. My business address is 3308 Haddon Road, Louisville, Kentucky, 40241.

Q. On whose behalf are your testifying?

A. I am testifying on behalf of Big Rivers Electric Corporation ("Big Rivers").

Q. Briefly describe your education and work experience.

A. I received a Bachelor of Science degree in Electrical Engineering from the University of Notre Dame in 1990 and a Master of Science degree in Electrical Engineering from Drexel University in 1997. I founded Catalyst Consulting LLC in June 2012. From March 2010 through May 2012, I was a Senior Consultant with The Prime Group, LLC. I have developed cost of service studies and designed rates for numerous electric and gas utilities, including electric distribution cooperatives, generation and transmission cooperatives, municipal utilities and investor-owned utilities. I have performed economic analyses, rate mechanism reviews, ISO/RTO membership evaluations, and wholesale formula

EXHIBIT 4

rate reviews. I have also been employed by the parent companies of Louisville Gas and Electric Company and Kentucky Utilities Company, by the PJM Interconnection, and by the Cincinnati Gas & Electric Company. A more detailed description of my qualifications is included in Exhibit Wolfram-1.

Q. Have you ever testified before the Kentucky Public Service Commission ("Commission")?

A. Yes. I have testified in numerous regulatory proceedings before this Commission. A listing of my testimony in other proceedings is included in Exhibit Wolfram-1.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to sponsor the marginal cost analysis that Big Rivers submits with this application pursuant to the Commission's findings in its investigation into Economic Development Rates ("EDRs"). See *In The Matter Of: An Investigation Into The Implementation Of Economic Development Rates By Electric And Gas Utilities*, Administrative Case No. 327, Order Dated September 24, 1990 ("Admin 327 Order").

Q. Are you sponsoring any exhibits?

A. Yes. I have prepared the following exhibits to support my testimony:

Exhibit Wolfram-1 – Qualifications of John Wolfram

Exhibit Wolfram-2 – Marginal Cost Analysis

III. MARGINAL COST ANALYSIS

Q. Please describe the requirement to submit a marginal cost analysis in conjunction with this filing.

A. In the Admin 327 Order, the Commission noted the following in Finding #6:

> Upon submission of each EDR contract, a utility should demonstrate that the discounted rate exceeds the marginal cost associated with serving the customer. Marginal cost includes both the marginal cost of capacity as well as the marginal cost of energy. In order to demonstrate marginal cost recovery, a utility should submit, with each EDR contract, a current marginal cost-of-service study. A current study is one conducted no more than one year prior to the date of the contract.

Q. Did you perform a marginal cost analysis for Big Rivers?

A. Yes. I performed a marginal cost analysis for Big Rivers. The study is provided in Exhibit Wolfram-2.

Q. How did you perform the marginal cost analysis for Big Rivers?

A. I performed the analysis consistent with accepted industry guidelines included in the NARUC Electric Utility Cost Allocation Manual dated January, 1992. I describe particular aspects of the approach in Exhibit Wolfram-2. I also relied upon information from Big Rivers' most recent base rate case; see *In the Matter of: Application of Big Rivers Electric Corporation for a General Adjustment in Rates,* Case No. 2013-00199. I also used data provided by Big Rivers; in particular, I using budget and financial forecast data for 2016 and beyond, as approved by Big Rivers' Board of Directors on November 20, 2015.

Q. Do the results of the analysis demonstrate that in this case, the discounted rate in the proposed special contract exceeds the marginal cost associated

with serving the customer, pursuant to the requirements of the Admin 327 Order?

A. Yes. Since at present Big Rivers' marginal production demand cost and marginal transmission demand cost are both effectively zero, the total marginal cost for Big Rivers is equivalent to the marginal production energy cost. This means that as long as the customer pays anything more than the full energy rate, the requirement for the discounted rate to exceed marginal cost will be met, and the customer will be making a contribution to Big Rivers' fixed costs. Under the proposed special contract in this case, during the "credit period" terms of the contract, the customer pays 100 percent of the energy costs plus a portion of the demand costs (because the customer is credited a portion of the demand costs), which means that the discounted rate exceeds the marginal cost associated with serving the customer, as required.

IV. CONCLUSION

Q. Please summarize your conclusion and recommendation.

A. The marginal cost analysis provided is consistent with industry standards and provides a reasonable determination of Big Rivers' marginal costs of providing service. The analysis shows that the discounted rate in this case exceeds the marginal cost of providing service to the customer. For this reason the Commission should find that the discounted rate meets the requirements of Finding #6 of the Admin 327 Order.

Q. Does this conclude your testimony?

A. Yes, it does.

BIG RIVERS ELECTRIC CORPORATION
JOINT APPLICATION OF KENERGY CORP. AND BIG RIVERS ELECTRIC CORPORATION FOR APPROVAL OF CONTRACTS
CASE NO. 2016-00117

VERIFICATION

I, John Wolfram, verify, state, and affirm that I prepared or supervised the Direct Testimony filed with this Verification, and that Direct Testimony is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.

John Wolfram
John Wolfram

COMMONWEALTH OF KENTUCKY)
COUNTY OF JEFFERSON)

ASHLEY R. FORKNER
Notary Public
State at Large
Kentucky
My Commission Expires May 3, 2018

SUBSCRIBED AND SWORN TO before me by John Wolfram on this the 26 day of February, 2016.

Ashley R Forkner
Notary Public, Ky. State at Large
My Commission Expires May 3 2018

JOHN WOLFRAM

Summary of Qualifications

Provides consulting services to rural electric cooperatives, investor-owned utilities, and municipal utilities regarding utility rate and regulatory filings, cost of service studies, wholesale and retail rate designs, special contracts, formula rates, and other analyses.

Employment

CATALYST CONSULTING LLC — June 2012 – Present
Principal

Provide consulting services in the areas of tariff development, regulatory analysis, revenue requirements, cost of service, rate design, and other utility regulatory areas.

Provide utility clients assistance regarding regulatory policy and strategy; project management support for utilities involved in complex regulatory proceedings; process audits; state and federal regulatory filing development; cost of service development and support; the development of special rates, including economic development rates, to achieve strategic objectives; the development of rate alternatives for use with customers; and energy efficiency program development.

Prepare retail and wholesale rate schedules and/or filings submitted to the Federal Energy Regulatory Commission ("FERC"), state regulators, and/or Boards of Directors for electric and gas utilities.

THE PRIME GROUP, LLC — March 2010 – May 2012
Senior Consultant

E.ON U.S., LLC, Louisville, KY — 1997 - 2010
(Louisville Gas & Electric Company and Kentucky Utilities Company)
Director, Customer Service & Marketing (2006 - 2010)
Manager, Regulatory Affairs (2001 - 2006)
Lead Planning Engineer, Generation Planning (1998 - 2001)
Power Trader, LG&E Energy Marketing (1997 - 1998)

PJM INTERCONNECTION, LLC, Norristown, PA — 1990 - 1993; 1994 - 1997
Project Lead – PJM OASIS Project
Chair, Data Management Working Group

CINCINNATI GAS & ELECTRIC COMPANY, Cincinnati, OH — 1993 - 1994
Electrical Engineer - Energy Management System

Education

Bachelor of Science Degree in Electrical Engineering, University of Notre Dame, 1990
Master of Science Degree in Electrical Engineering, Drexel University, 1997
Leadership Louisville, 2006

Associations

Member, Institute of Electrical and Electronics Engineers (IEEE)
Member, IEEE Power Engineering Society

Expert Witness Testimony & Proceedings

FERC: Submitted direct testimony for Midwest Power Transmission Arkansas, LLC in FERC Docket No. ER15-2236 regarding a proposed Transmission Formula Rate.

Submitted direct testimony for Kanstar Transmission, LLC in FERC Docket No. ER15-2237 regarding a proposed Transmission Formula Rate.

Supported Westar Energy and Kansas Gas & Electric Company in FERC Docket Nos. FA15-9-000 and FA15-15-000 regarding an Audit of Compliance with Rates, Terms and Conditions of Westar's Open Access Transmission Tariff and Formula Rates, Accounting Requirements of the Uniform System of Accounts, and Reporting Requirements of the FERC Form No. 1.

Submitted direct testimony for Westar Energy in FERC Docket Nos. ER14-804 and ER14-805 regarding proposed revisions to a Generation Formula Rate.

Supported Kansas Gas & Electric Company in FERC Docket No. FA14-3-000 regarding an Audit of Compliance with Nuclear Plant Decommissioning Trust Fund Regulations and Accounting Practices.

Supported LG&E Energy LLC in FERC Docket No. PA05-9-000 regarding an Audit of Code of Conduct, Standards of Conduct, Market-Based Rate Tariff, and MISO's Open Access Transmission Tariff at LG&E Energy LLC.

Submitted remarks and served on expert panel in FERC Docket No. RM01-10-000 on May 21, 2002 in Standards of Conduct for Transmission Providers staff conference, regarding proposed rulemaking on the functional separation of wholesale transmission and bundled sales functions for electric and gas utilities.

Kansas: Submitted direct and rebuttal testimony for Westar Energy, Inc. in Docket No. 15-WSEE-115-RTS regarding rate designs for large customer classes, establishment of a balancing account related to new rate options, establishment of a tracking mechanism for costs related to compliance with mandated cyber and physical security standards, other rate design issues, and revenue allocation.

Kentucky: Submitted rebuttal testimony on behalf of Big Rivers Electric Corporation in Case No. 2014-00134 regarding ratemaking treatment of revenues associated with proposed wholesale market-based-rate purchased power agreements with entities in Nebraska.

Submitted direct and rebuttal testimony on behalf of Big Rivers Electric Corporation in Case No. 2013-00199 regarding revenue requirements, pro forma adjustments, cost of service and rate design in a base rate case.

Submitted direct and rebuttal testimony on behalf of Big Rivers Electric Corporation in Case No. 2012-00535 regarding revenue requirements, pro forma adjustments, cost of service and rate design in a base rate case.

Submitted direct and rebuttal testimony on behalf of Big Rivers Electric Corporation in Case No. 2012-00063 regarding an Environmental Compliance Plan and Environmental Surcharge rate mechanism.

Submitted direct, rebuttal, and rehearing direct testimony on behalf of Big Rivers Electric Corporation in Case No. 2011-00036 regarding revenue requirements and pro forma adjustments in a base rate case.

Submitted direct testimony for Louisville Gas & Electric Company in Case No. 2009-00549 and for Kentucky Utilities Company in Case No. 2009-00548 for adjustment of electric and gas base rates, in support of a new service offering for Low Emission Vehicles, revised special charges, and company offerings aimed at assisting customers.

Submitted discovery responses for Kentucky Utilities and/or Louisville Gas & Electric Company in various customer inquiry matters, including Case Nos. 2009-00421, 2009-00312, and 2009-00364.

Submitted discovery responses for Louisville Gas & Electric Company and Kentucky Utilities Company in Case No. 2008-00148 regarding the 2008 Joint Integrated Resource Plan.

Submitted discovery responses for Louisville Gas & Electric Company and Kentucky Utilities Company in Administrative Case No. 2007-00477 regarding an investigation of the energy and regulatory issues in Kentucky's 2007 Energy Act.

Submitted direct testimony for Louisville Gas & Electric Company and Kentucky Utilities Company in Case No. 2007-00319 for the review, modification, and continuation of Energy Efficiency Programs and DSM Cost Recovery Mechanisms.

Submitted direct testimony for Louisville Gas & Electric Company and Kentucky Utilities Company in Case No. 2007-00067 for approval of a proposed Green Energy program and associated tariff riders.

Submitted direct testimony for Louisville Gas & Electric Company and Kentucky Utilities Company in Case No. 2005-00467 and 2005-00472 regarding a Certificate of Public Convenience and Necessity for the construction of transmission facilities.

Submitted discovery responses for Kentucky Utilities in Case No. 2005-00405 regarding the transfer of a utility hydroelectric power plant to a private developer.
Submitted discovery responses for Louisville Gas & Electric Company and Kentucky Utilities Company in Case No. 2005-00162 for the 2005 Joint Integrated Resource Plan.

Presented company position for Louisville Gas & Electric Company and Kentucky Utilities Company at public meetings held in Case Nos. 2005-00142 and 2005-00154 regarding routes for proposed transmission lines.

Supported Louisville Gas & Electric Company and Kentucky Utilities Company in an Investigation into their Membership in the Midwest Independent Transmission System Operator, Inc. ("MISO") in Case No. 2003-00266.

Supported Louisville Gas & Electric Company and Kentucky Utilities Company in a Focused Management Audit of Fuel Procurement practices by Liberty Consulting in 2004.

Supported Louisville Gas & Electric Company and Kentucky Utilities Company in a Focused Management Audit of its Earning Sharing Mechanism by Barrington-Wellesley Group in 2002-2003.

Submitted direct testimony for Louisville Gas & Electric Company and Kentucky Utilities Company in Case No. 2002-00381 regarding a Certificate of Public Convenience and Necessity for the acquisition of four combustion turbines.

Submitted direct testimony for Louisville Gas & Electric Company and Kentucky Utilities Company in Case No. 2002-00029 regarding a Certificate of Public Convenience and Necessity for the acquisition of two combustion turbines.

Virginia: Submitted direct testimony for Kentucky Utilities Company d/b/a Old Dominion Power in Case No. PUE-2002-00570 regarding a Certificate of Public Convenience and Necessity for the acquisition of four combustion turbines.

Presentations

"Taking Public Power Economic Development to the Next Level" presented to APPA/Area Development's Public Power Consultants Forum, March 2016.

"Ratemaking for Environmental Compliance Plans" presented to NARUC Staff Subcommittee on Accounting and Finance Fall Conference, September 2015.

"Top Utility Strategies for Successful Attraction, Retention & Expansion" presented to APPA/Area Development's Public Power Consultants Forum, March 2015.

"Economic Development and Load Retention Rates" presented to NARUC Staff Subcommittee on Accounting and Finance Fall Conference, September 2013.

"The Case for Economic Development Rates: Theory and Regulatory Considerations" presented to 2011 Electric Cooperative Rate Conference, October 2011.

"Rates for Distributed Generation" presented to 2010 Electric Cooperative Rate Conference, October 2010.

"What Utilities Can Do to Advance Energy Efficiency in Kentucky" panel session of Second Annual Kentucky Energy Efficiency Conference, October 2007.

Articles

"Economic Development Rates: Public Service or Piracy?" *IAEE Energy Forum*, International Association for Energy Economics, 2016 Q1 (January 2016), 17-20.

Big Rivers Electric Corporation

2016 Marginal Cost Analysis

March 2016

Prepared By

CATALYST

CONSULTING LLC

Table of Contents

I. Executive Summary

This report describes the methods for estimating marginal production and transmission costs for Big Rivers Electric Corporation ("Big Rivers"). For production, the fixed marginal cost and the variable marginal cost are evaluated independently. Marginal distribution costs are not calculated because Big Rivers is a Generation and Transmission cooperative ("G&T") with no distribution assets.

The marginal costs are determined using the planning tools that Big Rivers' relies upon for development of its annual budget and financial plan. This includes the Big Rivers Financial Model as well as the production cost model outputs and other information included as inputs to the Financial Model. These are the same tools used to develop Big Rivers' Integrated Resource Plan ("IRP"), which is formally prepared every three years and which was most recently filed with the Kentucky Public Service Commission ("the Commission") on May 14, 2014 in Case No. 2014-00166.

The analysis is based on two important considerations presently applicable to Big Rivers. The first is that due to the smelter contract terminations, Big Rivers currently has available generation capacity in excess of its anticipated load. The second is that Big Rivers includes off system sales in the production cost runs for its resource and financial planning models. These facts allow Big Rivers to streamline the conventional approach for determining marginal costs.

At current levels, because of the amount of generating capacity available above anticipated load obligations, Big Rivers' marginal production demand cost is zero. The marginal production energy cost is essentially equivalent to Big Rivers' average annual production energy cost. Because the preponderance of Big Rivers' generating assets are base-load resources, average marginal energy costs will not differ materially from average energy costs on an annual basis. Because of the existing capabilities of the electric transmission grid, as designed prior to the termination of the smelter contracts, the marginal transmission cost is also zero.

II. Introduction

Marginal cost is defined as the change in total cost with respect to a small change in demand. In this report "output" will be used in place of "demand" to avoid confusion with the standard way that the term "demand" is used in the industry to represent the maximum amount of power utilized during any interval over a specified period of time. Therefore, in this study, output refers to the total megawatts of capacity or megawatt-hours of energy, so that marginal cost is the change in total system cost relative to a small change in total system capacity or energy.

Marginal costs have several applications. In most jurisdictions in the U.S., the most common application of marginal cost studies by utilities is for designing economic development or other incentive rates. Similarly, the marginal costs are also utilized for analyzing discounted rates provided to certain customers pursuant to special contracts. Another application is for the development of particular components of other rate offerings, e.g. determining rate differentials for use in time-differentiated rates, such as time-of-use or critical-peak-pricing rate schedules.

III. Marginal Cost Theory

Marginal cost is defined as an infinitesimal change in total cost with respect to an infinitesimal change in output. Mathematically, marginal cost can be represented as the partial derivative of total cost to output, and can be stated as follows:

$$MC = \frac{\partial C}{\partial q}$$

where

MC	=	Marginal Cost
∂C	=	Infinitesimal change in Total Cost
∂q	=	Infinitesimal change in Output

In the context of discrete cost and output, marginal cost can be *estimated* as follows:

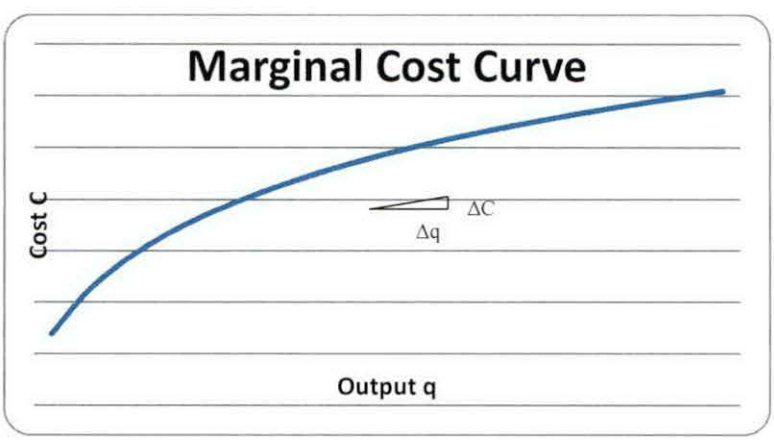
$$MC = \frac{\Delta C}{\Delta q}$$

where

MC	=	Marginal Cost
ΔC	=	Change in Total Cost
Δq	=	Change in Output

Graphically, the marginal cost is the slope of the line resulting from the graph of the total cost C and the total output q, as shown in Figure 1.

Figure 1. Cost vs. Output Curve



In the figure, "output" refers to total megawatts of capacity or megawatt-hours of energy required, so that marginal cost is the change in total system cost relative to a small change in total system output.

IV. Application of Marginal Cost Theory to Big Rivers

The application of Marginal Cost theory in this instance is influenced by Big Rivers' present circumstances with respect to capacity and load. It is also influenced by potential long-term sales not yet realized, and by the methods employed by Big Rivers for integrated resource planning and financial forecasting.

A. Capacity and Load

Big Rivers' generation at present includes the following:

Owned Generation - 1,444 MW

- Robert Reid (Sebree) – 130 MW (Reid 1 to be idled April 2016 – 65 MW)
- Robert Green (Sebree) – 454 MW
- D.B. Wilson (Centertown) – 417 MW
- Kenneth Coleman (Hawesville) – 443 MW (idled May 2014)

Other Available Generation – 375 MW

- Henderson Municipal Power & Light (HMP&L) Station II – 197 MW
- Southeastern Power Administration (SEPA) (Hydro) – 178 MW

Total Current Generation 1,819 MW (including Coleman and Reid 1)
1,311 MW (excluding Coleman and Reid 1)

For the 2016 budget, Big Rivers' anticipated 2016 peak demand is approximately 700 MW.

Given these values, it is evident that even with Coleman and Reid 1 idled, Big Rivers has capacity available to meet incremental load.

Furthermore, Big Rivers is working to secure additional long term obligations, including transactions like those approved in Case No. 2014-00134 with municipal utilities in Nebraska (referred to as the "Nebraska Agreements") and incremental growth to existing native load. These additional loads -- along with other load resulting from responses to Requests for Proposals ("RFPs") for long-term power sales -- would reduce the available capacity, but are not likely to eliminate it, with or without Coleman and Reid 1 idled. Thus for the foreseeable future, Big Rivers is positioned to meet any small increments of load with its existing generation resources.

B. Production Cost Modeling

Big Rivers bases its planning on production cost modeling ("PCM") runs. The PCM runs incorporate the anticipated operating characteristics of Big Rivers' power plants (including capacity, heat rate, and outage rates) as well as other system-wide values (including native load demand, fuel costs, and market prices). The PCM runs simulate the dispatch of Big Rivers' units in the MISO Day 2 market, which relies upon locational marginal pricing ("LMP") to dispatch units to meet load obligations for the region at large.

V. Marginal Production Demand Cost

The marginal demand costs for production are the changes in capacity costs associated with serving changes in demand on the electric system.

Recall that marginal cost is broadly defined as the change in total cost with respect to a small change in output--so that marginal cost is the change in total system capacity cost relative to a small change in total system demand.

Marginal production demand cost and its calculation is best looked at from the perspective of the electrical system utility planner. The planner begins by developing a schedule of resource acquisitions which allows the utility to meet its forecasted demand obligations. The planner then must address how any incremental demand will be met. Perhaps most often, anticipated additional demand is met by taking the existing plan for generation expansion and accelerating it.[1]

Ordinarily, to evaluate the change in capacity costs, a base case is defined that specifies the capacity (and associated capacity cost) required to meet Big Rivers' base demand forecast for the planning period. Other scenarios are then developed in which the total system demand is increased by set increments, and the capacity acquisitions required to meet those incremental demands are determined. The net present value of the capacity costs in the base case is then compared to the net present value of the capacity costs for the incremental cases to determine the change in capacity cost associated with the change in total system demand. This is known as the Generation Resource Plan Expansion Method.[2]

In this case, however, as noted before, Big Rivers' current resource plans do not include resource additions; in fact, the long term plan reflects significant available capacity, with or without the idling of Coleman and Reid 1. The addition of small increments of load will not produce a schedule of resource additions that differs from the current long term plan. No acceleration of a plan for resource acquisitions will occur because no resource acquisitions are required in the plan, even with varying small increments of demand. This indicates a marginal production

[1] Charles J. Cicchetti, et al, *The Marginal Cost and Pricing of Electricity: An Applied Approach* (Cambridge, MA: Ballinger Publishing Co., 1977), 8.
[2] NARUC Electric Utility Cost Allocation Manual (Washington, DC: NARUC, January 1992), 117.

demand cost of zero. Should Big Rivers be successful in the acquisition of incremental long term load (i.e. other transactions like the Nebraska Agreements, RFPs, or other), the existing system has sufficient available capacity to meet those obligations without further investment. The expectation is that Big Rivers would halt load acquisition efforts before reaching a point where investments in additional capacity would be required.

For these reasons, Big Rivers' marginal production demand cost is effectively zero.

VI. Marginal Production Energy Cost

Marginal energy cost refers to the change in costs of operating and maintaining the utility generating system in response to a change in customer usage. Marginal energy costs consist of incremental fuel or purchased power costs and variable operation and maintenance expenses incurred to meet the change in customer usage.[3]

In this instance, the marginal production energy cost is derived from the projection of total system costs for Big Rivers included in the budget and financial plan most recently approved by Big Rivers' Board of Directors. Specifically, the Company provided forecast cost data for 2016 through 2019. The projections for 2016 were used to populate the first two steps of the cost of service study model that was used in Big Rivers' last two rate cases. This includes the functionalization and classification steps of the cost of service study, in which all costs are split into categories including Production Demand, Production Energy, and Transmission Demand. The total cost for Production Energy is then calculated (including the costs directly in the production-related accounts 500 through 558 and a portion of the Administrative & General accounts 920 through 925). These calculations are performed using the same approach from the last two rate cases, consistent with the NARUC Electric Utility Cost Allocation Manual and the FERC predominance method. The total energy (production and purchased power) for the same period was then used to calculate a total per unit production energy cost on an annual basis. This computation is provided in the Appendix. Because the preponderance of Big Rivers' generating assets are base-load resources, marginal energy costs will not differ materially from average production energy costs on an annual basis.

The marginal production energy cost per kWh of additional energy is [redacted].

VII. Marginal Transmission Cost

Recall that marginal costs are defined as the change in total cost with respect to a small change in output. For discrete costs and output, the formula is:

$$MC = \frac{\Delta C}{\Delta q}$$

where

[3] *Id* at 110.

MC	=	Marginal Transmission Cost
ΔC	=	Change in Total Cost of Transmission Plant
Δq	=	Change in system demand

Here again the current state of Big Rivers capacity and load must be considered. The Big Rivers system is currently designed to accommodate a peak load measurably higher than that which Big Rivers anticipates in 2016 through the long term planning horizon. For this reason, any small incremental load addition will not automatically create a need for incremental plant investment.

It is possible that the particular siting of an incremental load could create transmission reliability or stability issues for Big Rivers for which investment is required. This may be characterized as a "local" issue which Big Rivers would work with the customer to resolve. Local issues of this nature are not pertinent to the calculation of an overall, system-wide marginal transmission cost in this case.

For these reasons, Big Rivers' marginal transmission costs are effectively zero.

VIII. Summary

The marginal costs for Big Rivers for Production Demand, Production Energy, and Transmission for 2016 are summarized below.

#	Item	Amount
1	Marginal Production Demand Cost ($/kW)	0.00
2	Marginal Production Energy Cost ($/kWh)	[redacted]
3	Marginal Transmission Cost ($/kW)	0.00

IX. Resources

1) Lowell E. Alt, Jr., Energy Utility Rate Setting (Lexington, KY: Lulu.com, 2006).

2) James C. Bonbright, Albert Danielson, and David Kamerschen, *Principles of Public Utility Rates* (Arlington, VA: Public Utilities Reports, Inc., 1988) pp. 408-442.

3) Metin Celebi and Philip Q Hanser, *Marginal Cost Analysis in Evolving Power Markets,* Energy 2010 Issue 02 (Cambridge, MA: The Brattle Group, 2010).

4) Charles J. Cicchetti, et al, *The Marginal Cost and Pricing of Electricity: An Applied Approach* (Cambridge, MA: Ballinger Publishing Co., 1977).

5) Kenneth Gordon and Wayne P. Olsen, *Retail Cost Recovery and Rate Design in a Restructured Environment* (Washington DC: Edison Electric Institute, 2004).

6) Alfred E. Kahn, *The Economics of Regulation: Principles and Institutions* (Cambridge, MA: MIT Press, 1988), pp. 67-86.

7) Jonathan A. Lesser and Leonardo R. Giacchino, *Fundamentals of Energy Regulation, 2nd Edition* (Arlington, VA: Public Utilities Reports, Inc., 2013), p. 418.

8) National Association of Regulatory Utility Commissioners, *Electric Utility Cost Allocation Manual* (Washington DC: NARUC, 1992) pp. 108-119.

9) Hethie Parmesano and William Bridgman, *The Role and Nature of Marginal and Avoided Costs in Ratemaking: A Survey* (National Economic Research Associates, Inc., 1992), pp 3-6.

10) Charles E. Phillips, *The Regulation of Public Utilities: Theory and Practice, 2nd Edition* (Arlington, VA: Public Utilities Reports, Inc., 1988), pp. 418-425.

Appendix

Cost of Service

Functionalization & Classification Analysis

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector	Total System [1]	Production Demand	Production Energy	Transmission Demand
Plant in Service						
Intangible Plant	INTPLT	PT&D	$ 66,895	58,197	-	8,698
Production Plant	PPROD	F001	$ 1,797,825,162	1,797,825,162	-	-
Transmission Plant	PTRAN	F002	$ 268,685,544	-	-	268,685,544
Distribution Plant	PDIST	F003	$ -	-	-	-
Total Production & Transmission Plant	PT&D		2,066,510,706	1,797,825,162	-	268,685,544
General Plant	PGP	PT&D	$ 48,756,515	42,417,244	-	6,339,271
Total Plant in Service	TPIS		$ 2,115,334,116	$ 1,840,300,604	$ -	$ 275,033,512
Construction Work in Progress (CWIP)						
CWIP Production	CWIP1	PPROD	$ 17,008,554	17,008,554	-	-
CWIP Transmission	CWIP2	PTRAN	$ 9,433,461	-	-	9,433,461
CWIP Distribution Plant	CWIP3	PDIST	$ -	-	-	-
CWIP General Plant	CWIP4	PT&D	$ 1,532,612	1,333,343	-	199,269
Total Construction Work in Progress	TCWIP		$ 27,974,627	$ 18,341,897	$ -	$ 9,632,730
Total Utility Plant			$ 2,143,308,743	$ 1,858,642,501	$ -	$ 284,666,242

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector	Total System [1]	Production Demand	Production Energy	Transmission Demand
Rate Base						
Total Utility Plant	TUP		$ 2,143,308,743	$ 1,858,642,501	$ -	$ 284,666,242
Less: Acummulated Provision for Depreciation						
Production	ADEPREPA	PPROD	$ 932,128,607	932,128,607	-	-
Transmission	ADEPRTP	PTRAN	$ 131,567,792	-	-	131,567,792
Distribution	ADEPRD11	PDIST	$ -	-	-	-
General & Common Plant	ADEPRD12	PT&D	$ 16,711,218	14,538,443	-	2,172,775
Intangible, Misc, and Other Plant	ADEPRGP	PT&D	$ -	-	-	-
Retirement Work In Progress	ADEPRRT	PT&D	$ -	-	-	-
Total Accumulated Depreciation	TADEPR		$ 1,080,407,617	$ 946,667,050	$ -	$ 133,740,567
Net Utility Plant	NTPLANT		$ 1,062,901,126	$ 911,975,451	$ -	$ 150,925,675
Working Capital						
Cash Working Capital - Operation and Maintenance Expenses	CWC	OMLPP	$ 24,844,744	10,791,072	11,649,663	2,404,009
Materials and Supplies	M&S	TPIS	$ 1,952,420	1,698,568	-	253,852
Prepayments	PREPAY	TPIS	$ 51,043,921	44,407,245	-	6,636,677
Fuel Stock	FS	TPIS	$ 27,712,072	24,108,978	-	3,603,094
Total Working Capital	TWC		$ 105,553,158	$ 81,005,863	$ 11,649,663	$ 12,897,632
Net Rate Base	RB		$ 1,168,454,284	$ 992,981,314	$ 11,649,663	$ 163,823,307

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector	Total System [1]	Production Demand	Production Energy	Transmission Demand
Operation and Maintenance Expenses						
Steam Power Generation Operation Expenses						
500 OPERATION SUPERVISION & ENGINEERING	OM500	PROFIX	[redacted]			-
501 FUEL	OM501	Energy	[redacted]			-
502 STEAM EXPENSES	OM502	PROFIX	[redacted]			-
505 ELECTRIC EXPENSES	OM505	PROFIX	[redacted]			-
506 MISC. STEAM POWER EXPENSES	OM506	PROFIX	[redacted]			-
507 RENTS	OM507	PROFIX	[redacted]			-
509 ALLOWANCES	OM509	Energy	[redacted]			-
Total Steam Power Operation Expenses			[redacted]			$ -
Steam Power Generation Maintenance Expenses			[redacted]			
510 MAINTENANCE SUPERVISION & ENGINEERING	OM510	Energy	[redacted]			-
511 MAINTENANCE OF STRUCTURES	OM511	PROFIX	[redacted]			-
512 MAINTENANCE OF BOILER PLANT	OM512	Energy	[redacted]			-
513 MAINTENANCE OF ELECTRIC PLANT	OM513	Energy	[redacted]			-
514 MAINTENANCE OF MISC STEAM PLANT	OM514	PROFIX	[redacted]			-
Total Steam Power Generation Maintenance Expense			[redacted]			$ -
Total Steam Power Generation Expense			[redacted]			$ -

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector	Total System [1]	Production Demand	Production Energy	Transmission Demand
Operation and Maintenance Expenses (Continued)						
Other Power Generation Operation Expense			[redacted]			
546 OPERATION SUPERVISION & ENGINEERING	OM546	PROFIX	[redacted]			-
547 FUEL	OM547	Energy	[redacted]			-
548 GENERATION EXPENSE	OM548	PROFIX	[redacted]			-
549 MISC OTHER POWER GENERATION	OM549	PROFIX	[redacted]			-
550 RENTS	OM550	PROFIX	[redacted]			-
Total Other Power Generation Expenses			[redacted]			$ -
Other Power Generation Maintenance Expense			[redacted]			
551 MAINTENANCE SUPERVISION & ENGINEERING	OM551	PROFIX	[redacted]			-
552 MAINTENANCE OF STRUCTURES	OM552	PROFIX	[redacted]			-
553 MAINTENANCE OF GENERATING & ELEC PLANT	OM553	PROFIX	[redacted]			-
554 MAINTENANCE OF MISC OTHER POWER GEN PLT	OM554	PROFIX	[redacted]			-
Total Other Power Generation Maintenance Expense			[redacted]			$ -
Total Other Power Generation Expense			[redacted]			$ -
Total Station Expense			[redacted]			$ -

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector	Total System [1]	Production Demand	Production Energy	Transmission Demand
Operation and Maintenance Expenses (Continued)						
Other Power Supply Expenses						
555 PURCHASED POWER Energy	OM555	OMPP	[redacted]			-
555 PURCHASED POWER Demand	OMD555	OMPPD	[redacted]			-
555 PURCHASED POWER BREC Share of HMP&L Station Two	OMH555	OMPPH	[redacted]			-
555 PURCHASED POWER - SEPA	OMS555	OMPPS	[redacted]			-
555 BROKERAGE FEES	OMB555	OMPP	[redacted]			-
555 MISO TRANSMISSION EXPENSES	OMM555	OMPP	[redacted]			-
556 SYSTEM CONTROL AND LOAD DISPATCH	OM556	PROFIX	[redacted]			-
557 OTHER EXPENSES	OM557	PROFIX	[redacted]			-
558 DUPLICATE CHARGES	OM558	Energy	[redacted]			-
Total Other Power Supply Expenses	TPP		[redacted]			$ -
Total Electric Power Generation Expenses			[redacted]			$ -
Transmission Expenses						
560 OPERATION SUPERVISION AND ENG	OM560	LBTRAN	$ 591,888	-	-	591,888
561 LOAD DISPATCHING	OM561	LBTRAN	$ 2,680,675	-	-	2,680,675
562 STATION EXPENSES	OM562	PTRAN	$ 741,328	-	-	741,328
563 OVERHEAD LINE EXPENSES	OM563	PTRAN	$ 1,287,509	-	-	1,287,509
565 TRANSMISSION OF ELECTRICITY BY OTHERS	OM565	PTRAN	$ 2,804,184	-	-	2,804,184
566 MISC. TRANSMISSION EXPENSES	OM566	PTRAN	$ 651,210	-	-	651,210
567 RENTS	OM567	PTRAN	$ 66,463	-	-	66,463
568 MAINTENACE SUPERVISION AND ENG	OM568	LBTRAN	$ 236,925	-	-	236,925
569 STRUCTURES	OM569	PTRAN	$ (85,962)	-	-	(85,962)
570 MAINT OF STATION EQUIPMENT	OM570	PTRAN	$ 1,948,082	-	-	1,948,082
571 MAINT OF OVERHEAD LINES	OM571	PTRAN	$ 2,699,835	-	-	2,699,835
572 UNDERGROUND LINES	OM572	PTRAN	$ -	-	-	-
573 MISC PLANT	OM573	PTRAN	$ 874,715	-	-	874,715
575 MARKET FACILITATION MONITORING MISO	OM575	PTRAN	$ 960,960	-	-	960,960
Total Transmission Expenses			$ 15,457,811	$ -	$ -	$ 15,457,811

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector	Total System [1]	Production Demand	Production Energy	Transmission Demand
Operation and Maintenance Expenses (Continued)						
Total Distribution Maintenance Expense	OMDM		$ -	$ -	$ -	$ -
Total Distribution Operation and Maintenance Expenses			-	-	-	-
Transmission and Distribution Expenses			15,457,811	-	-	15,457,811
Production, Transmission and Distribution Expenses	OMSUB		[redacted]			$ 15,457,811
Customer Accounts Expense						
901 SUPERVISION/CUSTOMER ACCTS	OM901	F025	$ -	-	-	-
902 METER READING EXPENSES	OM902	F025	$ -	-	-	-
903 RECORDS AND COLLECTION	OM903	F025	$ -	-	-	-
904 UNCOLLECTIBLE ACCOUNTS	OM904	F025	$ -	-	-	-
905 MISC CUST ACCOUNTS	OM903	F025	$ -	-	-	-
Total Customer Accounts Expense	OMCA		$ -	$ -	$ -	$ -
Customer Service Expense						
907 SUPERVISION	OM907	TUP	$ -	-	-	-
908 CUSTOMER ASSISTANCE EXPENSES	OM908	TUP	$ 923,024	800,432	-	122,593
908 CUSTOMER ASSISTANCE EXP-INCENTIVES	OM908x	TUP	$ -	-	-	-
909 INFORMATIONAL AND INSTRUCTIONA	OM909	TUP	$ 132,794	115,157	-	17,637
909 INFORM AND INSTRUC -LOAD MGMT	OM909x	TUP	$ -	-	-	-
910 MISCELLANEOUS CUSTOMER SERVICE	OM910	TUP	$ -	-	-	-
911 DEMONSTRATION AND SELLING EXP	OM911	TUP	$ -	-	-	-
912 DEMONSTRATION AND SELLING EXP	OM912	TUP	$ -	-	-	-
913 ADVERTISING EXPENSES	OM913	TUP	$ 265,587	230,313	-	35,274
915 MDSE-JOBBING-CONTRACT	OM915	TUP	$ -	-	-	-
916 MISC SALES EXPENSE	OM916	TUP	$ -	-	-	-
Total Customer Service Expense	OMCS		$ 1,321,405	$ 1,145,901	$ -	$ 175,504
Sub-Total Prod, Trans, Dist, Cust Acct and Cust Service	OMSUB2		352,649,958	77,136,479	259,880,164	15,633,315

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector		Total System [1]		Production Demand		Production Energy		Transmission Demand
Operation and Maintenance Expenses (Continued)										
Administrative and General Expense										
920 ADMIN. & GEN. SALARIES-	OM920	LBSUB9	$	12,227,519		4,995,941		5,674,301		1,557,277
921 OFFICE SUPPLIES AND EXPENSES	OM921	LBSUB9	$	9,722,272		3,972,343		4,511,716		1,238,212
922 ADMINISTRATIVE EXPENSES TRANSFERRED	OM922	LBSUB9	$	-		-		-		-
923 OUTSIDE SERVICES EMPLOYED	OM923	LBSUB9	$	3,017,722		1,232,986		1,400,404		384,332
924 PROPERTY INSURANCE	OM924	TUP	$	-		-		-		-
925 INJURIES AND DAMAGES - INSURAN	OM925	LBSUB9	$	-		-		-		-
926 EMPLOYEE BENEFITS	OM926	LBSUB9	$	470,170		192,103		218,187		59,880
927 FRANCHISE REQUIREMENTS	OM927	TUP	$	-		-		-		-
928 REGULATORY COMMISSION FEES	OM928	TUP	$	326,574		283,200		-		43,374
929 DUPLICATE CHARGES-CR	OM929	LBSUB9	$	-		-		-		-
930 MISCELLANEOUS GENERAL EXPENSES	OM930	LBSUB9	$	2,180,335		890,845		1,011,806		277,684
931 RENTS AND LEASES	OM931	PGP	$	1,933		1,682		-		251
935 MAINTENANCE OF GENERAL PLANT	OM935	PGP	$	290,316		252,570		-		37,747
Total Administrative and General Expense	OMAG		$	28,236,841	$	11,821,669	$	12,816,415	$	3,598,757
Total Operation and Maintenance Expenses	TOM		[redacted]						$	19,232,073
Operation and Maintenance Expenses Less Purchased Power	OMLPP		[redacted]							19,232,073

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector		Total System [1]		Production Demand		Production Energy		Transmission Demand
Labor Expenses										
Steam Power Generation Operation Expenses										
500 OPERATION SUPERVISION & ENGINEERING	LB500	PROFIX	$	5,181,125		5,181,125		-		-
501 FUEL	LB501	Energy	$	2,555,642		-		2,555,642		-
502 STEAM EXPENSES	LB502	PROFIX	$	5,985,353		5,985,353		-		-
505 ELECTRIC EXPENSES	LB505	PROFIX	$	4,108,122		4,108,122		-		-
506 MISC. STEAM POWER EXPENSES	LB506	PROFIX	$	929,390		929,390		-		-
507 RENTS	LB507	PROFIX	$	-		-		-		-
509 ALLOWANCES	LB509	Energy	$	-		-		-		-
Total Steam Power Operation Expenses	LBSUB1		$	18,759,632	$	16,203,990	$	2,555,642	$	-
Steam Power Generation Maintenance Expenses										
510 MAINTENANCE SUPERVISION & ENGINEERING	LB510	Energy	$	5,127,381		-		5,127,381		-
511 MAINTENANCE OF STRUCTURES	LB511	PROFIX	$	384,575		384,575		-		-
512 MAINTENANCE OF BOILER PLANT	LB512	Energy	$	7,267,361		-		7,267,361		-
513 MAINTENANCE OF ELECTRIC PLANT	LB513	Energy	$	870,361		-		870,361		-
514 MAINTENANCE OF MISC STEAM PLANT	LB514	PROFIX	$	245,658		245,658		-		-
Total Steam Power Generation Maintenance Expense	LBSUB2		$	13,895,335	$	630,233	$	13,265,103	$	-
Total Steam Power Generation Expense			$	32,654,968	$	16,834,223	$	15,820,745	$	-

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector		Total System [1]		Production Demand		Production Energy		Transmission Demand
Labor Expenses (Continued)										
Other Power Generation Operation Expense										
546 OPERATION SUPERVISION & ENGINEERING	LB546	PROFIX	$	-		-		-		-
547 FUEL	LB547	Energy	$	-		-		-		-
548 GENERATION EXPENSE	LB548	PROFIX	$	-		-		-		-
549 MISC OTHER POWER GENERATION	LB549	PROFIX	$	-		-		-		-
550 RENTS	LB550	PROFIX	$	-		-		-		-
Total Other Power Generation Expenses	LBSUB7		$	-	$	-	$	-	$	-
Other Power Generation Maintenance Expense										
551 MAINTENANCE SUPERVISION & ENGINEERING	LB551	PROFIX	$	-		-		-		-
552 MAINTENANCE OF STRUCTURES	LB552	PROFIX	$	-		-		-		-
553 MAINTENANCE OF GENERATING & ELEC PLANT	LB553	PROFIX	$	-		-		-		-
554 MAINTENANCE OF MISC OTHER POWER GEN PLT	LB554	PROFIX	$	-		-		-		-
Total Other Power Generation Maintenance Expense	LBSUB8		$	-	$	-	$	-	$	-
Total Other Power Generation Expense			$	-	$	-	$	-	$	-
Total Production Expense	LPREX		$	32,654,968	$	16,834,223	$	15,820,745	$	-

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector		Total System [1]		Production Demand		Production Energy		Transmission Demand
Labor Expenses (Continued)										
Purchased Power										
555 PURCHASED POWER Energy	LB555	OMPP	$	-		-		-		-
555 PURCHASED POWER Demand	LBD555	OMPPD	$	-		-		-		-
555 PURCHASED POWER BREC Share of HMP&L Station Two	LBH555	OMPPH	$	8,368,196		2,294,697		6,073,500		-
555 BROKERAGE FEES	LBB555	OMPP	$	-		-		-		-
555 MISO TRANSMISSION EXPENSES	LBM555	OMPP	$	-		-		-		-
556 SYSTEM CONTROL AND LOAD DISPATCH	LB556	PROFIX	$	-		-		-		-
557 OTHER EXPENSES	LB557	PROFIX	$	-		-		-		-
558 DUPLICATE CHARGES	LB558	Energy	$	-		-		-		-
Total Purchased Power Labor	LBPP		$	8,368,196	$	2,294,697	$	6,073,500	$	-
Transmission Labor Expenses										
560 OPERATION SUPERVISION AND ENG	LB560	PTRAN	$	574,329		-		-		574,329
561 LOAD DISPATCHING	LB561	PTRAN	$	1,542,856		-		-		1,542,856
562 STATION EXPENSES	LB562	PTRAN	$	211,046		-		-		211,046
563 OVERHEAD LINE EXPENSES	LB563	PTRAN	$	77,009		-		-		77,009
565 TRANSMISSION OF ELECTRICITY BY OTHERS	LB565	PTRAN	$	-		-		-		-
566 MISC. TRANSMISSION EXPENSES	LB566	PTRAN	$	409,246		-		-		409,246
567 RENTS	LB567	PTRAN	$	-		-		-		-
568 MAINTENACE SUPERVISION AND ENG	LB568	PTRAN	$	232,499		-		-		232,499
569 MAINTENACE OF STRUCTURES	LB569	PTRAN	$	(116,000)		-		-		(116,000)
570 MAINT OF STATION EQUIPMENT	LB570	PTRAN	$	1,527,553		-		-		1,527,553
571 MAINT OF OVERHEAD LINES	LB571	PTRAN	$	1,258,021		-		-		1,258,021
573 MAINT OF MISC. TRANSMISSION PLANT	LB573	PTRAN	$	269,532		-		-		269,532
Total Transmission Labor Expenses	LBTRAN		$	5,986,090	$	-	$	-	$	5,986,090

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector		Total System [1]		Production Demand		Production Energy		Transmission Demand
Labor Expenses (Continued)										
Total Distribution Operation and Maintenance Labor Expenses		PDIST		-		-		-		-
Transmission and Distribution Labor Expenses				5,986,090		-		-		5,986,090
Production, Transmission and Distribution Labor Expenses	LBSUB		$	47,009,254	$	19,128,919	$	21,894,245	$	5,986,090
Customer Accounts Expense										
901 SUPERVISION/CUSTOMER ACCTS	LB901	F025	$	-		-		-		-
902 METER READING EXPENSES	LB902	F025	$	-		-		-		-
903 RECORDS AND COLLECTION	LB903	F025	$	-		-		-		-
904 UNCOLLECTIBLE ACCOUNTS	LB904	F025	$	-		-		-		-
905 MISC CUST ACCOUNTS	LB903	F025	$	-		-		-		-
Total Customer Accounts Labor Expense	LBCA		$	-	$	-	$	-	$	-
Customer Service Expense										
907 SUPERVISION	LB907	TUP	$	-		-		-		-
908 CUSTOMER ASSISTANCE EXPENSES	LB908	TUP	$	170,526		147,878		-		22,649
908 CUSTOMER ASSISTANCE EXP-LOAD MGMT	LB908x	TUP	$	-		-		-		-
909 INFORMATIONAL AND INSTRUCTIONA	LB909	TUP	$	-		-		-		-
909 INFORM AND INSTRUC -LOAD MGMT	LB909x	TUP	$	-		-		-		-
910 MISCELLANEOUS CUSTOMER SERVICE	LB910	TUP	$	-		-		-		-
911 DEMONSTRATION AND SELLING EXP	LB911	TUP	$	-		-		-		-
912 DEMONSTRATION AND SELLING EXP	LB912	TUP	$	-		-		-		-
913 WATER HEATER - HEAT PUMP PROGRAM	LB913	TUP	$	-		-		-		-
915 MDSE-JOBBING-CONTRACT	LB915	TUP	$	-		-		-		-
916 MISC SALES EXPENSE	LB916	TUP	$	-		-		-		-
Total Customer Service Labor Expense	LBCS		$	170,526	$	147,878	$	-	$	22,649
Sub-Total Labor Exp	LBSUB9			47,179,781		19,276,797		21,894,245		6,008,739

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector		Total System [1]		Production Demand		Production Energy		Transmission Demand
Labor Expenses (Continued)										
Administrative and General Expense										
920 ADMIN. & GEN. SALARIES-	LB920	LBSUB9	$	12,227,519		4,995,941		5,674,301		1,557,277
921 OFFICE SUPPLIES AND EXPENSES	LB921	LBSUB9	$	-		-		-		-
922 ADMIN. EXPENSES TRANSFERRED - CREDIT	LB922	LBSUB9	$	-		-		-		-
923 OUTSIDE SERVICES EMPLOYED	LB923	LBSUB9	$	-		-		-		-
924 PROPERTY INSURANCE	LB924	TUP	$	-		-		-		-
925 INJURIES AND DAMAGES - INSURAN	LB925	LBSUB9	$	-		-		-		-
926 EMPLOYEE BENEFITS	LB926	LBSUB9	$	184,500		75,383		85,619		23,498
928 REGULATORY COMMISSION FEES	LB928	TUP	$	-		-		-		-
929 DUPLICATE CHARGES-CR	LB929	LBSUB9	$	-		-		-		-
930 MISCELLANEOUS GENERAL EXPENSES	LB930	LBSUB9	$	-		-		-		-
931 RENTS AND LEASES	LB931	PGP	$	-		-		-		-
935 MAINTENANCE OF GENERAL PLANT	LB935	PGP	$	-		-		-		-
Total Administrative and General Expense	LBAG		$	12,412,019	$	5,071,324	$	5,759,920	$	1,580,774
Total Operation and Maintenance Expenses	TLB		$	59,591,799	$	24,348,121	$	27,654,165	$	7,589,513
Operation and Maintenance Expenses Less Purchase Power	LBLPP		$	59,591,799	$	24,348,121	$	27,654,165	$	7,589,513

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector	Total System [1]	Production Demand	Production Energy	Transmission Demand
Other Expenses						
Depreciation Expenses						
Production	DEPRDP2	PPROD	$ 15,692,480 [2]	15,692,480	-	-
Transmission	DEPRDP3	PTRAN	$ 2,243,387 [2]	-	-	2,243,387
Transmission	DEPRDP4	PTRAN	$ -	-	-	-
Distribution	DEPRDP5	PDIST	$ -	-	-	-
General & Common Plant	DEPRDP6	PGP	$ 1,683,551 [2]	1,464,657	-	218,893
Other Plant	DEPROTH	TPIS	$ -	-	-	-
Total Depreciation Expense	TDEPR		$ 19,619,418	17,157,137	-	2,462,281
Property Taxes & Other	PTAX	TUP	$ 920	798	-	122
Amortization of Investment Tax Credit	OTAX	TUP	$ -	-	-	-
Other Interest Expenses	OT	TUP	$ -	-	-	-
Interest on Long Term Debt	INTLTD	TUP	$ 41,902,252	36,336,951	-	5,565,300
Interest Charged to Construction - CR		TUP	$ (536,430)	(465,183)	-	(71,247)
Other Deductions	DEDUCT	TUP	$ 670,331	581,300	-	89,031
Total Other Expenses	TOE		$ 61,656,491	$ 53,611,004	$ -	$ 8,045,487
Total Cost of Service (O&M + Other Expenses)			[redacted]			$ 27,277,560
Total Energy (kWh)			8,418,926	-	8,418,926	-
Total Production Energy Cost ($/MWh)					[redacted]	
Total Production Energy Cost ($/kWh)						

BIG RIVERS ELECTRIC CORPORATION
Marginal Cost Analysis
Functional Assignment and Classification

Forecasted 12 Months Ended
December 31, 2016

Description	Name	Functional Vector	Total System [1]	Production Demand	Production Energy	Transmission Demand
Functional Vectors						
Production Plant	F001		1.000000	1.000000	0.000000	0.000000
Transmission Plant	F002		1.000000	0.000000	0.000000	1.000000
Distribution Plant	F003		1.000000	0.000000	0.000000	1.000000
Production Plant	F017		1.000000	0.000000	1.000000	0.000000
Production Variable Cost	PROVAR		1.000000	0.000000	1.000000	0.000000
Production Fixed Cost	PROFIX		1.000000	1.000000	0.000000	0.000000
Distribution Operation Labor	F023		-	-	-	-
Distribution Maintenance Labor	F024		-	-	-	-
Customer Accounts Expense	F025		1.000000	0.000000	0.000000	1.000000
Customer Service Expense	F026		1.000000	0.000000	0.000000	1.000000
Purchased Power Energy	OMPP		1.000000	0.000000	1.000000	0.000000
Purchased Power Demand	OMPPD		1.000000	1.000000	0.000000	0.000000
Purchased Power BREC Share of HMP&L Station Two	OMPPH		[redacted] [3]	[redacted]		0.000000
Purchased Power - SEPA	OMPPS		9.611	2.630	6.982	
Production Energy	Energy		1.000000	0.000000	1.000000	0.000000
Internally Generated Functional Vectors						
Total Prod, Trans, and Dist Plant		PT&D	1.000000	0.869981	-	0.130019
Total Transmission Plant		PTRAN	1.000000	-	-	1.000000
Operation and Maintenance Expenses Less Purchased Power		OMLPP	1.000000	[redacted]		0.096761
Total Plant in Service		TPIS	1.000000	0.869981	-	0.130019
Total Operation and Maintenance Expenses (Labor)		TLB	1.000000	0.408582	0.464060	0.127358
Sub-Total Prod, Trans, Dist, Cust Acct and Cust Service		OMSUB2	1.000000	0.218734	0.736935	0.044331
Total Steam Power Operation Expenses (Labor)		LBSUB1	1.000000	0.863769	0.136231	-
Total Steam Power Generation Maintenance Expense (Labor)		LBSUB2	1.000000	0.045356	0.954644	-
Total Transmission Labor Expenses		LBTRAN	1.000000	-	-	1.0000000
Sub-Total Labor Exp		LBSUB7	1.000000	0.408582	0.464060	0.127358
Total General Plant		PGP	1.000000	0.869981	-	0.130019
Total Production Plant		PPROD	1.000000	1.000000	-	-
Total Intangible Plant		INTPLT	1.000000	0.869981	-	0.130019

Notes
1 Values for 2016 Forecast. Plant values for 13-month average balance Jan 2016 through Jan 2017.
2 Depreciation is functionally classified at ratio from Case No. 2013-00199 (and values do not affect Production Energy).
3 Allocation vector OMPPH for Purchased Power BREC Share of HMP&L Station Two is from Case No. 2013-00199.

AMENDED AND RESTATED AGREEMENT FOR RETAIL ELECTRIC SERVICE

THIS AGREEMENT FOR ELECTRIC SERVICE ("Agreement"), is made and entered into as of the ___ day of ________, 2016, by and between **KENERGY CORP.**, a Kentucky electric cooperative corporation, with its principal office located at 6402 Old Corydon Road, P.O. Box 18, Henderson, Kentucky 42419-0018 ("Kenergy" or "Seller"), and **ALERIS ROLLED PRODUCTS, INC.**, doing business in the Commonwealth of Kentucky as Aleris Rolled Products Manufacturing, Inc., with a services address at 1372 State Route 1957, Lewisport, Kentucky 42351 ("Aleris RP" or "Customer"). Seller and Customer are individually referred to herein as a "Party" and collectively as the "Parties".

WHEREAS, Kenergy provides retail electric service to Aleris RP at its Lewisport aluminum mill located in Hancock County, Kentucky ("Customer's Facility"), under an Agreement for Electric Service dated May 13, 2011 ("2011 Agreement");

WHEREAS, Kenergy and Aleris RP have reached agreement concerning the terms and conditions of future retail service to Customer's Facility, including the increased level of retail service required to meet the electric energy requirements of improvements and machinery that Customer is constructing and installing at Customer's Facility ("Facility Additions"), and in reliance on said agreement Kenergy is entering into, or has entered into, a wholesale power sales agreement ("Wholesale Agreement") with Big Rivers Electric Corporation ("Big Rivers" or "Power Supplier"); and

WHEREAS, the Parties desire to set forth in writing their agreement regarding said retail electric service; and

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

ARTICLE I
GENERAL OBLIGATIONS

1.01 Basic Obligations of the Parties. Seller will supply, sell, and deliver to Customer, and Customer will accept and pay for, all of the electric power and energy required by Customer for the operation of Customer's Facility, up to the Maximum Contract Demand, as defined in Section 2.03 below. This service will be supplied under this Agreement, and the rules, regulations, and orders of the Public Service Commission of Kentucky ("Commission"), which may be applicable and effective from time to time. Seller and Customer agree that this Agreement contains the exclusive terms and conditions on which Seller will provide retail electric service to Customer during the term of this Agreement.

1.02 Membership. Customer has been and shall continue to be a member of Seller, and shall be bound by such rules and regulations as may be adopted from time to time by Seller consistent with the terms and conditions of this Agreement.

ARTICLE II
SERVICE CHARACTERISTICS

2.01 Delivery Point and Character of Service. The "Delivery Point" of the electric power and energy made available under this Agreement shall be the points of connection of Customer's 13,800 volt bus with Big Rivers' step-down transformers located in the substations at Customer's Facility. The electric power and energy delivered under this Agreement will be in the form of three-phase alternating current (60 hertz) at nominal 13,800 voltage level.

2.02 Service Restriction. Customer shall not use the electric power and energy furnished hereunder as an auxiliary or supplement to any other source of purchased power and shall not sell any electric power and energy purchased hereunder.

2.03 Maximum Contract Demand.

(a) The maximum demand of Customer in any month during the term of this Agreement, or any extension thereof (the "Maximum Contract Demand"), shall be:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

(b) Customer's metered demand ("Metered Demand") shall be the highest integrated kilowatt demand occurring during a thirty-minute period at the beginning and mid-point of a clock hour in the billing month, as measured by the coincidental sum of Customer's meters.

2.04 System Disturbances; Obligation For Damages.

(a) A "System Disturbance" shall be deemed to exist if the use of power by Customer directly or indirectly results in a risk of harm to human beings or material damage to or substantial interference with the functioning of Big Rivers' generating system or transmission system, Seller's distribution system, or the plant, facility, equipment or operations of any customer of one of Big Rivers' distribution cooperatives. A System Disturbance includes, but is not limited to: (i) a level of current harmonic total demand distortion ("TDD") measured at the Delivery Point that exceeds the limits on TDD described in IEEE Standard 519, Section 10; and (ii) a use of capacity and energy in such a manner that causes a current imbalance between phases greater than five percent at the Delivery Point.

(b) In its role as Local Balancing Area Operator in the Midcontinent Independent System Operator, Inc. and reader of the meters serving Seller, Big Rivers shall have primary responsibility for determining the existence and source of System Disturbances. If Big Rivers reasonably believes that Customer is responsible for a System Disturbance, it shall provide notice to Seller and Customer, and Customer may take, but shall not be obligated to take, appropriate action at its sole expense to cure, correct or suppress such System Disturbance. If the Customer declines for any reason to take action to correct the System Disturbance, then Seller shall undertake, or cause Big Rivers to undertake, appropriate action to cure, correct or suppress such System Disturbance. Customer shall be obligated to reimburse Seller for all costs incurred by Seller or Big Rivers to cure, correct or suppress such System Disturbance, provided that such action was successful in curing, correcting or suppressing such System Disturbance, and further providing that Customer is conclusively determined to be the cause of such System Disturbance.

(c) Customer acknowledges and agrees that Seller shall have no responsibility for damage to any property, or to any equipment or devices connected to Customer's electrical system on Customer's side of the Delivery Point that results solely from acts or omissions of Customer, its employees, agents, contractors or invitees, or malfunction of any equipment or devices connected to Customer's electrical system on Customer's side of the Delivery Point.

2.05 Power Factor. Customer shall maintain a power factor at the Delivery Point as nearly as practicable to unity. Power factor during normal operation may range from unity to 90%. If Customer's power factor is less than 90% at time of maximum load, Seller reserves the right to require Customer to choose either (a) installation at Customer's expense of equipment which will maintain a power factor of 90% or higher; or (b) adjustment of the maximum monthly metered demand for billing purposes in accordance with the following formula:

$$\frac{\text{Maximum Actual Measured Kilowatts x 90\%}}{\text{Power Factor (\%)(as adjusted)}}$$

2.06 Metering.

(a) The metering equipment necessary to register the electric demand and energy for this service shall be furnished, installed, operated, and maintained by Seller or Big Rivers on behalf of Seller, and shall be and remain the property of Seller or Big Rivers.

(b) Each meter shall be read on or about the first day of each month, or such other day as may be mutually agreed upon by a representative of Seller and Customer, and may be simultaneously read by a representative of Customer should Customer so elect.

(c) All inspections and testing of metering equipment shall be performed in accordance with applicable rules and regulations of the Commission.

2.07 Easements and Facilities Provided by Customer.

(a) Customer has provided, and shall continue to provide or cause to be provided, without cost to Seller, the following property rights, easements and facilities which are or may be necessary for Seller or its Power Supplier to supply the electric consuming facilities of Customer with retail electric service, it being acknowledged by Seller that the facilities in use by Big Rivers and Seller on the date of this Agreement are adequate for current requirements:

(i) Easements for rights-of-way upon Customer's property of such dimensions as determined by Seller, and at such locations as mutually agreed, which are necessary for the construction of facilities which Seller or its Power Supplier must furnish to provide electric service herein; provided, however, that if Customer wishes to move such facilities in the future, Seller will cooperate in identifying alternate satisfactory locations so long as any relocation is at Customer's expense;

(ii) An easement for ingress and egress for the exercise by Seller or Big Rivers of Seller's rights under this Agreement;

(iii) Adequate sites for such additions to the existing substation site, or adequate additional substation sites, at such locations and of such dimensions as mutually agreed upon with the fee simple title thereto, rough graded to Seller's or Big Rivers' requirements, as may be from time to time required by Seller or Big Rivers;

(iv) All required 13,800 volt substation equipment including buses to connect to transformers owned by Big Rivers, but not including the Customer's 13,800 volt transformer, lightning arresters and station service equipment for Big Rivers' portion of the substation;

(v) Facilities for Big Rivers' metering equipment; and

(vi) Except as provided in Section 2.08, Customer has furnished, and shall continue to furnish, operate, and maintain (or cause to be furnished, operated, and maintained) such facilities and equipment as may be necessary to enable it to receive and use electric power and energy purchased hereunder at and from the Delivery Point.

(b) Customer further accepts responsibility for the actual cost of new transmission and substation facilities constructed or caused to be constructed by Seller to provide service for the Facilities Additions (collectively, the "Transmission Facilities Costs" for the "Expanded Transmission Facilities"), which amount is estimated to be $9,500,000 as of the date of this Agreement. The Expanded Transmission Facilities are described in more detail on Exhibit A to this Agreement. Transmission Facilities Costs shall include costs incurred by Big Rivers prior to the Effective Date of this Agreement for which Customer has accepted financial responsibility. The actual amount of the Transmission Facilities Costs shall be paid initially by Big Rivers, and shall be included in the "Termination Charge" under this Agreement, as further described in Section 2.11. The Transmission Facilities Costs will include the total amount of the Transmission Facilities Costs incurred by Big Rivers under the Wholesale Agreement and charged to Seller. If this Agreement expires or is terminated for any reason prior to the completion of the projects contemplated in this Section 2.07(b), Transmission Facilities Costs shall include all such costs that have been incurred or that are unavoidable as of the date of expiration or termination of this Agreement. Customer's responsibility for Transmission Facilities Costs for the Expanded Transmission Facilities pursuant to this subparagraph is capped at $10,500,000, provided that neither Seller nor Big Rivers shall obligated to expend more than $10,500,000 for Transmission Facilities costs and may suspend work on the Expanded Transmission Facilities unless and until Customer agrees to accept responsibility for the additional costs.

2.08 Facilities Provided by Seller. Seller, by and through Big Rivers, has furnished, and will continue to furnish, all required substation facilities for delivering the electric power and energy to Customer at the Delivery Point, except (i) Customer shall furnish or pay for those facilities as specified in Section 2.07; (ii) Customer will promptly reimburse Seller, or upon request by Seller will pay directly to Big Rivers, all of the cost Seller is charged by Big Rivers for any repair or replacement made or installed by Big Rivers at the Customer's substations in excess of $10,000, except the cost of a transformer rewind, replacement transformation, or additional transformation and any expense that results from the negligent acts or omissions of Seller or Big Rivers; and (iii) Customer will be responsible for all of the cost Seller is charged by Big Rivers for a transformer rewind, replacement transformation, or additional transformation, including associated equipment, labor, and other usual costs ("Extraordinary Substation Expense") through a Termination Charge. The Extraordinary Substation Expense will include the total amount of an Extraordinary Substation Expense incurred by Big Rivers under the Wholesale Agreement and charged to Seller. If this Agreement expires or is terminated for any reason prior to the completion of a project commenced under this Section 2.08, Extraordinary Substation Expense shall include all such costs that have been incurred or that are unavoidable as of the date of expiration or termination of this Agreement.

2.09 Operation and Maintenance of Facilities.

(a) Seller shall construct, operate, and maintain, or cause to be constructed, operated and maintained, all facilities and equipment owned by it or its Power Supplier and required to supply retail electric service to Customer in accordance with the terms of this Agreement.

(b) Customer shall construct, operate, and maintain, or cause to be constructed, operated, and maintained, all of the facilities and equipment owned by it in accordance with the applicable provisions of the National Electrical Safety Code and all other applicable laws, codes, and regulations; provided, however, that Seller shall have no duty to inspect such facilities for compliance therewith.

2.10 Right of Removal. Any and all equipment, apparatus, devices, or facilities placed or installed, or caused to be placed or installed, by either Party on or in the premises of the other Party shall be and remain the property of the Party owning and installing such equipment, apparatus, devices, or facilities regardless of the mode or manner of annexation or attachment to real property of the other. Upon the termination of this Agreement, the owner thereof shall have the right to enter upon the premises of the other and shall within a reasonable time remove such equipment, apparatus, devices, or facilities; provided, however, that Customer may not recover any easements or sites conveyed to Seller as referred to in Section 2.07 hereof except to the extent that Seller no longer has a need to make use of such easements or sites.

2.11 Termination Charges.

If this Agreement expires or is terminated for any reason, Customer shall pay Seller, in addition to any other obligations Customer may have to Seller upon the expiration or termination of this Agreement, a "Termination Charge," and an "EDR Termination Charge."

(a) The Termination Charge shall be the sum of :

1. Transmission Facilities Costs for which Customer is obligated under Section 2.07(b) of this Agreement reduced by $0.90 per kilowatt of demand in excess of Base Demand (as defined in Exhibit C) that the Customer is billed and pays for under this Agreement, and that has not otherwise been applied as a credit to Extraordinary Substation Expense; and

2. Extraordinary Substation Expense for which Customer is obligated under Section 2.08 of this Agreement reduced by $0.90 per kilowatt of demand that the Customer is billed and pays for under this Agreement after the date on which an item of Extraordinary Substation Expense is incurred, and that has not otherwise been applied as a credit to Transmission Facilities Costs.

(b) The EDR Termination Charge shall be, in any month following expiration or termination of this Agreement, the sum of the portion of the Phase I Increment, Phase II Increment, Phase III Increment and Phase IV Increment (each as defined in Exhibit C to this Agreement) that would have been includable, but was not included, in Minimum Contract Demand in that month multiplied by Big Rivers' standard LIC tariff Demand Charge in effect during that month.

ARTICLE III
PAYMENT

3.01 Rates. On and after the Effective Date (as defined in Section 11.02 below) of this Agreement, Customer shall pay Seller for service hereunder at the rates set forth in Seller's Rate Schedule 34, attached hereto as Exhibit B, and other applicable tariffs of Seller, or any successor tariff(s), subject to the Economic Development Rate ("EDR"), attached hereto as Exhibit C, all of which are incorporated herein by reference, subject to such changes as may become effective from time to time by operation of law or by order of the Commission, provided that in the case of any filing with the Commission which changes or affects the terms, conditions, or rates under this Agreement, Seller gives Customer notice in accordance with the Commission's regulations and orders so that Customer has the opportunity to participate in any proceeding at the Commission affecting the terms, conditions, or rates hereunder.

3.02 Taxes. Customer shall pay all taxes, charges, or assessments now or hereafter applicable to electric service hereunder.

3.03 Billing Demand.

(a) The monthly Billing Demand shall be the greater of the maximum metered demand at Customer's metering point during each month, measured as specified in Section 2.03(b) of this Agreement ("Metered Demand"), or the Minimum Contract Demand, as defined in Section 3.03(b). The provisions of Section 2.05 apply to the measured kilowatts.

(b) The Minimum Contract Demand of Customer for billing purposes in any billing month shall be the greater of the number of kilowatts resulting from one of the following two calculations:

1. 60% of the Maximum Contract Demand; and

2. The sum of the following (using terms defined in Exhibit C to this Agreement):

A. Base Demand;

B. During the Phase I Full-Rate Term, the portion of the Phase I Increment included in Minimum Contract Demand as calculated pursuant to paragraph number 3 of the Phase I EDR;

C. During the Phase II Full-Rate Term, the portion of the Phase II Increment included in Minimum Contract Demand as calculated pursuant to paragraph number 3 of the Phase II EDR;

D. During the Phase III Full-Rate Term, the portion of the Phase III Increment included in Minimum Contract Demand as calculated pursuant to paragraph number 3 of the Phase III EDR, and

E. During the Phase IV Full-Rate Term, the portion of the Phase IV Increment included in Minimum Contract Demand as calculated pursuant to paragraph number 3 of the Phase IV EDR

3.04 Payment of Bills.

(a) Beginning with the Effective Date (as defined in Section 11.02 below) Seller will bill Customer no later than the first Business Day after the 13th of the month for the previous month's service hereunder. Customer will pay Seller in immediately available funds by 1:00 o'clock p.m., central time (prevailing), on or before the first Business Day after the 24th of the month (the "Due Date"). Invoices shall be sent to the attention of Plant Controller by email to christopher.thompson@aleris.com and sherry.boyken@aleris.com@aleris.com. If payment is not received by Seller when due, Seller may terminate service to Customer's Facility after providing five business days' notice by email and overnight courier service to:

Aleris Rolled Products, Inc.
1372 State Road 1957
Lewisport, KY 42351-0480
Attn: Plant Controller, Christopher Thompson
Email: Christopher.thompson@aleris.com

With copy to:
Aleris International, Inc.
25825 Science Park Drive
Beachwood, Ohio 44122
Attn: General Counsel

Notice shall be effective upon the earlier of (i) the time an email is sent, provided that the sender has not received a return message indicating the email was not delivered, or (ii) the day after deposit for next day delivery with a recognized overnight courier. Invoices sent and notices given as provided in this Section 3.04(a) shall be effective unless Seller has been notified by Customer in accordance with Section 8.01 of this Agreement that the name or address of an addressee under this Section 3.04(a) has changed. Discontinuance for non-payment will be in addition to any other remedy that may be available to Seller and will not lessen in any way the obligation of Customer to pay to Seller any and all sums owing to Seller.

(b) Interest on any unpaid amounts will be simple interest equal to the prime commercial lending rate *per annum* as published in the "Money Rates" section of *The Wall Street Journal* on the Due Date, or on the first Business Day after the Due Date if the Due Date falls on a weekend day or a day when this rate is not published, plus one percent. Interest on delinquent amounts will be calculated from the Due Date of the bill to the date of the payment, with interest calculated and prorated for that portion of the month in which amounts are outstanding. The applicable interest rate will be recalculated each month using the new prime commercial lending rate *per annum* as published in the "Money Rates" section of *The Wall Street Journal*, on the Due Date in that month, or on the first Business Day after the Due Date in that month if the Due Date falls on a weekend day or a day when such rate is not published, plus one percent. If *The Wall Street Journal* discontinues publication of the prime commercial lending rate, the Parties shall agree on a mutually acceptable alternative source for that rate.

3.05 Security for Customer's Obligations.

(a) As security for payment of its monthly billing obligations from and after the Effective Date, Customer shall provide Kenergy at the time this Agreement is signed and thereafter maintain a cash deposit or an irrevocable bank letter of credit representing two months' estimated billing based on prior consumption or, in the case of an adjustment to the Maximum Contract Demand, the estimated future billing. Semi-annually, and 15 days prior to any adjustment in the Maximum Contract Demand, the Parties shall adjust the deposit or bank letter of credit to reflect changes in the amounts of the obligations of Customer secured by the deposit or bank letter of credit.

(b) As security for payment of the Termination Charge for which Customer is obligated under Section 2.11(a) of this Agreement, Customer shall provide Big Rivers at the time this Agreement is signed and thereafter maintain a cash deposit or an irrevocable bank letter of credit equal to the amount of the Termination Charge. Semi-annually, and upon the addition or truing up of any charges to the Termination Charge, the Parties shall adjust the deposit or bank letter of credit to reflect changes in the amounts of the obligations of Customer secured by the deposit or bank letter of credit.

(c) As security for payment of the EDR Termination Charge, Customer shall cause its parent company, Aleris International, Inc. ("Customer Parent"), to guarantee to Kenergy and Big Rivers the payment by Customer of Customer's obligations for the EDR Termination Charge pursuant to a Guarantee Agreement executed by Customer Parent in favor of Kenergy and Big Rivers in the form attached to this Agreement as Exhibit D (the "Customer Parent Guarantee"), and delivered to Kenergy and Big Rivers at the time this Agreement is signed.

(d) At the time this Agreement is being entered into there is no outstanding Termination Charge resulting from Extraordinary Substation Expense under section 2.08 above. If costs are to be incurred in the future that would constitute Extraordinary Substation Expense under Section 2.08, above, thereby resulting in a Termination Charge, prior to the commencement of the subject work, Customer shall be required to increase the amount of its cash deposit or letter of credit under Section 3.05(b) of this Agreement in the amount of the estimated Extraordinary Substation Expense to be incurred. Upon completion of the work the amount of the security shall be adjusted so that it is equal to the actual amount of the cost.

(e) Letters of credit must be approved by Kenergy, and must be issued by a bank acceptable to Kenergy. Any cash deposit provided pursuant to Section 3.05(a) or 3.05(b) will earn interest in accordance with law, and interest earned will be paid annually to Customer. The failure of Customer to provide or maintain the security for payment as required by this Section 3.05 shall be treated as a failure to pay a bill for electric service when due, and Seller may proceed to disconnect service to Customer as provided in Section 3.04.

(f) The material obligations of Customer pursuant to this Agreement shall include, but not be limited to, the obligations of Customer pursuant to Sections 3.05(a), (b) and (c).

ARTICLE IV
CONTINUITY OF SERVICE

4.01 Seller shall use reasonable diligence to provide a constant and uninterrupted supply of electric power and energy hereunder. However, Seller shall not be responsible for damages to Customer occasioned by any failure, shortage, or interruption of service or for failure as a result of Force Majeure (as defined in Section 4.02(a), below).

4.02 In the event either Party shall be unable, wholly or in part, by reason of Force Majeure (as defined below), including Force Majeure preventing Big Rivers from supplying power for Seller's resale to Customer, to carry out its obligations hereunder, on such Party's giving notice and reasonably full particulars of such Force Majeure, first by telephone and then confirmed in writing, to the other Party within a reasonable time after the occurrence of the cause relied upon, then the obligations of the Parties, to the extent they are affected by such Force Majeure, shall be suspended during the continuance of any inability so caused, but for no longer period, and the following provisions shall apply:

(a) The term "Force Majeure" as used herein, shall mean acts of God, strikes, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests and restraints of the government (whether federal, state, or local, civil or military), civil disturbances, explosions, breakage of or accident to machinery, equipment, distribution lines or transmission lines, inability of either Party to obtain necessary materials, supplies, or permits due to existing or future rules, regulations, orders, laws, or proclamations of governmental authorities (whether federal, state, or local, civil or military), and any other causes which are not reasonably within the control of the Party affected.

(b) The Party unable to perform its obligations hereunder by reason of Force Majeure shall remedy such inability with all reasonable dispatch; provided, however, the Customer shall not be required to restore its plant and/or operations to the extent that it is not practical for Customer to do so. The Party affected by an event of Force Majeure shall provide the other with a timely and reasonably full description of the nature and impact of any damages to its facilities and operations caused by such event, and the anticipated duration of the effect thereof on that Party's performance hereunder. Nothing contained herein may be construed to require a Party to prevent or to settle a labor dispute against its will. A minimum bill due during a billing period when a force majeure event occurs shall be prorated based upon the duration of the period of force majeure, provided that during the Phase I Full-Rate Term there shall be no proration of the portion of the Phase I Increment included in Minimum Contract Demand, during the Phase II Full-Rate Term there shall be no proration of the portion of the Phase II Increment included in Minimum Contract Demand, during the Phase III Full-Rate Term there shall be no proration of the portion of the Phase III Increment included in Minimum Contract Demand, and during the Phase IV Full-Rate Term there shall be no proration of the portion of the Phase IV

Increment included in Minimum Contract Demand. Nothing contained herein shall excuse Customer from the obligation of paying at the time provided herein for any power consumed by it.

ARTICLE V
TERM

5.01 Term and Renewals. This Agreement shall remain in full force and effect for an initial term beginning with the Effective Date hereof (as defined in Section 11.02 below) and ending at 11:59 p.m. prevailing local time on April 1, 2028, provided that this Agreement shall automatically renew annually thereafter for successive one-year terms upon the same terms and conditions stated herein and in any amendment hereto unless Customer has given Seller at least twelve months' notice of intent not to renew prior to the end of the initial term or the end of any one-year extension of the initial term.

5.02 Assignment. This Agreement shall be assignable by Customer only if (i) Customer agrees in writing to continue to guarantee all of the assignee's obligations hereunder, or (ii) Customer obtains the prior written consent of Seller, which consent will not be unreasonably withheld, delayed or conditioned. Seller may withhold approval of a proposed assignment until, among other things, Seller has been provided with all information it may reasonably require regarding the proposed assignee, including the ability of the proposed assignee to fulfill Customer's obligations hereunder following the proposed assignment.

ARTICLE VI
RIGHT OF ACCESS

6.01 Duly authorized representatives of Seller shall be permitted to enter upon Customer's premises at all reasonable hours in order to carry out any metering or service provisions of this Agreement, provided, however, that all such representatives abide by Customer's safety rules furnished by Customer to Seller.

6.02 Each Party shall furnish to the other such reports and information concerning its operations as the other may reasonably request from time to time.

ARTICLE VII
EVENTS OF DEFAULT AND REMEDIES

7.01 Events of Default. Each of the following constitutes an "Event of Default" under this Agreement:

(a) Failure by Customer to make any payment in accordance with this Agreement;

(b) Failure of a Party to perform any material duty imposed on it by this Agreement (other than a failure to make a payment when due) within 30 days following the non-performing Party's receipt of written notice of the non-performing Party's breach of its duty hereunder;

(c) Any attempt by a Customer to transfer an interest in this Agreement other than as permitted pursuant to Section 5.02;

(d) Any filing of a petition in bankruptcy or insolvency, or for reorganization or arrangement under any bankruptcy or insolvency laws, or voluntarily taking advantage of any such laws by answer or otherwise, or the commencement of involuntary proceedings under any such laws by a Party and such petition has not been withdrawn or dismissed within 60 days after filing;

(e) Assignment by a Party for the benefit of its creditors; or

(f) Allowance by a Party of the appointment of a receiver or trustee of all or a material part of its property and such receiver or trustee has not been discharged within 60 days after appointment.

7.02 Remedies. Following the occurrence and during the continuance of an Event of Default by either Party, the non-defaulting Party may, in its sole discretion, elect to terminate this Agreement upon written notice to the other Party, or to seek enforcement of its terms at law or in equity. Remedies provided in this Agreement are cumulative. Nothing contained in this Agreement may be construed to abridge, limit, or deprive either Party of any means of enforcing any remedy either at law or in equity for the breach or default of any of the provisions herein, except as provided in Section 7.03 below.

7.03 LIMITATION OF DAMAGES. UNDER NO CIRCUMSTANCE WILL EITHER PARTY OR ITS RESPECTIVE AFFILIATES, DIRECTORS, OFFICERS, MEMBERS, MANAGERS, EMPLOYEES, OR AGENTS BE LIABLE HEREUNDER TO THE OTHER PARTY, ITS AFFILIATES, DIRECTORS, OFFICERS, MEMBERS, MANAGERS, EMPLOYEES, OR AGENTS, WHETHER IN TORT, CONTRACT, OR OTHERWISE, FOR ANY SPECIAL, INDIRECT, PUNITIVE, EXEMPLARY, OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS. EACH PARTY'S LIABILITY HEREUNDER WILL BE LIMITED TO DIRECT, ACTUAL DAMAGES. THE EXCLUSION OF ALL OTHER DAMAGES SPECIFIED IN THIS SECTION IS WITHOUT REGARD TO THE CAUSE OR CAUSES RELATING THERETO. THIS PROVISION WILL SURVIVE TERMINATION OF THIS AGREEMENT.

7.04 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.

ARTICLE VIII
NOTICES

8.01 Any notice, demand, or request required or authorized under this Agreement, except the notice provided for in Section 3.04(a), shall be deemed properly given to or served upon the other Party if the notice is in writing and placed in the mail, postage prepaid, or delivered to the other Party at the following addresses:

To the Seller:

Kenergy Corp.
6402 Old Corydon Road
P.O. Box 18
Henderson, KY 42419-0018
Attn: President and CEO
Telephone: (800) 844-4832, ext. 6104
Facsimile: (270) 826-3999

To the Customer:

Aleris Rolled Products, Inc.
1372 State Road 1957
Lewisport, KY 42351-0480
Attn: Plant Controller, Christopher Thompson
Telephone No. (270) 295-5357
Telecopy No. (270) 313-6953
Email: Christopher.thompson@aleris.com

With copy to:

Aleris International, Inc.
25825 Science Park Drive
Beachwood, Ohio 44122
Attn: General Counsel

Each Party shall have the right to change the name of the person or location to whom or where notice shall be given or served by notifying the other Party in writing of such change.

8.02 The term "Business Day," when used in this Agreement, shall mean any day other than a Saturday or Sunday or other day in which commercial banking institutions are authorized or required by law, regulation or executive order to be closed in Henderson, Kentucky.

ARTICLE IX

REPRESENTATIONS AND WARRANTIES

9.01 Representations of Seller. Seller hereby represents and warrants to Customer as follows:

(a) Seller is an electric cooperative corporation duly organized, validly existing and in good standing under the laws of the Commonwealth of Kentucky, and has the power and authority to execute and deliver this Agreement, to perform its obligations hereunder, and to carry on its business as such business is now being conducted and as is contemplated hereunder to be conducted during the term hereof.

(b) The execution, delivery, and performance of this Agreement by Seller have been duly and effectively authorized by all requisite corporate action.

9.02 Representations and Warranties of Customer. Customer hereby represents and warrants to Seller as follows:

(a) Customer is a corporation duly organized and validly existing and in good standing under the laws of the State of Delaware, is authorized to do business in the Commonwealth of Kentucky, and has the power and authority to execute and deliver this Agreement, to perform its obligations hereunder, and to carry on its business as such business is now being conducted and as is contemplated hereunder to be conducted during the term hereof.

(b) The execution, delivery, and performance of this Agreement by Customer have been duly and effectively authorized by all requisite corporate action.

(c) The economic development incentives offered to Customer and incorporated into this Agreement were a necessary factor in the decision of Customer to expand its operations in Kentucky. Customer estimates that the expansion of its operations will involve a capital investment of approximately $350,000,000, and an increase in employment at Customer's facility of approximately 70 persons.

ARTICLE X

SEVERABILITY

10.01 The invalidity of any portion of this Agreement shall not affect the validity of the remainder thereof.

ARTICLE XI

SUCCESSION, APPROVAL, AND EFFECTIVE DATE

11.01 This Agreement shall be binding upon and inure to the benefit of the successors, legal representatives, and permitted assigns of the respective Parties hereto.

11.02 The "Effective Date" of this Agreement shall be the date that is thirty days after the date that appears at the beginning of this Agreement, except that the obligations of Seller shall not be enforceable against it unless and until (i) service pursuant to this Agreement and the Wholesale Agreement are authorized by Kentucky Revised Statutes Chapter 278 or, if suspended by order of the Commission, are approved in writing by the Commission or otherwise become effective under the law of the Commonwealth of Kentucky, (ii) the Wholesale Agreement has received all approvals from the Rural Utilities Service required by Big Rivers' credit agreements, and (iii) the items of security for Customer's obligations provided for in Section 3.05 have been delivered and are in full force and effect, including but not limited to the Customer Parent Guarantee, duly authorized, executed and delivered by Customer Parent.

ARTICLE XII
MISCELLANEOUS

12.01 Entire Agreement. The terms, covenants, and conditions contained in this Agreement constitute the entire agreement between the Parties and shall supersede all previous communications, representations, or agreements, either oral or written, between the Parties hereto with respect to the subject matter hereof, including but not limited to the 2011 Agreement, provided, however, that service to Customer is subject to the lawful orders of the Commission.

12.02 Governing Law, Jurisdiction, and Venue. All respective rights and obligations of the Parties shall be governed by the laws of the Commonwealth of Kentucky and the rules, regulations and orders of the Commission, without regard to the conflicts of law rules of the Commonwealth of Kentucky.

12.03 Waiver. The waiver by either Party of any breach of any term, covenant, or condition contained herein will not be deemed a waiver of any other term, covenant, or condition, nor will it be deemed a waiver of any subsequent breach of the same or any other term, covenant, or condition contained herein.

12.04 Amendments. This Agreement may be amended, revised, or modified by, and only by, a written instrument duly executed by both Parties.

12.05 Counterparts. This Agreement may be executed in any number of counterparts, which together will constitute but one and the same instrument, and each counterpart will have the same force and effect as if they were one original.

12.06 Headings. The headings contained in this Agreement are solely for convenience and do not constitute a part of the agreement between the Parties, nor should such headings be used to aid in any manner in the construction of this Agreement.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement, as of the day and year first above written.

KENERGY CORP.

By:______________________________
Jeff Hohn
President and CEO

ALERIS ROLLED PRODUCTS, INC

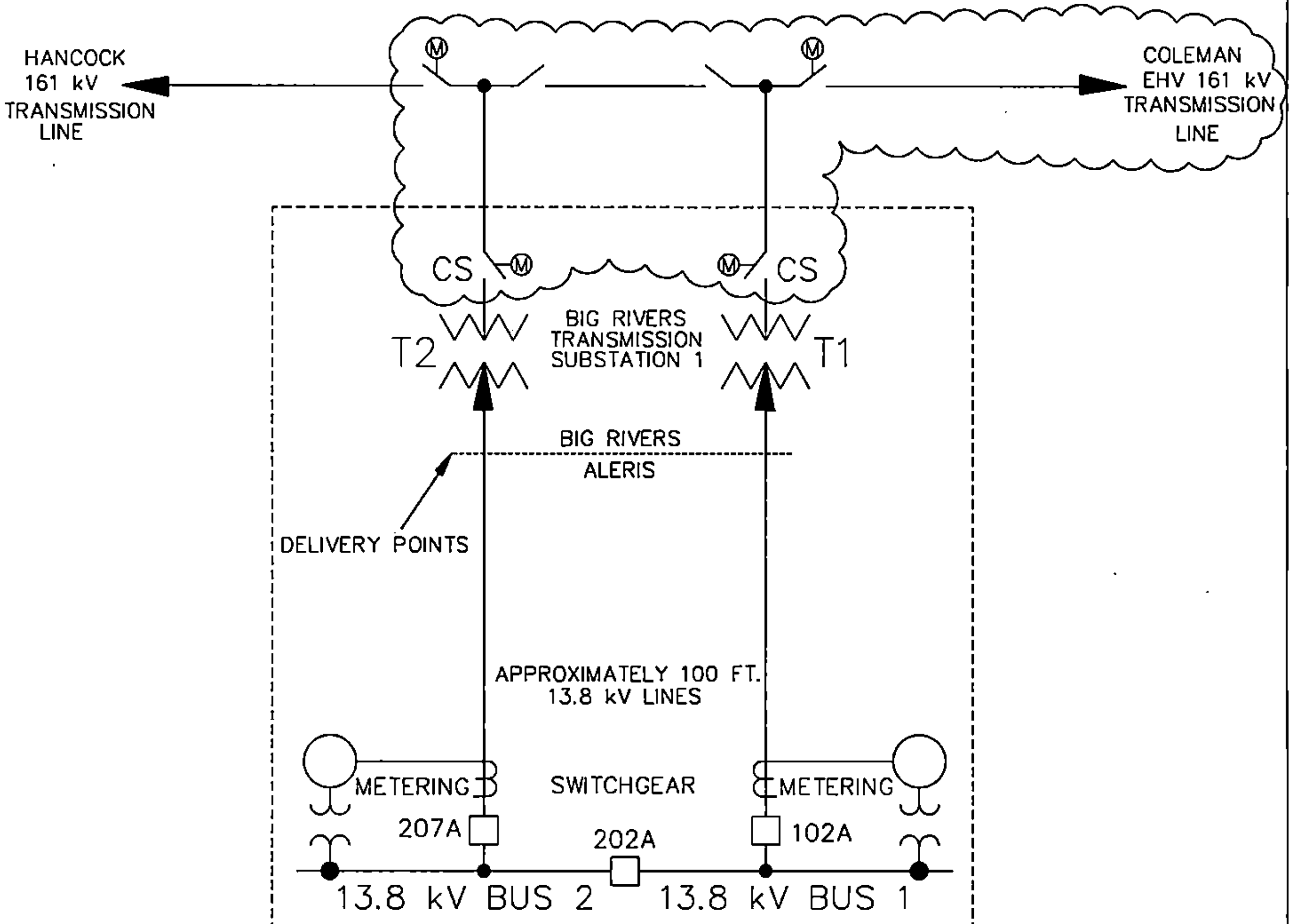
By:______________________________
Printed Name: ______________________
Title: ___________________________

Table of Contents to Exhibits

Retail Electric Service Agreement between

Kenergy Corp. and Aleris Rolled Products, Inc.

EXHIBIT A
page 1



ALERIS INTERNATIONAL
LEWISPORT ALUMINUM MILL

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KENTUCKY 62 — Big Rivers ELECTRIC CORPORATION — Your Touchstone Energy Cooperative — HENDERSON, KENTUCKY

ALERIS INTERNATIONAL
LEWISPORT ALUMINUM MILL
SUBSTATION 1 FACILITIES

DRAWING:

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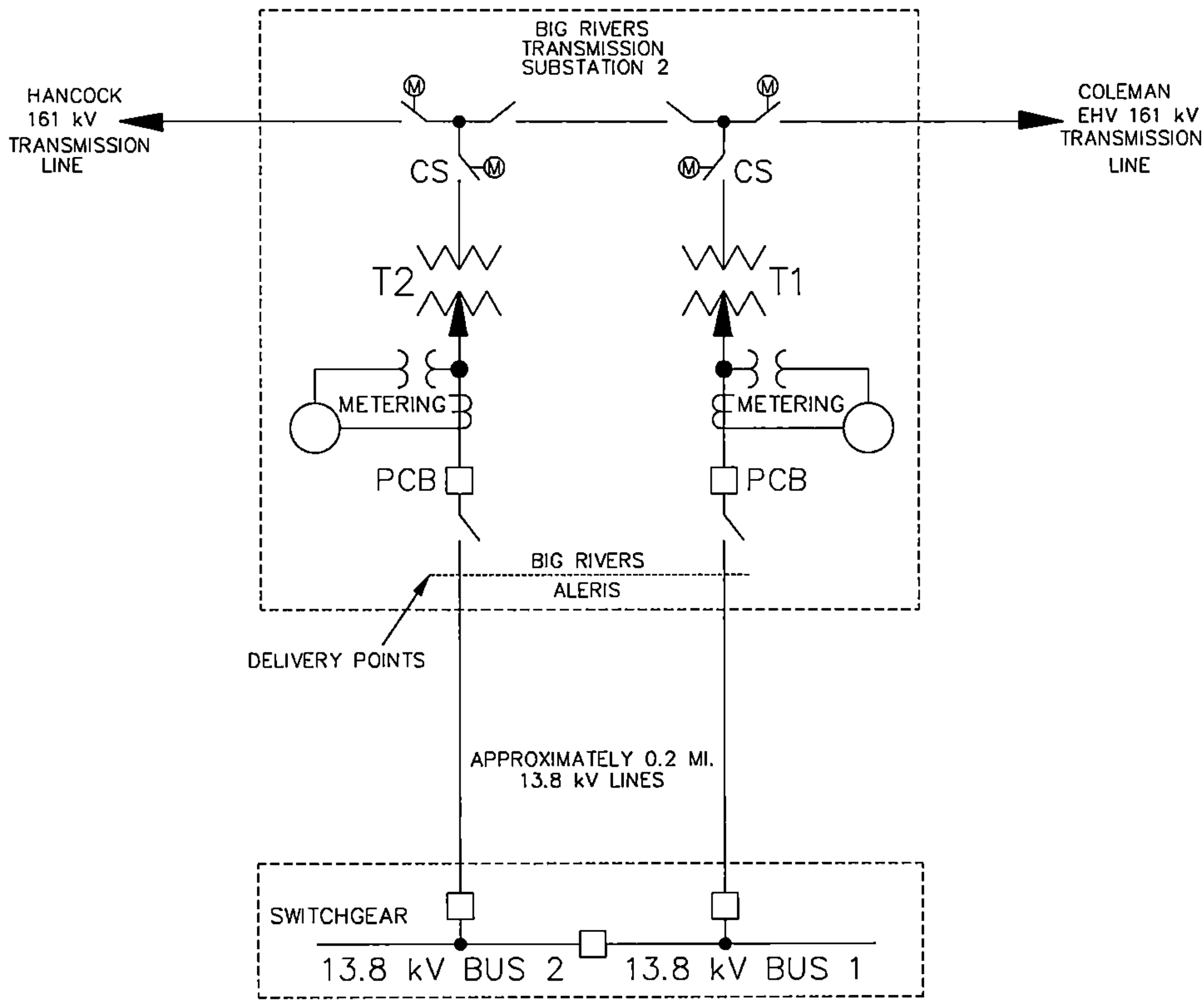
EXHIBIT A
page 2



ALERIS INTERNATIONAL
LEWISPORT ALUMINUM MILL

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KENTUCKY 62

Big Rivers
ELECTRIC CORPORATION

Your Touchstone Energy Cooperative
HENDERSON, KENTUCKY

ALERIS INTERNATIONAL
LEWISPORT ALUMINUM MILL
SUBSTATION 2 FACILITIES

DRAWING:

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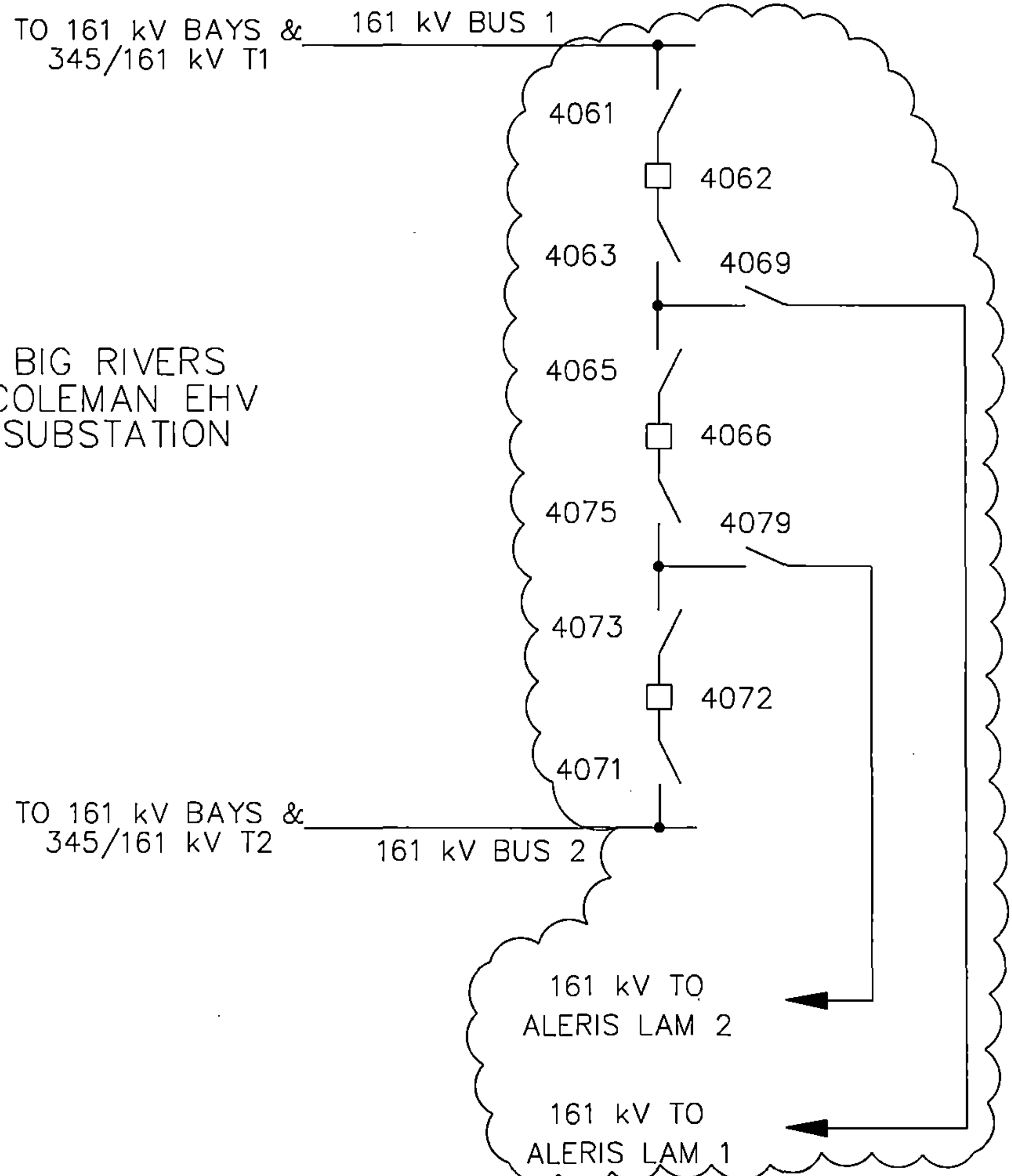
EXHIBIT A
page 3



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KENTUCKY 62

Big Rivers ELECTRIC CORPORATION

Your Touchstone Energy Cooperative
HENDERSON, KENTUCKY

ALERIS INTERNATIONAL
LEWISPORT ALUMINUM MILL
COLEMAN EHV SUBSTATION
TRANSMISSION LINE TERMINALS

DRAWING:

SEQ

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EXHIBIT A
page 4

Project BT15X003B - $1,400,000
161 kV Transmission Lines from Coleman EHV Substation to Aleris Substations
795 ACSS conductor with steel pole construction
Coleman EHV to Lewisport Aluminum Mill Substation 2 – 2.1 miles
Coleman EHV to Lewisport Aluminum Mill Substation 1 – 1.9 miles
Hancock County to Lewisport Aluminum Mill Substation 2 – 0.7 miles

Project BT15X004B - $1,100,000
Coleman EHV Substation – Two 161 kV Line Terminals
(3) 161 kV Power Circuit Breakers
(8) 161 kV Disconnect Switches
(1) lot of substation steel and miscellaneous materials

Project BT15X019B - $7,000,000
Lewisport Aluminum Mill Substation 2, and Substation 1 Upgrade
(2) 161–13.8 kV 30/40/50//56 MVA Transformers with LTCs
(2) 13.8 kV Power Circuit Breakers
(2) 13.8 kV Disconnect Switches
(4) 161 kV Circuit Switchers
(4) 161 kV Motor Operated Disconnect Switches
(4) 161 kV Disconnect Switches
(1) lot of substation steel and miscellaneous materials

REV	BY	ENG	DATE	REVISION
0		RW	1–15	.

KENTUCKY 62 Big Rivers ELECTRIC CORPORATION Your Touchstone Energy Cooperative HENDERSON, KENTUCKY

ALERIS INTERNATIONAL
LEWISPORT ALUMINUM MILL
TRANSMISSION FACILITIES
FOR 2015 EXPANSION PROJECT

DRAWING:

SEQ SH

FOR ALL TERRITORY SERVED
Community, Town or City
PSC NO. 2

Seventh Revised SHEET NO. 34

Kenergy

Henderson, Kentucky

CANCELLING PSC NO. 2

Sixth Revised SHEET NO. 34

CLASSIFICATION OF SERVICE
Schedule 34 – Large Industrial Customers Served Under Special Contract (Dedicated Delivery Points) – (Class B)

APPLICABLE
In all territory served.

AVAILABILITY OF SERVICE
To existing customers, Aleris and Kimberly Clark, and new customers executing special contracts approved by the Kentucky Public Service Commission.

RATE:

Customer Charge..$1,028 per Month
Plus Demand Charge of:
R per KW of Billing Demand in Month............................$10.715
Plus Energy Charge of:
I per KWH...$0.038216

ADJUSTMENT CLAUSES:
The bill amount computed at the charges specified above shall be increased or decreased in accordance with the following:

Renewable Resource Energy Service Rider	Sheets No. 23 - 23D
Fuel Adjustment Rider	Sheets No. 24 - 24A
Environmental Surcharge Rider	Sheets No. 25 - 25A
Unwind Surcredit Adjustment Rider	Sheets No. 26 - 26A
Rebate Adjustment Rider	Sheets No. 27 - 27A
Member Rate Stability Mechanism Rider	Sheets No. 28 - 28A
Price Curtailable Service Rider	Sheets No. 42 - 42C
Non-FAC Purchased Power Adjustment Rider	Sheets No. 30 - 30A

AGREEMENT
An "agreement for purchase of power" shall be signed by any new customer prior to service under the rate.

TAXES AND FEES
School Taxes added if applicable.
Kentucky Sales Taxes added if applicable.

FRANCHISE CHARGE
The rate herein provided shall include, where applicable, an additional charge for local government franchise payment determined in accordance with the Franchise Billing Plan as set forth on Sheet No. 105.

DATE OF ISSUE May 14, 2014
Month / Date / Year

DATE EFFECTIVE February 1, 2014
Month / Date / Year

ISSUED BY Steve Thompson
(Signature of Officer)

TITLE Vice President - Finance

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION
IN CASE NO. 2013-00385 DATED April 25, 2014

KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
2/1/2014
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

FOR ALL TERRITORY SERVED
Community, Town or City
PSC NO. 2

Sixth Revised SHEET NO. 34A

Kenergy

Henderson, Kentucky

CANCELLING PSC NO. 2

Fifth Revised SHEET NO. 34A

CLASSIFICATION OF SERVICE

Schedule 34 – Large Industrial Customers Served Under Special Contract (Dedicated Delivery Points) – Class B With Self-Generation

APPLICABLE
In all territory served.

AVAILABILITY OF SERVICE
To existing customer, Domtar, and new customers executing special contracts approved by the Kentucky Public Service Commission.

RATE:

Customer Charge...$1,028 per Month
Plus:
Demand Charge of:
R per KW of Firm Billing Demand in Month........................$10.715
Plus:
Energy Charge of:
I per KWH Sold by Kenergy to Domtar.............................$0.038216

NOTE: Charges for backup and replacement power are billed per contract, which includes a $0.000166 retail adder per KWH Consumed At Site.

ADJUSTMENT CLAUSES:
The bill amount computed at the charges specified above shall be increased or decreased in accordance with the following:

Renewable Resource Energy Service Rider	Sheets No. 23 - 23D
Fuel Adjustment Rider	Sheets No. 24 - 24A
Environmental Surcharge Rider	Sheets No. 25 - 25A
Unwind Surcredit Adjustment Rider	Sheets No. 26 - 26A
Rebate Adjustment Rider	Sheets No. 27 - 27A
Member Rate Stability Mechanism Rider	Sheets No. 28 - 28A
Price Curtailable Service Rider	Sheets No. 42 - 42C
Non-FAC Purchased Power Adjustment Rider	Sheets No. 30 - 30A

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KENTUCKY
PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN
EXECUTIVE DIRECTOR
TARIFF BRANCH
Bunt Kirtley
EFFECTIVE
2/1/2014
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

EXHIBIT C

ECONOMIC DEVELOPMENT RATE ("EDR")

Definitions

Base Demand for all purposes under this Agreement is [redacted].

Phase I Demand is the positive number of kilowatts in a month during the Phase I Credit Period determined by subtracting Base Demand from Metered Demand, provided that Phase I Demand shall not exceed [redacted] in any month.

Phase II Demand is the positive number of kilowatts in a month during the Phase II Credit Period determined by subtracting Base Demand plus [redacted] from Metered Demand, provided that Phase II Demand shall not exceed [redacted] in any month.

Phase III Demand is the positive number of kilowatts in a month during the Phase III Credit Period determined by subtracting Base Demand plus [redacted] from Metered Demand, provided that Phase III Demand shall not exceed [redacted] in any month.

Phase IV Demand is the positive number of kilowatts in a month during the Phase IV Credit Period determined by subtracting Base Demand plus [redacted] from Metered Demand, provided that Phase IV Demand shall not exceed [redacted] in any month.

Phase I Commencement Date is [redacted]

Phase II Commencement Date [redacted]

Phase III Commencement Date [redacted]

Phase IV Commencement Date [redacted]

Phase I Credit Period is the 48 consecutive calendar months beginning on the Phase I Commencement Date.

Phase II Credit Period is the 48 consecutive calendar months beginning on the Phase II Commencement Date.

Phase III Credit Period is the 48 consecutive calendar months beginning on the Phase III Commencement Date.

Phase IV Credit Period is the 48 consecutive calendar months beginning on the Phase IV Commencement Date.

Phase I Increment is the incremental increase in Customer's demand as a result of Phase I, which is [redacted].

Phase II Increment is the incremental increase in Customer's demand as a result of Phase II, which is [redacted].

Phase III Increment is the incremental increase in Customer's demand as a result of Phase III, which is [redacted].

Phase IV Increment is the incremental increase in Customer's demand as a result of Phase IV, which is [redacted].

Phase I Term is the 96 consecutive calendar months beginning on the Phase I Commencement Date.

Phase II Term is the 96 consecutive calendar months beginning on the Phase II Commencement Date.

Phase III Term is the 96 consecutive calendar months beginning on the Phase III Commencement Date.

Phase IV Term is the 96 consecutive calendar months beginning on the Phase IV Commencement Date.

Phase I Full-Rate Term is the 48 consecutive calendar months following the Phase I Credit Period.

Phase II Full-Rate Term is the 48 consecutive calendar months following the Phase II Credit Period.

Phase III Full-Rate Term is the 48 consecutive calendar months following the Phase III Credit Period.

Phase IV Full-Rate Term is the 48 consecutive calendar months following the Phase IV Credit Period.

Phase I Energy Charge is the Energy Charge in the Seller's applicable retail tariff.

Phase II Energy Charge is the Energy Charge in the Seller's applicable retail tariff.

Phase III Energy Charge is the Energy Charge in the Seller's applicable retail tariff.

Phase IV Energy Charge is the Energy Charge in the Seller's applicable retail tariff.

Phase I Credit in a billing month is the Phase I Demand multiplied by the Big Rivers standard LIC tariff Demand Charge multiplied by 0.90.

Phase II Credit in a billing month is the Phase II Demand multiplied by the Big Rivers standard LIC tariff Demand Charge multiplied by 0.90.

Phase III Credit in a billing month is the Phase III Demand multiplied by the Big Rivers standard LIC tariff Demand Charge multiplied by 0.90.

Phase IV Credit in a billing month is the Phase IV Demand multiplied by the Big Rivers standard LIC tariff Demand Charge multiplied by 0.90.

Phase I EDR

The rates applicable to service to Customer during the Phase I Term shall be adjusted as follows:

1. The demand charge rate applicable to each kilowatt of Phase I Demand purchased by Customer each month during the Phase I Credit Period shall be Seller's standard tariff Demand Charge.

2. The energy charge applicable to each kilowatt hour purchased by Customer during the Phase I Credit Period shall be the Phase I Energy Charge.

3. In any billing month during the Phase I Full-Rate Term, the portion of the Phase I Increment included in Minimum Contract Demand pursuant to Section 3.03(b) of the Agreement shall be the number of kilowatts determined by dividing the sum of all Phase I Demand during the Phase I Credit Period by 48.

4. Customer's total bill for electric service in a billing month shall be credited by the Phase I Credit in that billing month.

Phase II EDR

The rates applicable to service to Customer during the Phase II Term shall be adjusted as follows:

1. The demand charge applicable to each kilowatt of Phase II Demand purchased by Customer each month during the Phase II Credit Period shall be Seller's standard tariff Demand Charge.

2. The energy charge applicable to each kilowatt hour purchased by Customer during the Phase II Credit Period shall be the Phase II Energy Charge.

3. In any billing month during the Phase II Full-Rate Term, the portion of the Phase II Increment included in Minimum Contract Demand pursuant to Section 3.03(b) of the Agreement shall be the number of kilowatts determined by dividing the sum of all Phase II Demand during the Phase II Credit Period by 48.

4. Customer's total bill for electric service in a billing month shall be credited by the Phase II Credit in that billing month.

Phase III EDR

The rates applicable to service to Customer during the Phase III Term shall be adjusted as follows:

1. The demand charge applicable to each kilowatt of Phase III Demand purchased by Customer each month during the Phase III Credit Period shall be Seller's standard tariff Demand Charge.

2. The energy charge applicable to each kilowatt hour purchased by Customer during the Phase III Credit Period shall be the Phase III Energy Charge.

3. In any billing month during the Phase III Full-Rate Term, the portion of the Phase I Increment included in Minimum Contract Demand pursuant to Section 3.03(b) of the Agreement shall be the number of kilowatts determined by dividing the sum of all Phase III Demand during the Phase III Credit Period by 48.

4. Customer's total bill for electric service in a billing month shall be credited by the Phase III Credit in that billing month.

Phase IV EDR

The rates applicable to service to Customer during the Phase IV Term shall be adjusted as follows:

1. The demand charge rate applicable to each kilowatt of Phase IV Demand purchased by Customer each month during the Phase IV Credit Period shall be Seller's standard tariff Demand Charge.

2. The energy charge applicable to each kilowatt hour purchased by Customer during the Phase IV Credit Period shall be the Phase IV Energy Charge.

3. In any billing month during the Phase IV Full-Rate Term, the portion of the Phase IV Increment included in Minimum Contract Demand pursuant to Section 3.03(b) of the Agreement shall be the number of kilowatts determined by dividing the sum of all Phase I Demand during the Phase IV Credit Period by 48.

4. Customer's total bill for electric service in a billing month shall be credited by the Phase IV Credit in that billing month.

Load Factor Requirement

Notwithstanding any other provision in this EDR schedule, Customer shall not receive the Phase I Credit, Phase II Credit, the Phase III Credit, or the Phase IV Credit described in this exhibit and Seller's standard tariff Demand Charge will apply for kilowatts purchased in any month during any one or more of the Phase I Credit Period, the Phase II Credit Period, the Phase III Credit Period and the Phase IV Credit Period in which the load factor of customer is less than fifty percent.

EXHIBIT D

GUARANTEE

GUARANTEE, dated as of _________, 2016, by Aleris International, Inc., a Delaware corporation, (the "Guarantor") in favor of Kenergy Corp. (the "Counterparty").

1. **Guarantee.** For value received, including but not limited to the indirect benefit to Guarantor of the Amended and Restated Agreement for Retail Electric Service, dated August ___, 2015 ("Electric Agreement") by and between the Counterparty and **Aleris Rolled Products, Inc.** (the "Company"), a subsidiary of the Guarantor, pursuant to the Electric Agreement the Guarantor unconditionally and irrevocably guarantees to the Counterparty, its successors, endorsees, and assigns, the prompt payment when due, by acceleration or otherwise, of the EDR Termination Charge, as defined in the Electric Agreement (the "Obligation").

2. **Nature of Guarantee.** This Guarantee, which is one of payment and not of performance, is a continuing guarantee until terminated as hereafter provided. The Guarantor is irrevocable and unconditional and constitutes the direct primary obligation of the Guarantor to make payment hereunder without reference to the Company and without examination of the Company's liability in respect of the Obligation. The Guarantor reserves the right to assert defenses which the Company may have to payment of the Obligation other than the defenses arising from the bankruptcy, insolvency, or dissolution of the Company and other defenses expressly waived hereby.

3. **Demand and Payment.** Any demand, notification, or certificate given by the Counterparty specifying amounts due and payable under or in connection with any of the provisions of this Guarantee shall, in the absence of manifest error, be conclusive and binding upon the Guarantor. Payment of the amount in respect of which the Company has defaulted shall be made promptly on demand in writing without set-off or counterclaim and without reference to any rights of set-off or counterclaim the Guarantor may have against the Counterparty. Counterparty may place to the credit of a suspense account any monies received under or in connection with this Guarantee and may, at any time, apply any such monies in or towards satisfaction of any of the Guarantor's liabilities under this Guarantee as the Counterparty may, in its absolute discretion, from time to time determine.

4. **Consents, Waivers, and Renewals**. The Guarantor agrees that the Counterparty and the Company may mutually agree to modify the Obligation or any agreement between the Counterparty and the Company, and that the Counterparty may grant any waiver or consent with respect to the Obligation and grant any time or other indulgence to the Company, without in any way impairing or affecting this Guarantee. The Guarantor agrees that the Counterparty may resort to the Guarantor for payment of the Obligation, whether or not the Counterparty shall have resorted to any collateral security, or shall have proceeded against any other obligor principally or secondarily obligated with respect to the Obligation. The presentment, protest, and notice of protest or dishonor of any evidences of indebtedness, and default and notice thereof are hereby waived.

5. **Subrogation**. Upon payment of the Obligation owing to the Counterparty, the Guarantor shall be subrogated to the rights of the Counterparty against the Company, and the Counterparty

agrees to take, at the Guarantor's expense, such steps as the Guarantor may reasonably request to implement such subrogation.

6. Due Authorization. The Guarantor is a corporation duly organized, validly existing, and in good standing under the laws of the State of Delaware, the execution, delivery, and performance of this Guarantee has been duly authorized by all necessary corporate action, and this Guarantee constitutes the legally valid and binding obligation of Guarantor enforceable in accordance with its terms.

7. Severability. If any term or provision of this Guarantee or the application of it to any person or circumstances shall be unenforceable, void, or voidable to any extent the remainder of the terms of this Guarantee other than that which is unenforceable, void, or voidable shall not be affected by such term or provision and each term of this Guarantee shall be valid and enforceable to the fullest extent permitted by law.

8. Notices. Any demand account or notice under the Guarantee shall be in writing and sent by letter or facsimile addressed as follows:

If to Guarantor:

Aleris International, Inc.
Attn: Executive Vice President, CFO and Treasurer
25825 Science Park Drive, Suite 400
Beachwood, OH 44122
Fax: (216) 910-3654

If to Counterparty:

Kenergy Corp.
6402 Old Corydon Road
Henderson, KY 42420
Attn: President and CEO
(800) 844-4832

With a copy to:

Big Rivers Electric Corporation
201 Third Street
Henderson, KY 42420
Attn: President and CEO
(270) 827-2561

Any such matter sent by letter shall be deemed to have been received five (5) days after posting; any such matter sent by facsimile shall be deemed to have been received at the time of receipt of the correct acknowledgement of receipt by the sender.

9. Termination. This Guarantee may be terminated upon thirty (30) days prior written notice by Guarantor; provided, however, that this Guarantee shall remain in full force and effect thereafter, as to the Obligation of Company to the Counterparty outstanding or contracted or committed for (whether or not outstanding) before receipt of such notice, until such Obligation shall be finally and irrevocably paid in full.

10. No Waiver, Cumulative Rights. No failure on the part of the Counterparty to exercise, and no delay in exercising, any right, remedy, or power hereunder shall operate as a waiver thereof, nor shall any single or partial exercise by the Counterparty of any right, remedy or power hereunder preclude any other or future exercise of any right, remedy or power. Each and every right, remedy, and power hereby granted to the Counterparty or allowed it by law or other agreement shall be cumulative and not exclusive of any other, and may be exercised by the Counterparty from time to time.

11. Amendments. No amendment of the Guarantee shall be effective unless signed by the Guarantor and the Counterparty. No waiver of any provision of the Guarantee, nor consent to any departure by the Guarantor therefrom, shall in any event be effective unless the same shall be in writing and signed by the Counterparty, and then such waiver or consent shall be effective only in the specific instance and for the specific purpose set forth in such writing.

12. Successors and Assigns. Neither party may assign its rights hereunder without the written consent of the other party, such consent not to be unreasonably withheld, except that Counterparty may assign its rights hereunder to Big Rivers Electric Corporation. Any purported assignment in violation of this Section 13 shall be null and void. Subject to the foregoing, this Guarantee shall be binding upon and inure to the benefit of the parties and their respective successors, permitted assigns, and legal representatives.

13. Governing Law. This Guarantee shall be governed by, construed and interpreted in accordance with Kentucky law. The Counterparty irrevocably submits to the non-exclusive jurisdiction of the courts of the Commonwealth of Kentucky and the United States District Court for the Western District of Kentucky. The Guarantor waives any objection which it may have to the laying of any suit, action or proceedings relating to this Guarantee ("Proceedings") brought in any such court, waives any claim that such Proceedings have been brought in an inconvenient forum and further waives the right to object, with respect to such Proceedings, that such court does not have any jurisdiction over it.

14. Limitation by Law. All rights, remedies and powers provided in this Guarantee may be exercised only to the extent that the exercise thereof does not violate any applicable provision of law, and all the provisions of this Guarantee are intended to be subject to all applicable mandatory provisions of law that may be controlling and to be limited to the extent necessary so that they will not render this Guarantee invalid, unenforceable, in whole or in part, or not entitled to be recorded, registered, or filed under the provisions of any applicable law.

EXHIBIT D

ALERIS INTERNATIONAL, INC.

By: ______________________________
Eric M. Rychel
Executive Vice President, CFO and Treasurer

KENERGY CORP.

By: ______________________________
Jeff Hohn
President and CEO

Big Rivers
ELECTRIC CORPORATION

201 Third Street
P.O. Box 24
Henderson, KY 42419-0024
270-827-2561
www.bigrivers.com

______________, 2016

Mr. Jeff Hohn
Kenergy Corp.
6402 Corydon Road
P.O. Box 18
Henderson, KY 42419-0018

Re: Retail Electric Service Agreement
Aleris Rolled Products, Inc.

Dear Jeff:

This letter agreement ("*Letter Agreement*") will evidence the concurrence of Big Rivers Electric Corporation ("*Big Rivers*") with the terms of the electric service agreement between Kenergy Corp. ("*Kenergy*") and Aleris Rolled Products, Inc. (the "*Retail Customer*") dated ______________, 2016, a copy of which is attached hereto as Exhibit 1 (the "*Retail Agreement*"), and the agreement between Big Rivers and Kenergy with respect thereto.

(1) **Existing Agreement and Tariffs.** The terms and conditions of the June 11, 1962, wholesale power agreement, as amended, between Big Rivers and Kenergy and Big Rivers' filed tariffs shall continue in full force and effect except as expressly modified by this Letter Agreement.

(2) **Additional Rights and Obligations of Big Rivers.** Big Rivers shall make available to Kenergy the electric power required during the term of the Retail Agreement to perform the power supply obligations assumed by Kenergy in the Retail Agreement, and Big Rivers shall have the benefit of Retail Customer's obligations in such agreement. Big Rivers will supply the facilities required to deliver power to the delivery point, as defined in the Retail Agreement, and to meter electrical usage by Retail Customer.

(3) **Obligations of Kenergy.** Kenergy shall take and pay for (i) electric power and energy delivered by Big Rivers in accordance with Big Rivers' Rate Schedule LIC, with demand and energy being measured in accordance with the Retail Agreement, and (ii) facilities charges incurred by Big Rivers in connection with extending service to the Retail Customer's delivery point, subject to paragraph 4 of this Letter Agreement. Kenergy will promptly forward to Big Rivers a copy of any notices received by Kenergy from the Retail Customer under the terms of the Retail Agreement. Kenergy agrees cooperate with Big Rivers to assure that Big Rivers receives the benefit of Retail Customer's obligations in the Retail Agreement, and to take no action that interferes with Big Rivers receiving the benefit of Retail Customer's obligations.

EXHIBIT 6

(4) **Obligation of Kenergy for Minimum Billing Demand Charge and Termination Charge.** Kenergy agrees to bill Retail Customer for any minimum billing demand charges in excess of measured demand, and any termination charges due under the Retail Agreement. Kenergy agrees to pay over to Big Rivers all funds actually collected under such billings, including but not limited to any termination charges respecting the Big Rivers Facilities (as that term is defined in the Retail Agreement). The terms of this paragraph do not affect the obligation of Kenergy to pay Big Rivers in accordance with Big Rivers' tariff as and when billed for the wholesale charges for electric power and energy actually consumed by Retail Customer.

(5) **Division of Any Partial Payments.** Kenergy will pay to Big Rivers a pro rata share of any partial payment made to Kenergy by or on behalf of Retail Customer.

(6) **Effective Date.** This Letter Agreement will become effective upon approval or acceptance by the Public Service Commission of Kentucky, and upon receipt of any consents or approvals required under Big Rivers' agreements with its creditors. Big Rivers will provide Kenergy written notice when all those required consents and approvals have been received.

(7) **Entire Agreement and Amendment.** This Letter Agreement represents the entire agreement of the parties on the subject matter herein, and cannot be amended except in writing, duly authorized and signed by Big Rivers and Kenergy. The Retail Agreement shall not be amended without the advance written approval of Big Rivers. Big Rivers shall have the right to approve the terms and issuer(s) of the letter(s) of credit contemplated by the Retail Agreement to secure the obligations of the Retail Customer for minimum demand charges and termination charges.

If this Letter Agreement is acceptable to Kenergy, please indicate that acceptance by signing in the space provided and returning four signed counterparts to us.

Sincerely yours,

BIG RIVERS ELECTRIC CORPORATION

____

Robert W. Berry, President/CEO

ACCEPTED:

KENERGY CORP.

____

Jeff Hohn
President/CEO
Date: ____________, 2016