

Exhibit No.:
Issue: Rates
Witness: Maurice Brubaker
Type of Exhibit: Direct Testimony
Sponsoring Party: Noranda Aluminum, Inc.
Case No.: EC-2014-____
Date Testimony Prepared: February 7, 2014

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

Filed
June 23, 2014
Data Center
Missouri Public
Service Commission

)
In the Matter of Noranda Aluminum, Inc.'s)
Request for Revisions to Union Electric)
Company d/b/a Ameren Missouri's Large)
Transmission Service Tariff to Decrease)
its Rate for Electric Service)

Case No. EC-2014-____

Direct Testimony and Schedules of

Maurice Brubaker

On behalf of

Noranda Aluminum, Inc.

February 7, 2014



Project 9851

Noranda Exhibit No. 16
Date 6-16-14 Reporter KF
File No. EC-2014-0224

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

)	
In the Matter of Noranda)	
Aluminum, Inc.'s Request for)	
Revisions to Union Electric)	
Company d/b/a Ameren)	Case No. EC-2014-_____
Missouri's Large Transmission)	
Service Tariff to Decrease its)	
Rate for Electric Service)	
)	

Direct Testimony of Maurice Brubaker

- 1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**
- 2 A Maurice Brubaker. My business address is 16690 Swingley Ridge Road, Suite 140,
3 Chesterfield, MO 63017.
- 4 **Q WHAT IS YOUR OCCUPATION?**
- 5 A I am a consultant in the field of public utility regulation and President of Brubaker &
6 Associates, Inc., energy, economic and regulatory consultants.
- 7 **Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**
- 8 A This information is included in Appendix A to this testimony.
- 9 **Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**
- 10 A This testimony is presented on behalf of Noranda Aluminum, Inc. ("Noranda").

1 Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?

2 A Mr. Kip Smith has explained the economic conditions in the aluminum industry and
3 detailed how they are affecting Noranda's aluminum smelter at New Madrid. As part
4 of his testimony, he has identified the challenges facing Noranda and is requesting
5 the Commission to approve an adjustment in the rate paid by Noranda and to
6 approve a long-term rate plan. The purpose of my testimony is to quantify the
7 revenue consequences of that rate request and to explain how rates could be
8 adjusted to compensate for that request on a basis that is revenue-neutral to Ameren
9 Missouri.

10 Q WHAT IS THE RATE SCHEDULE UNDER WHICH NORANDA CURRENTLY
11 TAKES SERVICE?

12 A Noranda currently takes service under Service Classification No. 12(M) ("SC
13 No. 12(M)"), the Large Transmission Service rate.

14 Q WHAT IS THE AVERAGE COST PER KILOWATT-HOUR ("KWH") TO NORANDA
15 UNDER SC NO. 12(M)?

16 A Under the final rates approved in Ameren Missouri's most recent rate case (Case No.
17 ER-2012-0166) and Noranda's test year volumes, the average base rate revenue
18 paid to Ameren Missouri is \$37.94 per megawatt-hour ("MWh"), or 3.794¢ per kWh.
19 This is the composite effect of the customer charge, demand charge, energy charge
20 and other charges in the tariff. Test year base rate revenues were approximately

1 \$158 million. The current Fuel Adjustment Charge ("FAC") of \$3.50 per MWh brings
2 the total Ameren Missouri cost to \$41.44/MWh on a test year basis.¹

3 **Q HAVE YOU DEVELOPED A SAMPLE TARIFF TO EFFECTUATE NORANDA'S**
4 **RATE REQUEST?**

5 **A** Yes. Schedule MEB-1 is the illustrative (EXEMPLAR) tariff I am proposing for this
6 purpose. In order to allow the existing SC No. 12(M) to remain available to other
7 customers (Noranda is currently the only customer) I have left SC No. 12(M)
8 unchanged and created Service Classification No. 10(M) ("SC No. 10(M)"), described
9 as "Large Transmission Service Rate Applicable to Aluminum Smelters."

10 The energy charge is the \$30 per MWh (3.0¢ per kWh) rate supported by Mr.
11 Smith.

12 The other provision in the pricing section of the tariff recognizes the
13 low-income pilot program that is being conducted. Noranda currently pays \$1,500
14 per month toward this pilot program and that charge would continue. In addition,
15 provision has been made to allow that number to grow in the event that the program
16 is expanded. The not-to-exceed amount under this provision is stated as the current
17 \$1,500 per month plus 100 times the monthly low-income program charge paid by a
18 residential customer consuming 1,500 kWh of energy per month.

19 Other provisions of the tariff have been adjusted in order to implement the
20 requested rate treatment, including maintaining the terms and conditions over the
21 10-year period.

¹Based on test year usage, current base rates and current FAC, and the approximately \$1.50/MWh paid to Associated Electric Cooperative to wheel power to the smelter, the "all-in" cost is \$42.94/MWh. Based on forecasted usage and a lower FAC, Mr. Smith estimates the all-in cost to be \$41/MWh in 2014, and \$41.50/MWh in 2015.

1 Q HAVE YOU CALCULATED THE DOLLAR REDUCTION IN BASE RATE
2 REVENUES THAT WOULD BE ASSOCIATED WITH IMPLEMENTATION OF
3 NORANDA'S RATE REQUEST?

4 A Yes. This calculation is summarized on Schedule MEB-2.

5 Q PLEASE EXPLAIN THIS SCHEDULE.

6 A The average rate per kWh paid by Noranda under SC No. 12(M) that was approved
7 in Case No. ER-2012-0166, at Noranda's test year kWh consumption, is 3.794¢ per
8 kWh as shown on line 1. Comparing that to the requested 3¢ per kWh rate indicates
9 a difference of 0.794¢ per kWh, as shown on line 3. Line 4 shows Noranda's test
10 year kWh and line 5 shows the \$33.1 million base rate adjustment which is
11 determined by multiplying the figure on line 3 times the kWh shown on line 4.

12 Q DO YOU HAVE A RECOMMENDATION FOR HOW TO ADJUST BASE RATES OF
13 OTHER CUSTOMER CLASSES TO IMPLEMENT THIS RATE ADJUSTMENT?

14 A Yes. I believe that the most reasonable way would be by means of an equal
15 percentage increase applied to the test year base rate revenues of the other major
16 customer classes. This approach treats all classes the same way and maintains the
17 interclass revenue relationships established in the Final Order in Case No.
18 ER-2012-0166.

19 Q HAVE YOU PERFORMED THIS CALCULATION?

20 A Yes. It appears on Schedule MEB-3. Column 1 shows the test year base rate
21 revenues of each class and Column 2 shows the adjustment. The adjustment is
22 developed by multiplying the test year base rate revenues in Column 1 times

Maurice Brubaker
Page 4

1 1.2514%. This is the amount necessary to recover the \$33.1 million base rate
2 revenue decrease associated with Noranda's rate request.

3 **Q DOES NORANDA CURRENTLY PAY ANY OTHER CHARGES THAT IT WOULD**
4 **NOT PAY UNDER ITS RATE REQUEST?**

5 A Yes. Noranda also pays an FAC which, as previously noted, currently is 0.350¢ per
6 kWh. That amount will likely change between now and the time that the rate
7 adjustment is implemented. However, whatever FAC revenue reduction occurs when
8 the rate adjustment is implemented will be picked up automatically through the
9 operation of the FAC. (At current rates, FAC payments by Noranda amount to
10 approximately \$14.6 million per year.) At the level of the current FAC, the
11 combination of the reduction in base revenues and in FAC revenues is approximately
12 \$47.7 million per year.²

13 **Q ARE RATES THAT ARE DESIGNED TO RETAIN AT-RISK LOADS TYPICALLY**
14 **PRICED BELOW FULL EMBEDDED COST OF SERVICE?**

15 A Yes. The concept behind a load retention rate is to retain on the system a load that
16 otherwise might not be served.

17 The basis for such a rate is typically a price above variable cost so that some
18 contribution to fixed costs is provided.

²If the FAC remains at its current level, the average revenue change to the other major rate classes, considering both base rates and the FAC, would be 1.80%.

1 Q WHAT IS THE AVERAGE VARIABLE COST ASSOCIATED WITH PROVIDING
2 SERVICE TO NORANDA?

3 A Based on the final rates adopted in Case No. ER-2012-0166 the average variable
4 cost included in base rates (net base energy costs) is approximately 1.469¢ per kWh.
5 The cost currently is approximately 1.82¢ per kWh because of the existence of a
6 positive FAC factor.³

7 Because the 3.0¢ per kWh price to be paid by Noranda is in excess of
8 average variable cost it provides a positive contribution and offset to fixed costs and
9 provides a benefit to other customers.

10 Q HAVE YOU CALCULATED WHAT THE NET REVENUE LOSS WOULD BE IF
11 NORANDA WERE NOT OPERATING THE SMELTER?

12 A Yes. Based on the estimated reduction in Ameren Missouri's Actual Net Energy
13 Costs ("ANEC") provided to me by my colleague Mr. Dauphinais, I have calculated
14 that the net revenue loss if the smelter were not served would be approximately \$60
15 million⁴ per year.

16 Q HOW DOES THIS AMOUNT COMPARE TO THE REDUCTION IN REVENUES
17 UNDER THE REQUESTED RATE PLAN WHEREIN THE SMELTER CONTINUES
18 AS A RETAIL CUSTOMER OF AMEREN MISSOURI BUT AT A RATE LOWER
19 THAN WHAT IT CURRENTLY PAYS?

20 A In the scenario where the smelter remains as a retail customer of Ameren Missouri
21 but at a lower rate, the calculated revenue reduction was \$33.1 million in base

³1.469¢ + 0.35¢ = 1.819¢

⁴(\$0.03794 + \$0.0035 - \$0.02705) (4,168,922,201) = \$59,990,790. The impact on the other major customer classes to hold Ameren Missouri harmless would be 2.27%.

1 revenues and \$14.6 million in FAC, for a total of \$47.7 million, or 1.80%. Because
2 this amount is smaller than the \$60 million (2.27%) net revenue loss that would be
3 incurred were the smelter not to operate, the requested rate plan also is reasonable
4 when evaluated on this basis.

5 **Q HAVE YOU PREPARED TARIFF SHEETS THAT SHOW HOW THE RATES**
6 **CHARGED TO CUSTOMERS IN OTHER CLASSES WOULD CHANGE IN ORDER**
7 **TO RECOVER THE ADDITIONAL REVENUES SHOWN ON SCHEDULE MEB-3?**

8 **A** Yes. This is shown on the "EXEMPLAR" tariff sheets in Schedule MEB-4.

9 These rates were developed by increasing current charges (excluding charges
10 for the low-income pilot plan and for energy efficiency) for each rate schedule in order
11 to produce the additional revenues shown in Column (2) of Schedule MEB-3.

12 **Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

13 **A** Yes.

Qualifications of Maurice Brubaker

1 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

2 A Maurice Brubaker. My business address is 16690 Swingley Ridge Road, Suite 140,
3 Chesterfield, MO 63017.

4 Q PLEASE STATE YOUR OCCUPATION.

5 A I am a consultant in the field of public utility regulation and President of the firm of
6 Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

7 Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND
8 EXPERIENCE.

9 A I was graduated from the University of Missouri in 1965, with a Bachelor's Degree in
10 Electrical Engineering. Subsequent to graduation I was employed by the Utilities
11 Section of the Engineering and Technology Division of Esso Research and
12 Engineering Corporation of Morristown, New Jersey, a subsidiary of Standard Oil of
13 New Jersey.

14 In the Fall of 1965, I enrolled in the Graduate School of Business at
15 Washington University in St. Louis, Missouri. I was graduated in June of 1967 with
16 the Degree of Master of Business Administration. My major field was finance.

17 From March of 1966 until March of 1970, I was employed by Emerson Electric
18 Company in St. Louis. During this time I pursued the Degree of Master of Science in
19 Engineering at Washington University, which I received in June, 1970.

20 In March of 1970, I joined the firm of Drazen Associates, Inc., of St. Louis,
21 Missouri. Since that time I have been engaged in the preparation of numerous

Maurice Brubaker
Appendix A
Page 1

1 studies relating to electric, gas, and water utilities. These studies have included
2 analyses of the cost to serve various types of customers, the design of rates for utility
3 services, cost forecasts, cogeneration rates and determinations of rate base and
4 operating income. I have also addressed utility resource planning principles and
5 plans, reviewed capacity additions to determine whether or not they were used and
6 useful, addressed demand-side management issues independently and as part of
7 least cost planning, and have reviewed utility determinations of the need for capacity
8 additions and/or purchased power to determine the consistency of such plans with
9 least cost planning principles. I have also testified about the prudence of the actions
10 undertaken by utilities to meet the needs of their customers in the wholesale power
11 markets and have recommended disallowances of costs where such actions were
12 deemed imprudent.

13 I have testified before the Federal Energy Regulatory Commission ("FERC"),
14 various courts and legislatures, and the state regulatory commissions of Alabama,
15 Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia,
16 Guam, Hawaii, Illinois, Indiana, Iowa, Kentucky, Louisiana, Michigan, Missouri,
17 Nevada, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania,
18 Rhode Island, South Carolina, South Dakota, Texas, Utah, Virginia, West Virginia,
19 Wisconsin and Wyoming.

20 The firm of Drazen-Brubaker & Associates, Inc. was incorporated in 1972 and
21 assumed the utility rate and economic consulting activities of Drazen Associates, Inc.,
22 founded in 1937. In April, 1995 the firm of Brubaker & Associates, Inc. was formed. It
23 includes most of the former DBA principals and staff. Our staff includes consultants
24 with backgrounds in accounting, engineering, economics, mathematics, computer
25 science and business.

Maurice Brubaker
Appendix A
Page 2

1 Brubaker & Associates, Inc. and its predecessor firm has participated in over
2 700 major utility rate and other cases and statewide generic investigations before
3 utility regulatory commissions in 40 states, involving electric, gas, water, and steam
4 rates and other issues. Cases in which the firm has been involved have included
5 more than 80 of the 100 largest electric utilities and over 30 gas distribution
6 companies and pipelines.

7 An increasing portion of the firm's activities is concentrated in the areas of
8 competitive procurement. While the firm has always assisted its clients in negotiating
9 contracts for utility services in the regulated environment, increasingly there are
10 opportunities for certain customers to acquire power on a competitive basis from a
11 supplier other than its traditional electric utility. The firm assists clients in identifying
12 and evaluating purchased power options, conducts RFPs and negotiates with
13 suppliers for the acquisition and delivery of supplies. We have prepared option
14 studies and/or conducted RFPs for competitive acquisition of power supply for
15 industrial and other end-use customers throughout the United States and in Canada,
16 involving total needs in excess of 3,000 megawatts. The firm is also an associate
17 member of the Electric Reliability Council of Texas and a licensed electricity
18 aggregator in the State of Texas.

19 In addition to our main office in St. Louis, the firm has branch offices in
20 Phoenix, Arizona and Corpus Christi, Texas.

MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREA

SERVICE CLASSIFICATION NO. 10 (M)

LARGE TRANSMISSION SERVICE RATE APPLICABLE TO ALUMINUM SMELTERS

RATE BASED ON MONTHLY METER READINGS

Energy Charge All energy shall be billed at a rate of 3.0¢ per kWh. This rate is subject to increases only when the rates of other customers change as a result of a general rate proceeding, but the increase in any general rate proceeding shall not exceed 2% of the then-effective energy charge.

Low-Income Program Charge If Company is conducting a low-income program, customer will pay a monthly charge not-to-exceed \$1,500 plus 100 times the monthly amount paid by a residential customer using 1,500 kWh of energy per month.

Except as provided above, no other charges, or changes in charges, shall be applied to this rate for a period of ten (10) years from the initial date of service on this rate.

DATE OF ISSUE _____ DATE EFFECTIVE _____

ISSUED BY _____

NAME OF OFFICER

TITLE

ADDRESS

MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREA

SERVICE CLASSIFICATION NO. 10 (M)

LARGE TRANSMISSION SERVICE RATE APPLICABLE TO ALUMINUM SMELTERS (Cont'd.)

1. TRANSMISSION SERVICE REQUIREMENTS

Company's obligation to provide service under this rate is conditioned upon receipt of approval from the appropriate Regional Transmission Organization (RTO) to incorporate customer's load within Company's Network Integration Transmission Service agreement without the obligation or requirement that Company construct, upgrade, or improve any existing or new transmission plant or facilities.

Customer shall be responsible for securing firm transmission service throughout the Contract Term outside of Company's control area at no cost or charge to Company (except for Energy Line Losses), if necessary, and customer agrees to indemnify and hold Company harmless from all such costs or charges imposed or billed. In any event, customer shall be responsible for all costs and charges imposed or billed to Company from an RTO that are based on the fact that customer's load is not directly connected to Company's system (e.g. Through and Out rates imposed by the Midwest Independent System Operator, Inc.)

2. CREDIT REQUIREMENTS

A customer taking service under this rate shall agree to the following special credit terms and conditions, in addition to those that may be required pursuant to Company's rules, regulations, rates or tariffs. Company, upon request and in its sole discretion, may demand of customer a security deposit in the form of cash, letter of credit or surety bond, equal to two times (2x) the highest monthly utility bill from the prior 12-month period, upon the occurrence of any of the following:

- a. an assignment to customer or customer's parent of a long-term public debt rating by Moody's that falls below the rating of Baa3;
- b. an assignment to customer or customer's parent of a long-term public debt rating by Standard & Poor's that falls below the rating of BBB-;
- c. a significant change in ownership, as determined by Company, including but not limited to a change in ownership or possession of the assets of customer;
- d. the assessment of two (2) late payment charges within any 12 month rolling period; or
- e. customer makes an assignment for the benefit of creditors, or otherwise becomes bankrupt or insolvent (however evidenced), in which case Company may pursue other remedies available in law or equity, including a declaration that the agreement is in default.

DATE OF ISSUE _____

DATE EFFECTIVE _____

ISSUED BY _____

NAME OF OFFICER

TITLE

ADDRESS

MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREA

SERVICE CLASSIFICATION NO. 10 (M)

LARGE TRANSMISSION SERVICE RATE APPLICABLE TO ALUMINUM SMELTERS (Cont'd.)

3. PAYMENTS

Bills are due and payable within ten (10) days from date of bill and become delinquent after twenty-one (21) days from date of bill.

4. CONTRACT TERM

A customer taking service under this rate shall agree to an initial Contract Term of 10 years. The Contract Term shall be extended in one-year increments unless or until the contract is terminated at the end of the Contract Term or any annual extension thereof by a written notice of termination given by customer and received not later than two years prior to the date of termination. During the Contract Term, a customer taking service under this rate agrees that Company shall be the exclusive supplier of power and energy to customer's premises, and waives any right or entitlement by virtue of any law, including but not limited to Section 91.026 RSMo as it now exists or as amended from time to time, statute, rule, regulation, or tariff, to purchase, acquire or take delivery of power and energy from any other person or entity.

5. TAX ADJUSTMENT

Any license, franchise, gross receipts, occupation or similar charge or tax levied by any taxing authority on the amounts billed hereunder will be so designated and added as a separate item to bills rendered to customers under the jurisdiction of the taxing authority.

6. RATE APPLICATION

This rate shall be applicable, at customer's request, to any customer operating an aluminum smelter that 1) meets the Rate Application conditions of the Large Primary Service rate, 2) can demonstrate to Company's satisfaction that such energy was routinely consumed at a load factor of 95% or higher or that customer will, in the ordinary course of its operations, operate at a similar load factor, 3) if necessary, arranges and pays for transmission service for the delivery of electricity over the transmission facilities of a third party, 4) does not require use of Company's distribution system or distribution arrangements that are provided by Company at Company's cost, excepting Company's metering equipment, for service to customer, and 5) meets all other required terms and conditions of the rate.

7. CHARACTER OF SERVICE SUPPLIED

Company will supply a standard three-phase alternating current transmission service voltage. The appropriate adjustments under Rider C will apply; however, there will be no adjustments under Rider B.

DATE OF ISSUE _____ DATE EFFECTIVE _____

ISSUED BY _____

NAME OF OFFICER

TITLE

ADDRESS

MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREA

SERVICE CLASSIFICATION NO. 10 (M)

LARGE TRANSMISSION SERVICE RATE APPLICABLE TO ALUMINUM SMELTERS (Cont'd.)

8. DEMAND METERS

Company will be responsible for the demand meters which have been installed for the measurement of demands.

9. During a period of ten (10) years from the initial date of service under this rate no changes shall be made in the terms and conditions in Sections 1, 2, 3, 4, 5, 6, 7, and 8, and no new terms or conditions may be added.

10. GENERAL RULES AND REGULATIONS

In addition to the above specific rules and regulations, all of Company's General Rules and Regulations shall apply to the supply of service under this rate.

DATE OF ISSUE _____ DATE EFFECTIVE _____

ISSUED BY _____

NAME OF OFFICER

TITLE

ADDRESS

Ameren Missouri

**Base Rate Revenue Change
Attributable to Noranda's Rate Request**

<u>Line</u>	<u>Description</u>	<u>Amount</u> (1)
1	Revenue per kWh under SC 12(M) approved in Case No. ER-2012-0166 and Noranda's Test Year kWh Purchases	3.794¢
2	Requested Rate	3.000¢
3	Difference	0.794¢
4	Noranda's Test Year kWh	4,168,922,201
5	Amount of Adjustment (\$000)	\$33,100

Ameren Missouri

Revenue-Neutral Adjustment to Base Rates of Other Major Customer Classes

<u>Line</u>	<u>Class</u>	Test Year Base Rate Revenue (000) <u>(1)</u>	Adjustment* (000) <u>(2)</u>
1	Residential	\$1,298,918	\$16,254
2	Small General Service	316,651	3,962
3	Large General Service	593,843	7,431
4	Small Primary Service	228,989	2,865
5	Large Primary Service	<u>206,716</u>	<u>2,588</u>
6	Total	\$2,645,117	\$33,100

*1.2514%

MO.P.S.C. SCHEDULE NO. 6

Original

SHEET NO. 54

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREA

SERVICE CLASSIFICATION NO. 1 (M)
RESIDENTIAL SERVICE RATE

RATE BASED ON MONTHLY METER READINGS

Summer Rate (Applicable during 4 monthly billing periods of June through September)

Customer Charge - per month	\$8.00 \$ 8.10
Low-Income Pilot Program Charge - per month	\$0.03
Energy Charge - per kWh	11.36¢ 11.51¢
Energy Efficiency Program Charge - per kWh	0.12¢
Energy Efficiency Investment Charge - per kWh	0.33¢

Winter Rate (Applicable during 8 monthly billing periods of October through May)

Customer Charge - per month	\$8.00 \$ 8.10
Low-Income Pilot Program Charge - per month	\$0.03
Energy Charge - per kWh	
First 750 kWh	8.08¢ 8.19¢
Over 750 kWh	5.38¢ 5.45¢
Energy Efficiency Program Charge - per kWh	0.07¢
Energy Efficiency Investment Charge - per kWh	0.33¢

Optional Time-of-Day Rate

Customer Charge - per month	\$16.01 \$17.03
Low-Income Pilot Program Charge - per month	\$ 0.03
Energy Charge - per kWh (1)	
Summer (June-September billing periods)	
All On Peak kWh	16.51¢ 16.73¢
All Off Peak kWh	6.76¢ 6.85¢
Winter (October-May billing periods)	
All On Peak kWh	9.74¢ 9.87¢
All Off Peak kWh	4.02¢ 4.88¢
Energy Efficiency Program Charge - per kWh	
Summer (June-September billing periods)	0.12¢
Winter (October-May billing periods)	0.07¢
Energy Efficiency Investment Charge - per kWh	0.33¢

(1) On-peak and Off-peak hours applicable herein shall be as specified in Rider I, paragraph A.

DATE OF ISSUE ~~May 31, 2013~~

DATE EFFECTIVE ~~June 30, 2013~~

ISSUED BY Warner L. Baxter
NAME OF OFFICER

President & CEO
TITLE

St. Louis, Missouri
ADDRESS

MO.P.S.C. SCHEDULE NO. 6

Original

SHEET NO. 55

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREA

SERVICE CLASSIFICATION NO. 2 (M)
SMALL GENERAL SERVICE RATE

RATE BASED ON MONTHLY METER READINGS

Summer Rate (Applicable during 4 monthly billing periods of June through September)

Customer Charge - per month	
Single Phase Service	\$9.74 \$ 9.86
Three Phase Service	\$19.49 \$19.74
Low-Income Pilot Program Charge - per month	\$ 0.05
Energy Charge - per kWh	10.34¢ 10.47¢
Energy Efficiency Program Charge - per kWh (3)	0.04¢
Energy Efficiency Investment Charge - per kWh (3)	0.16¢

Winter Rate (Applicable during 8 monthly billing periods of October through May)

Customer Charge - per month	
Single Phase Service	\$9.74 \$ 9.86
Three Phase Service	\$19.49 \$19.74
Low-Income Pilot Program Charge - per month	\$ 0.05
Energy Charge - per kWh	
Base Use	7.71¢ 7.81¢
Seasonal Use(1)	4.45¢ 4.51¢
Energy Efficiency Program Charge - per kWh (3)	0.03¢
Energy Efficiency Investment Charge - per kWh (3)	0.16¢

Optional Time-of-Day Rate

Customer Charge - per month	
Single Phase Service	\$19.53 \$19.78
Three Phase Service	\$39.05 \$39.55
Low-Income Pilot Program Charge - per month	\$ 0.05
Energy Charge - per kWh (2)	
Summer (June-September billing periods)	
All On Peak kWh	15.35¢ 15.55¢
All Off Peak kWh	6.25¢ 6.33¢
Winter (October-May billing periods)	
All On Peak kWh	10.11¢ 10.24¢
All Off Peak kWh	4.64¢ 4.70¢
Energy Efficiency Program Charge - per kWh (3)	
Summer (June-September billing periods)	0.04¢
Winter (October-May billing periods)	0.03¢
Energy Efficiency Investment Charge - per kWh (3)	0.16¢

- (1) The winter seasonal energy use shall be all kWh in excess of 1,000 kWh per month and in excess of the lesser of a) the kWh use during the preceding May billing period, or b) October billing period, or c) the maximum monthly kWh use during any preceding summer month.
- (2) On-peak and Off-peak hours applicable herein shall be as specified in Rider I, paragraph A.
- (3) Not applicable to customers that have satisfied the opt-out provisions of Section 393.1075, RSMo.

Schedule MEB-4
Page 2 of 6

DATE OF ISSUE May 31, 2013

DATE EFFECTIVE June 30, 2013

ISSUED BY Warner L. Baxter
NAME OF OFFICER

President & CEO
TITLE

St. Louis, Missouri
ADDRESS

MO.P.S.C. SCHEDULE NO. 6

Original

SHEET NO. 56

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREA

SERVICE CLASSIFICATION NO. 3 (M)
LARGE GENERAL SERVICE RATE

RATE BASED ON MONTHLY METER READINGS

Summer Rate (Applicable during 4 monthly billing periods of June through September)

Customer Charge - per month	\$89.32 \$89.47
Low-Income Pilot Program Charge - per month	\$ 0.50
Energy Charge - per kWh	
First 150 kWh per kW of Billing Demand	-9.89¢ 10.02¢
Next 200 kWh per kW of Billing Demand	-7.44¢ 7.54¢
All Over 350 kWh per kW of Billing Demand	-5.00¢ 5.06¢
Demand Charge - per kW of Total Billing Demand	\$ 4.62 \$ 4.68
Energy Efficiency Program Charge - per kWh (1)	0.08¢
Energy Efficiency Investment Charge - per kWh (1)	0.21¢

Winter Rate (Applicable during 8 monthly billing periods of October through May)

Customer Charge - per month	\$89.32 \$89.47
Low-Income Pilot Program Charge - per month	\$ 0.50
Base Energy Charge - per kWh	
First 150 kWh per kW of Base Demand	-6.23¢ 6.31¢
Next 200 kWh per kW of Base Demand	-4.62¢ 4.68¢
All Over 350 kWh per kW of Base Demand	-3.63¢ 3.68¢
Seasonal Energy Charge - Seasonal kWh	-3.63¢ 3.68¢
Demand Charge - per kW of Total Billing Demand	\$ 1.71 \$ 1.73
Energy Efficiency Program Charge - per kWh (1)	0.05¢
Energy Efficiency Investment Charge - per kWh (1)	0.21¢

(1) Not applicable to customers that have satisfied the opt-out provisions of Section 393.1075, RSMo.

Optional Time-of-Day Adjustments

Additional Customer Charge - per Month	\$19.75	
	\$19.50 per month	
Energy Adjustment - per kWh	On-Peak	Off-Peak
	Hours (2)	Hours (2)
Summer kWh (June-September billing periods)	+1.17¢	-0.66¢
Winter kWh (October-May billing periods)	+0.35¢	-0.20¢

(2) On-peak and off-peak hours applicable herein shall be as specified in Rider I, paragraph A.

Schedule MEB-4
Page 3 of 6

DATE OF ISSUE ~~May 31, 2013~~

DATE EFFECTIVE ~~June 30, 2013~~

ISSUED BY Warner L. Baxter
NAME OF OFFICER

President & CEO
TITLE

St. Louis, Missouri
ADDRESS

MO.P.S.C. SCHEDULE NO. 6

Original

SHEET NO. 57

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREA

SERVICE CLASSIFICATION NO. 4 (M)
SMALL PRIMARY SERVICE RATE

RATE BASED ON MONTHLY METER READINGS

<u>Summer Rate</u>	(Applicable during 4 monthly billing periods of June through September)	
Customer Charge - per month		\$299.60 \$303.59
Low-Income Pilot Program Charge - per month		\$ 0.50
Energy Charge - per kWh		
First 150 kWh per kW of Billing Demand		9.56¢ 9.69¢
Next 200 kWh per kW of Billing Demand		7.20¢ 7.30¢
All Over 350 kWh per kW of Billing Demand		4.83¢ 4.89¢
Demand Charge - per kW of Total Billing Demand		3.82¢ \$ 3.87
Reactive Charge - per kVar		35.00¢ 35.47¢
Energy Efficiency Program Charge - per kWh (1)		0.09¢
Energy Efficiency Investment Charge - per kWh (1)		0.22¢

<u>Winter Rate</u>	(Applicable during 8 monthly billing periods of October through May)	
Customer Charge - per month		\$299.60 \$303.59
Low-Income Pilot Program Charge - per month		\$ 0.50
Base Energy Charge - per kWh		
First 150 kWh per kW of Base Demand		6.02¢ 6.10¢
Next 200 kWh per kW of Base Demand		4.47¢ 4.53¢
All Over 350 kWh per kW of Base Demand		3.50¢ 3.55¢
Seasonal Energy Charge - Seasonal kWh		3.50¢ 3.55¢
Demand Charge - per kW of Total Billing Demand		1.39¢ \$ 1.41
Reactive Charge - per kVar		35.00¢ 35.47¢
Energy Efficiency Program Charge - per kWh (1)		0.06¢
Energy Efficiency Investment Charge - per kWh (1)		0.22¢

(1) Not applicable to customers that have satisfied the opt-out provisions of Section 393.1075, RSMo.

<u>Optional Time-of-Day Adjustments</u>		\$19.76
Additional Customer Charge - per Month		\$19.50 per month
Energy Adjustment - per kWh	On-Peak Hours (2)	Off-Peak Hours (2)
Summer kWh (June-September billing periods)	+0.85¢	-0.48¢
Winter kWh (October-May billing periods)	+0.32¢	-0.17¢

(2) On-peak and Off-peak hours applicable herein shall be as specified within this service classification.

MO.P.S.C. SCHEDULE NO. 6

Original

SHEET NO. 61

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREA

SERVICE CLASSIFICATION NO. 11 (M)
LARGE PRIMARY SERVICE RATE

RATE BASED ON MONTHLY METER READINGS

Summer Rate (Applicable during 4 monthly billing periods of June through September)

Customer Charge - per month	\$299.60 \$303.41
Low-Income Pilot Program Charge - per month	\$ 50.00
Energy Charge - per kWh	3.24¢ 3.28¢
Demand Charge - per kW of Billing Demand	\$ 19.36 \$ 19.61
Reactive Charge - per kVar	35.00¢ 35.45¢
Energy Efficiency Program Charge - per kWh (1)	0.04¢
Energy Efficiency Investment Charge - per kWh (1)	0.21¢

Winter Rate (Applicable during 8 monthly billing periods of October through May)

Customer Charge - per month	\$299.60 \$303.41
Low-Income Pilot Program Charge - per month	\$ 50.00
Energy Charge - per kWh	2.87¢ 2.91¢
Demand Charge - per kW of Billing Demand	\$ 8.79 \$ 8.90
Reactive Charge - per kVar	35.00¢ 35.45¢
Energy Efficiency Program Charge - per kWh (1)	0.03¢
Energy Efficiency Investment Charge - per kWh (1)	0.21¢

(1) Not applicable to customers that have satisfied the opt-out provisions of Section 393.1075, RSMo.

Optional Time-of-Day Adjustments

Additional Customer Charge - per month	\$19.50 \$19.75 per month
Energy Adjustment - per kWh	On-Peak Off-Peak
	Hours (2) Hours (2)
Summer kWh (June-September billing periods)	+0.63¢ -0.35¢
Winter kWh (October-May billing periods)	+0.29¢ -0.15¢

(2) On-peak and off-peak hours applicable herein shall be as specified within this service classification.

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ISSUED BY Warner L. Baxter
NAME OF OFFICER

President & CEO
TITLE

St. Louis, Missouri
ADDRESS

MO.P.S.C. SCHEDULE NO. 6Original SHEET NO. 63

CANCELLING MO.P.S.C. SCHEDULE NO. _____

SHEET NO. _____

APPLYING TO MISSOURI SERVICE AREAMISCELLANEOUS CHARGESA. Reconnection Charges per Connection Point

Sheet No. 79, Par. B-3 (Annually Recurring Service)	\$30.00
Sheet No. 145, Par. I (Reconnection of Service)	\$30.00

B. Supplementary Service Minimum Monthly Charges

Sheet No. 78, Par. C-3

Charges applicable during 4 monthly
billing periods of June through SeptemberPrimary Service Rate

Customer Charge per month, plus	\$299.60 \$303.41
Low-Income Pilot Program Charge - per month	\$50.00
All kW @	\$19.36 \$ 19.61

Charges applicable during 8 monthly
billing periods of October through MayPrimary Service Rate

Customer Charge per month, plus	\$299.60 \$303.41
Low-Income Pilot Program Charge - per month	\$50.00
All kW @	\$8.79 \$ 8.90

C. Service Call Charge

Customer's reporting service problems may be charged a \$50.00 fee for a service call, if it is determined the problem is within the customer's electrical system.

Tax Adjustment Any license, franchise, gross receipts, occupation or similar charge or tax levied by any taxing authority on the amounts billed hereunder will be so designated and added as a separate item to bills rendered to customers under the jurisdiction of the taxing authority.

Schedule MEB-4
Page 6 of 6

DATE OF ISSUE	May 31, 2013	DATE EFFECTIVE	June 30, 2013
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