Exhibit No.:	
Issue:	Rate Design
Witness:	Maurice Brubaker
Type of Exhibit:	Surrebuttal Testimony
Sponsoring Party:	Noranda Aluminum, Inc.
Case No.:	EC-2014-0224
Date Testimony Prepared:	May 30, 2014

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 Missouri's Large Transmission Service Tariff to Decrease its Rate for Electric Service	))))))	**Case No. EC-2014-0224**

Surrebuttal Testimony and Schedule of

Maurice Brubaker

On behalf of

Noranda Aluminum, Inc.

May 30, 2014

BRUBAKER & ASSOCIATES, INC.

Project 9851

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 Missouri's Large Transmission Service Tariff to Decrease its Rate for Electric Service	**Case No. EC-2014-0224**

STATE OF MISSOURI)
) **SS**
COUNTY OF ST. LOUIS)

Affidavit of Maurice Brubaker

Maurice Brubaker, being first duly sworn, on his oath states:

1. My name is Maurice Brubaker. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by Noranda Aluminum, Inc. in this proceeding on its behalf.

2. Attached hereto and made a part hereof for all purposes are my surrebuttal testimony and schedule which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. EC-2014-0224.

3. I hereby swear and affirm that the testimony and schedule are true and correct and that they show the matters and things that they purport to show.

M E Brubaker
Maurice Brubaker

Subscribed and sworn to before me this 29th day of May, 2014.

TAMMY S. KLOSSNER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Charles County
My Commission Expires: Mar. 14, 2015
Commission # 11024862

Tammy S Klossner
Notary Public

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Surrebuttal Testimony of Maurice Brubaker

I. Introduction

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

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

Q ARE YOU THE SAME MAURICE BRUBAKER WHO PREVIOUSLY FILED DIRECT TESTIMONY IN THIS PROCEEDING ON BEHALF OF NORANDA ALUMINUM, INC. ("NORANDA")?

A Yes.

Q WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A I will respond to certain of the points made by Ameren Missouri witnesses William R. Davis and Matt Michels, and by Staff witness Sarah L. Kliethermes in rebuttal testimony. The fact that I do not address every point raised by these witnesses, or points raised by other witnesses, should not be interpreted as agreement with those points or those witnesses.

Q BEFORE BEGINNING YOUR RESPONSE TO THESE WITNESSES, PLEASE BRIEFLY RECAP YOUR DIRECT TESTIMONY.

A In my direct testimony, I compared Noranda's $30 per MWh rate request against the average variable cost to serve Noranda and also against the change in Actual Net Energy Cost ("ANEC") if Noranda were to close the smelter. In this surrebuttal testimony, I update those calculations based on new information from my colleague, Mr. Dauphinais, and based on the comments of Commission Staff and Ameren Missouri witnesses.

Q AFTER UPDATING AND RESPONDING TO OTHER WITNESSES, WHAT IS YOUR CONCLUSION?

A The conclusion remains that Noranda's requested $30 per MWh rate is reasonable both when compared to the average variable cost to serve Noranda and when compared to the change in ANEC and related charges.

Q IN ADDITION TO UTILITY RATE CONSIDERATIONS, WHAT OTHER FACTORS ARE IMPORTANT IN EVALUATING THE NORANDA PROPOSAL?

A In addition to these considerations, the impact that the smelter has on the overall economy is important. According to Dr. Haslag's studies, the average annual economic benefit that the smelter provides to the state is in excess of $300 million. It would be appropriate for the Commission also to take these benefits into consideration in evaluating the Noranda rate proposal.

II. Response to Ameren Missouri Witnesses

Q AT VARIOUS POINTS IN HIS TESTIMONY, INCLUDING AT PAGE 6, MR. DAVIS IS CRITICAL OF THE NORANDA RATE PROPOSAL BECAUSE IT DEPARTS FROM FULLY ALLOCATED EMBEDDED COST OF SERVICE. WAS THERE EVER ANY PRETENTION THAT THE RATE PROPOSAL WAS BASED ON A FULLY ALLOCATED EMBEDDED COST OF SERVICE AS IS TYPICALLY DONE IN RATE CASES?

A No. In fact, at page 5 of my direct testimony, I specifically addressed this concept and characterized the proposal as designed to retain at-risk loads that would not otherwise be served by the utility if priced at fully allocated embedded cost of service as is traditionally done in rate cases. The objective is to provide a rate that is low enough to retain the customer's load and preserve the correlative economic benefits that would be lost if the load were not served.

In my direct testimony, I explained that the basis for such a rate is typically a price higher than average variable cost so that some contribution to fixed cost is provided. As I discuss hereafter in my response to Ms. Kliethermes, the proposed rate clearly is higher than average variable cost and is reasonable when evaluated on that basis.

Q ON WHAT OTHER BASIS CAN THE RATE BE EVALUATED?

A In my direct testimony, I also evaluated the rate in reference to the estimated reduction in Ameren Missouri's ANEC if the smelter were not served. I found that it was reasonable as measured that way as well. This is a much more demanding evaluation than the first (rate exceeds average variable cost) because it is based on market prices that typically are higher than the average variable cost.

Q PLEASE DESCRIBE THAT ANALYSIS.

A In my direct testimony, I used a change in ANEC value (essentially the price at which Ameren Missouri would sell into the MISO market the power that it would have otherwise sold to Noranda) of $27.05 per MWh. That figure was provided by Mr. Dauphinais. In his surrebuttal testimony, Mr. Dauphinais has responded to certain criticisms of his study that produced the $27.05 per MWh of ANEC reduction that I used in my direct testimony. His update shows an ANEC reduction of $28.49 per MWh based on the 36 month period ended December, 2013, and $27.91 per MWh when based on the 36 month period ended April, 2014, with normalization to remove the effects of the Polar Vortex Anomaly. Accordingly, based on Mr. Dauphinais' surrebuttal testimony analysis, the reduction in ANEC, while larger than $27.05 per MWh, is still less than $30 per MWh.

Q ARE THERE CAVEATS THAT SHOULD BE KEPT IN MIND WHEN PERFORMING AN EVALUATION FROM THE PERSPECTIVE OF MARKET PRICES?

A Yes. As is well known, and vividly demonstrated in this case, the market prices can fluctuate significantly. They can be influenced substantially by emergent events such as hurricanes, financial market conditions and extreme temperatures, such as those exhibited as a result of the Polar Vortex Anomaly that Mr. Dauphinais discusses. To the extent that they play a role in Ameren's supply picture, market prices are a component of average variable energy cost and if the changes are sustained, the average variable energy cost will tend to move in the same direction.

Q DOES NORANDA HAVE A FAVORABLE LOAD CHARACTERISTIC?

A Yes. Noranda has a load of almost 500 MW that is very nearly constant. The load factor of the load is approximately 98%. This means that the load is almost the same in every hour. This is a natural characteristic of aluminum smelters because smelting is a continuous process and when a pot line is operating the hour-to-hour variations are quite small.

Q WHAT IS THE VALUE OF THIS TYPE OF LOAD?

A This uniform characteristic makes the load very attractive to a supplier. If power prices are such that the smelter is able to operate, it will run at this level and provide a guaranteed and predictable load for Ameren to serve at a known price.

Q ARE YOU AWARE OF AMEREN MISSOURI HAVING CHARACTERIZED NORANDA'S LOAD IN A SIMILAR WAY?

A Yes. Noranda became a customer of Ameren Missouri on June 1, 2005 (after hearings in Case No. EA-2005-0180). In his February 14, 2005 surrebuttal testimony in that case, Ameren Missouri (then AmerenUE) witness Craig Nelson, who then was Vice President – Strategic Initiatives, provided a similar characterization of the Noranda load when he responded to a proposal made by one of the parties. At page 15 of his surrebuttal testimony, Mr. Nelson noted:

> "As Mr. Voytas' direct testimony explains, a key reason that service to Noranda lowers AmerenUE's costs on a dollar per megawatt hour basis versus the case where AmerenUE does not serve Noranda is that Noranda is able to utilize unused, baseload energy that the Company cannot sell in the off-system market. Noranda, with a 98-99% load factor, also provides more MWh sales over which to spread AmerenUE's fixed costs." (Case No. EA-2005-0180)

Q IN JANUARY 2009 THE SMELTER SUFFERED A LOSS OF POWER AS A RESULT OF A MAJOR ICE STORM. APPROXIMATELY 75% OF PRODUCTION CAPACITY WAS LOST BECAUSE OF THE OUTAGE. MR. KIP SMITH TESTIFIES IN HIS SURREBUTTAL THAT BUT FOR APOLLO, THE SMELTER MAY NOT HAVE REOPENED AFTER THE ICE STORM. HAVE YOU BEEN ABLE TO CALCULATE THE ADDITIONAL REVENUE THAT WAS PROVIDED BY NORANDA, AS CONTRASTED TO THE REVENUES THAT WOULD HAVE BEEN PRODUCED BY SELLING THE SAME AMOUNT OF POWER INTO THE MISO MARKET, HAD NORANDA NOT RESUMED OPERATIONS?

A Yes. Please refer to Schedule MEB-Surrebuttal-1.

After extensive repairs, the smelter resumed full production by May 2010. From then through December 31, 2013, the amount of revenue provided in excess of the off-system opportunities was approximately $150 million. Through April 30, 2014 (which includes the impact of the Polar Vortex Anomaly) the cumulative benefit is approximately $144 million. In other words, because Noranda did not close, forcing Ameren to sell the power in the MISO market for less than it sold it to Noranda, Ameren Missouri, and ultimately its ratepayers, benefitted by well over $100 million.

III. Response to Staff

Q ON PAGE 7 OF HER REBUTTAL TESTIMONY, MS. KLIETHERMES DISAGREES WITH YOUR CALCULATION OF AVERAGE VARIABLE COST ASSOCIATED WITH SERVING NORANDA. ARE HER CRITICISMS VALID?

A No. She has conflated average variable cost with the avoided wholesale market price. Average variable cost and market price are quite different. The average variable cost is, as I described it at pages 5 and 6 of my direct testimony, essentially

the total cost of the components that are included in Ameren Missouri's Fuel Adjustment Clause ("FAC") divided by total retail sales. It essentially is those cost components which vary with the number of kilowatthours supplied by the utility. It is calculated using the variable cost components that are included in Ameren Missouri's Commission-determined revenue requirement.

Q HOW DOES THIS DIFFER FROM THE AVOIDED WHOLESALE MARKET PRICE THAT MS. KLIETHERMES HAS USED?

A The market price she used essentially is the price in the MISO market at a particular time at a given location. The two are quite different and both have particular meanings. Ms. Kliethermes has confused the two and thus her conclusions are incorrect.

Q WHAT DID YOU CALCULATE AS AVERAGE VARIABLE COST ASSOCIATED WITH PROVIDING SERVICE TO NORANDA?

A In my direct testimony, I derived a number of $18.20 per MWh (1.82¢ per kWh) by adding together the $14.69/MWh ($1.469¢/kWh) base of the FAC as established in Case No. ER-2012-0166 (the most recent Ameren Missouri rate case) and the then-current $3.50/MWh (0.35¢/kWh) FAC factor (that excludes the effect of the refund by Ameren Missouri resulting from the imprudence associated with administration of its FAC).

Q HAS AMEREN MISSOURI RECENTLY PROVIDED A CALCULATION OF AVERAGE ENERGY COST TO SERVE NORANDA?

A Yes. In its most recent rate case a fully embedded class cost of service study was performed. In addition to determining the class totals, witness Warwick divided the costs allocated to each customer class into the categories of Customer; Production – Demand; Production – Energy; Transmission – Demand; and Distribution – Demand. The only one of these buckets of costs that relates directly to, and varies in accordance with, kilowatthours sold to customers is the Production – Energy category.

Q WHAT AMOUNT OF AVERAGE ENERGY COST TO SERVE NORANDA WAS IDENTIFIED BY MR. WARWICK IN AMEREN MISSOURI'S MOST RECENT RATE CASE?

A In its most recent rate case, Mr. Warwick provided on his Schedule WMW-E3 an analysis of the unbundled cost to serve each customer class. For Noranda, he calculated a production energy cost, which includes fuel and variable purchased power costs net of off system sales revenue, what he deemed to be variable non-fuel production-related operation and maintenance expense and certain allocated overheads. The total energy cost he identified for service to Noranda was $77.56 million, which equals approximately $18.60 per MWh for service to Noranda. This is higher than the $14.69 per MWh FAC base because, as described above, it includes certain non-fuel items. Combining that number with the FAC of $3.50 per MWh produces an average variable cost associated with service to Noranda of $22.10 per MWh.

Q PLEASE ELABORATE ON YOUR CHARACTERIZATION OF MS. KLIETHERMES' NUMBERS AND WHY THEY SHOULD NOT BE USED.

A As indicated above, Ms. Kliethermes' numbers are not average variable cost, but instead are avoided wholesale market prices and, as such, do not support her conclusions.

Q IS THE $30 PER MWH RATE REQUESTED BY NORANDA ABOVE THE AVERAGE VARIABLE COST ASSOCIATED WITH PROVIDING SERVICE TO NORANDA?

A Yes, it is, by nearly $8 per MWh, or about $33 million per year.

Mr. Dauphinais discusses Ms. Kliethermes' testimony in more detail and points out other problems with her assumptions and calculations.

Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A Yes.

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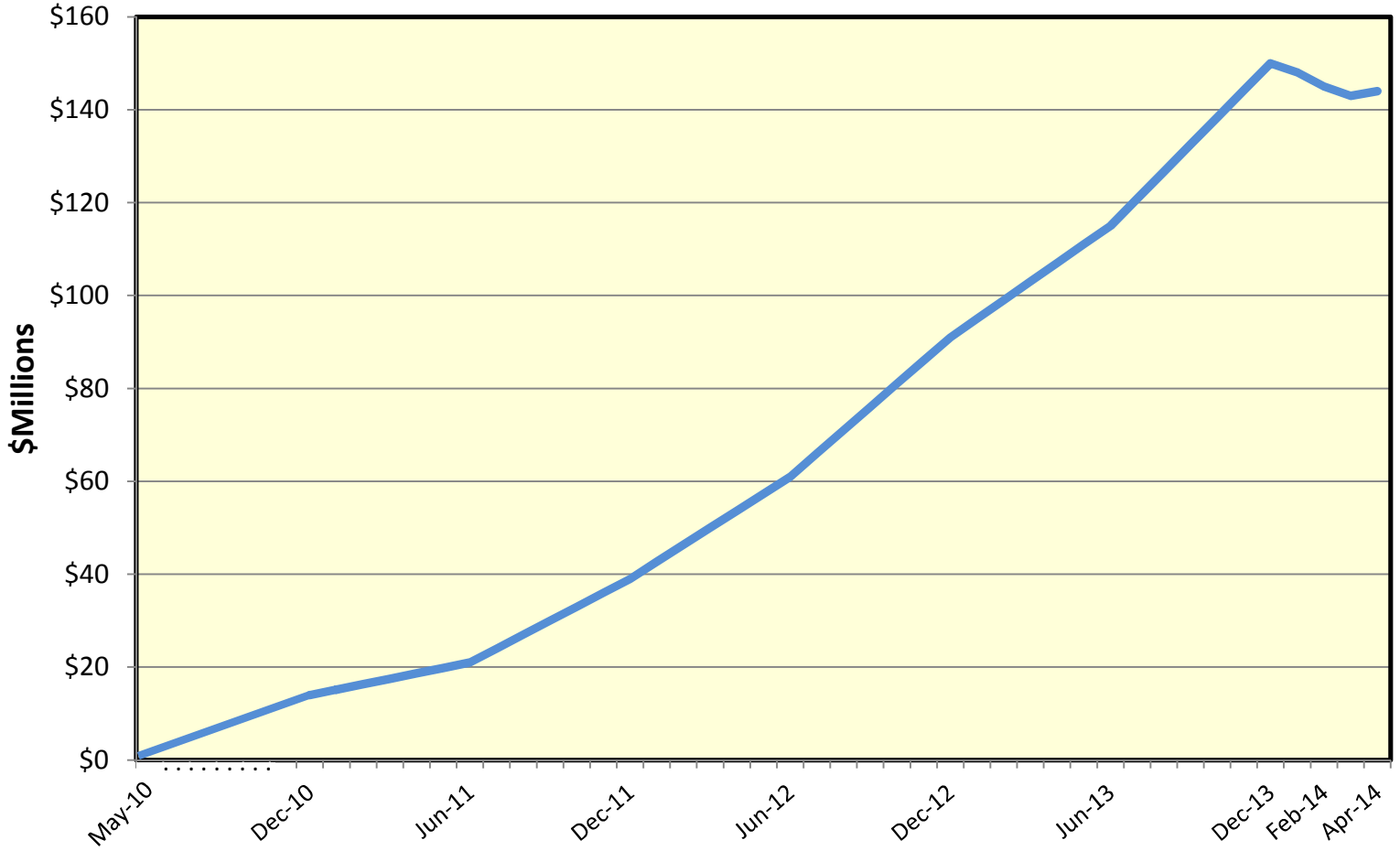
Cumulative Net Benefit of Sales to Noranda vs. to Market



Schedule MEB-Surrebuttal-1