Exhibit No.:	
Issue:	Revenue Requirement
Witness:	Nicholas L. Phillips
Type of Exhibit:	Direct Testimony
Sponsoring Party:	Missouri Industrial Energy Consumers
Case No.:	ER-2012-0166
Date Testimony Prepared:	September 7, 2012

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company, d/b/a Ameren Missouri's Tariff to Increase Its Annual Revenues for Electric Service	)))))	**Case No. ER-2012-0166** Tariff No. YE-2012-0370

Surrebuttal Testimony and Schedule of

Nicholas L. Phillips

Revenue Requirement

On behalf of

Missouri Industrial Energy Consumers

NON-PROPRIETARY VERSION

September 7, 2012

BRUBAKER & ASSOCIATES, INC.

Project 9553

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company, d/b/a Ameren Missouri's Tariff to Increase Its Annual Revenues for Electric Service	)))))	**Case No. ER-2012-0166** Tariff No. YE-2012-0370

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

Affidavit of Nicholas L. Phillips

Nicholas L. Phillips, being first duly sworn, on his oath states:

1. My name is Nicholas L. Phillips. 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 the Missouri Industrial Energy Consumers in this proceeding on their 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. ER-2012-0166.

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.

Nicholas L. Phillips

Subscribed and sworn to before me this 6th day of September, 2012.

MARIA E. DECKER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis City
My Commission Expires: May 5, 2013
Commission # 09706793

Notary Public

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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company, d/b/a Ameren Missouri's Tariff to Increase Its Annual Revenues for Electric Service	)))))	**Case No. ER-2012-0166** Tariff No. YE-2012-0370

Surrebuttal Testimony of Nicholas L. Phillips

I. INTRODUCTION

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Nicholas L. Phillips. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q ARE YOU THE SAME NICHOLAS L. PHILLIPS WHO HAS PREVIOUSLY FILED DIRECT "REVENUE REQUIREMENT" TESTIMONY ON BEHALF OF THE MISSOURI INDUSTRIAL ENERGY CONSUMERS ("MIEC") IN THIS PROCEEDING?

A Yes.

Q WHAT IS THE SUBJECT OF YOUR SURREBUTTAL TESTIMONY?

A My surrebuttal testimony addresses the Rebuttal Testimony of Mark Peters on behalf of Union Electric Company ("Ameren Missouri" or "Company") regarding generating unit minimum capabilities, the assumed normalized duration for the Callaway refueling outage and the Rush Island startup fuel ratio used in the production cost models that are used to develop the Net Fuel Cost for the Company.

The fact that I do not address a particular issue raised by the Company or any other party in this proceeding should not be interpreted as approval of any position taken by the Company or other parties in this proceeding.

Q PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS.

A I recommend that the Missouri Public Service Commission ("Commission") reduce Ameren Missouri's Net Fuel Cost[1] (and, thus, its Net Base Fuel Cost) by not less than $10.1 million. This net $10.1 million reduction includes: (1) a $7.4 million decrease from updating fuel and wholesale electric energy prices,[2] (2) a $0.3 million reduction correcting the unreasonable minimum generator capability values assumed for the coal-fired generation facilities,[3] and (3) a $2.4 million decrease from correcting the unreasonable assumed normalized duration for the Callaway refueling outage. In total, I am recommending a Net Fuel Cost reduction of $10.1 million. This reduction is reflected within the Net Base Fuel Cost and base rate revenue requirement recommendations of the surrebuttal testimony of my colleague, James R. Dauphinais.

[1]Ameren Missouri's Net Fuel Cost consists of fuel and purchased power costs for native load and off-system energy sales less off-system energy sales revenues, as estimated using production cost modeling.

[2]Direct Testimony of Nicholas Phillips at pages 8-12.

[3]Direct Testimony of Nicholas Phillips at pages 13-15.

II. ASSUMED MINIMUM GENERATING CAPABILITIES OF THE COAL-FIRED GENERATION FACILITIES

Q WHAT IS THE COMPANY'S RECOMMENDATION REGARDING THE UNIT MINIMUM CAPABILITIES USED IN THE PRODUCTION COST SIMULATION?

A The Company continues to assert that the methodology that underlies the production cost modeling presented in its direct case is reasonable.[4] This methodology is a departure from the method the Company used in its past base rate proceedings.

Q HAS YOUR OPINION CHANGED WITH REGARD TO WHETHER THE METHODOLOGY THE COMPANY USED TO ESTABLISH THE GENERATING UNIT MINIMUM CAPABILITIES USED IN THE PRODUCTION COST SIMULATION ACCOMPANYING ITS DIRECT CASE IS REASONABLE?

A No. The Company has not presented any evidence that the increased minimum generator capabilities, relative to the previous rate case (No. ER-2011-0028) are justified. As I indicated in my direct testimony, the Company did not perform a calibration to historical data as it had performed in previous rate cases. The calibration process could have been used to examine whether it is necessary to raise the minimum generator capability values above the economical minimums used by the Company in the previous rate proceedings. However, absent this calibration process, raising the minimums is pure conjecture.

[4] Rebuttal Testimony of Mark Peters at page 6.

Q WHAT IS THE IMPORTANCE OF SELECTING A REASONABLE MINIMUM GENERATOR CAPABILITY?

A The minimum generator capabilities, as they are related to production cost modeling, assign an operating constraint that cannot be violated during the simulation. Furthermore, both the Company and I model the coal-fired generating units as "must-run" units. In other words, in the simulations used to set Net Fuel Cost, the coal-fired generators must run at or above their assumed minimum operating capability in every hour when they are not in a planned or forced outage state. Therefore, if an assumed minimum generator capability is unreasonably high, it will overstate Net Fuel Cost because the economic decision making ability of the model has been unreasonably constrained.

Q HAVE YOU REVIEWED THE ALTERNATIVE METHODOLOGY PROPOSED BY THE COMPANY?

A Yes. I have reviewed the alternative methodology proposed by the Company and will continue to review and discuss the proposal with the Company.

Q PLEASE SUMMARIZE THE PROPOSED ALTERNATIVE METHODOLOGY.

A The alternative methodology proposed by the Company attempts to analyze the hours during which a generating unit is operating at or near its minimum capability, and also is cleared for regulating reserves[5] in the MISO ancillary services market. Then, it weights each generating unit's regulation ability by the number of hours the unit is cleared to provide regulation when operating near its economical minimum

[5]Regulation service is an ancillary service in the MISO market supplied by a online, regulation qualified resource that is capable of responding to an automatic generator control signal sent by MISO for frequency response.

capability. This weighted regulation ability is then added to the generating unit's minimum capability to establish a new minimum capability.

Q DO YOU HAVE ANY CONCERNS WITH THE ALTERNATIVE METHODOLOGY PROPOSED BY THE COMPANY?

A Yes. The Company fails to demonstrate that when utilized in a production cost model, its proposed alternative methodology will reasonably account for the fuel cost associated with providing regulation reserves. The Company has not offered any analyses which suggests that its proposed methodology represents the actual fuel costs associated with providing regulation service. The proposed methodology assumes a minimum generating capability that will be enforced in every hour of the simulation period; however, Ameren Missouri's coal-fired generators are not cleared to provide Regulating Reserve in all hours. By removing the ability of the model to reduce generator output to economical minimums during the hours that the unit is not cleared for regulation, the model is then forced to either sell energy off-system uneconomically or serve native load with an uneconomic dispatch. The ultimate effect of this would be a reduction in OSS margins, an increase in native load fuel cost or some combination of the two. Whatever the case may be, it will raise Net Fuel Cost. The issue at hand is that the Company has not even attempted to demonstrate that this increase in Net Fuel Cost would reasonably represent a normalized level of fuel cost associated with providing regulation service. Similar to the Company's recommended minimums, the reasonableness of this alternative proposal could be examined via calibration to historical operations. However, the Company stated in response to MIEC Data Request 3.1:

> "Ameren Missouri believes that the consistent and very well calibrated results provided in these prior cases (within ½% and 1% respectively

in the past two cases for example) have adequately demonstrated the validity of the model, and that such further testing in the face of such consistent results was unnecessary."

Q WHAT WAS THE HISTORICAL PERIOD AMEREN MISSOURI CALIBRATED THE PROSYM MODEL TO IN THE PREVIOUS RATE PROCEEDING?

A Calendar year 2009.

Q WHEN DID MISO BEGIN FULL OPERATION OF ITS ANCILLARY SERVICE MARKET?

A January 2009.

Q WHAT IS THE SIGNIFICANCE OF THE MISO ANCILLARY SERVICES MARKET BEGINNING FULL OPERATION IN JANUARY 2009?

A The significance is that the most recent calibration performed by the Company reflected a period when the ancillary services market was in full effect. Furthermore, when calibrating to this period, the Company utilized the economical minimum generator capabilities and calibrated to within ½% of historical generation. If anything, this justifies the use of the economic minimum generator capabilities in this case in order to avoid the possible over recovery of Net Fuel Cost related to selecting unreasonably high minimum generator capabilities, as I discussed above.

Q WHAT GENERATING UNIT CAPABILITIES DO YOU RECOMMEND BE USED IN THE NORMALIZED TEST YEAR PRODUCTION COST RUN?

A I recommend using the minimum capabilities provided by Ameren Missouri in response to MIEC Data Request 9.1, as presented in Table 1 of my Direct Testimony.

III. ASSUMED DURATION FOR THE CALLAWAY REFUELING OUTAGE

Q WHAT IS THE ASSUMED NORMALIZED DURATION FOR THE CALLAWAY REFUELING OUTAGE RECOMMENDED BY THE COMPANY?

A In response to my direct testimony, the Company, in rebuttal, recommends correcting the assumed normalized duration for the Callaway refueling outage from 27 days in its direct testimony to 24 days to account for a mathematical error.[6]

Q DO YOU AGREE WITH THIS RECOMMENDATION? PLEASE EXPLAIN.

A No. This recommendation fails to consider the extension of Callaway refueling outage 18, which as the Company has admitted, was a direct result of its own mismanagement prior to, and during, refueling outage 18. In the Company's response to MPSC Data Request 84,[7] the Company admits,

> "Callaway Plant struggled with schedule performance during Refuel 18. Total outage duration was scheduled for 30 days and completed at 41.1 days."

and continues,

> "Due to various issues in Refuel 18, the original schedule ended up extending by about 11 days (720 hours original duration, 988 hours final duration). Lack of Site preparation challenged Refuel performance by missing or jeopardizing numerous milestones prior to refuel start. A Common Cause Analysis was performed and revealed one prevalent common cause after breaker open: inadequate preparation, oversight, and contingency planning by the Reactor Service Organization."

Due to the Company's admission of mismanagement regarding the refueling 18 outage, I do not believe it is reasonable to include the full duration of this outage in the Callaway refueling outage normalization.

[6] Rebuttal Testimony of Mark Peters at page 9, lines 5-6.

[7] A copy of the Company's response to MPSC Data Request 84 is attached to my colleague, Greg Meyer's, direct testimony as Schedule GRM-1.

Q HAS THERE BEEN ANY DISCUSSION WITH THE COMPANY REGARDING THIS ISSUE?

A Yes, it is my understanding that the Company has accepted the expense adjustment related to Callaway refueling outage 18 proposed by my colleague, Greg Meyer. Similarly, my adjustment to exclude the extension to the originally scheduled Callaway refueling 18 outage duration when determining the normalized duration for Callaway refueling outages for the normalized test year production cost run should be adopted.

Q WHAT NORMALIZED DURATION FOR THE CALLAWAY REFUELING OUTAGE DO YOU RECOMMEND BE USED IN THE NORMALIZED TEST YEAR PRODUCTION COST RUN?

A I recommend using a normalized duration of 22.5 days for the Callaway refueling outage in the normalized test year production cost run. This excludes the extension to the originally scheduled Callaway refueling 18 outage duration.

Q HAVE YOU RERUN YOUR PRODUCTION COST MODEL FOR THE NORMALIZED TEST YEAR USING THE NORMALIZED DURATION FOR THE CALLAWAY REFUELING OUTAGE THAT YOU HAVE RECCOMENDED?

A Yes. Our rerun of this adjustment, which is summarized in Schedule NLP-SUR-1, reduced Ameren Missouri's proposed Net Fuel Cost by $2.4 million. I recommend that this adjustment be made and that the adjusted normalized duration for the Callaway refueling outage be used in the true-up production cost runs for the normalized test year in this proceeding.

IV. ASSUMED RUSH ISLAND START FUEL BLEND RATIO

Q PLEASE COMMENT ON THE PROPOSED SOLUTION REGARDING YOUR CONCERN WITH THE RUSH ISLAND START FUEL BELND RATIO.

A I believe that the Company and I are in agreement, to the extent that our goal is to include an appropriate normalized level of fuel oil expense in the normalized test year production cost runs. The Company[8] and I now appear to agree that it is imperative that care be taken to ensure that the differences between the number of expected starts and the number of historical starts used to determine the initial fuel blend ratios are synchronized so that the results produce a reasonable level of fuel oil consumption.

V. CONCLUSION

Q PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS.

A I recommend that the Commission reduce Ameren Missouri's Net Fuel Cost (and, thus, its Net Base Fuel Cost) by not less than $10.1 million. This net $10.1 million reduction includes: (1) a $7.4 million decrease from updating fuel and wholesale electric energy prices,[9] (2) a $0.3 million reduction correcting the unreasonable minimum generator capability values assumed for the coal-fired generation facilities,[10] and (3) a $2.4 million decrease from correcting the unreasonable assumed normalized duration for the Callaway refueling outage.

Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A Yes, it does.

[8]Direct Testimony of Mark Peters at page 7.
[9]Direct Testimony of Nicholas Phillips at pages 8-12.
[10]Direct Testimony of Nicholas Phillips at pages 13-15.

Non-Proprietary

Ameren Missouri

Case No. ER-2012-0166

Production Cost Modeling (Net Fuel Cost) Adjustments Proposed by MIEC

	Incremental Increase/(Decrease)	Net Fuel Cost	Gross Fuel Cost	OSS Revenues	Coal Fuel Cost	Nuclear Fuel Cost	Oil/Gas Fuel Cost	Spot Purchased Power	Wind Purchased Power
(ORIGINAL) Ameren Missouri ProSym Case-in-Chief		$ 555,428,954	$ 896,729,954	$341,301,000					
BAI Update[1]	$ (7,395,451)	$ 548,033,503	$ 923,850,959	$375,817,456					
BAI Adjustment 1 - Minimum Capability Values[1]	$ (331,596)	$ 547,701,907	$ 919,922,195	$372,220,288					
BAI Adjustment 2 - Callaway Refueling Outage[2]	$ (2,360,800)	$ 545,672,703	$ 924,810,502	$379,137,799					
BAI Adjustment 1 - Minimum Capability Values	$ (331,596)	$ 547,701,907	$ 919,922,195	$372,220,288					
BAI Adjustments 1 & 2 Cumulative	$ (2,692,119)	$ 545,341,384	$ 920,859,487	$375,518,103					

	Net MWh	Gross MWhs	Native Load MWhs	OSS MWhs	Coal MWh	Nuclear MWh	Oil/Gas MWh	Spot Purchased Power	Wind Purchased Power	Pumped Storage MWhs	Hydro MWhs
(ORIGINAL) Ameren Missouri ProSym Case-in-Chief											
BAI Update[1]											
BAI Adjustment 1 - Minimum Capability Values[1]											
BAI Adjustment 2 - Callaway Refueling Outage[2]											
BAI Adjustment 1 - Minimum Capability Values											
BAI Adjustments 1 & 2 Cumulative											

Notes

1. BAI Update and BAI Adjustment 1 were originally presented and discussed in the direct testimony of Nicholas L. Phillips in case no. ER-2012-0166
2. BAI Adjustment 2 is presented and discussed in the surrebuttal testimony of Nicholas L. Phillips in case no. ER-2012-0166

Gross is a summation of all coal, nuclear, gas, oil, hydro, and purchased power (both spot purchases and wind)
Net is the difference of gross and off system sales
Native load is the summation of Net and pumped storage
Nuclear Fuel Cost Includes Spent Fuel Charge
BAI update includes updates to assumed prices for fuel oil, natural gas, coal, and wholesale electric energy prices