Exhibit No	033
Issue(s)	Production Cost Modeling, Under-Forecasting, Net Fuel Cost Update
Witness	Timothy D Finnell
Sponsoring Party	Union Electric Company
Type of Exhibit	Rebuttal Testimony
Case No	ER-2008-0318
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MISSOURI PUBLIC SERVICE COMMISSION

Case No. ER-2008-0318

REBUTTAL TESTIMONY

OF

TIMOTHY D. FINNELL

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
October 2008

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REBUTTAL TESTIMONY

OF

TIMOTHY D. FINNELL

CASE NO. ER-2008-0318

Q. Please state your name and business address.

A. My name is Timothy D. Finnell, Ameren Services Company (Ameren Services), One Ameren Plaza, 1901 Choteau Avenue, St Louis, Missouri 63103

Q. By whom and in what capacity are you employed?

A I am employed by Ameren Services as Managing Supervisor, Operations Analysis in the Corporate Planning Function of Ameren Services

Q. Are you the same Timothy D. Finnell who filed direct testimony in this case?

A Yes, I am

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to discuss the production cost modeling done by the Missouri Public Service Commission (MPSC) Staff to determine the normalized annual net fuel costs for this case, and to update AmerenUE's calculation of normalized annual net fuel costs The Company's net fuel costs consist of nuclear, coal, oil, and natural gas costs associated with producing electricity from the AmerenUE generation fleet, plus the variable component of purchased power, less the energy revenues from off-system

sales [1] As part of my rebuttal testimony, I am also updating the annual net fuel cost benefits associated with Taum Sauk Plant operations, which have changed slightly due to the updates discussed in this testimony

I. Production Cost Modeling

Q. If the Company and the MPSC Staff agreed on modeling inputs (such as energy prices), would you agree that the MPSC Staff's production cost model would produce reasonable results for net fuel costs?

A Yes, if the Company and the Staff agreed on all modeling inputs, I believe the MPSC Staff's production cost model, RealTime, would produce reasonable results for net fuel costs I came to this conclusion by working with MPSC Staff witness John P Cassidy and MPSC modeling witness Michael Rahrer A comparison of the results from the MPSC production cost model, RealTime, and the Company's production cost model, PROSYM, was provided in the MPSC Staff Report - Cost of Service, Section VII (D)(2)(b) Calibration of Model Results to AmerenUE (pages 36-37) The model calibration results show that when the MPSC Staff ran its RealTime model using the same inputs as used by the Company, the RealTime model determined almost identical net fuel costs to those determined by the PROSYM model that I ran

[1] Net fuel costs also include capacity sales and Midwest Independent Transmission System Operator, Inc (MISO) Revenue Sufficiency Guarantee (RSG) – Make Whole Payments, which are addressed in the rebuttal testimony of AmerenUE witness Shawn E Schukar These items are not determined as a result of production cost modeling, but rather, are based upon Mr Schukar's analyses I would also note that "net fuel costs" differ from the "net base fuel costs" calculated by AmerenUE witness Gary S Weiss for setting the base around which changes would be tracked in the Company's proposed fuel adjustment clause (FAC), because of the need to include items that cannot be determined using production cost modeling The items were outlined in footnote 1 of my supplemental direct testimony

Q. Does this mean that there are no differences between AmerenUE's and the MPSC Staff's net fuel costs?

A No, as I noted, the nearly identical results between the two models are produced only if the Company and the MPSC Staff agree on all modeling inputs In fact, there is one input-related issue about which there is conceptual agreement, but which cannot be finalized until the Company and the MPSC Staff re-run their models in order to finalize the true-up, and there is another input-related issue about which the Company and the MPSC Staff are not in agreement – power market prices, which affect the normalized level of power purchases and off-system sales In addition, there are disagreements about certain costs and revenues for items that are not easily handled in a production cost model, such as PROSYM or RealTime, including (1) margins from MISO Revenue Sufficiency Guarantee – Make Whole Payments (addressed in Mr. Schukar's rebuttal testimony) and (2) costs associated with under-forecasting loads in the MISO Day 2 Market (addressed below)

Q. Why is there a true-up for load growth and fuel costs?

A A true-up to September 30, 2008 was ordered by the Commission for this case based upon the parties' agreement The true-up for customer growth is done to adjust sales to reflect known and measurable changes resulting from a change in the number of customers The true-up for fuel costs is done to adjust fuel prices to reflect current fuel costs as of the true-up date, September 30, 2008

Q. What issues need to be resolved with regard to power market prices used for spot purchase power prices and off-system sales, after the true-up data for load growth and fuel costs is known?

A Either the parties will have to agree on power market prices, or the Commission will have to resolve any disagreement Table TDF-R1 lists the off-system sales (OSS) statistics from the updates provided in my rebuttal testimony and the workpapers provided in support of the MPSC Staff model run reflecting the September 30, 2008 true-up period (completed in connection with the Staff's direct case filing)

Table TDF-R1 – Total Off-System Sales Statistics (Hedged and Unhedged)

	OSS Volume MWh	OSS Revenues (energy only) $	OSS Price $/MWh
AmerenUE rebuttal	10,162,000	$451,556,200	$44 43/MWh
MPSC Staff –True-Up Run (T_BL_Stat_1653 pdf)	9,886,734	$445,066,000	$45 02/MWh

Using the average volume of off-system sales from Table TDF-R1, approximately 10 million MWh and a market price difference of approximately $ 60/MWh, results in a $6 million difference in net fuel costs due to the use of different power market prices in the Company's versus the Staff's models

Q. Why do production cost models have difficulty calculating margins from MISO Revenue Sufficiency Guarantee – Make Whole Payments and costs

associated with under-forecasting AmerenUE loads in the MISO Day 2 market?

A The PROSYM and RealTime production cost models make good economic decisions assuming perfect knowledge of various items such as loads, fuel costs, and market prices Thus, these models are not designed to address issues that relate to uneconomic operation of generating plants and uncertainties such as load forecasting uncertainty

The MISO RSG – Make Whole payments are the result of MISO operational decisions that force units to operate for system reliability rather than for economic operations, and thus are not calculated in the production cost models Mr Schukar is addressing the impact of MISO RSG - Make Whole payments on off-system sales margins (RSG - Make Whole Payments less operating costs) Mr Schukar has estimated the margins from MISO RSG - Make Whole Payments to be $4 7 million per year

The MISO Day 2 market creates extra costs from under-forecasting the AmerenUE load The MISO Day 2 market has a Day Ahead (DA) market which is based on load forecasts made the day prior to the actual operating day, and a Real Time (RT) market which is based on loads for the actual operating day When the DA load forecast is lower than the RT load, the additional load is served by energy purchased from the MISO RT market The PROSYM and RealTime production cost models use only a single load forecast which is equivalent to the RT load forecast This means that under-forecasting loads, which does occur, is simply not reflected in production cost

models and any costs associated from under-forecasting loads are missed This understates the Company's production costs

Q. Please explain the impact of under-forecasting loads.

A The impact of the load forecasting deviations is calculated by multiplying the load forecast deviations times the difference between the Day Ahead Locational Market Price (DA-LMP) and the Real Time Locational Market Price (RT-LMP) For example, on January 2, 2008, for the hour ending 1 a m , the Day Ahead forecast was 5183 MW and the modeled Real Time load was 5431 MW Thus, the load was under-forecasted by 248 MW Also the DA-LMP was $26 63/MWh and the RT-LMP was $30 64/MWh, resulting in an additional cost of $4 01/MWh for meeting the extra load The cost impact of this load forecast deviation is $994 (248 MW x $4 01/MWh = $994) It should be noted that in this example, the RT-LMP was higher than the DA-LMP, however, this is not always the case If the RT-LMP is lower than the DA-LMP, then there is a benefit from under-forecasting It is appropriate to include the cost associated with under-forecasting loads in AmerenUE's cost of service because AmerenUE must buy power from the MISO market in order to supply its load Table TDF-R2 shows the impact of under-forecasting loads over the past 33 months The average annual dollar impact over this period was approximately $4 5 million, which should be added to the cost to serve AmerenUE's load

Table TDF-R2 – Impact of Under-Forecasting Loads			
		MWh of under-forecasting	$ Impact
2006		803,497	$ 2,974,906
2007		646,116	$ 4,047,425
2008 (Jan- Sept)		538,045	$ 4,811,746
Annual Average		722,335	$ 4,479,331

Q. Does over-forecasting of loads occur?

A. Yes, over-forecasting also occurs Table TDF-R3 lists loads, MWh of over-forecasting and MWh of under-forecasting for the time period January 2006 through September 2008

Table TDF-R3 – Load Forecasting Deviations			
	Total Load	MWh of over-forecasting	MWh of under-forecasting
2006	42,380,669	755,649	803,497
2007	42,542,296	740,626	646,116
2008 (Jan- Sept)	32,034,095	597,598	538,045
Annual Average	42,545,031	764,357	722,335

Q. Is there a cost associated with over-forecasting loads?

A I have assumed that no adjustment for over-forecasting is necessary Over-forecasting loads means that the actual or RT load is lower than projected and that additional energy from AmerenUE generators is available to make off-system sales As mentioned earlier, the production cost models use loads equivalent to the RT loads, thus the models are already making all the off-

system sales that are economical As a consequence, I have assumed there is no cost impact associated with over-forecasting loads

Q. How is the cost of under-forecasting loads handled in the production cost models?

A. The PROSYM model used "must take" purchased power resources to represent the purchases from MISO when load under-forecasting occurs The price of the purchased power resource is set to a value that is higher than the market price used by the model By using a purchase price higher than the market price, the production cost model calculates a loss from this purchased power resource The purchased power resource size and price is set up to equal the projected cost of under-forecasting loads In discussions with MPSC Staff witness John Cassidy, I confirmed that the RealTime model did not factor in any impact associated with under-forecasting loads

Q. What cost for under-forecasting loads was used in the PROSYM model run to calculate net fuel costs?

A The current PROSYM model run used for this rebuttal testimony includes costs related to under-forecasting loads of $1 3 million, the same value that was used in my direct and supplemental direct testimonies

Q. Shouldn't the cost of under-forecasting be trued up in a manner similar to other true-up items?

A Yes The cost of under-forecasting loads should be trued up in a manner similar to other true-up items This should be done using an average annual cost of under-forecasting loads for the 24-month period ending September 30,

2008, which as shown in Table TDF-R2 above is $4 7 million This amount is $3 4 million higher than the value in my current calculation of net fuel costs and it could vary slightly when actual true-up data is used As noted, Staff's model fails to account for the cost of under-forecasting entirely.

II. Net Fuel Cost Update

Q. Why are you updating the normalized annual net fuel costs?

A I am updating the normalized annual net fuel costs because I have obtained updated data for normalized annual loads, coal, gas, oil, and nuclear costs, and updated power market prices used for determining short-term power purchases and short-term off-system sales

Mr Weiss provided me with updated normalized annual loads The update reflects a new estimate of customer growth during the period April 1, 2008 and September 30, 2008 The updated annualized normal load is 41,196,233 MWh, down 148,337 MWh from the amount used in my supplemental direct testimony Note that the annualized normalized load may change slightly when the September 30 true-up run is completed

I have also updated the coal costs to match the coal costs used by the MPSC Staff in connection with the RealTime model run included in Staff's August 28, 2008 Cost of Service filing The MPSC Staff costs are lower than the coal costs used in my supplemental direct testimony due to updates to the components used to calculate delivered coal costs to the plants and the removal of the SO_2 price adjustment from the coal costs The Company and Staff have agreed to move the SO_2 price adjustment component of the coal

costs from net fuel costs to the SO_2 tracker The updated average coal cost is $1 461/MMBtu, down $0 21/MMBtu from the amount used in my supplemental direct testimony

The variable gas and oil costs have been updated to reflect the actual gas and oil costs for the 24-month period ending September 2008, which is the same time period used to develop the market prices for short-term power purchases and off-system sales The updated average gas cost is $7 459/MMBtu, up $0 720/MMBtu from the amount used in my supplemental direct testimony The updated average oil cost is $16 852/MMBtu, up $3 260/MMBtu from the amount used in my supplemental direct testimony

The nuclear fuel costs were updated to reflect the most current nuclear fuel costs associated with the Fall 2008 refueling outage The updated average nuclear fuel cost is $0 632/MMBtu, down $0 25/MMBtu from the amount used in my supplemental direct testimony

The market prices used for short-term power purchases and unhedged off-system sales were updated by Mr Schukar, as described in his rebuttal testimony The update was based on actual market prices for the 24-month period ending September 2008 The updated annual market price for short-term power purchases and sales is $43 57/MWh, up $3 10/MWh from the $40 47/MWh utilized in the production cost model run for pricing short-term power purchases and unhedged off-system sales sponsored by my supplemental direct testimony

Q. Did the changes just described change the value attributed to Taum Sauk plant operations?

A Yes, the Taum Sauk benefit calculation I had provided in my supplemental direct testimony has been updated to reflect the changes in the items previously mentioned The updated annual net fuel cost benefit from Taum Sauk plant operations is $25 8 million, up $2 1 million from the $23 7 million benefit discussed in my supplemental direct testimony The $25 8 million is comprised of energy benefits of $20 9 million determined by the PROSYM model, and capacity sales revenues of $4 9 million The energy value increased by $2 1 million due to changes in loads, fuel costs, and market prices used for spot purchases and the unhedged off system sales, however, the capacity sales portion of this benefit has not changed from my supplemental direct testimony

III. Conclusion

Q. What are AmerenUE's updated net fuel costs?

A. The updated normalized annual net fuel costs are $288 million, down $23 million from the net fuel cost of $311 million which was discussed in my supplemental direct testimony The updated normalized net fuel costs are comprised of fuel costs of $684 million and purchased power costs of $56 million (resulting in gross fuel costs of $740 million), and are then reduced by energy-related off-system sales revenues from my PROSYM run of $452 million, which results in the updated $288 million net fuel cost figure As noted, this figure will be adjusted by Mr Weiss when the final true-up in the

case is done to arrive at the actual total fuel and purchase power expense, net of off-system sales, that comprise the net base fuel cost (NBFC) for the Company

Q. Does this conclude your rebuttal testimony?

A Yes, it does

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided To Customers in the Company's Missouri Service Area.	))))))	Case No ER-2008-0318

AFFIDAVIT OF TIMOTHY D. FINNELL

STATE OF MISSOURI)
) **ss**
CITY OF ST. LOUIS)

Timothy D Finnell, being first duly sworn on his oath, states

1 My name is Timothy D. Finnell I am employed by Ameren Services Company as Managing Supervisor

2 Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Union Electric Company, d/b/a AmerenUE, consisting of 12 pages, all of which have been prepared in written form for introduction into evidence in the above-referenced docket

3 I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct

Timothy D. Finnell

Subscribed and sworn to before me this 13th day of October, 2008

Amanda Tesdall
Notary Public

My commission expires _____

Amanda Tesdall - Notary Public
Notary Seal, State of
Missouri - St. Louis County
Commission #07158967
mission Expires 7/29/2011