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Issue(s): Forecasting Deviations
Witness: Mark J. Peters
Sponsoring Party: Union Electric Company
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2012-0166

SURREBUTTAL TESTIMONY

OF

MARK J. PETERS

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

St. Louis, Missouri
September, 2012

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CASE NO. ER-2012-0166

Q. Please state your name and business address.

A. Mark J. Peters, Ameren Services Company ("Ameren Services"), One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

Q. Are you the same Mark J. Peters who filed direct and rebuttal testimony in this case?

A. Yes, I am.

Q. What is the purpose of your surrebuttal testimony in this proceeding?

A. The purpose of my surrebuttal testimony is to respond to Missouri Public Service Commission Staff ("Staff") witness Erin Maloney's rebuttal testimony relating to load and generation forecast deviations.

Q. Ms. Maloney states that "Staff is opposed to the Company's proposal to recover these costs [the costs of load and generation forecast deviations] because load and generation forecasting are inherent risks in the electric utility business that should not be passed on to the rate payers." She further states that "Staff recommends that the Company be denied an adjustment for generation and load forecasting deviation error made in their direct case. Ideally, the load forecasting error over time will sum to zero. If the Company is compensated for load and generation forecasting error, then it has no incentive to minimize this error." Please respond to Ms. Maloney's recommendation.

A. Ms. Maloney's recommendation reflects a fundamental misunderstanding of the load and generation forecasting deviation issue. First, and most importantly, Ms. Maloney ignores the fact that Ameren Missouri customers ultimately incur the actual, prudently-incurred fuel and purchased power costs, net of off-system sales revenue, that are related to such deviations. Consequently, adjusting Net Base Fuel Costs ("NBFC")[1] to account for these deviations - which are unavoidable - is not an attempt to obtain additional "compensation," as she suggests, but rather it is an attempt to incrementally improve the accuracy of the NBFC.

I would also note that it is inappropriate to characterize these deviations as "errors." Finally, by misunderstanding how these costs and revenues are ultimately accounted for, she grossly overestimates the “incentive” that would be provided by not accounting for this adjustment.

Q. Please expand upon your first point.

A. My point is simple. When Ms. Maloney states that “[t]he Company would like to be compensated for what the additional load would have cost at the day-ahead price instead of what it did cost at the real time price,” she is completely ignoring the fact that the Company is already "compensated" for this difference since actual costs and revenues are accounted for in the FAC through the reconciliation of actual costs to the NBFC. Adopting the Company's proposed adjustment would not add any additional cost to Ameren Missouri's customers, notwithstanding Ms. Maloney’s suggestion to the contrary.

[1] As noted in my rebuttal testimony, I am using the term NBFC in this testimony, although the Company has no objection to the Staff's proposal to change this terminology prospectively to Net Base Energy Costs, or "NBEC".

Ameren Missouri's proposal was nothing more than an attempt to incrementally improve the accuracy of NBFC by incorporating a recognition of real costs and revenues which cannot be captured by the production cost model. The production cost model in this proceeding provides certain values which are used in setting the NBFC. As noted above, the model does not account for real time operations. It is a day-ahead model and uses a static set of input assumptions. Once the NBFC is established, any deviation from these assumptions in actual operations will necessarily result in a deviation in the actual net fuel cost from the NBFC. These deviations may result from differences in price, fuel costs, unit performance, customer demands, etc. Some of these factors, such as price, are extremely volatile and lead to large variances compared to NBFC. Others are less volatile, with lower impacts that may either reduce or increase the impact of the variance created by price. The costs or benefits arising from all of these variances are already accounted for in the FAC. As a result, this adjustment is not about adding costs that customers ultimately bear - because it doesn't do that - but rather it is about whether an adjustment can be made that improves upon the accuracy of NBFC.

Q. Why is it inappropriate to characterize these deviations as errors?

A. The term "error" is easily interpreted to mean that they are the result of mistakes. They are not the result of mistakes, but rather the result of changes in weather and the supply/demand balance and unit availability, all of which are impossible to predict with precision. Consequently, there will always be deviations between the forecasted level of load and the amount of generation cleared in the Midwest Independent Transmission System Operator, Inc. ("MISO") day-ahead market and what the actual load and generation turns out to be.

Additionally, it must be recognized that Ameren Missouri does not provide a forecast of its next day generation to the MISO. Rather, on a day-ahead basis it provides the MISO with the operating and cost parameters of its plants, and the MISO market then provides day-ahead awards to each unit as a function of whether or not each unit's costs are below the market price for the pricing node where the unit is located. In real time, the price available is extremely unlikely to equal the price that existed in the day-ahead market. (As an example, since MISO began reporting locational marginal prices for the INDY hub on March 1, 2011, through July 31, 2012, the day ahead price has matched the real time price for a given hour a total of 10 times – out of a total of 11,712 hours). Depending on whether the price is higher or lower than the day-ahead price, the unit may be dispatched up or down - either earning additional profits or buying back the energy at a cost below its production costs – both of which provide incremental benefits to customers through the FAC. That there were deviations between the day-ahead and real time was not the result of a mistake on the part of the individual entering the unit parameters or of the operation of the MISO market. To the contrary, the deviations were simply a function of the inevitable difference between the day-ahead and real time prices, as well as changes in unit availability.

The Company does provide a forecast of its load requirements for the next day in the form of a demand bid. This forecast is developed on the basis of historical behavior of load given certain projections of weather conditions. The fact that the weather does not end up matching the prior day's predictions for temperature, humidity and rainfall does not mean that the load forecaster made a mistake. The forecast is developed using the best information available at the time it is developed. Forecasts by their very nature

are generally inaccurate when compared to what ultimately happens. They are not perfect and cannot be expected to be perfect. The focus is on developing reasonable values using available information at the time the forecast is developed.

Q. Why do you emphasize this point regarding perfection?

A. I emphasize this point because it is the nature of the production cost models used in this and prior proceedings - by both the Staff and the Company - to assume that the prices, demands and unit characteristics that are input are actually achieved. Put another way, the models assume "perfect dispatch" and thus assume these inevitable deviations do not occur. They do not make any provision for real time operations that deviate from these static assumptions, let alone make provisions for the very real differences between day-ahead awards and real time operations. However, reality almost always deviates from the modeled assumptions - whether those assumptions are developed months in advance or even a day ahead. Even when we are just looking at the day-ahead market - when we arguably have the best information available to make such forecasts - deviations will occur. For example, a thunderstorm predicted by the weather services may not materialize; or a unit may unexpectedly trip off-line; or system-wide demand may be higher than forecasted by the collective market and the market price may end up being higher than the day-ahead prices that were established by the MISO market. These are very real events and their impacts are not captured in the production cost models used by any of the parties in this proceeding.

Q. Why do you say that Ms. Maloney grossly overestimates the "incentive" that would be provided by not accounting for this adjustment?

A. Ms. Maloney states that "[i]f the Company is compensated for load and generation forecasting error, then it has no incentive to minimize this error." However, as I have already noted, the fact of the matter is that the actual, prudently-incurred costs, net of actual off-system sales revenue related to such deviations, are already included in the determination of net fuel costs under the FAC with 95% of the impact of any deviation from the NBFC (positive or negative) flowing to customers. As such, her premise is invalid. We aren't discussing whether or not these costs and revenues should ultimately be borne by customers; we are only talking about establishing the base level of NBFC against which actual costs and revenues are measured. If being compensated for the net cost of these deviations somehow left the Company devoid of an incentive to provide accurate forecasts, then given that the Company is already compensated for them, one would expect these forecasts to be horrible. However, Ameren Missouri has consistently demonstrated a very high degree of accuracy in this regard. Further, the Company would expect to face a prudence disallowance recommendation if it failed to prudently forecast its demand and if such imprudence raised net fuel costs in the FAC – that in and of itself is more than enough incentive.

Q. How accurate have these forecasts been?

A. Again, I would note that Ameren Missouri only forecasts its load obligation; its generation awards are a simple function of the day-ahead market.

The Company's historical accuracy for its load forecast can be measured through the calculation of the mean absolute percentage error ("MAPE"), which is also known as mean absolute percentage deviation ("MAPD"). Ameren Missouri's trade floor tracks this accuracy and has done so for many years, as shown in the table below.

Year	MAPE
2008	3.26%
2009	3.26%
2010	3.10%
2011	3.23%
2012	3.15% (ytd 7/31/12)

Q. Does the trade floor utilize this statistic for performance monitoring and determining compensation?

A. Yes. The trade floor has consistently monitored its performance using this metric for years, and has utilized the results of this measurement in determining incentive compensation for both the group and the individual making these forecasts.

Q. Are there any indications of whether Ameren Missouri's day-ahead load forecasts are more or less accurate than those of other load serving entities in MISO?

A. Yes. Ameren Missouri's first pass Revenue Sufficiency Guarantee ("RSG") charges expressed as a $/MWh of total load, is more than 77% lower than the MISO-wide market average. This is a very strong indicator that Ameren Missouri's forecasting accuracy is substantially better than the market average.

Q. How was this indicator calculated?

A. At my request, the Company's settlements group calculated this value for Ameren Missouri by dividing their total first pass RSG costs by the total load in the load zone for a given month. MISO publishes the same statistic for the entire footprint. I then simply took the average of these monthly values for Ameren Missouri and the MISO

totals and compared them. Ameren Missouri's average was $0.045/MWh versus the MISO market average of $0.196/MWh for the period 1/1/2010 – 7/31/2012.

Q. You previously indicated that the purpose of this proposal was to incrementally improve the accuracy of the NBFC. Are you aware of any other proposals that are portrayed as similarly seeking to improve the accuracy of the starting point for NBFC?

A. Yes. There are several adjustments that are made, or that are proposed in this proceeding, to the off-system sales revenue component of NBFC which are so portrayed. These include adding a value for the margin in real time RSG make-whole payments (based on historical averages), and increasing off-system sales revenues to reflect historical margins on bilateral sales and financial swaps. Indeed, Ms. Maloney herself supports both of the latter two proposed adjustments. All of these kinds of adjustments share the same core theoretical basis; they seek to capture the impact on off-system sales revenues that exist in actual operations that are not captured in the production cost model. The load and forecast deviations adjustment is no different. Ms. Maloney has not really provided a compelling explanation of why it's reasonable to pick and choose among adjustments which all represent factors that are portrayed as not being captured by the models - adopting only those which are seen as reducing NBFC and rejecting those that are not so viewed.

Q. But hasn't Ameren Missouri witness Jaime Haro stated that the proposals put forth by Staff and the MIEC to adjust off-system sales revenues to include a representation of the historical margins on bilateral sales and financial swaps are unnecessary as they would not reliably and consistently improve the

accuracy of the starting point? Wouldn't his statement apply equally to the load and generation forecast deviation proposal?

A. Yes, Mr. Haro has so testified. The point is that Mr. Haro's statement is true for all of these proposed adjustments to off-system sales revenue. None of them can be expected to reliably and consistently improve the accuracy of the NBFC, given what has now been demonstrated to be the extremely large impact of price volatility on the ultimate accuracy of NBFC, and as such their inclusion is not necessary. However, if we are going to include adjustments like the adjustment for real time RSG make-whole payments and for the bilateral and financial swaps margins, then we must also include the load and generation deviations adjustment.

Q. Are you now recommending that the load and forecast deviation adjustment not be included in the determination of off-system sales revenues in establishing NBFC?

A. Yes, but my recommendation is conditioned upon a rejection of all of the proposed adjustments to off-system sales revenues. I make this recommendation because it is appropriate to stop the practice of making these various adjustments and to forgo making an adjustment related to bilateral sales and financial swaps because none of them can be expected to reliably and consistently improve the accuracy of the NBFC, given the extremely large impact of price volatility on the ultimate accuracy of NBFC, and as such, their inclusion is not necessary.

If the Commission determines that factoring in the historical contribution to off-system sales the margins associated with bilateral sales and financial swaps will reliably and consistently improve the accuracy of NBFC, then the Commission should also

determine that factoring in the historical cost associated with real time deviations from the day-ahead awards for load and generation will also reliably and consistently improve this accuracy.

Q. Does this conclude your surrebuttal 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 Ameren Missouri's Tariffs to Increase Its Revenues for Electric Service.	)))	Case No. ER-2012-0166

AFFIDAVIT OF MARK J. PETERS

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

Mark J. Peters, being first duly sworn on his oath, states:

1. My name is Mark J. Peters. I work in the City of St. Louis, Missouri, and I am employed by Ameren Services Company as Managing Supervisor in the Corporate Planning department

2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony on behalf of Ameren Missouri consisting of 10 pages, and Schedule(s) N/A, 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.

Mark J. Peters

Subscribed and sworn to before me this 7th day of September, 2012.

Mary Hoyt
Notary Public

My commission expires: 4-11-2014

Mary Hoyt - Notary Public
Notary Seal, State of
Missouri - Jefferson County
Commission #10397820
My Commission Expires 4/11/2014