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Witness: Mark J. Peters  
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File No.: ER-2014-0258  
Date Testimony Prepared: January 16, 2015

**MISSOURI PUBLIC SERVICE COMMISSION**

**FILE NO. ER-2014-0258**

**REBUTTAL TESTIMONY**

**OF**

**MARK J. PETERS**

**ON**

**BEHALF OF**

**UNION ELECTRIC COMPANY  
d/b/a Ameren Missouri**

**\*\*Public Version\*\***

St. Louis, Missouri  
January 2015

UE Exhibit No. 36  
Date 3-12-15 Reporter KF  
File No. ER-2014-0258

**NP**



1 Revenue Sufficiency Guarantee-Make Whole Payment (“RSG-MWP”) margins; and the  
2 methodology utilized by Staff witness Erin Maloney to develop the hourly market price  
3 inputs for Staff’s production cost model.

4 **Q. Dr. Hausman calculated a change in Off-System Sales Revenue**  
5 **resulting from a change in the commit status for the Meramec Units that differed**  
6 **from the value provided in the response to Data Request SC-008, and stated that he**  
7 **could not identify the source of the discrepancy. Have you been able to identify the**  
8 **source of the discrepancy?**

9 A. Yes. Dr. Hausman simply gathered sales data for the Meramec “not must  
10 run case” from the wrong file. In his footnote 34, he stated “I refer specifically to the  
11 monthly output files provided by the Company in response to Sierra Club Data Request  
12 008. Monthly output with Meramec set to must-run was provided in the file  
13 “SC\_1-SC\_008\_S\_Bector-Att-SC008 - MPSC2014PolarVMerMRws - HC.pdf,” and  
14 output with Meramec set as dispatchable [i.e., not must run] was provided in the file  
15 “SC\_1-SC\_008\_S\_Bector-Att-SC008 -MPSC2014PolarVSx90ws - HC.pdf.” His  
16 apparent assumption that the latter file represented the base case with Meramec set to  
17 dispatchable (not must run) is not correct. That file represented the change in Sioux coal  
18 blend. So, while it did indeed have Meramec set to dispatchable (as did the base case), it  
19 also had a different blend for Sioux than the first file. As such, it is not an appropriate  
20 file to be used for his calculation because it mixes the impact of the change of the Sioux  
21 coal blend with the change in Meramec commit status.

22 We specifically noted in our response to Data Request SC-008 that the base case  
23 files used in the production cost modeling run for our rate case filing could be found in

1 my workpapers as well as Ameren Missouri's responses to Data Request Nos. MIEC  
2 1.05, MIEC 1.11, MIEC 1.12, MIEC 1.21 and MPSC 0077. Those are the files that  
3 should have been used in Dr. Hausman's calculation.

4 **Q. Dr. Hausman seems to fault Ameren Missouri for a "failure to**  
5 **consider avoided O&M costs" in its response to Data Request SC-008. Why did**  
6 **Ameren Missouri not consider avoided non-fuel O&M costs in its response to this**  
7 **data request?**

8 A. Ameren Missouri did not consider avoided non-fuel O&M costs in its  
9 response because the data request did not ask about O&M costs. Put another way, we  
10 answered the question that was asked.

11 **Q. If this data request did not seek information regarding avoided O&M**  
12 **costs, what was its subject matter?**

13 A. The specific subject matter of this data request was fuel costs, net of  
14 off-system sales revenue. Even the most liberal reading of the data request could not  
15 suggest Sierra Club was asking about avoided non-fuel O&M.

16 For the convenience of the Missouri Public Service Commission ("Commission"),  
17 I have quoted the data request below. As shown, it asked only about the impact of off-  
18 system sales and fuel costs and sought no information at all about non-fuel O&M cost  
19 impacts.

20 *Reference Direct Testimony of Ameren witness Mark J. Peters. On p. 6 at*  
21 *19, Mr. Peters states,*  
22 *Each of these changes results in a reduction in Ameren Missouri's net fuel*  
23 *costs. The addition of the O'Fallon Solar Energy Center increases off-*  
24 *system sales revenue, while the change in the Meramec dispatch status*  
25 *and the Sioux fuel blend result in a reduction in fuel costs in excess of the*  
26 *decrease in off-system sales revenue resulting from reductions in unit*  
27 *output.*

1           a.     Please provide the analytical basis for Mr. Peters' assertion  
2     that "the change in the Meramec dispatch status and the Sioux fuel blend  
3     result in a reduction in fuel costs in excess of the decrease in off-system  
4     sales revenue resulting from reductions in unit output."

5           b.     Please provide all workpapers, analyses, or other documents  
6     supporting this assertion, including applicable PROSYM input and output  
7     files.

8           c.     Please identify the contributions from each of the factors  
9     listed by Mr. Peters; i.e., (i) Change in Meramec dispatch status; (ii)  
10    Sioux fuel blend; (iii) decrease in off-system sales revenue.

11          d.     Did Ameren Missouri analyze or consider whether removing  
12    the "must-run" designation from any of its other coal-fired generating  
13    units would either increase or decrease off-system sales revenue?

14          e.     If the answer to (d) is yes, please provide all workpapers,  
15    analyses, or other documents reflecting this analysis or consideration,  
16    including applicable PROSYM input and output files.

17          f.     If the answer to (d) is no, please explain why not and provide  
18    any documents that Ameren Missouri contends support its decision not to  
19    analyze or consider this issue.  
20

21          **Q.     Are the supposed avoided non-fuel O&M costs that Dr. Hausman**  
22    **calculated either a fuel cost or an off-system sales revenue?**

23          A.     No.

24          **Q.     Does the fact that Ameren Missouri's response to Data Request No.**  
25    **SC-008 did not include a value for avoided non-fuel O&M mean Ameren Missouri**  
26    **failed to consider changes in non-fuel O&M costs associated with a change in the**  
27    **unit commit status for the Meramec units in their proposed revenue requirement?**

28          A.     No. Dr. Hausman fails to acknowledge or recognize Ameren Missouri  
29    utilizes a historical test year approach for establishing the non-fuel O&M costs in its  
30    revenue requirement. Since the Ameren Missouri trade floor utilized their current  
31    methodology for offering the Meramec units in the test year, whatever impact on non-fuel  
32    O&M costs this actual dispatch caused (as opposed to if Meramec had been a must-run  
33    plant in all hours) is already captured in the test year non-fuel O&M figures used to set

1 the revenue requirement. Thus, Ameren Missouri did "consider" any non-fuel O&M  
2 impacts.

3 **Q. Why haven't you modeled \*\* [REDACTED]**  
4 **[REDACTED] \*\* as other than must run?**

5 A. As noted in the response to Data Request SC-008, \*\* [REDACTED]  
6 [REDACTED] \*\* remain must run units in actual operations due to their operating  
7 characteristics, high cost to restart, and expected increase in forced outages due to unit  
8 cycling. As such, it would be neither meaningful nor appropriate to model them in a  
9 manner that differs from expected operations.

10 **Q. Have any other Ameren Missouri witnesses filed testimony addressing**  
11 **the \*\* [REDACTED] \*\*?**

12 A. Yes. Ameren Missouri witnesses Jaime Haro and Christopher Iselin each  
13 have addressed this issue in their rebuttal testimonies.

14 **Q. MIEC Witness Mr. Andrews recommends the Commission reduce**  
15 **Ameren Missouri's net energy costs by \$6.4 million due to his proposed updates to**  
16 **fuel prices and market prices. Is Mr. Andrews' recommended adjustment**  
17 **appropriate?**

18 A. I believe Mr. Andrews' recommendation is premature given that these  
19 factors will be updated as part of the true-up process and will necessarily change. The  
20 appropriate values to use in establishing net energy costs are those that are the result of  
21 the ultimate true-up period calculations.

1           **Q.     MIEC witness Mr. Phillips has recommended an adjustment to NBEC**  
2 **for “Net Load and Generation Forecasting Error.” Do you agree with this**  
3 **adjustment?**

4           A.     As noted in Mr. Haro’s rebuttal testimony, Ameren Missouri is willing to  
5 include an adjustment for this item (which is more properly characterized as a real time  
6 load and generation deviation adjustment) conditioned upon the following:

7           1)     Either all of the following adjustments should be included in the NBEC or  
8 none of them should be included: real time RSG-MWP margins, real time load  
9 and generation deviations, bilateral and swap margins;

10          2)     The calculation of these adjustments must be corrected as discussed below  
11 and by Mr. Haro. Mr. Haro discusses needed adjustments to the calculation of the  
12 bilateral and swaps margin adjustment. I will discuss needed adjustments to the  
13 real time RSG-MWP margin and real time load and generation deviation  
14 adjustments below; and

15          3)     The final value for all of these adjustments should be determined as part of  
16 the true-up process through December 31, 2014, and also should reflect a  
17 consistent treatment accounting for the polar vortex anomaly.

18           **Q.     What adjustment is needed to Mr. Phillips' calculation of a real time**  
19 **load and generation deviation adjustment?**

20           A.     Mr. Phillips’ calculation needs to be modified to include recognition of the  
21 change in fuel cost that occurs when real time generation levels deviate from day-awards.  
22 Additionally, I recommend that deviations related to the Taum Sauk Energy Center be  
23 excluded from the calculation.

1           **Q.     Why do you make the distinction for only the generation deviation**  
2 **and not the load deviation calculation?**

3           A.     There is no associated change in fuel cost if the load deviates in real time  
4 from the day-ahead. In the Midcontinent Independent System Operator, Inc. (“MISO”)  
5 market, the entire load is cleared and purchased from the MISO market and all of the  
6 available generation that is “in the money” is cleared and sold into the MISO market.

7           The MISO real time market is a balancing market – i.e., it is where deviations  
8 from the day-ahead awards are settled. If load increases from the day-ahead award, the  
9 additional amount settles in the real time market as an additional cost. When the load  
10 decreases, it has the effect of “selling back” into the real time market as a credit. Under  
11 either scenario, there is no associated change in fuel costs.

12          However, when generation clears in the day-ahead market, there will be a fuel  
13 cost (or pump back cost in the case of stored energy resources such as pumped hydro)  
14 associated with that generation if it actually runs in the real time at its day-ahead award  
15 level. If the generation increases in real time above the day-ahead award, more fuel will  
16 be burned, and if the generation decreases in real time below the day-ahead, less fuel will  
17 be burned. As such, there is an associated change in fuel costs for generation from  
18 deviations from the day-ahead award.

19          **Q.     How should the change in fuel consumption be accounted for?**

20          A.     The proper calculation should be the difference in megawatt-hours  
21 (“MWh”) between day-ahead and real time, multiplied by the difference between fuel  
22 cost and the real time locational marginal prices (“LMP”) for each non-combustion  
23 turbine generator (“CTG”) unit, in each hour.



1           Alternatively, the same result can be achieved by calculating what the margin for  
2 that hour would have been if the real time generation had exactly matched the day-ahead  
3 award, then comparing that value to what the actual margin ended up being.

4           The table below provides an example of each equation for a 600 megawatt  
5 (“MW”) unit with a 300 MW minimum and a fuel cost of \$20 per MWh.

	Hour 1	Hour 2
Fuel Cost	\$20	\$20
DA LMP	\$25	\$19
RT LMP	\$19	\$25
DA MWH Award	600	300
RT MWH Act Gen	300	600
Deviation (RT MWH - DA MWH)	-300	300
RT LMP - Fuel Cost	-\$1	\$5
<b>SIMPLE CALCULATION</b>		
<b>(RT MWH - DA MWH)x(RT LMP-FC)</b>	<b>\$300</b>	<b>\$1,500</b>
<b>ALTERNATE CALCULATION</b>		
<b>MARGIN IF RT MWH = DA MWH</b>		
DA Revenue (DA LMP x DA MWH)	\$15,000	\$5,700
Fuel Cost (DA MWH x FC)	\$12,000	\$6,000
DA Revenue - Fuel Cost	\$3,000	-\$300
<b>ACTUAL MARGIN</b>		
DA Revenue (DA LMP x DA MWH)	15000	5700
RT Rev/(Cost) (RT MWH - DA MWH) x RT LMP	-\$5,700	\$7,500
RT Fuel Cost	\$6,000	\$12,000
DA Revenue + RT Rev/Cost - FC	\$3,300	\$1,200
<b>CHANGE IN MARGIN</b>		
	<b>\$300</b>	<b>\$1,500</b>

6  
7           **Q. Does this method match how the deviation has been calculated**  
8 **previously in other rate cases?**

9           A. The calculation of load deviations has not changed as there are no  
10 associated fuel costs which change as a result of a deviation.

1           However, the calculation of proposed adjustments for generation deviations in  
2 prior cases failed to include changes in fuel consumption, which arise from a deviation.  
3 It is important to note, however, that with the exception of Case No. ER-2008-0318, this  
4 proposed adjustment was excluded from the calculation of NBEC or its equivalent.

5           **Q.     Does the fact that prior calculations did not include recognition of the**  
6 **change in fuel costs mean the calculation for a real time load and generation**  
7 **deviation adjustment in this case, or in the future, should not include that**  
8 **recognition?**

9           A.     No. Recognizing the change in fuel costs associated with a deviation in  
10 generation between the day-ahead and real time markets is appropriate because it reflects  
11 what actually happens when such deviations occur. The fact that prior calculations failed  
12 to properly include such changes in costs is not a valid reason to not use the correct  
13 calculation in this proceeding and in the future. Perpetuating the flawed methodology  
14 used in past cases does not serve the purpose of attempting to achieve an improvement in  
15 the accuracy of the value for NBEC. In fact, doing so is contrary to that purpose and  
16 would only serve to embed an inaccuracy in the calculation.

17           **Q.     Why do you recommend exclusion of the Taum Sauk Energy Center**  
18 **from this calculation?**

19           A.     It is appropriate to exclude the Taum Sauk Energy Center from the  
20 calculation of this adjustment due to the manner in which these units are offered and  
21 cleared in the MISO market. As a pumped hydro unit, the incremental cost basis for  
22 generating at the Taum Sauk facility is the cost of purchasing energy from the MISO  
23 market at the applicable Taum Sauk CpNode to pump water back into the reservoir.

1 Neither MISO market operations nor settlements consider this pumping energy to  
2 constitute load that could be cleared as part of Ameren Missouri's load in the day-ahead  
3 market. Rather, MISO considers pumping energy to constitute "negative generation" at  
4 the facility. Negative generation cannot be offered or cleared in the day-ahead market.  
5 As such, pumping energy is only cleared in the real time market. Attempting to  
6 determine what pumping cost would have been had Taum Sauk's output exactly matched  
7 its day-ahead award in any given hour is a very imprecise exercise.

8 **Q. Would it be proper to use the as offered cost of the Taum Sauk units**  
9 **in a given hour to make this calculation?**

10 A. No. It is my understanding that the as offered cost for the Taum Sauk  
11 units represents \*\*

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED] \*\*

16 These are estimates only, and cannot reasonably be represented as the actual costs that  
17 would have been incurred for pumping if the unit had matched its day-ahead award in the  
18 real time.

19 **Q. Have you calculated what the real time load and generation deviation**  
20 **adjustment should be in this case?**

21 A. Yes. While recognizing this calculation would need to be updated during  
22 the true-up process, I calculated the interim value for such an adjustment to be an  
23 increase in NBEC of \$1.5 million, utilizing data for the period November 2011 through

1 October 2014. This is comprised of increased cost due to load deviations of \$2.8 million,  
2 and decreased cost due to generation deviations of \$1.3 million. Similar to Mr. Phillips, I  
3 replaced the calculated values for the months of January through March of 2014 with the  
4 average values for the same months for the two prior years in order to account for the  
5 polar vortex anomaly we saw during those months.

6 **Q. Mr. Phillips has also recommended Ameren Missouri should calculate**  
7 **the value for RT-RSG-Make Whole Payment ("RT-RSG-MWP") margins by**  
8 **applying the calculated RT-RSG-MWP margin percentage to the Total RSG and**  
9 **Deviation Revenues, rather than to only the RT-RSG-MWP value. Do you agree?**

10 A. No. It is inappropriate to make the calculation in the manner suggested by  
11 Mr. Phillips.

12 Mr. Phillips appears to base his supports for applying the RT-RSG-MWP margin  
13 percentage to the Total RSG and Deviation Revenues rather than only the RT-RSG-MWP  
14 value on the assumption that the calculation of the margin percentage itself in Ameren  
15 Missouri's previous rate case was based on Total RSG and Deviation Revenues. (Phillips  
16 direct, page 16, lines 13-16). While he is correct that the margin percentage used in the  
17 initial filing was calculated in the previous case, the assumption that the percentage was  
18 calculated using Total RSG and Deviation Revenues is not correct. The margin  
19 percentage was calculated using RT-RSG-MWPs only.

20 **Q. How did you determine that the margin percentage calculation was**  
21 **not based on Total RSG and Deviation Revenues?**

22 A. I am the person who, at Mr. Haro's (or his predecessor's) direction,  
23 calculated the RT-RSG-MWP margin percentage in each of the Company's prior four

1 cases, including File No. ER-2012-0166. In calculating the margin percentage in each of  
2 these cases, I divided the difference between as-offered and actual fuel costs by total  
3 RT-RSG-MWP. I did not utilize Total RSG and Deviation Revenues in my calculation  
4 of the RT-RSG-MWP margin percentage.

5 **Q. Has this margin percentage remained fixed across these four cases?**

6 A. No. This margin percentage has fluctuated significantly in each of the  
7 past four cases. It was calculated at 39%, 0%, 14% and 51% of the total RT-RSG-MWP  
8 amount in Case Nos. ER-2008-0318, ER-2010-0036, ER-2011-0028, and ER-2012-0166,  
9 respectively.

10 **Q. Did Ameren Missouri apply the RT-RSG-MWP percentage to the**  
11 **Total RSG and Deviation Revenues in determining NBEC or its equivalent in the**  
12 **four prior cases?**

13 A. It appears this has indeed happened in the last two cases  
14 (ER-2012-0166/ER-2011-0028), but not in the prior two cases (ER-2010-0036/ER-2008-  
15 0318). Applying the RT-RSG-MWP margin percentage, I calculated to the TOTAL RSG  
16 and Deviation Revenues when the NBEC supporting schedules were prepared in File  
17 Nos. ER-2010-0036 and ER-2012-0166 was an error. The percentage should have been  
18 applied to only the RT-RSG-MWPs. In File No. ER-2008-0318, when this adjustment  
19 was first established, the amount included in the NBEC equivalent in that case of  
20 \$5.2 million matches the value I calculated for the difference between as offered fuel and  
21 actual fuel. This value was subsequently divided by the total RT-RSG-MWPs of  
22 \$13.3 million to obtain the margin percentage of 39%. In File No. ER-2010-0036, the  
23 calculated difference was negative, and as a result the percentage was set to zero.

1           As I stated earlier, perpetuating an error does not serve the purpose of attempting  
2 to achieve an improvement in the accuracy of the value for NBEC. In fact, doing so is  
3 contrary to that purpose and would only serve to embed an inaccuracy in the calculation.

4           **Q. Please describe your understanding of how Staff Witness Ms.**  
5 **Maloney developed her hourly market price input for Staff's production cost model.**

6           A. My understanding is that Ms. Maloney developed her hourly market price  
7 input using the following nine steps:

- 8           1) Historical Day-Ahead Hourly LMPs for each of Ameren Missouri's  
9 generators were obtained for a 36-month period;
- 10          2) A simple average of these LMPs was obtained for each hour;
- 11          3) Average On-Peak and Average Off-Peak block prices were then calculated  
12 for each month of the 36-month period;
- 13          4) The average prices for the months of January, February and March of  
14 2014 were replaced with the average price of the corresponding month from the  
15 prior two years to remove the price effect of the Polar Vortex Anomaly;
- 16          5) The average on-peak and average off-peak price for each month of the  
17 12-month period ending were calculated using the simple average methodology  
18 used in step 2 above;
- 19          6) The 36-month average block prices were divided by the corresponding  
20 12-month average block price (e.g. On-Peak January / On-Peak January) to obtain  
21 a scaling factor;
- 22          7) The appropriate peak/month scaling factor was then applied to each hourly  
23 price in the 12-month test year period;

1           8)     Ms. Maloney then sorted hourly loads for the test period high to low, and  
2           also sorted the hourly prices resulting from step 7 above high to low, for the entire  
3           year, thus matching the highest energy price in any hour of the year to the highest  
4           load in any hour of the year;

5           9)     Ms. Maloney then resorted these matched load/price pairs using the  
6           original date/time order for the load.

7           **Q.     Do you agree with Ms. Maloney's methodology?**

8           A.     No. I have three specific objections to Ms. Maloney's methodology.

9           The first is that Ms. Maloney did not weight the calculation of her average hourly  
10          price by the amount of the actual daily award for each generator in each hour in step 2 of  
11          her process.

12          The second is that Ms. Maloney unnecessarily adjusts all prices below \$5  
13          upwards to equal \$5.

14          The third is that steps 8 and 9 of Ms. Maloney's methodology are inappropriate  
15          and should be eliminated.

16          Additionally, while not a disagreement with the methodology, I observed  
17          Ms. Maloney's data set included the individual unit CpNodes for the Osage and Keokuk  
18          Energy Centers as well as the CpNodes for the aggregate station (AMMO.CC.OSAGE  
19          and AMMO.CC.KEOKUK). The individual unit nodes should be excluded from the data  
20          set, and the aggregate nodes should be retained as MISO clears and settles these hydro  
21          units in the market as combined cycle using only those two CpNodes - the entire station  
22          clears and settles as a single entity versus individual units. Additionally, it appears that  
23          the CpNode for Veolia Energy's TriGen station was inadvertently included.

1           **Q.     Please expand on your disagreement with the use of a simple average**  
2 **in step 2.**

3           A.     The production cost model utilizes the market energy price for each hour  
4 to determine when and to what level a generating unit should be dispatched. The price  
5 should reasonably represent the price available to the generating units. By not weighting  
6 her calculation by the daily awards, the very small Kirksville unit, which clears in the  
7 MISO market only on extremely rare occurrences, has exactly the same influence on the  
8 calculated average price for each hour as the much larger Callaway unit. Of the over 60  
9 total individual generating units that Ameren Missouri owns and operates (for purposes  
10 of this discussion the Osage and Keokuk units each only count as one to reflect how they  
11 clear in the MISO market), more than 2/3 are CTGs that rarely run. By using a simple  
12 average, 2/3 of the price represents these units, despite their lack of output, injecting  
13 significant error into the results she calculated.

14           The more appropriate methodology for determining these hourly averages is to  
15 weight the calculation by the actual amount of the daily award for each generating unit in  
16 that hour. By doing this, a unit that did not receive a daily award in that hour is not  
17 included in the calculation. Similarly, a larger unit that receives a day-ahead award will  
18 have a greater contribution to the hourly average than a smaller unit which receives a  
19 day-ahead award.

20           It is my understanding that MIEC witnesses Messrs. Phillips and Andrews utilize  
21 the same weighted average approach I just described in developing their average hourly  
22 market prices.



1           **Q. Please discuss your disagreement with Ms. Maloney's practice of**  
2 **adjusting prices below \$5 to equal \$5.**

3           A. Ms. Maloney has not provided a justification for adjusting actual market  
4 prices. Prices below \$5 while rare, do occur and I am unaware of a valid reason to  
5 exclude them. They should remain in the data set.

6           **Q. Please expand on your disagreement with steps 8 and 9 of**  
7 **Ms. Maloney's methodology.**

8           A. By performing these two steps, Ms. Maloney's methodology forces a 1-1  
9 correlation between prices and load – that is, the highest price is always matched with the  
10 highest load. This process eliminates the actual relationship between prices and load  
11 which existed during the test year period and replaces it with an unsupported assumption  
12 that the highest price must necessarily occur in the hour with the highest load, the second  
13 highest price in the hour with the second highest load, and so on. When the matched  
14 pairs are re-sorted into date/time order, using the date/time for the load, prices that are  
15 now in January may have originated in July. Prices at 6 a.m. may have actually  
16 originated from 9 p.m.

17           Steps 8 and 9 are unnecessary and, in fact, inject a level of inaccuracy into the  
18 process. The relative relationship between actual hourly prices and loads that existed  
19 during the test year is maintained if these steps are eliminated. It is important to leave  
20 those existing relationships intact as they are more proper in representation of the variety  
21 of system conditions that may impact prices than would be accomplished by artificially  
22 assigning prices to loads without a consideration of the system conditions which gave rise  
23 to those prices.

1           **Q.    Do the highest priced hours perfectly match with the highest load**  
2 **hours?**

3           A.    No. As the chart below illustrates, the highest priced hour in any given  
4 year for the AMMO.UE CpNode (the pricing node used to settle Ameren Missouri's  
5 load) and the highest load cleared in the day-ahead market in the same year do not match  
6 up. The same is true when looking at the minimum price and loads.

	Max Price	Max Load
2012	7/17/12	6/29/12
2013	7/17/13	9/10/13
2014	1/28/14	8/25/14

	Min Price	Min Load
2012	6/10/12	3/25/12
2013	9/18/13	5/26/13
2014	7/5/14	5/4/14

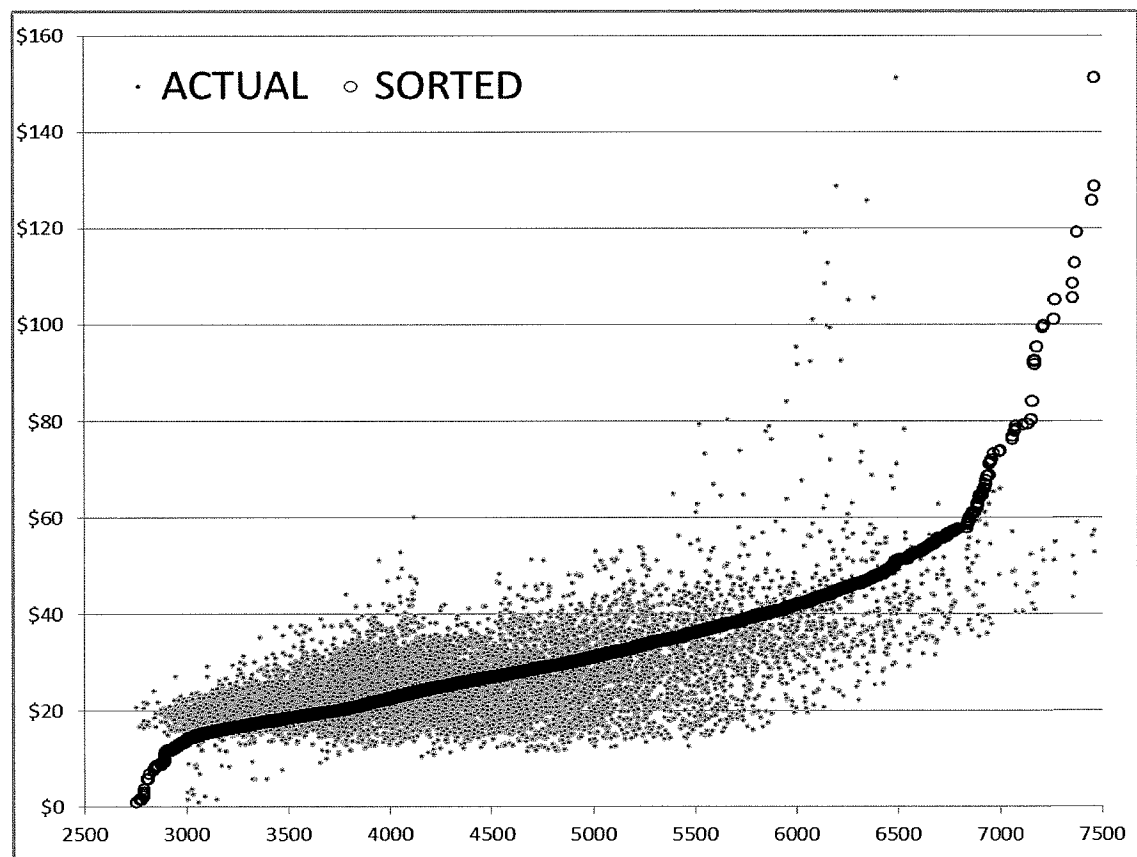
7  
8           I also performed a simple correlation calculation to show the poor correlation  
9 between price and load. For this calculation, I utilized the Day-Ahead LMP for the  
10 AMMO.UE CpNode (the pricing node in the MISO market used to settle Ameren  
11 Missouri's load) and the actual Day-Ahead cleared amounts for each hour for the period  
12 January 1, 2012 through December 19, 2014 (the most recent data available on the date  
13 of my collection). I then did the same calculation using prices for CpNodes applicable to  
14 the Labadie, Meramec, Rush Island, and Sioux Energy Centers. These results clearly  
15 show the actual correlation between load and price is significantly lower than the over  
16 95% value that Staff's methodology would yield.

Load	59.8%
Labadie	57.5%
Meramec	59.1%
Rush Island	58.5%
Sioux	59.0%

1

2           Additionally, I prepared a simple chart of actual day-ahead LMPs and load which  
3 compares that distribution to what is obtained when using Staff's sorting methodology.  
4 As is shown in the chart below, actual day-ahead prices vary considerably at every load  
5 level.

6



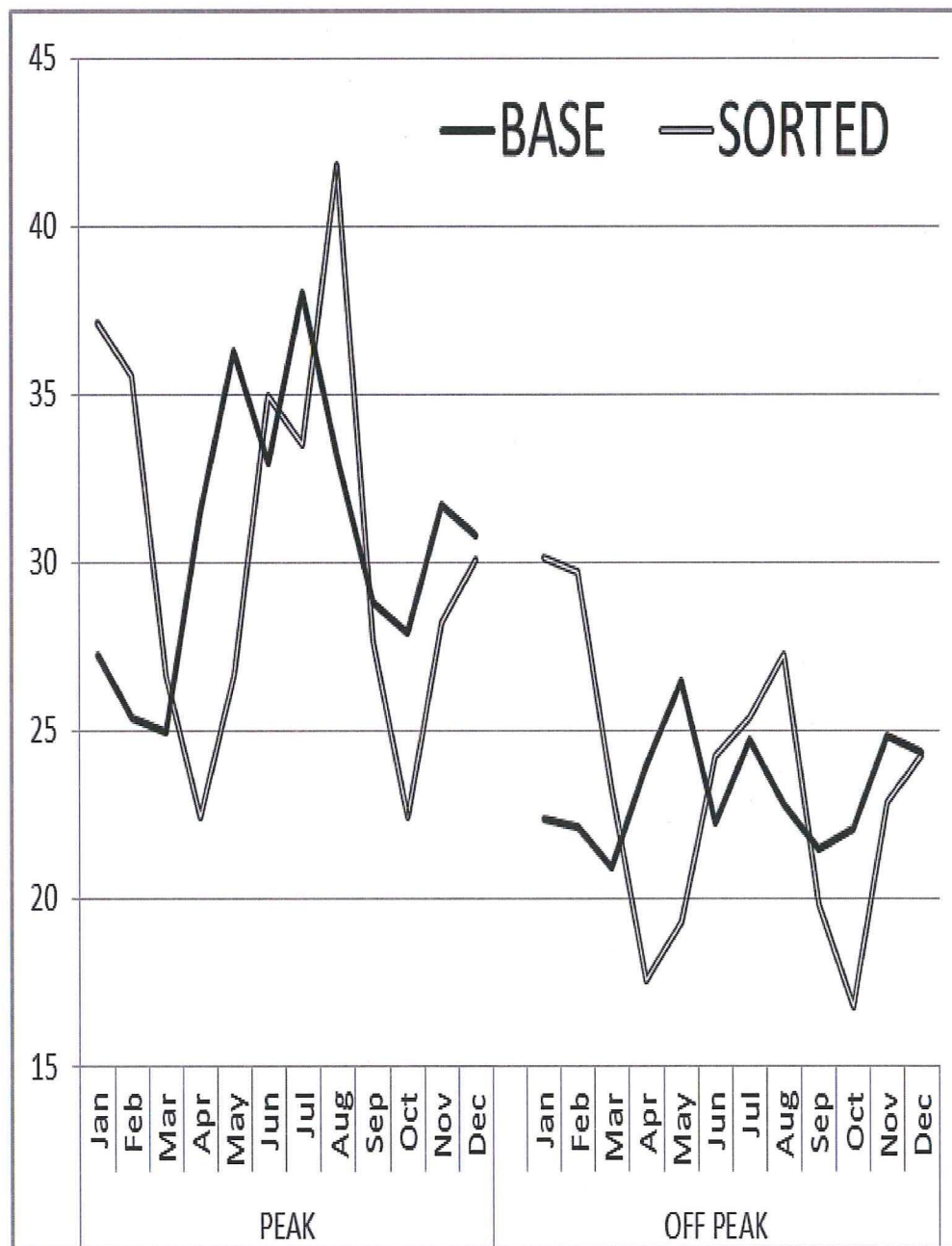
7

8           **Q. Does Staff's sorting methodology materially change the distribution of**  
9 **prices throughout the year versus what was actually experienced in a given test**  
10 **period?**

11

          A. Yes. I prepared a simple graphic that highlights how much actual block  
price shapes are impacted by Staff's sorting methodology. To simplify, I used the same

- 1 Day-Ahead LMP and load clearing referred to above. As this chart shows, Staff's sorting
- 2 methodology has a dramatic effect in every month and peak period of the year, with the
- 3 exception of December Off-Peak. Some of the months have their block prices shifted by
- 4 approximately \$10/MWh – as high as a 40% difference.



5

1           **Q.     Does Staff's sorting methodology yield a reasonable result?**

2           A.     No. As shown above, Staff's sorting methodology fundamentally changes  
3 the distribution of prices during the year in a manner which does not reasonably represent  
4 a normalized year.

5           **Q.     What recommendations do you have regarding Staff's methodology?**

6           A.     In addition to removing the extraneous CpNodes from the initial data set, I  
7 recommend Staff's methodology be modified by; 1) weighting the hourly day-ahead  
8 LMP's by the actual day-ahead generation awards, 2) not adjusting prices below \$5 and  
9 3) by eliminating the final two steps of the process whereby the loads and prices are  
10 artificially aligned (highest to lowest).

11          **Q.     Does this complete your rebuttal testimony?**

12          A.     Yes, it does.

13          **Q.     Has Ameren Missouri discussed a possible resolution of the areas of**  
14 **disagreement with Staff and the MIEC that have been discussed in your testimony**  
15 **and that of Mr. Haro?**

16          A.     Yes. Ameren Missouri has discussed the possible resolution of five issues  
17 with which we have identified disagreement with the direct testimony of Staff and/or the  
18 MIEC. These are the method in which normalized market prices are developed and  
19 outside of the model adjustments to off-system sales revenues to reflect costs and  
20 revenues for real time load and generation deviations, bilateral margins and swap margins  
21 and real time RSG-MWP margins. Ameren Missouri believes we have reached an  
22 agreement in principle with Staff and the MIEC on these issues, and will continue to

Rebuttal Testimony of  
Mark J. Peters

- 1 work with these and other interested parties to achieve a stipulation and agreement
- 2 regarding Net Base Energy Costs incorporating these items.

