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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2012-0166

REBUTTAL TESTIMONY

OF

STEVEN M. WILLS

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

St. Louis, Missouri
August, 2012

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REBUTTAL TESTIMONY

OF

STEVEN M. WILLS

CASE NO. ER-2012-0166

I. INTRODUCTION

Q. Please state your name and business address.

A. Steven M. Wills, Ameren Services Company ("Ameren Services"), One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

Q. What is your position with Ameren Services?

A. I am the Managing Supervisor of Quantitative Analytics in the Corporate Planning Department.

Q. Are you the same Steven M. Wills who filed direct testimony in this case?

A. Yes, I am.

II. PURPOSE OF TESTIMONY

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

A. The purpose of my rebuttal testimony is to respond to claims raised by the Missouri Public Service Commission Staff ("Staff") in their direct case regarding a number of issues. The issues include two matters pertaining to weather normalization of sales, the Staff's proposed amortization of a refund received by Ameren Missouri ("Company") from Entergy, the energy efficiency annualization adjustment proposal by Staff, and two tariff language issues regarding the Company's Fuel Adjustment Clause ("FAC") tariff. I also address significant flaws in the "analysis" that underlies certain

conclusions drawn by Staff witness Guy Gilbert regarding the Company's rate base for Account 312 at the Sioux Energy Center.

III. WEATHER NORMALIZATION – ADJUSTMENTS TO HISTORICAL TEMPERATURE DATA

Q. Please describe the weather normalization issues.

A. The specific weather normalization issues pertain to the appropriate adjustments to historical weather data used in developing normal temperatures and the need to weather normalize the Large Primary Service ("LPS") rate class test year usage.

Q. Please discuss the issue regarding the historical weather data used to calculate normal temperatures for the test year.

A. As I mentioned in my direct testimony in this case, the historical temperature readings at St. Louis International Airport ("Lambert Field") must be adjusted due to certain discontinuities in the data series. The discontinuities in the data result from changes in observing practices over time (i.e. changes of the physical equipment taking the readings or the location of that equipment). These changes introduce biases in the readings taken after the change relative to readings taken before the change.

Q. Does Staff, in their direct case, agree with the need to make adjustments to account for these discontinuities?

A. Yes. On pages 73 and 74 of the Staff Cost of Service Report there is a discussion of the need to make such adjustments and the methodology that Staff used in this case to calculate their proposed adjustments. While the Staff and Company agree on the need to adjust the historical temperature readings, it is the methodology for quantifying the needed adjustments that is at issue here.

Q. Before commenting on the Staff's proposal, can you please give some historical perspective on whether and how this issue has been handled in past electric rate cases of the Company?

A. Yes. The need to make such adjustments was first identified in Case No. EM-96-149. In that case, the Company and Staff each, with the help of experts trained in the field of climatology, developed adjustments to account for the discontinuities that had been identified. Ultimately, the issue was resolved when the climatologists engaged by each party worked collaboratively to develop a set of temperature adjustments that would apply to each identified change. Mr. Allen Dutcher, the State Climatologist of Nebraska, was involved in that collaborative effort on behalf of the Company. He worked with the Staff's expert, Dr. Steven Qi Hu, who was the State Climatologist of Missouri at the time. Mr. Dutcher is also providing rebuttal testimony on behalf of the Company in this case to comment on the appropriate methodology for calculating the adjustments to address the aforementioned discontinuities.

Q. After Case No. EM-96-149, were the agreed-upon adjustments used in subsequent Ameren Missouri electric rate cases?

A. Yes. Since the time of that agreement, the same adjustments, based on the work that Mr. Dutcher and Dr. Hu developed, have been used for purposes of calculating the final weather normalized sales upon which rates were based in every Ameren Missouri electric rate case to-date.

Q. At any time did Staff or any other party propose any other adjustments be used for the historical temperatures at Lambert Field?

A. Yes. Case No. ER-2007-0002 was the first rate case that was filed after the National Oceanic and Atmospheric Administration ("NOAA") issued its updated 1971-2000 normal temperatures for weather stations throughout the country, including Lambert Field. At that time, Staff witness Curt Wells testified that "NOAA made adjustments to the monthly averages to account for missing data, **significant discontinuities with surrounding stations**, time of observation, etc."[1] (emphasis added). Mr. Wells went on to describe how he incorporated NOAA's adjustments into his calculations of normal weather. The significant discontinuities described by Mr. Wells relate to the same issues in the historical temperature data that were the subject of the agreement in Case No. EM-96-149.

Q. Why were those adjustments not used in the final weather normalization adjustment to sales in that case?

A. Mr. Wells, in addition to adjusting the historical Lambert Field temperatures based on NOAA's analysis, also applied the adjustments developed by Mr. Dutcher and Dr. Hu to the historical temperatures. Company witness Richard A. Voytas pointed out in rebuttal testimony that Mr. Wells was in fact double counting adjustments, since the adjustments calculated by NOAA addressed the same data issues as the agreement in Case No. EM-96-149. Ultimately, a Stipulation and Agreement filed in that case on March 15, 2007, confirms that the parties agreed to continue to use the adjustments that were calculated for Case No. EM-96-149 as demonstrated in the excerpt from the Stipulation and Agreement below:

> The weather normalization adjustment to kWh sales shall be computed consistent with the method reflected in the Direct

[1] Case No. ER-2007-0002, Wells Direct, p. 4 l. 5-7.

> Testimony of AmerenUE witness Richard A. Votyas, except that normal weather shall be ranked annually as proposed by Staff.[2]

Mr. Voytas' direct testimony had explained:

> Due to historical temperature data discontinuities, Staff and AmerenUE agreed, in Case No. EM-96-149, that three significant changes in the temperature data being reported at Lambert Field have occurred within the 1971-2000 timeframe. The changes identified were:
>
> 1. January 11, 1978 – a change occurred at Lambert Field resulting in daily temperature readings that were 0.3 degrees F higher than what was previously reported.
> 2. February 1, 1988 – a change occurred at Lambert Field resulting in daily temperature readings that were 0.45 degrees F higher than what was previously reported.
> 3. May 16, 1996 – a change occurred at Lambert Field resulting in daily temperature readings that were 1.69 degrees F lower than what was previously reported.[3]

It is apparent from these elements from the record in Case No. ER-2007-0002 that the parties ultimately rejected the new NOAA adjustments to the historical temperature series in favor of the calculations done by Mr. Dutcher and Dr. Hu in Case No. EM-96-149.

Q. Why is it significant that the parties considered adjustments calculated by NOAA and also those calculated in Case No. EM-96-149 before settling on the Case No. EM-96-149 adjustments in Case No. ER-2007-0002?

A. In this case, Staff indicated that:

> This is the first Ameren Missouri rate case in which Staff has used NOAA's normal weather based on the 30-year period of 1981-2010. In Ameren Missouri's previous four electric cases, Staff and Ameren Missouri agreed to adjust temperature data from NOAA in the 30-year period (January 1, 1971 – December 31, 2000) for the St. Louis Lambert Airport weather station based on a merger and

[2] Case No. ER-2007-0002, Stipulation and Agreement, p. 4. Additionally, it should be noted that the ranking method referenced in the quote from the Stipulation and Agreement has no relation to the issue of adjustments to the historical temperature data.
[3] Ex. 58 (Voytas Direct), Case No. ER-2007-0002, p. 9, l. 5-17.

> complaint case agreement in Case No. EM-96-149 and Case No. EC-2002-1. **The adjustments agreed to were necessary because NOAA's previous normals did not take into account a 1996 instrumentation change**. However, NOAA's new normals 1981-2010 published in July 2011 accounted for not only the 1996 instrumentation change but also instrumentation changes in 1989 and 2002. (emphasis added).[4]

It is important to note the procedural history of Case No. ER-2007-0002 to provide evidence that not only did NOAA make adjustments to account for the 1996 station move in the 1971-2000 normals but that Staff was well aware of that fact. After Staff was made aware that the adjustments made by NOAA were duplicative of the adjustments in Case No. EM-96-149, they agreed that the adjustments in Case No. EM-96-149 were still appropriate to use, and in fact used those adjustments instead of NOAA's adjustments in their direct case in each successive rate case until this one – in Case Nos. ER-2008-0318, ER-2010-0036, and ER-2011-0028.

Q. Can you provide specific evidence that the NOAA adjustments described by Mr. Wells in his Case No. ER-2007-0002 direct testimony in fact considered the 1996 station move contrary to the Staff claims in this case?

[4] Staff Cost of Service Report, p. 73, l. 17-25.

A. Yes. Schedule SMW-ER5 attached to my testimony is a graph taken from the workpapers of Mr. Wells from that case. It demonstrates the timing, direction, and magnitude of the historical weather adjustments that NOAA made to historical Lambert Field temperature readings for the 1971-2000 normals. It is evident from this graph that there was in fact an adjustment in 1996, contrary to Staff's statement in this case's Cost of Service Report. It can be seen in the graph that prior to 1996 there are adjustments to both the minimum and maximum temperatures. Beginning in 1996 the adjustment series is zero (i.e. there is no adjustment by NOAA from this point forward). So the obvious change in 1996 clearly shows that NOAA did in fact make an adjustment for the 1996 station change. The Staff witness in this case, Dr. Won, is simply mistaken when he contends that the reason or one of the reasons the Staff is changing course in this case is that this is the "first time" NOAA has accounted for the station move. It is not.

Q. Has Staff provided any rationale to support their decision to abandon the continued use of the adjustments developed in Case No. EM-96-149 in favor of the NOAA adjustments at this point?

A. Staff has provided no rationale for the change other than the statement that NOAA had not previously quantified the 1996 change, which I have demonstrated to be untrue. There is no evidence that NOAA has changed their methodology in any significant way such that the 1971-2000 adjustments would have been inappropriate to use or inferior to the adjustments in Case No. EM-96-149, but the 1981-2010 NOAA adjustments are suddenly appropriate or superior. It seems to amount to Staff saying that the Company and its customers should suddenly experience a significant change in the calculation of rates due to the fact that the temperatures in 1996 and prior are now

different than they were a year ago. Such a change would be unjust and makes no sense absent a compelling and cogent rationale. Staff has not provided that rationale.

Q. NOAA identified a change in temperature readings in 2002 as a part of the 1981-2010 normals. That occurred after the calculations in Case No. EM-96-149 took place. Should there be an adjustment made to account for that event?

A. Yes. After reviewing NOAA's analysis that suggests the need for a 2002 adjustment, the Company asked Mr. Dutcher to analyze the Lambert Field temperature records from that time period. He identified and quantified a discontinuity in the data. Based on the results of Mr. Dutcher's analysis, the Company believes that it is appropriate to adjust the temperatures prior to January 18, 2002. Mr. Dutcher identified a change in the maximum temperature in the range of 0.57 to 0.63 degrees, and a change in the minimum temperature of 0 to 0.909 degrees. I have used the midpoint of each range identified to calculate the normal temperatures on which my updated weather normalized sales are based.

Q. What is your overall recommendation regarding the historical temperature adjustments in this case?

A. For over a decade, the Commission and all of the stakeholders in the Company's electric rate cases have found it to be just and reasonable to use the adjustments that were calculated by Mr. Dutcher and Dr. Hu for Case No. EM-96-149. Mr. Dutcher has further explained in this case specific concerns he has with NOAA's calculations and demonstrated the superiority of his transparent method for calculating the adjustments. The Commission should adopt the adjustments consistent with the agreement in Case No. EM-96-149 for purposes of setting a normalized level of sales in

this case. In addition, the Commission should accept Mr. Dutcher's analysis of the 2002 temperature discontinuity.

I would note that in their direct case, Staff recommends updating the weather normalized sales on which to base billing units to the 12 month period ended January 2012. As in recent cases, the Company is agreeable to this. I have recalculated weather normalized sales in order to incorporate the 2002 adjustment suggested by Mr. Dutcher. The sales which I analyzed are for the 12 month period ended January 2012, consistent with the Staff's recommendation in this case. Updated test year weather normalized sales by rate class are attached to my testimony as Schedule SMW-ER6.

IV. WEATHER NORMALIZATION – LPS CLASS WEATHER SENSITIVITY

Q. Did the Staff weather normalize the sales of all customer rate classes that exhibit weather sensitivity in their load patterns?

A. No. Staff elected not to weather normalize the LPS class despite the fact that electricity consumption by this class is clearly and indisputably influenced by weather.

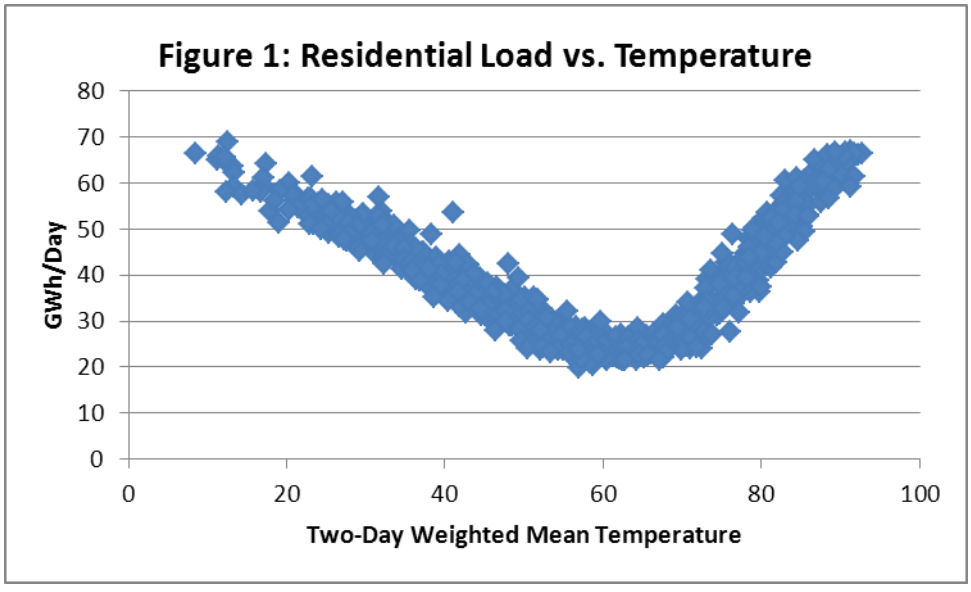
Q. Why is it important that this class be weather normalized?

A. The LPS class clearly has a weather sensitive component to its load. Failing to recognize this fact when developing test year billing units potentially results in rates being set based on an abnormal level of sales that does not represent the expected level of sales to be made on a going-forward basis. This is particularly relevant given the significantly warmer than normal summer of 2011 included in the updated test year for this case. The sales used to set rates are the denominator of the rate calculation (cents/kilowatt-hour). If the denominator is too low, the resulting rate will be too high

and under normal conditions with all other things being equal, customers would pay more than the rates were designed to collect. In the opposite situation, where the sales included in the denominator of the rate calculation are too high (as would be the case given the warm summer in the test year), the resulting rate will be too low and the Company would be expected to under-recover its revenue requirement, again assuming all other things are equal.

Q. How do you determine if a customer class' load is weather sensitive?

A. If a statistically significant relationship exists between the daily class load and a daily temperature variable when controlling for other relevant factors such as day of the week and season, the class is by definition weather sensitive. Said another way, if the level of the load is correlated with a weather variable of interest, the load is weather sensitive. It is generally quite easy to identify weather sensitivity of a load when the daily load data is plotted in a scatterplot against a temperature variable. Figure 1 below is an example of such a scatterplot for the residential class, which I believe all parties agree is weather sensitive.



The weather sensitivity is evident in Figure 1 in the upward slope apparent in the plotted data as you move right from around the 65 degree mark, and also as you move left from around the 60 degree mark.

Q. Does the LPS class meet this standard for weather sensitivity?

A. Without question. First, let me note that the Company and Staff both subdivide the rate classes into Commercial and Industrial sub-classes for purposes of weather modeling. In the model that I developed for the Company's direct case for the Commercial LPS sub-class there are two weather variables. One characterizes the response of load to temperatures above 56 degrees. It has a t-statistic[5] of over 11. The second weather variable characterizes the additional response of load to temperatures over 70 degrees, and its t-statistic is over 6.

Q. Are these t-statistics statistically significant?

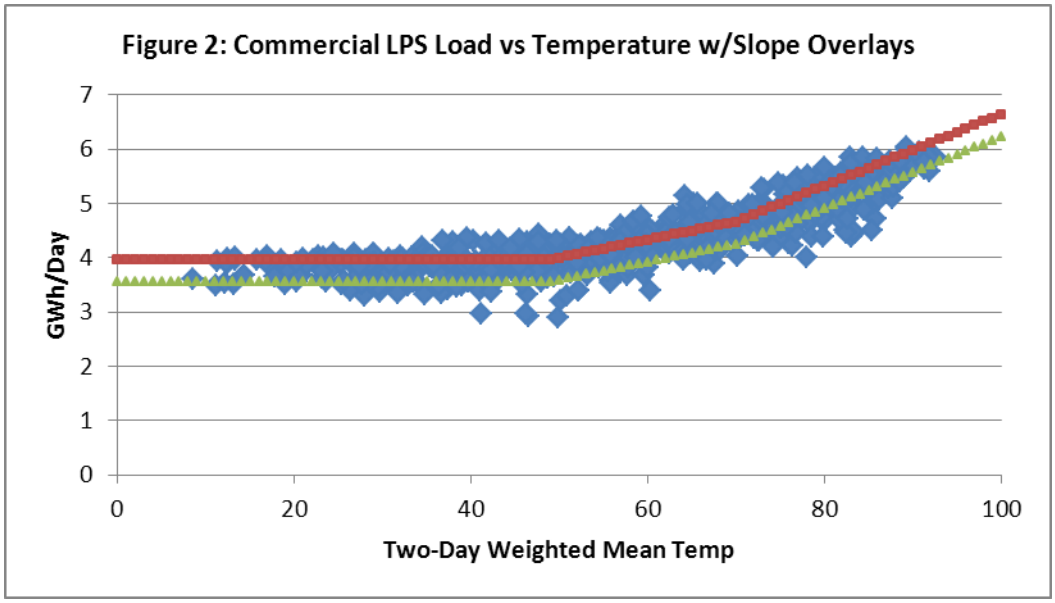
A. Overwhelmingly. A t-statistic has an associated "p-value." This value essentially indicates the probability that this coefficient occurred by random chance when the true value should be zero (i.e. there is no relationship between the independent and dependent variable). The standard for statistical significance can be different for different studies, but generally 0.05 is considered a common p-value threshold to prove statistical significance. In such a case, one would say that the variable is significant with 95% confidence. In the case of the two variables above, the t-statistics both exceed 6 (one of them by a large amount). For t-statistics exceeding 6, one would say the variables

[5] A "t-statistic" is calculated by comparing a regression coefficient to its Standard Error. The resulting value can be evaluated using the T-Distribution to determine whether the variable is statistically significantly different from zero, indicating whether the relationship described by the variable can be proven at a given level of confidence.

are significant at or beyond the 99.99999% confidence level. I cannot think of a situation where anyone would deem this level of t-statistic to not be strongly statistically significant.

Q. Does the Commercial LPS sub-class have a scatterplot like Figure 1 above, which showed the weather response of the residential class?

A. Yes, Figure 2 below shows the Commercial LPS sub-class daily loads vs. temperature.



Overlaid on the plot are two lines that represent the statistical relationship between load and temperature. The top line represents the weekday weather response and the bottom line represents the same for weekends. It is visually clear that there is an upward slope as the data moves right across the graph starting around 49 degrees.

Q. Beyond the statistical significance of the weather relationship, is there other evidence that this sub-class is weather sensitive?

A. Yes. A simple review of the types of customers in the sub-class should lead anyone to conclude that they are likely to have significant air conditioning needs.

Those air conditioning needs are obviously driven by weather (temperature), providing additional real world, common-sense evidence that this sub-class is weather sensitive.

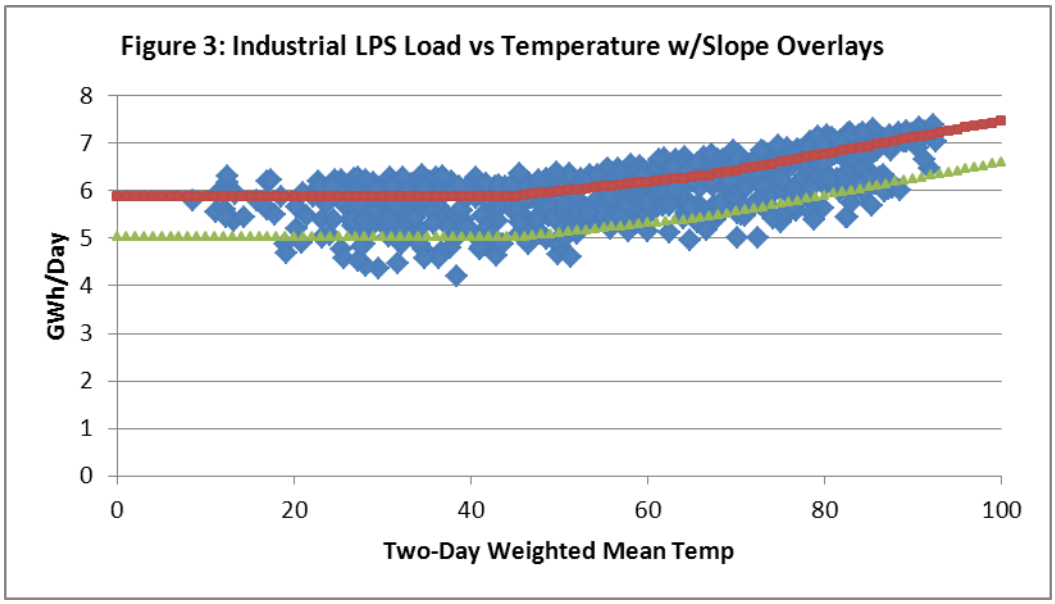
Q. What are the types of customers in the Commercial LPS sub-class?

A. There are universities, hospitals, shopping malls, large office buildings and a casino. Each of these customers undoubtedly uses significant amounts of electricity to power air conditioning, and obviously the use of air conditioning is highly weather sensitive.

Q. What about the Industrial LPS sub-class? These customers are not like the Commercial customers you described above. Why do you contend that this class is weather sensitive?

A. First and foremost, the statistics and scatterplots for this group demonstrate that this is the case. However, it is also logical that these customers would demonstrate some weather sensitivity. Despite the fact that many of these customers have significant manufacturing load that is not weather sensitive, many also have office complexes associated with their operations that do use air conditioning. It is also reasonable to conclude that some of these industrial customers have refrigeration load associated with a part of their processes, which could increase as temperature goes up. As expected, it is true that the weather sensitivity of this sub-class is considerably less than the residential or commercial classes, but it is also true that the weather sensitivity exists nonetheless. Regardless of what end use is driving the weather sensitivity, the statistics that the weather sensitivity exists are compelling. There are three weather variables included in my Industrial LPS model. The first two characterize the response of load to temperatures above 45 degrees and 67 degrees respectively. The third variable

characterizes the difference in the weather response between summer and shoulder months. Based on their t-statistics, each of these variables is statistically significant beyond the 99% confidence level, with the strongest variable having a t-statistic exceeding 6, like the Commercial LPS model t-statistics. Figure 3 below shows the scatterplot for the Industrial LPS sub-class.



It is apparent from the data in Figure 3 that there is more non-weather variability in this load than the residential or commercial classes, as one would expect with industrial customers. This is apparent in the wider spread of the data vertically across the chart. There is also, however, an undeniable upward slope to the data when moving left to right from temperatures of around 45 degrees (daily average temperature) when cooling equipment would kick in for very large operations.

Q. In the Staff's Cost of Service Report in this case, it was argued that "[t]he members of this class are not homogeneous and, consequently, a weather response function created for one member should not be applied to any other member. Staff believes it is both appropriate and necessary to annualize rather

than normalize LPS for changes in customer usage and count." (Staff Cost of Service Report, p. 76 l. 20-23). What is your response to this?

A. I have several observations about this statement. First, annualizing the LPS class for changes in customer usage and count and weather normalizing are not mutually exclusive. Taking both of these steps is clearly appropriate and necessary for this class. Second, Staff's concern about using a weather response function created for one member of the class being used on another is unfounded. Finally, even if that concern were legitimate, then another approach should be taken to weather normalize the class, rather than taking Staff's approach, which is to ignore the need to weather normalize this class entirely. Challenges in modeling the load should not cause us to just accept the inclusion of loads that do not represent a normal level of consumption to be used in the calculation of rates. Rather, the best data available should be used to make the best estimate possible.

Q. Please elaborate on your second observation; that Staff's concern about using the weather response function from one member of the class on another is unfounded.

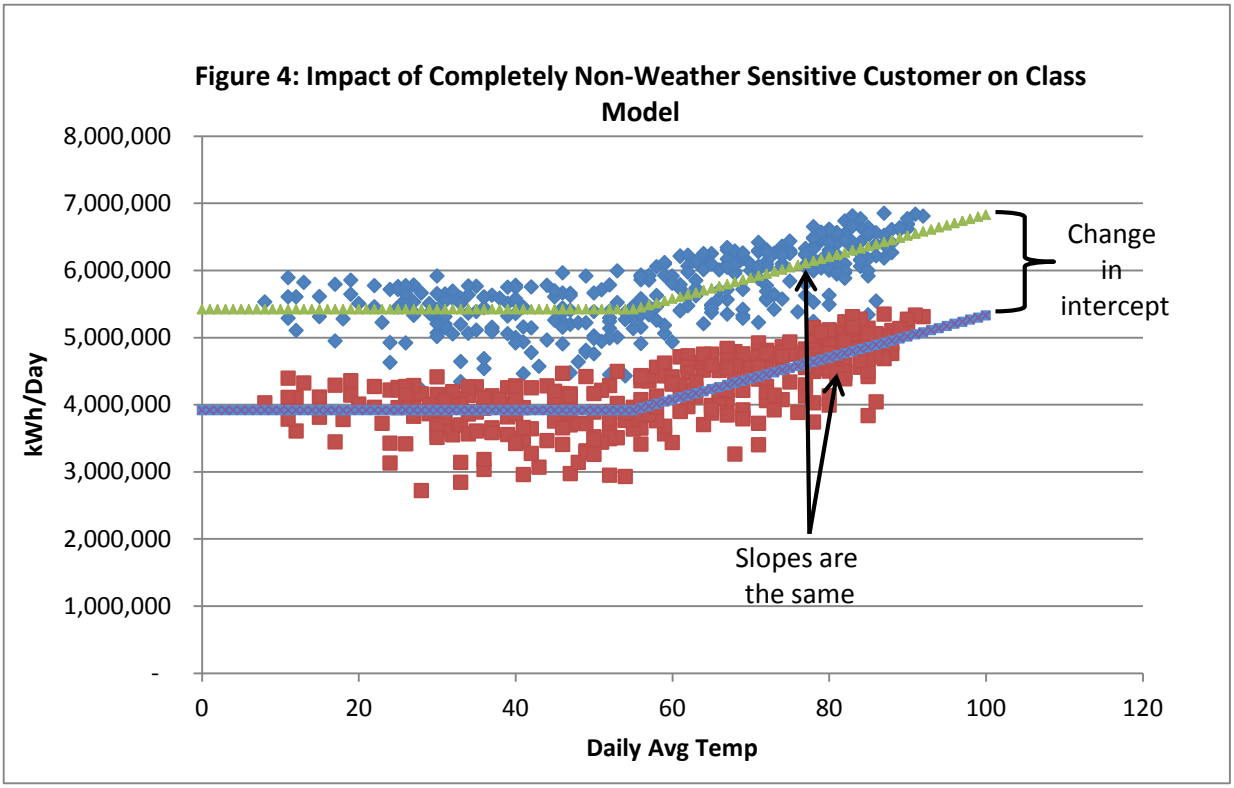
A. The way Staff phrases their concern, it is technically correct. It would be inappropriate to build a model for one specific customer and then apply it to a different, dissimilar customer. However, neither the Company nor Staff did this, which makes Staff's phraseology misleading. The weather normalization models used by the Company and Staff are constructed to apply to the *total* class load, not an individual customer load or any subset of the class. A model constructed to describe the weather response of the total class is by definition perfectly applicable to the class itself.

Q. But doesn't the weather adjustment from the class model end up getting applied to sales from non-weather sensitive customers?

A. It is true that, mechanically, the adjustment is applied to the whole class including non-weather sensitive customers. But the size of the adjustment is appropriate, given the mix of weather sensitive and non-weather sensitive customers in the class. This is really no different than the treatment of other classes. Not all usage in even the residential class is weather sensitive. For example, lighting, dishwasher, and television loads might not be influenced by temperature at all. However, every last kWh of sales to the residential class, including those that come from these and other non-weather sensitive end uses, has the weather adjustment applied to it. Because of the nature of the calculation, this is appropriate. The model based on the total class load accurately captures the differences between the weather sensitive components of the load from those components that aren't. The weather adjustment is appropriately calculated based on just the weather sensitive components.

Q. How does that work in the model?

A. Consider the scatterplot in Figure 4 shown on the next page.



In this example, the full class load is represented by the upper (blue) scatterplot. The lower (red) scatterplot is the same class load with a hypothetical large and non-weather sensitive customer's load removed from it[6]. This lower scatterplot represents what the class load would look like if the large non-weather sensitive customer was not included in it (by removing this customer from the class, we would also be removing the risk associated with Staff's concern of using a weather response model on this non-weather sensitive customer's load).

[6] The load is calculated as the class load minus 1.5 million kWh per day, which is the daily load of a hypothetical non-weather sensitive customer.

The calculation of the class weather adjustment is based on the slope of the lines drawn through that graph (i.e. the slope is the model's estimate of the impact of a change in temperature on the load). Since the non-weather sensitive customer by definition contributes nothing to the slope of the weather response line (it shifts the intercept[7] only), the inclusion of that customer in the class does nothing to influence the weather adjustment in any way, shape, or form. The adjustment, because it is based solely on the weather slope, is calculated to be exactly appropriate for the weather sensitive portion of the total class load regardless of whether the non-weather sensitive part of the load includes this customer or not.

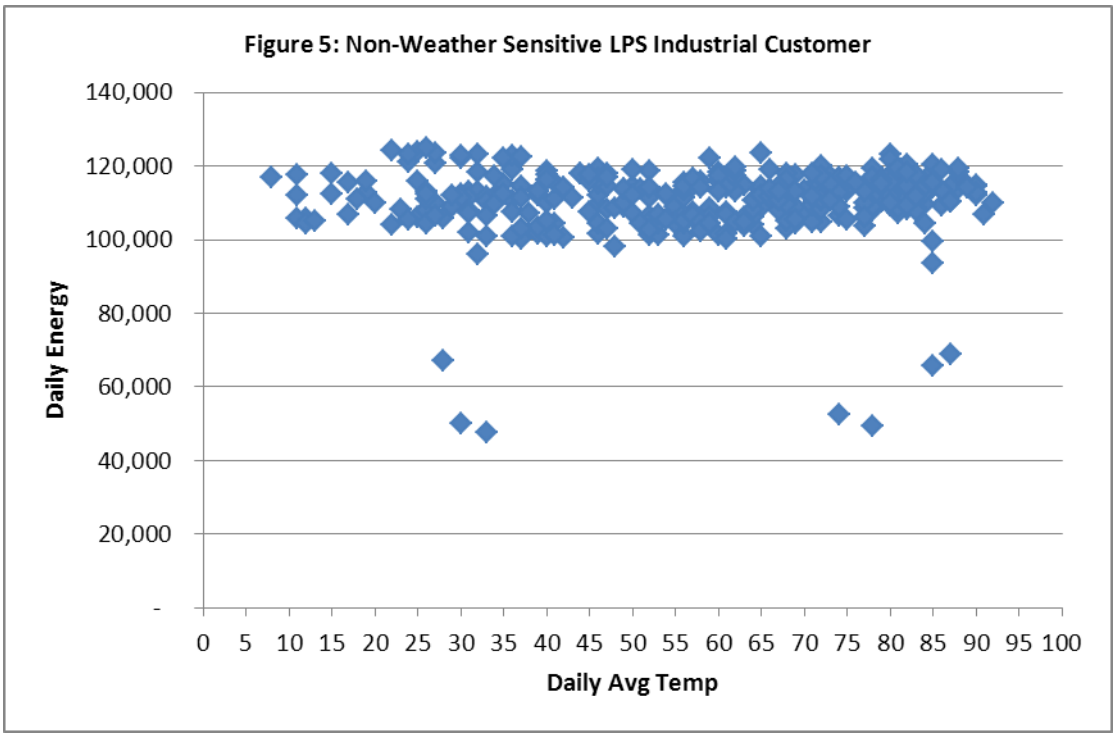
Q. Can you provide a numeric example of this phenomenon?

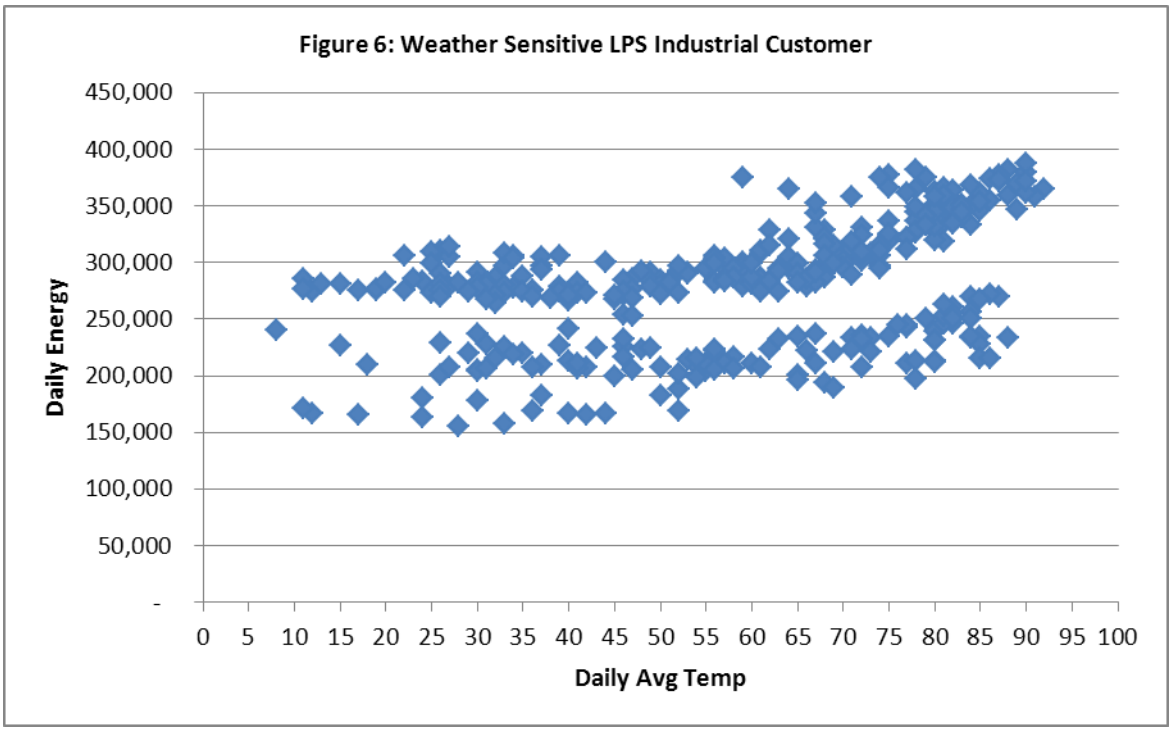
A. Yes. Using 2010 Load Research data for the Industrial LPS sub-class, I conducted an experiment. I made a simple regression model that explained daily class load with daily cooling degree days (Base 55[8]), a seasonal indicator variable and a weekday/weekend indicator variable. This model gives us a base weather response for the entire class. Next, I looked at individual LPS customer loads in order to identify a customer that was weather sensitive and one that was not. Plots of the selected customers' loads are shown against daily average temperature below. Figure 5 is the non-weather sensitive load (note the flat nature of the load horizontally across the graph with

[7] The intercept is the point where the regression line that represents the weather response crosses the y-axis, or in other words the load value that the model predicts when the temperature and other variables are equal to zero. By definition, any load explained by the intercept is not influenced by the variables in the model. In this case it therefore represents load that is not influenced by weather.

[8] Cooling degree days ("CDD") are a measure of temperature that indicates the need for space cooling equipment. They are calculated by first averaging the high and low temperature for the day. From that result, a base temperature is subtracted. In the case of large industrial customers, cooling starts at a lower temperature than it does for smaller customers, for example residential customers. So in this case, the base temperature of 55 was used. The resulting CDD value is the number of degrees above 55 that the day's average temperature actually was.

no upward sloping data); Figure 6 is the weather sensitive load (note the upward slope as the data moves right from approximately 55 degrees). The customer represented by Figure 6 is a Company that has a significant office space presence in St. Louis in addition to a manufacturing operation, so the weather sensitivity is likely driven in large part by air conditioning requirements.





For each of these examples, I subtracted the daily customer load from the total LPS class load and re-ran the regression. From this, it is possible to see the impact of including a non-weather sensitive customer in a class level weather analysis. The coefficients of the variables in each version of the model are shown in the table below:

	Industrial LPS	*Industrial LPS excluding non-weather sensitive customer*	*Difference in Coefficient*	*Industrial LPS excluding weather sensitive customer*	*Difference in Coefficient*
Intercept	5,069,261	4,961,048	(108,213)	4,871,298	(197,963)
Seasonal Indicator	98,471	96,596	(1,875)	101,996	3,526
Weekday Indicator	442,573	439,907	(2,666)	361,693	(80,881)
CDD 55	31,332	31,348	16	29,033	(2,299)

Q. What conclusions can you draw from this table?

A. The inclusion of the non-weather sensitive customer has negligible impact on the weather coefficient (this coefficient is the numerical representation of the slope of the weather response, such as the line in the graph in Figure 4 above). Virtually this customer's entire load is represented by the model intercept (meaning the load does not vary significantly in response to the other variables). In the base Industrial LPS model, the CDD55 coefficient was 31,332. This means that for every degree the temperature goes up when over 55 degrees, the load is expected to increase by 31,332 kWh per day. When the same model is run on the class load less the load of the non-weather sensitive customer, the weather coefficient is 31,348. In this case the coefficient actually went up by a negligible amount relative to the base model coefficient. When looking at the result of the regression where the weather sensitive customer was excluded from the class load, the weather coefficient went down by over 2,000 kWh per day. This means that this customer is contributing significantly to the calculated weather response for the class. In fact, it appears that this customer is responsible for approximately 7% (2,299/31,332) of the class' weather response.

Q. What implications does this have for the weather normalization of the class load?

A. The normalized load on a given day is calculated by taking the difference between the actual and normal temperature for the day and multiplying it by the weather coefficient from the regression model. As an example, imagine a day that was 70 degrees. Normal weather for that day also happens to be 60 degrees. That means on the hypothetical day in question it was 10 degrees warmer than normal. Our model tells us

that the class' load increases by 31,332 kWh for every degree it is warmer than 55 degrees. So this day, the class load was 313,320 kWh (10 degrees 31,332 kWh/degree) higher than would be expected with normal weather conditions. That 313,320 kWh is actually the weather adjustment that would be calculated for that day. If we did the same exercise with the model that excluded the non-weather sensitive customer, we would get essentially the exact same answer for the daily weather adjustment (it would be different by a negligible 150 kWh, a difference of 0.05%). So the inclusion of this non-weather sensitive customer in the class level model has had essentially zero impact on the class level results of the weather normalization analysis.

Q. Can you please summarize this finding?

A. This has demonstrated why Staff's concern is unfounded with regard to using the weather response function applicable to one customer on another dissimilar customer. In fact, because the weather normalization analysis is performed at the class level, the weather response is exactly appropriate for the class itself. Neither the Company nor Staff in its normal methodology would take this weather response and use it to normalize an individual customer to whom it did not apply. Including a mix of non-weather sensitive and weather sensitive customers in the same model is in fact a complete non-issue. The non-weather sensitive load, by definition, is not correlated with the weather variable. Therefore that customer's load is represented by the model intercept. When the weather adjustment is made, it only utilizes the coefficient on the weather variable (model slope), so the inclusion of such a customer does nothing to increase or decrease the weather adjustment in a remotely material way.

V. DSM ANNUALIZATION ADJUSTMENT

Q. In your direct testimony you proposed an annualization adjustment to the test year billing units to reflect the full impact of the Company's energy efficiency expenditures on test year sales. Staff subsequently proposed a similar adjustment. Do you have any concerns with Staff's proposal?

A. First, I think it is appropriate to point out to the Commission that the Company's and Staff's direct case positions are very similar and we appreciate Staff's willingness to work to understand the issue and join in proposing a sensible and workable solution. That said, there are a couple of details in Staff's direct case that are unclear to me.

Q. What issues do you have possible concerns with?

A. Staff mentions that the energy efficiency annualization adjustment should be recalculated for the true-up of the revenues in this case. In my direct testimony, I had also suggested a true-up. The issue is that I believe that Staff's calculation, which is based on updated data I provided in response to a data request ("DR"), already includes all of the items that I was proposing to true-up.

In my direct testimony I indicated that I was using some estimated impacts of energy efficiency, but the final calculation should be based on final Evaluation, Measurement, and Verification ("EM&V") reports. The DR response I gave to Staff included updates to tie out the calculation to the EM&V results.

Secondly, the energy efficiency annualization calculation in my direct testimony was based on the original test year of the twelve months ended September 2011. I indicated that, to the extent that Staff proposed that we update that test year for purposes

of setting billing units, this calculation should be trued-up to that new period. The Company and Staff have agreed in the last two Ameren Missouri rate cases to update the billing units to a twelve month period that is four months later than the original test year. Staff has proposed to do that in this case, and the Company again has no objection to doing so. However, the updated information that I gave to Staff during this case already contemplates the updated period for billing units (12 months ended January 2012). So to the extent Staff believes that there is a further need to true something else up, I disagree. Staff's direct case number includes all of the necessary true-ups.

Q. Staff also mentions in the Cost of Service Report that the Company indicated there should be a modification to the calculation to adjust the measure installation dates. Do you agree with this?

A. Yes, for the business program calculations. My original calculation was based on the date that the incentive check was paid to customers by the Company. However, we were able to find in the database a date that the customer reported the measure was installed. This is a slight improvement to the accuracy of the calculation.

Q. Considering the true-up items you mentioned above and the change in the measure installation date, what level of kWh do you now propose for the energy efficiency annualization adjustment?

A. For the residential class, I propose an adjustment of 22,795,268 kWh. This is consistent with Staff's current position. For the business classes, I propose an adjustment of 109,463,054 kWh. This is consistent with Staff's position, updated for the change in the measure installation date. Complete results by rate class and by month are attached in Schedule SMW-ER7.

Q. Staff also requested that the Commission order the Company to use "end-use load shapes" in its future calculations of this adjustment. Do you have any comments on Staff's request?

A. Yes. The choice of load shapes does not impact the total kWh calculated for the adjustment. They simply alter the hourly pattern of savings, which goes into the fuel model and determines the incremental off-system sales that the customers should receive revenue for since they are using less of the generation output of the Company's fleet. The impact of the shape change on that calculation is fairly small relative to the added complexity of the calculation. While I agree with Staff that it technically should provide a slight improvement in accuracy, I don't think that the method used by the Company is at all inappropriate.

VI. ENTERGY REFUND

Q. Please provide a brief background on the refund that the Company received from Entergy, which Staff has proposed to amortize back to customers over three years.

A. Until August 2009, for many years the Company had been a party to a long-term power purchase agreement with Entergy Arkansas, Inc. (previously Arkansas Power and Light Company, or "APL"). Under this agreement, the Company purchased 165 megawatts of energy and capacity from APL. There was a fixed capacity charge that was included in the agreement, as well as an energy charge that was based on a formula that was driven by actual fuel and purchased power costs incurred by APL.

As an outcome of a complaint case that included several Entergy operating companies as well as the regulatory commissions from the states where those companies

operated the Federal Energy Regulatory Commission ("FERC") ordered APL to make payments to affiliated utilities under its System Agreement. These charges are referred to in the FERC proceeding as "equalization charges," as they result from an effort to equalize the production costs of Entergy's operating companies under their System Agreement. APL included these payments in the calculation of Ameren Missouri's variable energy charge under the power purchase agreement between the companies beginning with the bill for service in June 2007, which was received by the Company on July 5, 2007.

The Company subsequently filed a complaint case with FERC, and also intervened in the proceeding from which these charges arose. The Company argued that these charges were not allowed to be billed to them under the express terms of their contract with APL. It took several years for FERC to make a final ruling on the Company's contention. On May 7, 2012, FERC agreed with the Company that these charges were inappropriate under the terms of the contract and ordered APL to refund the excess charges with interest. That ruling has subsequently been appealed by APL to the United States Court of Appeals for the District of Columbia, but payment was made by APL to the Company in the amount of $30.6 million dollars on June 6, 2012.

Q. Does the Company agree with Staff that it is appropriate to flow this entire refund back to customers through a three year amortization?

A. No, it does not.

Q. Why is Staff's proposal inappropriate?

A. First and most significantly, it is inappropriate to make an adjustment to future rates to reflect a non-recurring change in historical costs. I am advised by counsel

that, as a matter of law, customers pay under base tariff rates for the service received, not for specific costs incurred by the utility. While historical costs from a test year are used by the Commission to determine what constitutes a just and reasonable rate for the service received by customers, those historical costs are not being paid for when customers pay their bills; instead, the customers are paying for the service they are receiving at that time, and the Company is (hopefully) receiving sufficient revenues to cover its costs, including its cost of capital, at that time. Typically when costs vary after rates are set, the utility and its shareholders bear the burden of increases in costs above those included in rates and also retain the benefits of reductions in costs. In the case of the Entergy refund, an historical cost incurred by the Company during the years of 2007 through 2009 has just been reduced. This has no bearing on the costs incurred by the Company in the test year in this case or at any point for which rates are being established in this proceeding.

Q. In spite of the legal principle you cite above, wouldn't it be "fair" to pass this refund back to customers since the test years that established rates paid by Ameren Missouri customers included costs associated with the APL contract?

A. No, in fact it would not. To understand why, it is important to understand the chronology of the events that led to this situation. I will detail the chronology below:

- January 1, 2007 – True-up period cut-off date for Case No. ER-2007-0002
- June 4, 2007 – New rates effective from Case No. ER-2007-0002
- July 5, 2007 – First bill including equalization charge impact received by Ameren Missouri from APL

- July 2007 – December 2008 – Ameren Missouri billed for $24.2 million in equalization charges by APL while rates from Case No. ER-2007-0002 were in effect (the timing of the equalization charges and interest charges as reported to the Company by Entergy can be seen in the refund report from Entergy, attached as Schedule SMW-ER8)
- March 1, 2009 – rates from Case No. ER-2008-0036 take effect, implementing Ameren Missouri's first FAC tariff. Equalization charges are reflected in net base fuel costs when establishing rates
- June 2009 – September 2009 – Ameren Missouri billed for $1.9 million in equalization charges by APL while rates from Case No. ER-2008-0318 and FAC in effect
- August 31, 2009 – purchased power agreement between Ameren Missouri and APL terminates
- May 7, 2012 – FERC orders APL to refund equalization charges to Ameren Missouri with interest
- June 6, 2012 – APL refunds $30.6 million (equalization charges plus interest) to Ameren Missouri

Q. How does this timeline relate to the "fairness" argument regarding whether this refund should flow through to customers?

A. It should make perfectly clear that, even when (inappropriately) viewing this from the perspective that customers are "paying for" the costs that were included in the test year from the most recent rate cast, *customers never paid for any of the first $24.2 million in equalization charges*. Because rates from Case No. ER-2007-0002 went into

effect before the first such charge was ever billed to or known by Ameren Missouri, and months after the true-up date in that case, it is literally impossible for the parties to have built any equalization charges into the test year cost structure that was used by the Commission to set just and reasonable rates for service. In short, customers never paid rates that reflected the equalization charges of $24.2 million (from July 2007 through December 2008) since those costs were never included in the determination of the revenue requirement upon which rates were set from Case No. ER-2007-0002. Those rates were in effect from June 4, 2007 to February 28, 2009. The $24.2 million was paid *by the Company* during that period of time, yet now Staff wants the Company to give customers a refund as if customers "paid" those charges. They did not, and such a refund would be completely inappropriate.

Q. What about the rest of the charges that were incurred after the FAC tariff and rates from ER-2008-0036 went into effect?

A. Ameren Missouri intends to flow those charges (or 95% of them), along with the associated interest, back to customers through the FAC. While the amount customers pay under base rates is for service and not for specific costs, the amounts paid under a rider such as the FAC are based on specific costs; i.e., in the case of a rider, customers truly do pay the costs tracked in the rider (or 95% of them in the case of Ameren Missouri's FAC). It is clear that equalization charges were built into the net fuel costs in Case No. ER-2008-0318. According to the operation of the FAC, once the APL contract terminated and Ameren Missouri stopped incurring equalization charges, this had the effect of lowering fuel costs relative to the amount built into rates, and 95% of that reduction flowed through to customers. So customers in fact paid for the actual

amount of equalization charges incurred by Ameren Missouri during this time frame.[9] It is those costs that were specifically paid by customers during a time when fuel costs were the subject of a rider adjustment mechanism, which Ameren Missouri intends to refund to customers. This should properly take place in an FAC adjustment filing, and not in a general rate case such as this proceeding.

VII. FAC TARIFF LANGUAGE ISSUES

Q. What issues are you commenting on regarding the FAC tariff language?

A. I have two recommendations regarding the definition of the terms S_{AP} and S_{RP}. First, Staff's recommendation to delete the words "the retail component of" in these definitions should be rejected. Secondly, the definition should be modified to account for energy generated by the Company's landfill gas plant, the Maryland Heights Energy Center.

Q. Why should the Staff's proposed deletion of the words "the retail component of" be rejected?

A. Staff believes that these words are no longer necessary since the Company's wholesale sales are treated as off-system sales for purposes of the FAC tariff. However, that is exactly why these words are necessary.

As background, it may be helpful to point out that, even though for purposes of the FAC wholesale sales are treated identically to off-system sales, in the Midwest Independent Transmission System Operator, Inc. ("MISO") market Ameren Missouri still

[9] There is a small mismatch due to the 95/5 sharing in the FAC, but this is appropriate based on the intended design of the tariff.

has its load settled with the retail and wholesale load obligations rolled into a single Commercial Pricing ("CP") node.

Term S_{AP} is in the FAC to represent the amount of retail sales that the Company has made in an accumulation period in order to determine the amount of net base fuel costs that have been recovered from retail customers already. This is subsequently compared to the actual net fuel costs in order to determine if an adjustment is necessary to the rates paid by customers to align actual costs with collected costs. To the extent that S_{AP} would not be restricted to the retail component of the Company's MISO CP node, the calculation would reflect that the Company had recovered some of its fuel costs through sales to wholesale customers. However, all net fuel costs are now assigned to retail customers in net fuel calculations (in return for this retail customers get credit for all revenues associated with wholesale sales). So failure to remove any wholesale load from the MISO CP node data would overstate the fuel costs that had been collected by the Company and therefore understate any potential rate adjustment. This phrase is integral to the proper operation of this portion of the tariff.

Similarly, the phrase in question needs to stay in the definition S_{RP} because this term is the denominator of the calculation of the rate that will be charged (or credited) to customers in order to pass through any over (or under) recoveries of actual fuel expense. Since the rate in question will only be charged to retail customers, it is appropriate to only consider the retail portion of the Company's MISO CP node in the calculation.

Q. Why is there a modification necessary to the tariff language related to the Maryland Heights Energy Center?

A. The Company recently began operating its new landfill gas generator known as the Maryland Heights Energy Center. This plant is operated as a "behind the meter" resource. This means that the energy generated at Maryland Heights goes to serve Ameren Missouri customer load, but its output is not included in the load calculations that are settled in the MISO market. So essentially if we do not modify the tariff language, the sales made from the energy output of the Maryland Heights plant will not be reflected in terms S_{AP} or S_{RP}. Just as failing to restrict the definition to consideration of the retail component of the Company's MISO CP node would tend to overstate the level of calculated fuel costs that have been collected from customers, failure to add the output of the Maryland Heights Energy Center would tend to understate the calculation of collected costs, which would work to the detriment of customers.

Q. What language do you propose be included to account for this issue?

A. I suggest that the phrase "plus the metered net energy output of any Company generating station operating within its certificated service territory as a behind the meter resource in MISO" be appended to the end of the definition.

VIII. PLANT ACCOUNTING – SIOUX ACCOUNT 312

Q. Have you reviewed the section of Staff's Cost of Service Report authored by Guy Gilbert dealing with his analysis of asset retirements in Account 312?

A. Yes.

Q. Do you have any comments regarding his review of Account 312 property at the Sioux Energy Center?

A. Yes. Mr. Gilbert is attempting to draw conclusions regarding the Company's Continuing Property Records ("CPR") based on a sample of assets that he personally attempted to verify during an onsite audit at the Sioux Energy Center. As detailed in the rebuttal testimony of Company witness Laura Moore, assets accounting for the majority of the dollars of the assets that Mr. Gilbert failed to locate in the field were in fact subsequently located by Company personnel. However, even if he had been accurate in his assessment of which of the particular assets he searched for were still in service, his sampling methodology and his resulting extrapolation of conclusions to the population of assets in the CPR is so heavily flawed that it should be given no weight.

Q. How is his analysis flawed?

A. First and foremost, Mr. Gilbert gives no indication of how he drew the sample of items he sought to verify, but from reviewing the list of items it is clear that it is not remotely close to being a random sample of the underlying population of assets in Account 312, let alone of the entire CPR. Using a sample that is not random potentially (and almost certainly in this case) introduces bias relative to the population. Secondly, even if his sample had been random, it is far too small to apply to the population with a meaningful level of confidence.

Q. How can you tell that the sample is not random?

A. Account 312 has over 2,000 unique assets in it, including 7 line item entries for front loaders.[1] In Mr. Gilbert's sample of 29 line items, there are 7 line item entries for front loaders. Similarly, every item from the CPR labeled dozer (4) and metal

[1] As Company witness Laura Moore explains in her rebuttal testimony, the number of unique assets and line items do not match exactly, but we do know that there are more than 2,000 unique assets in the Account.

detector (6) appears in Mr Gilbert's sample. It would be virtually impossible for a true random sample to include every single item in 3 different categories (front loaders, metal detectors, and dozers) and none from many, many other categories. Those three categories account for seventeen of the twenty-nine line items that Mr. Gilbert verified, or 59%, while they represent less than 1% of the total asset population. So what he has done is construct a sample of relatively small (in relation to the total net investment in this account) *moveable* items instead of drawing a sample that is representative of the account as a whole. This is an extremely flawed approach, and tells us little or nothing.

Q. Why is it necessary that a sample be random?

A. Samples that are not random are subject to bias and therefore are inappropriate for drawing general conclusions about the larger population. If any particular segments of the population are either over- or under-represented, then there is almost certainly going to be bias in the sample statistics relative to the population. In this case, the fact that all of the front loaders, dozers, and metal detectors in the account show up in the sample tells clearly that there is not equal representation from across the population of the account included in the sample. While it is impossible to quantify the amount of bias without doing a complete census analysis of the population, it is clearly and obviously there in this case. In my opinion, the severity of the problem should render this analysis as completely unusable for drawing population conclusions.

Q. Are there other issues with Mr. Gilbert's sample?

A. Yes. Mr. Gilbert only searched for twenty-nine line items out of the entire account. Under basic statistical principles, for a sufficiently large population[2] such as this, the resulting estimate of the percent of items that are still in service is subject to a margin of error[3] of +/- 15.8% at the 95% confidence level. That means that we could only conclude (even if the sample was unbiased, which it is not) with 95% certainty that the true percent of assets in the CPR that are still in service is somewhere within a very wide 31.5% range. This large of a range is not particularly informative in determining whether the Company's books are accurate. To truly determine the accuracy of the CPR, a much larger and truly random sample would need to be audited. To eliminate all uncertainty, a complete census would be required where every asset was individually verified.

Mr. Gilbert states:

> Of the 29 items sought for verification, seven could not be identified and were missing. This implies that 29% of the CPR consists of property that is no longer used and useful, and that 28% of the dollars listed above are related to nonexistent rate base. (Staff Cost of Service Report, p. 154, l. 2-5).

[2] A "finite population correction" factor must be applied to the margin of error for small populations. Generally it is accepted that no correction is necessary when the sample is less than 5% of the population. Since the population includes over 2,000 unique assets, a sample smaller than 100 needs no adjustment for this issue.

[3] The margin of error calculation varies with respect to the true underlying population percentage. For example, the margin of error that may be familiar associated with most election polling conservatively assumes that the true population is split 50/50 between two candidates. If the true percent of the population that favors one candidate is actually much higher than 50%, then the true margin of error is actually lower. In the case of a variable whose true value is equal to or close to 100%, the margin of error is reduced to near zero (or equals zero for a population with 100%). For purposes of this analysis for determining Mr. Gilbert's margin of error, it was conservatively assumed that the true percent of book assets still in service was 75%, approximately equal to the percent of assets Mr. Gilbert himself was able to identify.

Q. Is Mr. Gilbert's conclusion justified[4]?

A. Absolutely not. Mr. Gilbert's analysis is devoid of any statistical rigor, and provides no basis to claim that the Company's rate base is overstated. With a certainly biased sample and a huge margin of error affecting his sample, there is no basis whatsoever to draw such a conclusion about the population of assets in Account 312 relating to the Sioux Energy Center, or in any other plant or plant account. This is particularly true regarding the dollars of plaint-in-service that he is questioning. I say this because it should be clear to almost any observer that the extremely high dollar items, such as the boiler itself and its components, cannot possibly be missing if the plant is currently operating properly. So the nature of the bias introduced by Mr. Gilbert would inherently and dramatically overstate the dollar impact of any potential issue, if one exists at all.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

[4] I would also note that Mr. Gilbert appears to have a calculation error in the quoted section of the Cost of Service Report. He states that 7 of 29 items could not be identified and then tries to use this to imply a 29% rate of error in the CPR. 7 divided by 29 is in fact 24%, though, so 29% is an overstatement simply due to what appears to be either mathematical or typographical error.

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 STEVEN M. WILLS

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

Steven M. Wills, being first duly sworn on his oath, states:

1. My name is Steven M. Wills. I work in the City of St. Louis, Missouri, and I am employed by Ameren Services Company as a Managing Supervisor of the Quantitative Analytics group.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of 36 pages, and Schedule(s) SMW-ER5 thru SMW-ER8, 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.

Steven M. Wills

Steven M. Wills

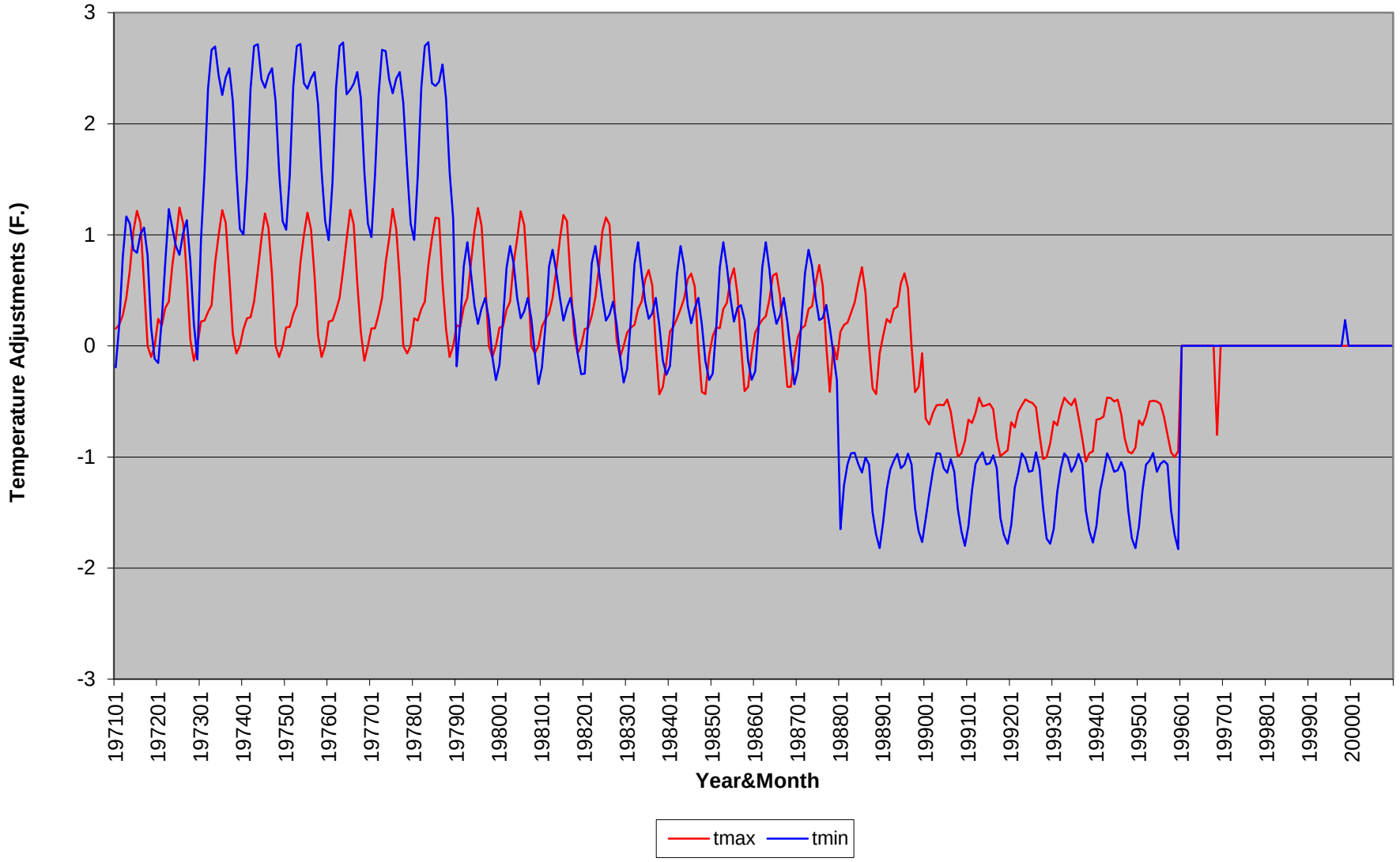
Subscribed and sworn to before me this 14th day of August, 2012.

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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Ameren Missouri - Residential Updated Test Year Sales (kWh) - Revenue Month			
Month	Actual	Normal	Ratio
2	1,433,678,742	1,402,452,872	97.8%
3	1,095,005,472	1,115,862,299	101.9%
4	908,611,572	933,740,914	102.8%
5	798,778,804	792,224,429	99.2%
6	1,121,930,188	1,000,318,330	89.2%
7	1,443,119,939	1,247,830,571	86.5%
8	1,650,096,035	1,422,587,581	86.2%
9	1,262,058,762	1,153,405,538	91.4%
10	746,942,356	780,875,780	104.5%
11	798,752,905	836,210,798	104.7%
12	1,132,554,290	1,257,650,504	111.0%
1	1,362,948,524	1,529,548,177	112.2%
Total	13,754,477,589	13,472,707,793	98.0%

Ameren Missouri - Small General Service Updated Test Year Sales (kWh) - Revenue Month			
Month	Actual	Normal	Ratio
2	322,070,100	317,297,622	98.5%
3	276,605,259	279,093,687	100.9%
4	254,519,563	258,368,836	101.5%
5	248,352,183	248,062,420	99.9%
6	294,263,195	281,060,283	95.5%
7	339,720,267	316,244,473	93.1%
8	367,179,686	338,007,871	92.1%
9	321,045,214	307,301,602	95.7%
10	249,520,215	254,070,052	101.8%
11	245,614,791	248,044,863	101.0%
12	280,975,109	297,614,153	105.9%
1	314,959,856	339,198,855	107.7%
Total	3,514,825,438	3,484,364,718	99.1%

Ameren Missouri - Large General Service Updated Test Year Sales (kWh) - Revenue Month			
Month	Actual	Normal	Ratio
2	669,510,963	661,654,737	98.8%
3	620,435,085	625,066,899	100.7%
4	608,734,172	610,990,667	100.4%
5	628,768,136	626,132,480	99.6%
6	713,769,140	692,126,201	97.0%
7	773,570,461	732,405,398	94.7%
8	829,566,664	780,752,857	94.1%
9	765,754,461	742,013,724	96.9%
10	636,212,028	644,241,496	101.3%
11	611,906,142	613,252,284	100.2%
12	643,026,618	668,026,956	103.9%
1	683,361,872	727,638,173	106.5%
Total	8,184,615,742	8,124,301,872	99.3%

Ameren Missouri - Small Primary Service Updated Test Year Sales (kWh) - Revenue Month			
Month	Actual	Normal	Ratio
2	297,825,183	297,688,123	100.0%
3	275,780,910	275,578,275	99.9%
4	273,433,501	272,632,521	99.7%
5	304,245,771	302,753,947	99.5%
6	320,453,711	314,890,360	98.3%
7	336,386,565	324,865,219	96.6%
8	353,230,426	338,011,211	95.7%
9	355,784,727	348,233,115	97.9%
10	298,968,027	300,279,900	100.4%
11	277,237,740	275,650,149	99.4%
12	288,224,875	288,706,543	100.2%
1	304,961,923	308,622,859	101.2%
Total	3,686,533,359	3,647,912,222	99.0%

Ameren Missouri - Large Primary Service Updated Test Year Sales (kWh) - Revenue Month			
Month	Actual	Normal	Ratio
2	275,721,397	276,473,454	100.3%
3	270,852,633	269,801,699	99.6%
4	321,365,937	319,845,506	99.5%
5	298,464,920	296,228,281	99.3%
6	339,330,297	336,352,441	99.1%
7	347,904,912	340,995,060	98.0%
8	352,165,433	342,194,985	97.2%
9	376,752,043	371,292,812	98.6%
10	327,247,832	329,306,419	100.6%
11	307,257,946	305,553,854	99.4%
12	309,530,619	307,944,783	99.5%
1	297,321,806	296,994,102	99.9%
Total	3,823,915,775	3,792,983,397	99.2%

Updated Test Year Savings from DSM Programs (kWh)					
Year	Month	Rate Class	Annualized	Actual	Adjustment
2011	2	RES	12,681,483	5,810,617	(6,870,866)
2011	3	RES	12,249,835	6,975,834	(5,274,001)
2011	4	RES	11,015,603	7,392,750	(3,622,853)
2011	5	RES	10,459,177	7,949,904	(2,509,273)
2011	6	RES	9,719,146	8,060,991	(1,658,155)
2011	7	RES	9,974,262	8,731,744	(1,242,518)
2011	8	RES	10,416,079	9,562,669	(853,410)
2011	9	RES	10,306,769	9,911,328	(395,442)
2011	10	RES	11,415,571	11,269,820	(145,751)
2011	11	RES	12,598,501	12,501,788	(96,713)
2011	12	RES	13,718,130	13,630,867	(87,262)
2012	1	RES	14,375,637	14,336,612	(39,024)
2011	2	SGS	1,215,902	347,511	(868,391)
2011	3	SGS	1,352,526	497,686	(854,839)
2011	4	SGS	1,308,844	631,173	(677,671)
2011	5	SGS	1,375,847	753,706	(622,141)
2011	6	SGS	1,309,617	759,927	(549,690)
2011	7	SGS	1,366,599	858,478	(508,121)
2011	8	SGS	1,395,281	963,836	(431,445)
2011	9	SGS	1,310,201	1,285,058	(25,143)
2011	10	SGS	1,375,823	1,358,568	(17,255)
2011	11	SGS	1,315,682	1,305,152	(10,530)
2011	12	SGS	1,364,106	1,363,067	(1,039)
2012	1	SGS	1,343,594	1,343,594	-
2011	2	LGS	8,054,427	1,148,913	(6,905,513)
2011	3	LGS	9,175,456	1,763,268	(7,412,188)
2011	4	LGS	8,845,265	2,099,985	(6,745,281)
2011	5	LGS	10,298,783	2,612,060	(7,686,723)
2011	6	LGS	10,573,502	3,183,016	(7,390,486)
2011	7	LGS	11,435,186	3,929,534	(7,505,652)
2011	8	LGS	12,703,039	6,495,386	(6,207,653)
2011	9	LGS	10,282,806	7,789,011	(2,493,795)
2011	10	LGS	9,772,729	7,567,701	(2,205,029)
2011	11	LGS	8,716,221	7,527,578	(1,188,643)
2011	12	LGS	9,036,164	9,031,383	(4,780)
2012	1	LGS	8,900,330	8,900,330	-
2011	2	SPS	4,229,826	791,528	(3,438,298)
2011	3	SPS	4,780,504	1,015,665	(3,764,839)
2011	4	SPS	4,614,469	1,234,505	(3,379,964)
2011	5	SPS	5,199,759	1,539,761	(3,659,998)
2011	6	SPS	5,222,739	1,742,131	(3,480,608)
2011	7	SPS	5,589,705	2,018,013	(3,571,692)
2011	8	SPS	6,064,947	2,695,777	(3,369,170)
2011	9	SPS	5,121,752	3,096,203	(2,025,549)
2011	10	SPS	5,015,890	3,174,326	(1,841,564)
2011	11	SPS	4,577,498	3,387,384	(1,190,113)
2011	12	SPS	4,745,274	4,745,274	-
2012	1	SPS	4,674,073	4,674,073	-
2011	2	LPS	2,515,778	140,488	(2,375,290)
2011	3	LPS	2,923,038	251,945	(2,671,093)
2011	4	LPS	2,809,087	387,928	(2,421,160)
2011	5	LPS	3,530,076	597,308	(2,932,769)
2011	6	LPS	3,804,115	1,509,332	(2,294,783)
2011	7	LPS	4,201,312	2,550,811	(1,650,501)
2011	8	LPS	4,882,384	3,338,900	(1,543,483)
2011	9	LPS	3,635,420	2,326,828	(1,308,592)
2011	10	LPS	3,226,684	1,876,297	(1,350,387)
2011	11	LPS	2,722,610	1,841,418	(881,192)
2011	12	LPS	2,822,347	2,822,347	-
2012	1	LPS	2,780,006	2,780,006	-

Entergy Services, Inc.
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Suzanne K. McBride
Senior Counsel
Federal Regulation and Policy

July 6, 2012

VIA ELECTRONIC FILING

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Compliance Refund Report - Docket No. ER07-956-

Dear Ms. Bose:

Entergy Services, Inc. ("ESI"), on behalf of the Entergy Operating Companies,[1] hereby tenders this report of refunds pursuant to the Federal Energy Regulatory Commission's ("Commission") Opinion No. 505-A, *Entergy Services, Inc.*, 139 FERC ¶ 61,103 (2012) ("Opinion No. 505-A").

This refund obligation is associated with EAI's allocation of bandwidth payments under a 1999 agreement between EAI and Union Electric Company.[2] In Opinion No. 505-A, the Commission found that the 1999 Agreement does not allow EAI to collect an allocated portion of its bandwidth payments from Union Electric Company and directs refunds to Union Electric within 30 days of the issuance of the order. Pursuant to the Commission's direction, ESI issued a refund to Union Electric Company (d/b/a/ AmerenUE) of $30,649,009.88 on June 6, 2012. Attachment 1 shows the calculation of this refund amount. As shown on the attachment, ESI has calculated and refunded the amounts collected for the calendar years 2007, 2008 and 2009, including interest.

If you have any questions or need additional information, please contact me.

[1] The Entergy Operating Companies are Entergy Arkansas, Inc. ("EAI"), Entergy Gulf States Louisiana, L.L.C. ("EGSL"), Entergy Louisiana, LLC ("ELL"), Entergy Mississippi, Inc. ("EMI"), Entergy Texas, Inc. ("ETI"), and Entergy New Orleans, Inc. ("ENO").

[2] This agreement expired in 2009.

Sincerely,

/s/ Suzanne K. McBride

Suzanne K. McBride
Attorney for Entergy Services, Inc.

Enclosures

cc: Service List

Attachment 1

Entergy Arkansas, Inc.
Refund Report - June 6, 2012 Refund to Ameren UE
in Compliance with May 7, 2012 FERC Order in Docket ER07-956

Billing Month	FERC Annual Interest Rate	Monthly Interest Rate	Monthly Interest	Principal	Total Interest Balance (quarterly compounding)	Total Refund
Jun-07	8.25%	0.0069	-		-	-
Jul-07	8.25%	0.0069	12,843.78	$1,868,186.40	1,868,186.40	1,881,030.18
Aug-07	8.25%	0.0069	25,345.02	$1,818,361.32	3,686,547.73	3,724,736.52
Sep-07	8.25%	0.0069	36,262.61	$1,549,824.35	5,274,560.87	5,310,823.48
Oct-07	8.25%	0.0069	45,179.66	$1,297,025.84	6,571,586.71	6,653,028.98
Nov-07	8.25%	0.0069	56,674.61	$1,671,992.80	8,243,579.52	8,381,696.39
Dec-07	8.25%	0.0069	72,532.73	$2,168,518.54	10,550,214.93	10,622,747.66
Jan-08	7.76%	0.0065	82,693.09	$2,237,376.50	12,787,591.43	12,942,817.25
Feb-08	7.76%	0.0065	82,693.09	-	12,787,591.43	13,025,510.34
Mar-08	7.76%	0.0065	84,231.63	-	13,025,510.34	13,109,741.98
Apr-08	6.77%	0.0056	73,485.59	-	13,025,510.34	13,183,227.56
May-08	6.77%	0.0056	73,485.59	-	13,025,510.34	13,256,713.15
Jun-08	6.77%	0.0056	74,789.96	-	13,256,713.15	13,331,503.11
Jul-08	5.30%	0.0044	66,275.00	$1,748,946.65	15,005,659.80	15,146,724.76
Aug-08	5.30%	0.0044	73,043.26	$1,532,435.79	16,538,095.59	16,752,203.80
Sep-08	5.30%	0.0044	80,652.45	$1,508,727.70	18,260,931.50	18,341,583.95
Oct-08	5.00%	0.0042	82,746.72	$1,598,281.42	19,859,212.92	20,022,612.09
Nov-08	5.00%	0.0042	90,208.47	$1,790,819.54	21,650,032.46	21,903,640.09
Dec-08	5.00%	0.0042	98,987.44	$1,853,345.13	23,756,985.22	23,855,972.66
Jan-09	4.52%	0.0038	95,460.53	$1,586,518.16	25,343,503.39	25,537,951.35
Feb-09	4.52%	0.0038	95,460.53	-	25,343,503.39	25,633,411.88
Mar-09	4.52%	0.0038	96,552.52	-	25,633,411.88	25,729,964.40
Apr-09	3.37%	0.0028	71,987.17	-	25,633,411.88	25,801,951.57
May-09	3.37%	0.0028	71,987.17	-	25,633,411.88	25,873,938.73
Jun-09	3.37%	0.0028	72,662.64	-	25,873,938.73	25,946,601.38
Jul-09	3.25%	0.0027	72,717.53	$975,611.34	26,849,550.08	26,994,930.25
Aug-09	3.25%	0.0027	74,072.95	$500,460.53	27,350,010.60	27,569,463.72
Sep-09	3.25%	0.0027	75,733.10	$393,525.34	27,962,989.06	28,038,722.16
Oct-09	3.25%	0.0027	75,733.10	-	27,962,989.06	28,114,455.25
Nov-09	3.25%	0.0027	75,733.10	-	27,962,989.06	28,190,188.35
Dec-09	3.25%	0.0027	76,348.43	-	28,190,188.35	28,266,536.77
Jan-10	3.25%	0.0027	76,348.43	-	28,190,188.35	28,342,885.20
Feb-10	3.25%	0.0027	76,348.43	-	28,190,188.35	28,419,233.63
Mar-10	3.25%	0.0027	76,968.76	-	28,419,233.63	28,496,202.39
Apr-10	3.25%	0.0027	76,968.76	-	28,419,233.63	28,573,171.14
May-10	3.25%	0.0027	76,968.76	-	28,419,233.63	28,650,139.90
Jun-10	3.25%	0.0027	77,594.13	-	28,650,139.90	28,727,734.03
Jul-10	3.25%	0.0027	77,594.13	-	28,650,139.90	28,805,328.16
Aug-10	3.25%	0.0027	77,594.13	-	28,650,139.90	28,882,922.29
Sep-10	3.25%	0.0027	78,224.58	-	28,882,922.29	28,961,146.87
Oct-10	3.25%	0.0027	78,224.58	-	28,882,922.29	29,039,371.45
Nov-10	3.25%	0.0027	78,224.58	-	28,882,922.29	29,117,596.03
Dec-10	3.25%	0.0027	78,860.16	-	29,117,596.03	29,196,456.19
Jan-11	3.25%	0.0027	78,860.16	-	29,117,596.03	29,275,316.34
Feb-11	3.25%	0.0027	78,860.16	-	29,117,596.03	29,354,176.50
Mar-11	3.25%	0.0027	79,500.89	-	29,354,176.50	29,433,677.39
Apr-11	3.25%	0.0027	79,500.89	-	29,354,176.50	29,513,178.29
May-11	3.25%	0.0027	79,500.89	-	29,354,176.50	29,592,679.18
Jun-11	3.25%	0.0027	80,146.84	-	29,592,679.18	29,672,826.02
Jul-11	3.25%	0.0027	80,146.84	-	29,592,679.18	29,752,972.86
Aug-11	3.25%	0.0027	80,146.84	-	29,592,679.18	29,833,119.70
Sep-11	3.25%	0.0027	80,798.03	-	29,833,119.70	29,913,917.73
Oct-11	3.25%	0.0027	80,798.03	-	29,833,119.70	29,994,715.77
Nov-11	3.25%	0.0027	80,798.03	-	29,833,119.70	30,075,513.80
Dec-11	3.25%	0.0027	81,454.52	-	30,075,513.80	30,156,968.32
Jan-12	3.25%	0.0027	81,454.52	-	30,075,513.80	30,238,422.83
Feb-12	3.25%	0.0027	81,454.52	-	30,075,513.80	30,319,877.35
Mar-12	3.25%	0.0027	82,116.33	-	30,319,877.35	30,401,993.68
Apr-12	3.25%	0.0027	82,116.33	-	30,319,877.35	30,484,110.02
May-12	3.25%	0.0027	82,116.33	-	30,319,877.35	30,566,226.35
Jun-12	3.25%	0.0027	82,783.53	-	30,566,226.35	**30,649,009.88**
Total			4,549,052.52	26,099,957.36		