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Issues: Weather Normalization
Witness: Richard A. Voytas
Sponsoring Party: Union Electric Company
Type of Exhibit: Direct Testimony
Case No.: ER-2007-0002
Date Testimony Prepared: July 3, 2006

MISSOURI PUBLIC SERVICE COMMISSION

Case No. ER-2007-0002

DIRECT TESTIMONY

OF

RICHARD A. VOYTAS

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
July, 2006

AmerenUE Exhibit No. 58
Case No(s). ER-2007-0002
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DIRECT TESTIMONY

OF

RICHARD A. VOYTAS

CASE NO. ER-2007-0002

I. <u>INTRODUCTION</u>

Q. Please state your name and business address.

A. My name is Richard A. Voytas. My business address is 1901 Chouteau Avenue, St. Louis, Missouri 63103.

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

A. I am employed by Ameren Services Company ("Ameren Services") as Manager of the Corporate Analysis section in the Corporate Planning Department.

Q. Please describe your educational background and work experience.

A. I earned a Bachelor of Science degree in Mechanical Engineering from the University of Missouri-Rolla in 1975 and a Masters In Business Administration from St. Louis University in 1979. I am a registered professional engineer in the State of Missouri. I serve as the Ameren representative on the United States Demand Response Coordinating Committee, the Association of Edison Electric Illuminating Companies, Load Research Committee, and the National Electric Reliability Council Resource Issues Subcommittee.

I was employed full time by Union Electric Company ("Union Electric") beginning in May of 1975. Effective with the merger of Union Electric Company and Central Illinois Public Service Company into Ameren Corporation ("Ameren"), I assumed employment with Ameren Services. My work experience started at Union Electric as an

Assistant Engineer in the Engineering and Construction function. I worked as an Assistant Engineer from 1975 to 1977. In 1977 I was promoted to Fuel Buyer in the Supply Services Function. In 1981 I transferred to the Engineering Department at Union Electric's Rush Island Plant. In 1982 I accepted a position in the coal marketing department at Cities Service Company in Tulsa, Oklahoma. In late 1982 I left Cities Service Company and returned to Union Electric as an Engineer in the Corporate Planning Department. From 1982 through 1992 I worked as an Engineer in the Corporate Planning Department, Engineer in the Quality Improvement Department and Engineer in the Rate Engineering Department. In 1993 I was promoted to Senior Engineer in the Corporate Planning Department. In 1995 I was promoted to Supervising Engineer in the Demand-Side Management section of Corporate Planning. In July 1998 the Resource Planning, Forecasting, Load Research and Demand-Side Management sections were combined into one section of Corporate Planning and I was named Supervisor of that section known as the Corporate Analysis Department. Today, Corporate Analysis is divided into three subgroups, which are Resource Planning, Regulatory Compliance – Economic Assessment, and Load Analysis. In October 2001 I was promoted to my present position as Manager of Corporate Analysis.

My duties as Manager of Corporate Analysis include overseeing the preparation of the Ameren capacity position both on an annual and weekly basis, preparation of resource plans, development and evaluation of requests and proposals for capacity and energy for Ameren operating companies, preparation of the annual customer, revenue, sales and peak demand forecasts for all commodities for all Ameren operating companies, evaluation of the impact of weather on both sales and peak demand, development of the Ameren forward view of electric energy market prices, the collection, editing, analysis and reporting of monthly load research data, and economic impact assessments of various regulatory compliance options for Ameren.

I have submitted testimony concerning resource planning analyses and/or weather normalization of sales before the Missouri Public Service Commission, the Illinois Commerce Commission, and the Federal Energy Regulatory Commission.

II. OVERVIEW

Q. What is the purpose of your testimony?

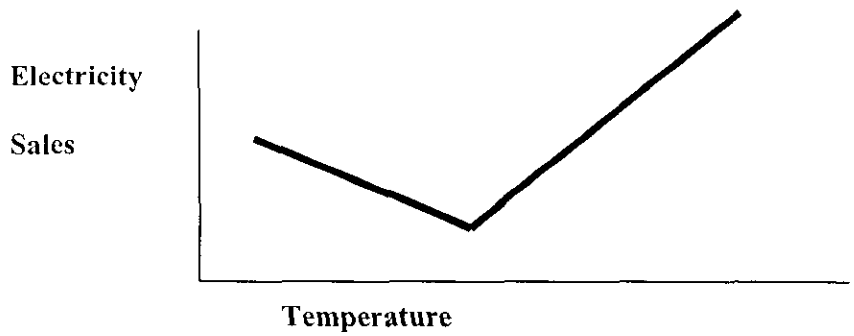
A. The purpose of my testimony is to describe the methodology used by Union Electric Company d/b/a AmerenUE ("AmerenUE" or "the Company") to estimate the impact of weather on sales for the test year. I will also sponsor the schedules showing the monthly weather normalized sales. An Executive Summary of my testimony is included as Attachment A.

Q. Which departments within AmerenUE use the weather normalized sales data in determining the AmerenUE cost of service?

A. The Rate Department uses weather normalized sales to normalize both billing determinants and revenues. The Operations Analysis Department uses monthly weather normalized sales to estimate normalized production costs. Regulatory Accounting uses the normalized kWh sales adjusted for losses back to the generator to calculate the variable allocation factor.

Q. Why is it necessary for the Commission to adopt a weather normalization adjustment to AmerenUE's test year sales in this case?

A. Electricity use in the Company's service area is very sensitive to weather conditions. During the summer months, the hotter the weather, the greater the sales of electricity. This is due primarily to the widespread use of air conditioning by the Company's customers. In the winter, colder weather causes greater sales of electricity due to customers' use of electric space heating and electric blowers in conjunction with gas space heating. In graphical form, the relationship between temperature and electricity sales can be expressed as follows:



Because electricity sales are directly related to temperature, in establishing rates for an electric utility it is necessary for the Commission to make an adjustment to account for any abnormal weather experienced during the test year being used for the case. In other words, the Commission must adjust test year sales of electricity to reflect the sales that the Company would have experienced if normal weather had prevailed. In this case, the weather normalization adjustment is expected to be a reduction to test year sales. The issue is the magnitude of the weather's impact on sales during the test year and the methodology used to calculate the magnitude of the weather adjustment.

Q. Describe how your testimony is organized.

A. My testimony is organized in the following four sections:

- Source of historical temperature data necessary to calculate normal temperatures
- Methodology used to calculate normal weather

- Modeling parameters for monthly calendar and billed sales
- Results – Impact of weather on test year sales

Q. Why is it necessary to discuss the source of historical temperature data?

A. Temperature data is the number one driver variable used to estimate the impact of weather on sales. In a prior case, the Missouri Public Service Commission Staff ("Staff") and AmerenUE agreed to make three critical adjustments to the National Weather Service 30-year historical temperature dataset used to calculate normal weather. It is necessary to explain the reasons for the adjustments, as well as the analysis techniques used to determine the magnitude and timing of the adjustments, and the application of the adjustments to the 2005 test year analysis.

Q. Why is it necessary to discuss the methodology used to calculate normal weather?

A. There are multiple methodologies that can be used to calculate normal weather. The magnitude of the impact of weather on sales is different depending on the methodology used to calculate normal weather. The methodology issue has been a significant concern in prior cost of service studies. However, in this case, AmerenUE generally used Staff's preferred methodology.

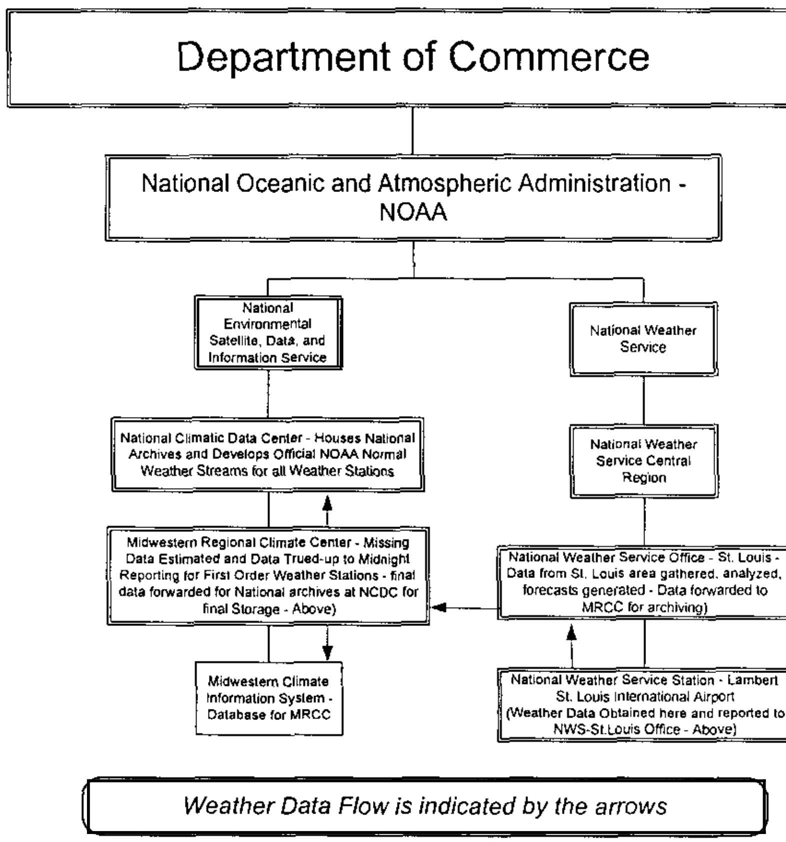
III. <u>SOURCE OF HISTORICAL TEMPERATURE DATA TO CALCULATE NORMAL TEMPERATURES</u>

Q. What is the source for daily temperature data that constitutes "normal weather"?

A. AmerenUE uses historical temperatures from the National Weather Service ("NWS") and reported by the Midwestern Regional Climate Center ("MRCC").

Q. What is the MRCC?

A. The MRCC is a part of the National Oceanic and Atmospheric Administration ("NOAA") organization which is within the United States Department of Commerce. The MRCC's mission is to gather and report climate data for a nine state region in the Midwest. The following flowchart shows the relationship between the MRCC, NWS and NOAA.



Q. What NWS weather station is used by AmerenUE as the source for temperature data?

A. AmerenUE makes use of temperature data from the NWS station located at the St. Louis International Airport ("Lambert Field"), and subsequently processed by the MRCC and stored within the MRCC's Midwest Climate Information System ("MICIS").

Q. What is the nature of the original temperature data used from this site to calculate Normal Weather?

A. The data obtained from this site consists of Daily Low, High, and Average Temperatures beginning January 1, 1971 and ending December 31, 2000. The Daily Average Temperature is the result of the calculation of an arithmetical average of the low and high temperature for the day. The data for this site, as reported within MICIS, has been checked to fill in missing values and to align the data in a fashion consistent with that of a midnight reporting station.

Q. What is a midnight reporting station?

A. Observers at temperature recording stations often take one observation per day, and the ending time of the climatological day can vary from station-to-station as well as year-to-year. Differences in the 24-hour period over which each observer records his or her maximum and minimum temperature can affect the average daily temperature [(max + min)/2] and the calculated monthly mean temperature. The NWS has developed models to adjust the climate division averages such that all stations end their climatological day at midnight in order to mitigate the potential bias caused by taking temperature readings at various times during the day.

Q. Are there issues with the MICIS data which need to be addressed before it can be used in the Weather Normalization process?

A. There are issues associated with periodic updates to weather recording instrumentation, relocation of weather recording instrumentation, and changes in the environment surrounding the equipment that can cause discontinuities in the temperature data produced at that station.

Q. What is a "temperature data discontinuity"?

A. A "temperature data discontinuity" is a departure in the temperature value being reported from a site due to an unnatural change in the site. Examples of occurrences which can cause temperature data discontinuities include: change in temperature recording instrumentation, change in temperature recording instrumentation location, change in personnel recording temperature and change in the time of day that temperatures are recorded.

Q. Why are temperature data discontinuities relevant to the calculation of normal temperature for purposes of weather normalizing AmerenUE's sales in a test year?

A. Normal temperatures are calculated for the 30-year period 1971 through 2000. All temperatures recorded in the 30-year normal period, as well as for the test year, must be on the same basis – otherwise temperature bias will occur. The resulting bias will skew the quantification of the impact of weather on sales during the test year.

Q. What can be done to resolve these discontinuities in the historical temperature data?

A. A mathematical technique developed by climatologists, referred to by the term "double mass analysis," was used by Staff and AmerenUE in Case No. EM-96-149. This method is used to detect if a bias existed at a temperature recording station by comparing differences in temperature readings from two or more different temperature recording locations within close geographic proximity to each other. Typically, multiple comparisons are made, ideally using five or more neighboring weather stations. If there is a change in the difference between the temperature readings at these locations, it is likely that a change occurred at one or both of the temperature recording stations. The analysis will show both the date when the change occurred and the magnitude of the daily temperature change.

Q. Discuss the changes that Staff and AmerenUE identified as having occurred within the historical temperature data for Lambert Field.

A. 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 through 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°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°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°F lower than what was previously reported.

Q. Is it necessary to have annual daily temperature information in the calculation of normal weather?

A. It depends upon the weather normalization methodology used. Discussion of weather normalization methodologies is in the next section of my testimony. In Staff's preferred method of calculating normal weather, using what is commonly referred to as a "ranked average" approach, it is necessary to have daily temperature data for each year of the 30-year normal weather period.

IV. METHODOLOGY TO CALCULATE NORMAL WEATHER

Q. For purposes of weather normalizing sales, what weather measure was used?

A. The weather measure used is a Two Day Weighted Mean Daily Temperature ("TDMT"). This weather measure is calculated by applying a 2/3 weight to the current day's average temperature and a 1/3 weight to the previous day's average temperature and summing these weighted temperatures. The sum is used as the current day's weather measure. This TDMT captures the cumulative effect of weather on customer energy usage. A TDMT is also calculated for each of the days within the 30 year period (1971-2000).

Q. How many ways are there to calculate normal weather?

A. There are at least two. The NWS defines a climate normal as the arithmetic mean of a climatological element computed over three consecutive decades. Taking the arithmetic mean of temperatures prevailing over three decades is one method of calculating normal weather. Another method is called a TDMT ranked average. In this method, the daily TDMT values are ranked from high to low within each month of the thirty years of TDMT history. An average is calculated for the highest monthly values to the lowest monthly values across the 30 years of data, resulting in a single set of average TDMT values that represent a normal year of TDMT data. Next, the test year TDMT values are sorted from highest to lowest within each month, maintaining a history of the original calendar order and the day of the week that each actual TDMT value represented. Then, each actual TDMT value within the sorted list is replaced by the corresponding normal monthly TDMT value. Next, the maximum TDMT values within this list are assigned to hottest weekday within the month and the minimum TDMT values are assigned to the coolest weekday within the month. The rest of the values remain ranked without regard to the day type. Finally, these TDMT values within this list are sorted by the preserved calendar order. The net result of this process is that the Normal TDMT values appear within a series that corresponds closely to the Actual TDMT values, mirroring the daily temperature fluctuation pattern that existed within the test year, with the exception that the highest and lowest TDMT values (peak making weather) are always assigned to a weekday.

Q. What method did AmerenUE use for calculating the impact of weather on the test year?

A. AmerenUE used the TDMT ranked average method.

Q. Why was that method chosen?

A. AmerenUE recognizes that the method of calculating normal weather will impact the magnitude of the weather adjustment for the test year. The ranked average approach to calculating normal weather is an attempt to match the hottest daily normal temperatures with the hottest actual daily test year temperatures. In so doing, the integrity of the load versus temperature relationships is maintained and the corresponding impact of temperature on electric sales is theoretically correct.

Q. What corrective measures were taken to resolve the temperature data discontinuities identified by the Staff and AmerenUE in Case No. EM-96-149?

A. The actual daily temperature data reported by the NWS was adjusted at each of the points in time when the discontinuities were identified to bring the historical weather data into alignment with the temperature being reported at Lambert at the end of calendar year 2000. The mechanics followed were to adjust the 1971-2000 historical daily temperatures by working backwards so that they are on the same basis as temperatures recorded during the test year. The process was to:

1. Subtract 1.69°F from each average daily temperature from May 15, 1996 through February 1, 1988 since daily temperatures recorded after May 1, 1996 were 1.69°F warmer than those before May 1, 1996. Doing this puts temperatures recorded before and after May 1, 1996 on the same basis.

2. To further account for the temperature data discontinuity that occurred on February 1, 1988 subtract 0.45°F from the 1.69°F discussed above which nets to a subtraction of 1.24°F from each average daily temperature from January 31, 1988 through January 11, 1978 for the same reasons discussed in (1).

3. To further account for the temperature data discontinuity that occurred on January 11, 1978 subtract 0.3°F from the 1.24°F discussed above which nets to a subtraction of 0.94°F from each average daily temperature from January 10, 1978 through January 1, 1971.

V. MODELING OF MONTHLY CALENDAR AND BILLED SALES

Q. What tool did you use to model customer energy usage as a function of the TDMT weather variable for the test year?

A. We used the Hourly Electric Load Model ("HELM"), Version 2.6.

Q. Briefly describe how the use of the HELM model is compatible with Staff's preferred approach to weather normalize daily loads.

A. The HELM model mimics Staff's preferred approach for modeling customer energy usage (load) as a function of the TDMT weather variable, the day of the week, and the season within the year. In addition, HELM recognizes the non-linear relationship between load and temperature in the development of weather response functions.

Q. What are the inputs into the HELM model that were used to develop the Weather Response Functions?

A. Primary inputs are calendar and holiday data, actual TDMT data, and hourly load research data by rate class.

Q. How are these HELM inputs used to generate the Weather Response Functions?

A. HELM combines the hourly data into daily usage data by rate class during the analysis process. The daily load for each rate class is modeled as a non-linear function of independent variables which are known to have an impact on energy usage. These independent variables include the daily TDMT values, seasonal calendar data, and day type (i.e. weekend, weekday, holiday, etc.) data. The response of load to daily TDMT values is considered to be non-linear because, for example, a change in daily TDMT value of 1 degree from 60 to 61 degrees Fahrenheit does not have the same impact on load as a change from 85 to 86 degrees. The final relationships developed by HELM, which are called Weather Response Functions ("WRF") define how load varies with temperature for each rate class.

Q. How are Billing Month Actual and Weather Normalized Sales calculated?

A. Perhaps the most important information used within this process is the bill cycle data. AmerenUE reads meters and calculates monthly billed sales data. AmerenUE inputs this data into the HELM model to estimate calendar month sales and unbilled sales. Bill cycle data depicts the energy sales distribution for a billing month for each rate class. For this analysis, AmerenUE went the extra step to analyze each and every one of AmerenUE's more than one million customers' bills to insure an accurate billing cycle representation. In so doing, AmerenUE attempted to identify billing errors, bill cancellations and rebills in order to have as accurate a bill cycle representation as possible. Accurate bill cycle data enables AmerenUE to accurately estimate daily sales which ultimately leads to the most accurate calculation of the impact of weather on daily sales.

Q. What is the final step in the process of estimating monthly weather normalized sales?

A. The sales produced by the weather response functions were trued-up using the output of the Company's monthly unbilled analysis. In order to properly book revenues in the month when the sales occurred, AmerenUE routinely estimates unbilled revenue (i.e. usage by customers that has not been billed due to meter reading cycles that are not perfectly aligned with calendar months). In this process, AmerenUE uses net system output (all energy generated, plus interchange purchases, less interchange sales) to determine the total volume of energy used by customers. This allows for all of the energy produced and purchased by AmerenUE to be accounted for. In this last phase of the weather normalization process, the output of the weather response functions was subjected to a similar true-up, to ensure that all energy AmerenUE provided to customers was accounted for in the analysis.

VI. RESULTS

Q. Directionally speaking, what type of weather adjustments should AmerenUE expect for the test year ending June 30, 2006?

A. Although neither heating degree days ("HDD") nor cooling degree days ("CDD") are inputs into the weather normalization process followed by AmerenUE and Staff, they are generally accepted measures of how temperatures in a given month deviate from normal. HDD and CDD are defined as any deviation in the daily average temperature ((max + min)/2) from 65 degrees (generally considered a comfortable temperature that requires no air conditioning or space heating). Daily average temperatures above 65 degrees produce CDDs (i.e. daily average temperature of 80 degrees – 65 degree CDD base = 15 CDD). Likewise, daily average temperatures below 65 result in HDDs (i.e. 65 degree HDD base – daily average temperature of 50 degrees = 15 HDD). At the time this testimony was written, April through June 2006 weather information was not available. Excluding these months, aggregate CDD were approximately 27.6% above normal and aggregate HDD were approximately 14.6% below normal.

Q. Again, directionally speaking, what is the projected impact of weather on AmerenUE sales for the test year?

A. Since HDD in aggregate were below normal, we would expect that a positive adjustment would be made to actual winter month sales to adjust for the warmer than normal winter months. Conversely, since CDD in aggregate were above normal, we would expect that a negative adjustment would be made to actual summer month sales to adjust for the warmer than normal summer months. Overall, since AmerenUE summer sales exceed winter sales we would expect a net negative adjustment to actual sales for the test year.

Q. Were the results of your actual analysis in line with your expectations?

A. Yes. Results for every month of the test year for every rate class are summarized in Schedule RAV-1.

Q. Does this conclude your testimony?

A. Yes, it does.

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of Union Electric Company d/b/a/ AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area	)))))	Case No. ER-2007-____

AFFIDAVIT OF RICHARD A. VOYTAS

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

Richard A. Voytas, being first duly sworn on his oath, states:

1. My name is Richard A. Voytas. I work in St. Louis, Missouri and I am Manager of the Corporate Analysis section in the Corporate Planning Department.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 16 pages, Attachment A and Schedule RAV-1 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.

Richard A. Voytas
Richard A. Voytas

Subscribed and sworn to before me this 3rd day of July, 2006.

Carolyn J. Shannon
Notary Public

My commission expires: Jan 29, 2008

CAROLYN J. SHANNON
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: Jan. 29, 2008

EXECUTIVE SUMMARY

Richard Voytas

Manager of Corporate Analysis

* * * * * * * * * *

The purpose of my testimony is to describe the methodology used to estimate the impact of weather on sales for the test year. I also sponsor the submission of schedules showing the monthly weather normalized sales for each rate class.

Weather normalized sales are used by the Rate Department to normalize both billing determinants and revenues. The Operations Analysis department uses monthly weather normalized sales to estimate normalized production costs. Regulatory Accounting uses the normalized KWH sales adjusted for losses back to the generator to calculate the variable allocation factor.

Issues in prior rate cases that affected the calculation of the impact of weather on sales included the source of historical temperatures necessary to calculate normal weather and the methodology used to calculate normal weather. We believe that neither of these past issues will be issues in this rate case. The temperature database used to calculate normal weather is exactly the same temperature database, complete with adjustments to account for changes in temperature recording instrumentation and equipment location, as agreed to by Staff and AmerenUE in Case No. EM-96-149. The methodology used to calculate normal weather is the Staff's stated preferred rank and average methodology.

Directionally speaking, we show that for the test year ending June 30, 2006, summer weather was approximately 30% higher than normal which would appear to indicate a negative adjustment to actual sales to account for the impact of weather. Winter weather, on the other hand, was approximately 15% below normal which would appear to indicate a positive adjustment to actual sales to account for the impact of weather. However, since summer sales are greater than winter sales the expectation is for an overall negative adjustment to sales, which is consistent with the results of my analysis.

Ameren UE Test Year Billed Residential Sales

Month	Billed Actual Sales (000 MWhs)	Billed Weather Normalized Sales (000 MWhs)	Adjustment (000 MWhs)	% Adjustment
July 2005	1,458.3	1,302.8	(155.5)	-10.7%
August 2005	1,492.4	1,365.6	(126.8)	-8.5%
September 2005	1,367.5	1,181.7	(185.8)	-13.6%
October 2005	980.5	843.2	(137.3)	-14.0%
November 2005	821.1	839.4	18.3	2.2%
December 2005	1,182.5	1,213.0	30.5	2.6%
January 2006	1,324.3	1,399.5	75.1	5.7%
February 2006	1,132.3	1,238.0	105.7	9.3%
March 2006	1,030.7	1,087.7	57.0	5.5%
April 2006		901.1		
May 2006		782.5		
June 2006		914.7		
Total (July '05 - March '06)	10,789.5	10,470.8	(318.7)	-3.0%

*April-June 2006 Actual Billed Sales to be updated when they become available

Ameren UE Test Year Billed Small General Service Sales

Month	Billed Actual Sales (000 MWhs)	Billed Weather Normalized Sales (000 MWhs)	Adjustment (000 MWhs)	% Adjustment
July 2005	360.8	339.9	(20.9)	-5.8%
August 2005	362.0	346.5	(15.6)	-4.3%
September 2005	352.2	326.8	(25.3)	-7.2%
October 2005	295.5	274.2	(21.3)	-7.2%
November 2005	259.3	258.5	(0.7)	-0.3%
December 2005	308.3	311.0	2.7	0.9%
January 2006	326.8	342.1	15.3	4.7%
February 2006	291.2	314.5	23.3	8.0%
March 2006	276.5	284.5	8.0	2.9%
April 2006		260.1		
May 2006		252.0		
June 2006		288.2		
Total (July '05 - March '06)	2,832.5	2,798.0	(34.6)	-1.2%

*April-June 2006 Actual Billed Sales to be updated when they become available

Ameren UE Test Year Billed Large General Service Sales

Month	Billed Actual Sales (000 MWhs)	Billed Weather Normalized Sales (000 MWhs)	Adjustment (000 MWhs)	% Adjustment
July 2005	770.2	743.2	(27.0)	-3.5%
August 2005	766.7	746.4	(20.2)	-2.6%
September 2005	756.8	724.1	(32.7)	-4.3%
October 2005	672.7	646.0	(26.7)	-4.0%
November 2005	606.1	604.1	(2.0)	-0.3%
December 2005	673.3	675.9	2.7	0.4%
January 2006	693.8	716.2	22.5	3.2%
February 2006	614.7	651.6	37.0	6.0%
March 2006	587.5	599.9	12.5	2.1%
April 2006		601.1		
May 2006		590.6		
June 2006		661.5		
Total (July '05 - March '06)	6,141.6	6,107.6	(34.0)	-0.6%

*April-June 2006 Actual Billed Sales to be updated when they become available

Ameren UE Test Year Billed Small Primary Service Sales

Month	Billed Actual Sales (000 MWhs)	Billed Weather Normalized Sales (000 MWhs)	Adjustment (000 MWhs)	% Adjustment
July 2005	378.5	371.1	(7.4)	-2.0%
August 2005	376.9	371.6	(5.4)	-1.4%
September 2005	388.9	379.4	(9.5)	-2.5%
October 2005	355.2	345.4	(9.8)	-2.8%
November 2005	314.3	312.0	(2.4)	-0.8%
December 2005	320.2	319.2	(1.1)	-0.3%
January 2006	345.1	347.4	2.3	0.7%
February 2006	310.8	314.9	4.1	1.3%
March 2006	302.4	301.9	(0.5)	-0.2%
April 2006		312.9		
May 2006		318.0		
June 2006		361.1		
Total (July '05 - March '06)	3,092.4	3,062.8	(29.6)	-1.0%

*April-June 2006 Actual Billed Sales to be updated when they become available

Ameren UE Test Year Billed Large Primary Service Sales

Month	Billed Actual Sales (000 MWhs)	Billed Weather Normalized Sales (000 MWhs)	Adjustment (000 MWhs)	% Adjustment
July 2005	365.7	361.1	(4.6)	-1.3%
August 2005	416.9	413.4	(3.5)	-0.8%
September 2005	392.9	386.8	(6.2)	-1.6%
October 2005	399.1	389.8	(9.3)	-2.3%
November 2005	349.5	346.8	(2.7)	-0.8%
December 2005	338.3	334.0	(4.3)	-1.3%
January 2006	353.0	356.0	3.0	0.9%
February 2006	315.5	327.3	11.8	3.7%
March 2006	340.0	340.2	0.3	0.1%
April 2006		331.8		
May 2006		332.7		
June 2006		355.7		
Total (July '05 - March '06)	3,270.9	3,255.4	(15.5)	-0.5%

*April-June 2006 Actual Billed Sales to be updated when they become available

Ameren UE Test Year Billed Noranda Sales

Month	Billed Actual Sales (000 MWhs)	Billed Weather Normalized Sales (000 MWhs)	Adjustment (000 MWhs)	% Adjustment
July 2005	323.6	323.6	(0.0)	0.0%
August 2005	376.5	376.5	0.0	0.0%
September 2005	316.1	316.1	0.0	0.0%
October 2005	334.6	334.6	0.0	0.0%
November 2005	307.2	307.2	0.0	0.0%
December 2005	333.8	333.8	(0.0)	0.0%
January 2006	380.9	380.9	0.0	0.0%
February 2006	314.8	314.8	(0.0)	0.0%
March 2006	348.8	348.8	(0.0)	0.0%
April 2006		357.7		
May 2006		323.6		
June 2006		333.8		
Total (July '05 - March '06)	3,036.2	3,036.2	(0.0)	0.0%

*April-June 2006 Actual Billed Sales to be updated when they become available