

Exhibit No.:  
Issue: Weather Normalization  
Witness: James R. Pozzo  
Type of Exhibit: Direct Testimony  
Sponsoring Party: Union Electric Company  
Case No.:  
Date Testimony Prepared: May 23, 2003

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO. \_\_\_\_\_**

**DIRECT TESTIMONY**

**OF**

**JAMES R. POZZO**

**ON BEHALF OF**

**UNION ELECTRIC COMPANY,  
d/b/a AmerenUE**

**St. Louis, Missouri  
May 2003**

**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 Gas Service  
Provided to Customers in the Company's  
Missouri Service Area.

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Case No. \_\_\_\_\_

**STATE OF MISSOURI**     )

) ss

**CITY OF ST. LOUIS**     )

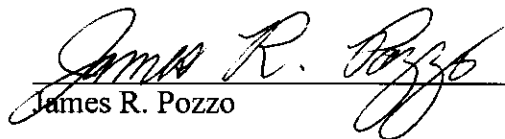
**AFFIDAVIT OF JAMES R. POZZO**

James R. Pozzo, being first duly sworn on his oath, states:


1.     My name is James R. Pozzo. I work in St. Louis, Missouri, and I am employed by Ameren Services Company as a Consulting Engineer, Rate Engineering.

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 6 pages, Appendix A, and Schedules JRP-1 and JRP-2, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

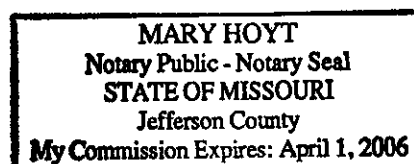
3.     I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

  
\_\_\_\_\_  
James R. Pozzo

Subscribed and sworn to before me this 22<sup>nd</sup> day of May, 2003.

  
\_\_\_\_\_  
Notary Public

My commission expires: 4-1-2006



**DIRECT TESTIMONY**

**OF**

**JAMES R. POZZO**

**CASE NO. \_\_\_\_\_**

**Q. Please state your name and business address.**

A. My name is James R. Pozzo. My business address is One Ameren Plaza,  
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 as a Consulting Engineer in  
the Rate Engineering Department of Corporate Planning. In this capacity I provide  
rate engineering services to Union Electric Company, d/b/a AmerenUE (referred to  
herein as “Company” or “AmerenUE”).

**Q. What is your educational background, work experience and duties of  
your position?**

A. This information is summarized in Appendix A, which is attached to this  
testimony.

**Q. What is the purpose of your testimony?**

A. The purpose of my testimony is to explain the development of the weather  
normalized billing units for the Residential and General Service customer classes of  
AmerenUE.

**Q. How was the weather normalized gas usage developed?**

A. I used regression analysis to determine the statistical relationship of billing  
cycle gas usage and billing cycle heating degree days, and then used such results to

1 estimate the weather normalized gas usage for the Residential and General Service  
2 customer classes of the Company.

3 **Q. Please explain the general concept of regression analysis.**

4 A. Regression analysis is a statistical technique for modeling and  
5 investigating the quantitative relationship between two or more variables. The analysis  
6 provides estimates of the portion of the variation of the dependent variable associated  
7 with variations in the independent variable.

8 **Q. In your regression analysis, what are the independent and dependent**  
9 **variables?**

10 A. The dependent variable is the billing cycle gas usage per customer. Gas  
11 usage is measured in hundreds of cubic feet, abbreviated as "Ccf". The independent  
12 variable is the billing cycle heating degree day temperature measure.

13 **Q. Please explain the difference between billing cycle gas usage and**  
14 **calendar month gas usage.**

15 A. Customer billing cycle usage is the accumulated gas consumed in Ccf  
16 between meter reading dates. For each of the 21 scheduled meter reading cycles of a  
17 specific Company billing month, a portion of the usage within each cycle usually occurs  
18 in the month prior to the month in which the meter is read. For example, meters read in  
19 mid-January will reflect customer gas consumption from mid-December to mid-January.  
20 Calendar usage for January would be the accumulated usage from January 1st to  
21 January 31st, as if all customer meters were simultaneously read at the beginning of  
22 January 1st and at the end of January 31st.

1           **Q.     Please explain the term “heating degree days.”**

2           A.     One heating degree day is accumulated for each whole degree that the  
3     daily mean temperature is below 65° Fahrenheit. For example, five (5) heating degree  
4     days are incurred on a day having a mean temperature of 60° Fahrenheit.

5           **Q.     How did you develop the billing cycle heating degree days?**

6           A.     I calculated billing cycle heating degree days by applying a weighting  
7     factor to the heating degree days associated with each day in each billing month. I  
8     weighted the heating degree days to account for the fact that the Company’s meters are  
9     read at different times throughout the billing cycle month. Finally, I summed the  
10    weighted heating degree days for each billing cycle day to determine heating degree days  
11    associated with each billing cycle month during the test year.

12          **Q.     How did you calculate normal heating degree days?**

13          A.     I obtained historical daily heating degree days from two weather stations  
14    in the areas in which AmerenUE serves gas customers. For the portion of the Company’s  
15    service area supplied by Panhandle Eastern Pipe Line Company, I obtained the data from  
16    the Columbia Regional Airport. For the areas in Southeast Missouri served by Natural  
17    Gas Pipeline Company of America and Texas Eastern Transmission Corporation, I  
18    obtained the data from the Cape Girardeau Regional Airport. I calculated normal daily  
19    heating degree days for each day by developing an average of the historical heating  
20    degree days for the 30 calendar years beginning 1973 and ending in December 2002. I  
21    then used the normal daily heating degree days, along with the billing cycle weighting  
22    factors for the test year meter reading schedules, to calculate the normal heating degree  
23    days for each test year billing month. Panhandle Eastern Pipe Line Company serves the

1 areas in and around Columbia, Jefferson City, Mexico and Wentzville. Natural Gas  
2 Pipeline Company of America and Texas Eastern Transmission Corporation serve the  
3 area in and around Cape Girardeau.

4 **Q. What conclusions can be drawn from your regression analysis?**

5 A. There is a valid statistical relationship between the level of customer gas  
6 usage and heating degree days for the Residential and General Service customer classes.  
7 The  $R^2$  (pronounced R squared) statistic which, by formulation, will range from zero  
8 to 1.0, indicates the degree of correlation between the variables of a regression model.  
9 An  $R^2$  value near zero indicates low or poor correlation, whereas an  $R^2$  value near 1.0  
10 indicates a high or good correlation between the variables being examined. The  $R^2$   
11 values which I calculated for the Residential and General Service classes as a part of this  
12 regression analysis were sufficiently high (close to a value of 1.0) to be considered  
13 statistically significant for these customer classes. Schedule JRP-1 shows the  $R^2$  values  
14 for AmerenUE's Residential and General Service classes and regions.

15 **Q. What adjustments for these customer classes resulted from your**  
16 **weather normalization process?**

17 A. Test year usage for the Residential class was decreased by 334,525 Ccf  
18 (0.5%) and General Service class usage was decreased by 124,572 Ccf (0.3%). Test year  
19 revenue for the Residential class was decreased by \$65,433 (0.3%) and revenue for the  
20 General Service class was decreased by \$21,932 (0.2%) to reflect what the gas usage of  
21 these customer classes would have been in the test year under normal weather conditions.  
22 Schedule JRP-2 shows the actual and normal sales and revenue for various rate classes.

1           **Q. Did you adjust sales and revenue for the Transportation and**  
2           **Interruptible customer classes using the weather normalization process?**

3           A. No, the Transportation and Interruptible customer classes consist of large  
4 non-residential customers whose usage generally does not vary significantly with  
5 weather. For this reason, I decided not to attempt to weather normalize the usage or  
6 revenue for these customer classes.

7           **Q. In what other ways did you use the regression analyses?**

8           A. I used the results of these regression analyses along with the peak heating  
9 degree day data for the test year to estimate the coincident peak day demands for the  
10 Residential and General Service customer classes. Company witness William M.  
11 Warwick will discuss the use of the peak day demand requirements for allocation factor  
12 development in his testimony.

13           **Q. How were the coincident peak day demands of the various other rate**  
14           **classes determined?**

15           A. The coincident demand for the Interruptible class was the assurance level  
16 contracted for by such customers under the Company's Interruptible Service tariff. I  
17 determined the coincident peak for the Transportation customers by summing the  
18 individual customer usage for the maximum heating degree day during the test year for  
19 each region.

20           **Q. How did you determine the non-coincident peak day demands for the**  
21           **various classes?**

22           A. I assumed the non-coincident peak day demands for the Residential,  
23 General Service, Standard Transportation and Large Volume Transportation to be the

Direct Testimony of  
James R. Pozzo

1 same as the peak day demands. I determined the non-coincident peak day demand for the  
2 Interruptible Service class by dividing the maximum monthly use by the number of work  
3 days in the month.

4 **Q. Did you make any other adjustments to the billing data?**

5 A. Yes, I made an adjustment to the December 2002 billing data for the  
6 residential and general service classes to reflect the implementation of window billing.  
7 Window billing caused some customers to receive thirteen (13) bills during the test year.  
8 With window billing, a bill group can be billed in the billing system up to three (3) days  
9 prior to its last bill date. This can result in some bill groups being billed twice in the  
10 same revenue month. This adjustment for window billing is included in the pro forma  
11 adjustment made to book revenues to reflect billing units at current rates in the cost of  
12 service testimony of Company witness Gary S. Weiss.

13 **Q. Does this conclude your direct testimony?**

14 A. Yes, it does.



### **QUALIFICATIONS OF JAMES R. POZZO**

My name is James R. Pozzo and my business address is One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103. I reside in St. Louis County, Missouri.

I am a Consulting Engineer in the Rate Engineering Department of Corporate Planning at Ameren Services Company.

I received the degree of Bachelor of Science in Mechanical Engineering from the University of Missouri - Rolla in December 1978.

I began working at Union Electric Company in January 1979 in the Power Operations Department, working as an Engineer at the Ashley Plant for two (2) years and at the Meramec Plant for five (5) years. During this time I was responsible for operations and maintenance support for assigned plant equipment, along with various other projects as assigned.

I transferred into Union Electric Company's Rate Engineering Department in September 1985 and I assumed my current position with Ameren Services Company upon completion of the merger of CIPSCO Inc. and Union Electric Company effective December 31, 1997.

My duties and responsibilities include assignments related to the gas and electric rates of Union Electric Company, now doing business as AmerenUE, and Central Illinois Public Service Company, now doing business as AmerenCIPS, including participation in regulatory proceedings, rate analysis, the development and interpretation of the gas and electric tariffs, including rules and regulations, and other rate or regulatory projects as assigned.

Union Electric Company  
12 Months Ending December 2002  
R<sup>2</sup> Values

Class	R <sup>2</sup>
Residential Panhandle Area	0.980
Residential Texas Eastern Area	0.980
General Service Panhandle Area	0.971
General Service Texas Eastern Area	0.972

Union Electric Company

Weather Adjustment to Non-Gas Revenue

12 Months Ending December 2002

	Average # Customers	As Billed		Normal		Difference			
		Use	Non-Gas Revenue	Use	Non-Gas Revenue	Use		Non-Gas Revenue	
Residential	99,195	71,458,327	\$24,690,275	71,123,802	\$24,624,842	(334,525)	-0.5%	(\$65,433)	-0.3%
General Service	12,033	37,019,664	\$9,521,102	36,895,092	\$9,499,170	(124,572)	-0.3%	(\$21,932)	-0.2%
Interruptible	13	4,079,283	\$546,384	4,079,283	\$546,384	0		\$0	
Standard Transportation	119	15,042,705	\$2,179,433	15,042,705	\$2,179,433	0		\$0	
Large Volume Transportation	21	34,356,297	\$3,575,046	34,356,297	\$3,575,046	0		\$0	
Special Contracts	6	5,855,709	\$173,651	5,855,709	\$173,651	0		\$0	
Total	111,387	167,811,985	\$40,685,891	167,352,888	\$40,598,526	(459,097)		(\$87,365)	