

Exhibit No.:
Issues: Weather Adjustment
Witness: James R. Pozzo
Type of Exhibit: Direct Testimony
Sponsoring Party: Union Electric Company
d/b/a AmerenUE
Case No.: GR-2000-512

FILED³

APR 03 2000

Missouri Public
Service Commission

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. GR-2000-512

DIRECT TESTIMONY

OF

JAMES R. POZZO

St. Louis, Missouri
April 3, 2000

MISSOURI PUBLIC SERVICE COMMISSION

FILED³

APR 03 2000

STATE OF MISSOURI

Missouri Public
Service Commission

In the Matter of Union Electric Company d/b/a)
AmerenUE for Authority to File Tariffs Increasing) Case No. GR-2000-512
Rates for Gas Service Provided to Customers in the)
Company's Missouri Service Area.)

AFFIDAVIT OF JAMES R. POZZO

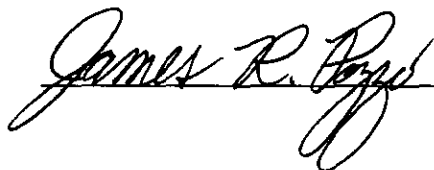
STATE OF MISSOURI)
) SS.
CITY OF ST. LOUIS)

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


1. My name is James R. Pozzo. I work in the City of St. Louis, Missouri, and I am a Sr. Engineer in the Rate Engineering Department of Ameren Services Company.

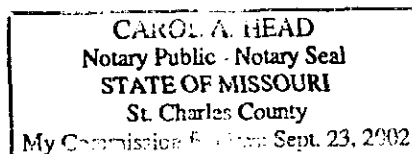
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony consisting of pages 1 through 5, including Schedules 1 through 2, all of which testimony has been prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. GR-2000-512 on behalf of Union Electric Company.

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



Subscribed and sworn to before me this 27 day of March, 2000.


Notary Public



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DIRECT TESTIMONY

OF

JAMES R. POZZO

UNION ELECTRIC COMPANY

d/b/a AmerenUE

CASE NO. GR-2000-512

Q. Please state your name and your business address.

A. My name is James R. Pozzo and my business address is 1901 Chouteau Avenue, St. Louis, Mo. 63103.

Q. Please state your occupation and by whom you are employed.

A. I am a Senior Engineer in the Rate Engineering Department at Ameren Services Company.

Q. Please describe your educational background, work experience, and current duties and responsibilities.

A. This information is summarized in Schedule 1 to this testimony.

Q. What is the extent of your participation in this case?

A. My responsibility in this proceeding is the application of regression analysis to determine the statistical relationship of billing cycle gas usage and billing cycle heating degree days, and to use such results to estimate the weather normalized gas usage for the Residential and General Service customer classes of Union Electric Company d/b/a AmerenUE.

Q. Please explain the general concept of regression analysis.

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

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

7 A. The dependent variable is the billing cycle gas usage (Ccf) per customer.
8 The independent variable is the billing cycle heating degree day temperature measure.

9 **Q. Please explain the difference between billing cycle gas usage and**
10 **calendar month gas usage.**

11 A. Customer billing cycle usage is the accumulated gas consumed (Ccf)
12 between the successive pairs of current and prior meter reading dates, scheduled during
13 the course of each billing month. For each of the 21 scheduled meter reading cycles of
14 a specific Company billing month, a portion of such usage within each cycle usually
15 occurs in the prior calendar month. For example, meters read in mid-January will
16 reflect customer gas consumption from mid-December to mid-January. An example of
17 calendar usage for June would be the accumulated usage from June 1st to June 30th, as
18 if all customer meters were simultaneously read at the beginning of June 1st and at the
19 end of June 30th.

20 **Q. Please explain the term "heating degree days."**

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

1 **Q. How were the billing cycle heating degree days developed?**

2 A. Billing cycle heating degree days were calculated by accumulating the
3 heating degree days in each of the 21 scheduled billing and meter reading cycles of each
4 billing month. The values so determined for each cycle in the billing month were then
5 averaged to calculate the heating degree days associated with each billing month.

6 **Q. How were normal heating degree days calculated?**

7 A. Historical daily heating degree days were obtained from two weather
8 stations in the areas in which AmerenUE serves gas customers. For the portion of the
9 Company's service area supplied by Panhandle Eastern Pipe Line Company, the data
10 obtained was from the Columbia Regional Airport. For the areas in southeast Missouri
11 served by Natural Gas Pipeline Company of America and Texas Eastern Transmission
12 Corporation, the data obtained was from the Cape Girardeau Regional Airport. Normal
13 daily heating degree days were calculated by developing an average of the historical
14 heating degree days for the 29.5 calendar years beginning 1970 and ending in mid-1999.
15 The normal daily heating degree days were then cumulated for the test year meter
16 reading schedules and averaged to calculate the normal heating degree days for each test
17 year billing month. Panhandle Eastern Pipe Line Company serves the areas in and
18 around Columbia, Jefferson City, Mexico, and Wentzville. Natural Gas Pipeline
19 Company of America and Texas Eastern Transmission Corporation serve the area in and
20 around Cape Girardeau.

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

22 A. There is a valid statistical relationship between the level of customer gas
23 usage and heating degree days for the Residential and General Service customer classes.

Direct Testimony of
James R. Pozzo

1 The R^2 statistic which, by formulation, will range from zero to 1.0, indicates the degree
2 of correlation between the variables of a regression model. R^2 values near zero indicate
3 low or poor correlation, whereas, R^2 values near 1.0 indicate a high or good correlation
4 between the variables being examined. The R^2 values which I calculated as a part of
5 this regression analysis were sufficiently high (close to a value of 1.0) to be considered
6 statistically significant for these customer classes. Schedule 2 shows these R^2 values for
7 AmerenUE's Residential and General Service classes and regions.

8 **Q. What adjustments to the gas usage for these customer classes**
9 **resulted from your weather normalization process?**

10 A. Test year usage for the Residential class was increased by 7,154,545 Ccf
11 (9.5%) and usage for the General Service class was increased by 3,736,762 Ccf (8.6%)
12 to reflect what the gas usage of these customer classes would have been under normal
13 test year weather conditions.

14 **Q. Why were the Transportation and Interruptible customer**
15 **classes not adjusted using the weather normalization process?**

16 A. The Transportation and Interruptible customer classes consist of large
17 non-residential customers whose usage generally does not vary significantly with
18 weather. For this reason, the Company decided not to attempt to weather normalize the
19 usage for these customer classes.

20 **Q. In what other ways was the regression analysis you performed used**
21 **within each customer class and geographic location served by the Company?**

22 A. I used the results of these regression analyses, along with the normal
23 weather data from these areas, to weather normalize the test year gas usage of these

Direct Testimony of
James R. Pozzo

1 customer classes, as well as to estimate the peak day demand requirements for the
2 Residential and General Service customer classes from these areas. Company witness
3 William M. Warwick will discuss the use of the weather normalized gas usage in the
4 development of normalized revenues in his direct testimony in this case, and company
5 witness Philip B. Difani, Jr. will discuss the use of the peak day demand requirements
6 for allocation factor development in his testimony.

7 **Q. Does this conclude your testimony?**

8 **A. Yes, it does.**

Sponsoring Witness: James R. Pozzo
Direct Testimony
Sponsoring Party: Union Electric Company
d/b/a AmerenUE
Case No.: GR-2000-512

List of Schedules

<u>Schedule No.</u>	<u>Description of Schedule</u>
1	Qualifications
2	R ² Values by Pipeline and Customer Class

QUALIFICATIONS OF JAMES R. POZZO

My name is James R. Pozzo, and I reside in St. Louis County, Missouri.

I am a Sr. 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, Missouri in December 1978.

I began working at Union Electric Company in January 1979 in the Power Operations Department, working at the Ashley Plant for two years and at the Meramec Plant for five 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 the Rate Engineering Department in September 1985.

I assumed my current position with Ameren Services Company upon completion of the merger of CIPSCO Inc. and Union Electric effective December 31, 1997. My duties and responsibilities include assignments related to the gas and electric rates of Union Electric, 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
GAS OPERATIONS
R² VALUES BY PIPELINE & CUSTOMER CLASS
JUNE 1999

Panhandle Eastern Pipe Line Company Service Area

Class	R ²
Residential	0.992
General Service	0.981

**Natural Gas Pipeline Company of America & Texas Eastern Transmission Corporation
Service Areas**

Class	R ²
Residential	0.988
General Service	0.963