Exhibit No.:	
Issues:	Weather Normalization
Witness:	Shawn E. Lange
Sponsoring Party:	MO PSC Staff
Type of Exhibit:	Rebuttal Testimony
Case No.:	ER-2006-0315
Date Testimony Prepared:	July 28, 2006

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

SHAWN E. LANGE

EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2006-0315

Jefferson City, Missouri
July 2006

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the matter of The Empire District Electric)
Company of Joplin, Missouri for authority to file)   Case No. ER-2006-0315
tariffs increasing rates for electric service provided)
to customers in the Missouri service area of the)
Company.   )

AFFIDAVIT OF SHAWN E. LANGE

STATE OF MISSOURI   )
)   ss.
COUNTY OF COLE   )

Shawn E. Lange, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of __3__ pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

Shawn E. Lange
Shawn E. Lange

Subscribed and sworn to before me this _27th_ day of July 2006.

Dawn L. Hake
Notary Public

My commission expires_____

REBUTTAL TESTIMONY

OF

SHAWN E. LANGE

EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2006-0315

Q.   Please state your name and business address.

A.   My name is Shawn E. Lange and my business address is Missouri Public Service Commission, P.O. Box 360, Jefferson City, MO 65102.

Q.   Are you the same Shawn E. Lange that filed direct testimony in this proceeding?

A.   Yes, I am.

Q.   What is the purpose of your rebuttal testimony?

A.   The purpose of my rebuttal testimony is to describe to the Commission why the weather normalized sales calculated by the Staff should be used in the determination of normalized revenues instead of the weather normalized sales as presented in the direct testimony of Jayna Long for the Empire District Electric Company (Empire).

Q.   Are there differences in the methods that The Empire District Electric Company and Staff used?

A.   No, both the Staff and Empire used the same computer model and basic method for weather normalization. However, there are two differences in the input data used that I would like to touch on that resulted in different results. The first is in regard to the daily

1 load data that is used to determine the weather response of the classes and the second deals

2 with monthly billing data.

3   Q.   What differed in regard to the daily load data used?

4   A.   Staff used two years of daily load data to determine the weather response of

5 the classes whereas Empire used only one year.

6   Q.   Why is it better to use two years of daily class load data?

7   A.   The model calculates a weather response function for each class using

8 regression analysis on daily class loads. Using two years of daily class load data provides

9 more data points for determining the weather response. Using more data results in a more

10 accurate representation of what is occurring in each class. This is especially critical when

11 determining the weather response for weekend days. With only one year of data, the model

12 only has 13 Saturday data points in which to calculate the weather response across a three

13 month season. With two years of data, there are 26 Saturday data points across the same three

14 month season.

15   While the statistical results using just thirteen data points may be excellent, what it is

16 saying is that the regression equation is a good fit to the data; not that it accurately models the

17 response. Using twenty-six data points gives the regression models a greater likelihood of

18 both fitting a good regression equation and modeling the correct response.

19   Q.   What differed in regard to the actual billing month class usage data?

20   A.   Empire did not "clean up" the actual billing data used as an input in

21 determining the weather adjustment. The billing data used, contained bad bills (i.e. bad

22 original bills and cancels) and good bills, which included rebills. For this test year, December

23 2005 actual billing month class usage data contained an abnormally large amount of bad

1   original bills. Staff corrected the bad billing data by moving the cancel that went with the bad

2   original bill from the months of January and February 2006 into December 2005. The rebills

3   that were associated with the moved cancels, were also moved from January and February

4   2006 into December 2005. It appears that Empire did not adjust for this.

5   Q.   Are these the only differences in the weather normalization of the sales data?

6   A.   No, they are not. There were other minor differences. However, more

7   important than these minor differences, Staff believes that is important in any type of

8   modeling to have the best input data because a model is only as good as the data input into it.

9   Q.   Does this conclude your rebuttal testimony?

10   A.   Yes, it does.