Exhibit No.: 121
Issues: Normal Weatherization
Witness: Shawn E. Lange
Sponsoring Party: MO PSC Staff
Type of Exhibit: Surrebuttal Testimony
Case No.: ER-2006-0314
Date Testimony Prepared: October 6, 2006

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

SURREBUTTAL TESTIMONY

OF

SHAWN E. LANGE

KANSAS CITY POWER & LIGHT COMPANY

CASE NO. ER-2006-0314

Jefferson City, Missouri
October 2006

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Kansas City Power & Light Company for Approval to Make Certain Changes in its Charges for Electric Service to Begin the Implementation of Its Regulatory Plan	)))))	Case No. ER-2006-0314

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 following Surrebuttal Testimony in question and answer form, consisting of 5 pages of Surrebuttal Testimony to be presented in the above case, that the answers in the following Surrebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

Shawn E. Lange

Subscribed and sworn to before me this 4th day of October, 2006.

Notary Public

My commission expires 9-21-10

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

SUSAN L. SUNDERMEYER
My Commission Expires
September 21, 2010
Callaway County
Commission #06942086

SURREBUTTAL TESTIMONY

OF

SHAWN E. LANGE

KANSAS CITY POWER & LIGHT COMPANY

CASE NO. ER-2006-0314

Q. 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 surrebuttal testimony?

A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony of Kansas City Power & Light Company (KCP&L) witness George M. McCollister, PH.D, which asserts the Large Power (LP) customer class is significantly weather sensitive during the summer months and therefore should be weather normalized in this case. It is Staff's position that while the usage of the LP class increases in the summer months, it is more sensitive to seasonal changes in weather than it is to daily fluctuations in weather, and hence not appropriate for weather normalization.

Q. What types of customer are on the LP tariff?

A. As Dr. McCollister stated in his rebuttal testimony (p. 2, ln. 14), *"There are both industrial and commercial customers on this tariff."*

Q. Why does the Staff believe that the LP class billing data should not be weather normalized?

A. There are several reasons why the Staff did not weather normalize the LP class. First, this class includes the large customers that the Staff individually annualizes in its case instead of applying a growth factor to. Please see Staff witness Kim Bolin's direct testimony for more information regarding the annualization of the LP class. Second, the Staff believes that the increase in the LP class load in the summer months is influenced more by the time of the year (season) than by the day-to-day fluctuations that occur in the other customer classes. Third, while the Staff believes that some customers in the LP class are weather sensitive, the weather sensitive portion is a small percentage of the whole and the adjustment to the class load that may be measured is within the error margin of the weather sensitivity modeling. Lastly, if usage is weather normalized, the revenues for the class also need to be weather normalized. Because the LP rate is complex, the weather normalization of these revenues is extremely difficult, if not impossible to do correctly.

Q. Why doesn't Staff apply a growth factor to the LP class?

A. Typically, growth is applied to the weather normalized usage per customer. The class usage is weather normalized and this is divided by the number of customers in that class to get an average usage per customer. Growth in class usage is calculated by applying an increased number of customers to the average customer weather normal usage. A more detailed description of how growth is calculated can be found in the direct testimony of Staff witness Bolin.

With that in mind, the LP tariff class contains the largest energy users and the lowest number of customers. Because this small group of customers demands larger amounts of

electricity and perform a variety of functions, e.g. hotels, office buildings, manufacturing, hospitals, etc., it is very heterogeneous in how and when it demands electricity. As a result, there is no usage that represents the average LP customer because there is not an average customer. However, there may be, and usually are, seasonal sensitivities that correspond to the industry of which each customer is a part.

Q. Do you adjust usage in order to reflect this seasonal sensitivity?

A. No.

Q. Why not?

A. Seasonal fluctuations need to remain in the usage because they are "normal", i.e., they occur every year.

Q. Why does Staff believe that this class shows a seasonal response rather than a weather sensitive response?

A. Seasonal sensitivity is when a company or industry experiences a change in the amount of electricity used, because of a repeating yearly cycle. Examples of seasonal effects include a July drop in automobile production as factories retool for new models and a reduction in usage because motors run more efficiently in the winter when it is cooler.

Q. Does the LP class show seasonal sensitivity?

A. Yes. Schedule 1 shows the average daily usage of the weekdays in the test year for a very weather sensitive class (KCP&L's residential class) and its LP class. Weather sensitivity can be seen as the change in usage given a change in temperature, or the slope of the load vs. temperature curve. Therefore a class that is not weather sensitive will have a flat load vs. temperature curve, whereas a class with high weather sensitivity will have a steep slope in the cooling season, heating season, or both (V shaped curve). The weather sensitivity

in the residential class shown in the top graph is apparent because of the V shaped curve. It shows a lot of weather sensitivity in the cooling season when the mean daily temperature (MDT) is above 65°. In addition it shows some weather sensitivity in the heating season when the mean daily temperature (MDT) is below 50°. In contrast, the lower graph shows the LP class. The loads in the winter are relatively flat but there is a small increase in usage in the summer. Staff contends that this increase is influenced by the season, not day-to-day fluctuations in weather.

Q. What is the annual weather adjustment proposed by KCP&L for the LP class and how does that compare with the adjustment to the residential class?

A. KCP&L's test year (January through December 2005) weather adjustment for the LP class is -17,073 MWh, approximately -0.706% of the actual test year LP class usage of 2,417,751 MWh. In comparison, KCP&L's test year weather adjustment for the Residential class is -71,951 MWh, approximately -2.66% of the test year actual Residential class usage of 2,700,920 MWh.

Q. Does the Staff weather normalize the LP class for any of the other electric utilities?

A. No, it does not.

Q. How do you respond to Dr. McCollister's statement that: *"Any* [t-statistic] *value above 2.0 is usually considered significant"* and therefore the class must be weather sensitive?

A. Any set of values has a chance of being statistically significant in a model. For example, using the random number generator in Microsoft's Excel©, I generated 365 random values. When entered into KCP&L's model, a t-statistic of -2.095 was calculated for this set

of values. The absolute value of this statistic is 2.095 and since it is the absolute value of the t-statistic that indicates significance, this t-statistic suggests that the set of values is significant in estimating the LP class usage. If all that is considered is the t-statistic of the parameter, it could be said that the LP class usage is dependent upon this random number string. However, this random string of numbers is obviously not at all related to the LP class's usage.

The t-statistic and all other statistical measures are important to consider when developing a model, but all models should include a reasonableness review by the analyst.

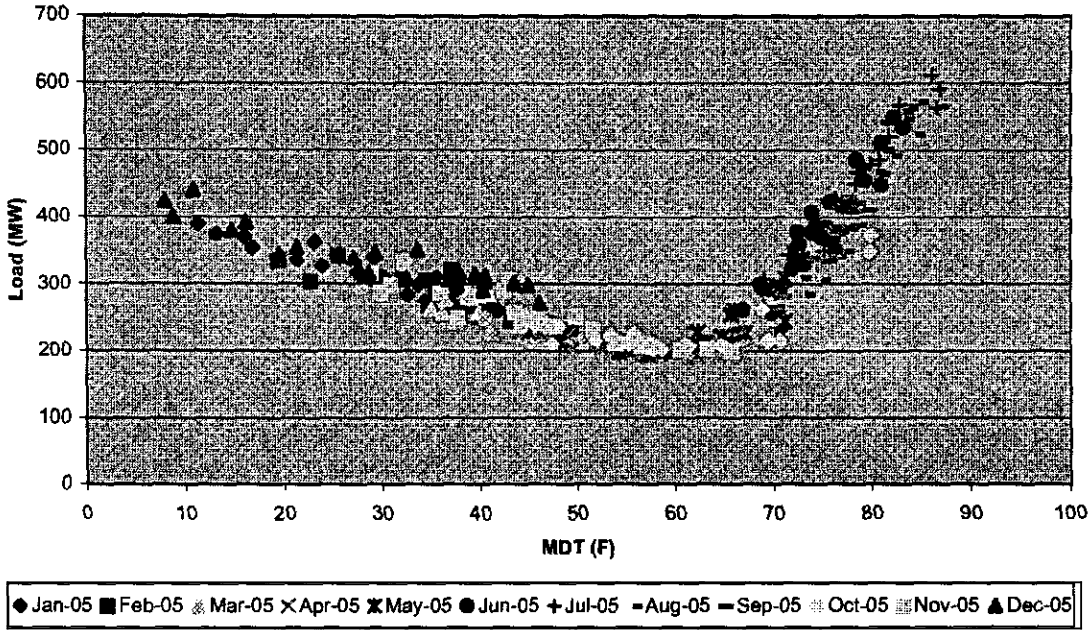
Q. What is your recommendation?

A. I recommend the Commission adopt the actual LP usage with annualization adjustment as proposed by Staff witness Bolin.

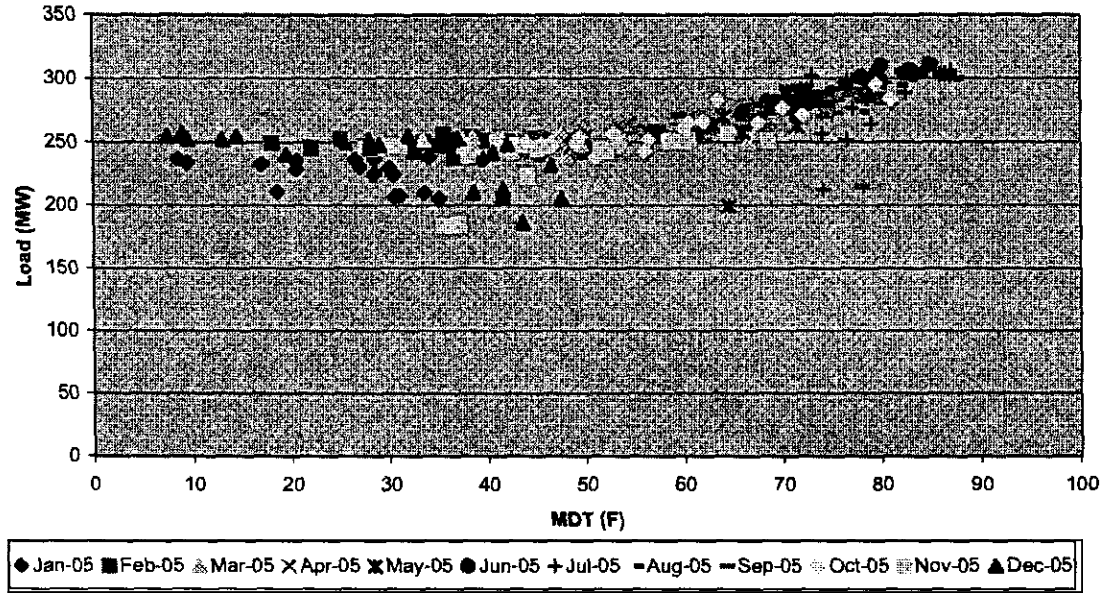
Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.

Average Residential Class Load vs. MDT



Average LP Class Load vs. MDT



Schedule 1