MISSOURI PUBLIC SERVICE COMMISSION

REGULATORY REVIEW DIVISION

SURREBUTTAL TESTIMONY

OF

SHAWN E. LANGE

KANSAS CITY POWER & LIGHT COMPANY

CASE NO. ER-2012-0174

Jefferson City, Missouri
October 2012
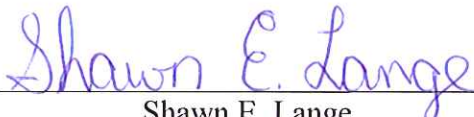
BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Kansas City Power &)
Light Company's Request for Authority to)
Implement a General Rate Increase for) Case No. ER-2012-0174
Electric Service)

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 __8__ 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
Shawn E. Lange

Subscribed and sworn to before me this 3rd day of October, 2012.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 03, 2014
Commission Number: 10942086

Susan L Sundermeyer
Notary Public

TABLE OF CONTENTS

SURREBUTTAL TESTIMONY

OF

SHAWN E. LANGE

KANSAS CITY POWER & LIGHT COMPANY

CASE NO. ER-2012-0174

SURREBUTTAL TESTIMONY

OF

SHAWN E. LANGE

KANSAS CITY POWER & LIGHT COMPANY

CASE NO. ER-2012-0174

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 who contributed to Staff's Cost-of-Service

Report filed in this case?

A.   Yes, I am.

Q.   What is the purpose of your surrebuttal testimony?

A.   The purpose of my surrebuttal testimony is to respond to Kansas City Power

and Light Company ("KCPL") witnesses Dr. George McCollister and Mr. Burton Crawford.

Dr. McCollister asserts the Large Power Service ("LPS") customer class is weather

sensitive and therefore should be weather normalized in this case. Staff's position is that

while the usage of the LPS class increases in the summer months, it is more sensitive to

seasonal changes in weather and to business cycles than it is to daily fluctuations in weather,

and hence not appropriate for weather normalization.

Mr. Crawford asserts the outage rates for the Hawthorn 5 generating unit resulted in a

unit availability that is higher than what has taken place over the last seven years.

1 **Weather Normalization of Large Power Service Class**

2   Q.   Dr. McCollister stated:

3 "First, for all the classes that are weather normalized, the weather response
4 function is estimated for the class as a whole and applied to the actual sales of the
5 entire class. It is never applied to individual customers in the methods used by
6 either KCP&L or the Staff, as Mr. Lange inferred."[1]

7
8   Do you agree?

9   A.   Yes. For the classes that are weather normalized in this case, by either KCPL

10 or Staff, the adjustment is calculated and applied at the class level and not at the level of

11 individual customers.

12   Q.   Why does Staff assert that the LPS class billing data should not be weather

13 normalized?

14   A.   There are several reasons why the Staff did not weather normalize the LPS

15 class. First, this class includes the large customers that the Staff individually annualizes in its

16 case instead of applying a growth factor to them. Please see Staff witness Dr. Seoung Joun

17 Won's portion of the Staff Cost-of-Service Report for more information regarding the

18 annualization of the LPS class. Second, Staff asserts that the increase in the LPS class load in

19 the summer months is influenced more by the time of the year (season) than by the day-to-day

20 fluctuations that occur in the other customer classes. Third, while the Staff agrees that some

21 customers in the LPS class are weather sensitive; those customers are only a small percentage

22 of the whole class.

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

24   A.   Typically, growth is applied to the weather normalized usage per customer.

25 The class usage is weather normalized, and this is divided by the number of customers in that

---
[1] Dr. McCollister Rebuttal page 2, lines 6-9

1 class to get an average usage per customer. Growth in class usage is calculated by applying

2 an increased number of customers to the average customer weather normal usage. A more

3 detailed description of how growth is calculated can be found in Staff witness Ms. Karen

4 Lyons portion of the Staff Cost-of-Service Report.

5   With that in mind, the LPS class contains the largest energy users and the lowest

6 number of customers. The LPS class includes a small group of customers who demand larger

7 amounts of electricity and perform a variety of functions—e.g. hotels, office buildings,

8 manufacturing, hospitals, etc.—and the class is very heterogeneous in how and when its

9 members demand electricity. As a result, there is no usage that represents the typical LPS

10 customer because there is not a typical LPS customer. However, there may be, and usually

11 are, seasonal sensitivities that correspond to the industry of which each customer is a part.

12   Q.   Does Staff adjust usage in order to reflect this seasonal sensitivity in the LPS

13 Class?

14   A.   No.

15   Q.   Why not?

16   A.   Seasonal fluctuations need to remain in the usage because they are "normal,"

17 i.e., they occur every year.

18   Q.   Why does Staff believe that this class shows a seasonal response rather than a

19 weather-sensitive response?

20   A.   Seasonal sensitivity occurs when a company or industry experiences a change

21 in the amount of electricity used because of a repeating yearly cycle. Examples of seasonal

22 effects include a July drop in automobile production as factories retool for new models or a

3

1 reduction in a customer's electric usage at a facility because their electric motors run more

2 efficiently in the winter when it is cooler.

3 Q.   If seasonal sensitivity is present in the LPS class, is it present in any of the

4 other classes?

5 A.   Seasonal sensitivity may be present in the other classes, but the amount of any

6 impact that one customer may have on the class as a whole is typically much smaller. Also,

7 because these other classes typically have larger amounts of customers, the class level hourly

8 load data is typically a result of sampling. Customers that are not normal are typically

9 included in the sample. Implicit in the sampling is the assumption that the customers in each

10 strata respond similarly. When these classes are weather normalized, the assumption of

11 customers responding similarly is carried forward in the weather normalization process.

12 Q.   How is the LPS class sampled?

13 A.   Typically the LPS class is 100% sampled or close to 100% sampled, i.e. all

14 customers are included in the sample. So the same assumption that customers respond

15 similarly is not present for the LPS class.

16 Q.   Why does being at or near 100% sampled have an impact on this class?

17 A.   Because of the number of and size of these customers, customers like those in

18 figures 1 and 2 will affect the class load shape and will affect the weather adjustment of the
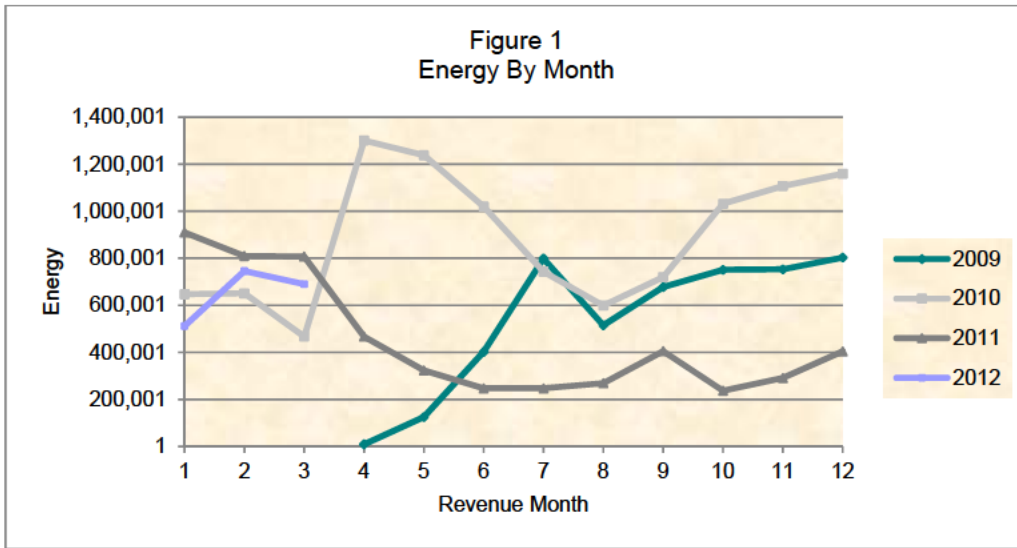
19 class.

Figure 1
Energy By Month

Figure 1 tends to show little pattern from year to year.
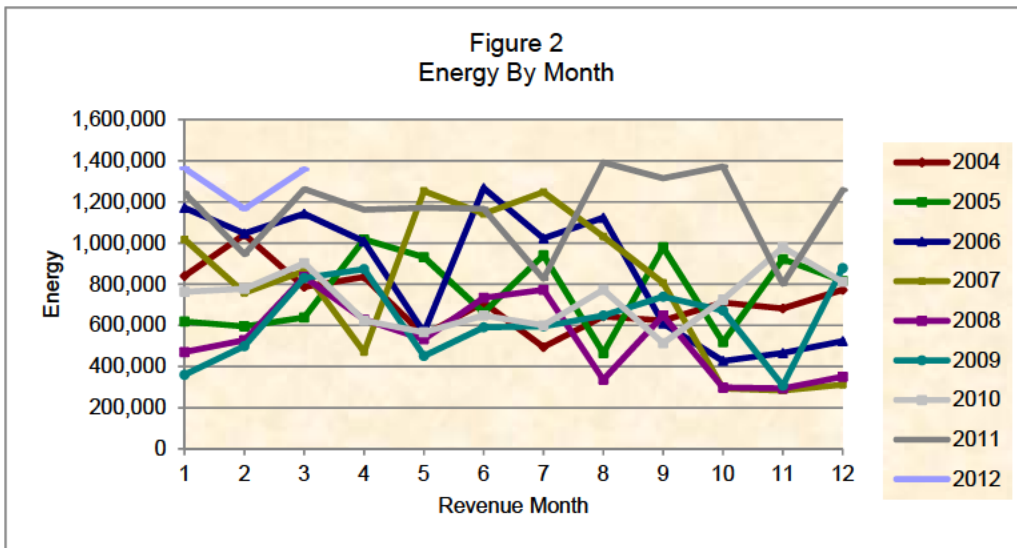

Figure 2
Energy By Month

Figure 2 shows little pattern from year to year.

Q.   What impact would the removal of these two customers from the LPS have on

the weather adjustment of the LPS class?

A.   I ran a scenario using individual customer load research for the LPS class for

the period January 1, 2011 through December 31, 2011 using KCPL's LPS class model. The

hourly loads for the customers shown in Figures 1 and 2 were removed from the LPS class

load. The resulting class load was modeled using the same variables that KCPL used. The

1 regression used had one heating degree day ("HDD") [2] variable with a base of 28° and two

2 cooling degree day ("CDD") [3] variables, one with a base of 45° and one with a base of 65°, as

3 well as a variable for holidays, five monthly variables (January, June, July, August, and

4 December), an autoregressive variable and variables for day types (Monday, Friday, Saturday,

5 Sunday).

6 Q. What impact did these customers have on the HDD and CDD variables?

7 A. The exclusion of these two customers resulted no change to HDD(28), a

8 reduction of 2.40% of the CDD(65) coefficient and an increase of 1.94% of the CDD(45)

9 coefficient. Table 1, below, shows all the scenario results.

Table 1

Variable	Total LPS Coefficient	Total LPS excluding customers Coefficient	Difference in Coefficient	% change
CONST	253.99	251.14	(2.86)	-1.13%
Calendar.Monday	(3.94)	(3.84)	0.10	-2.44%
Calendar.Friday	(1.49)	(1.49)	0.00	-0.13%
Calendar.Saturday	(25.06)	(24.93)	0.12	-0.49%
Calendar.Sunday	(37.05)	(36.84)	0.21	-0.57%
Calendar.IsAHoliday	(22.41)	(22.38)	0.02	-0.10%
Splines.HDD(28)	0.33	0.33	-	0.00%
Splines.CDD(45)	0.67	0.68	0.01	1.95%
Splines.CDD(65)	0.96	0.93	(0.02)	-2.40%
CalendarVars.Jan	2.52	2.33	(0.19)	-7.59%
CalendarVars.Jun	14.23	14.22	(0.01)	-0.10%
CalendarVars.Jul	12.47	12.70	0.23	1.84%
CalendarVars.Aug	16.77	16.80	0.03	0.20%
CalendarVars.Dec	(14.93)	(15.04)	(0.11)	0.73%
AR(1)	0.68	0.68	0.00	0.44%

10

---

[2] HDD is the difference between the base temperature and the daily mean temperature for all days in which the daily mean temperature is lower than the base.

[3] CDD is the difference between the daily mean temperature and the base temperature for all days in which the daily mean temperature is higher than the base.

1   Q.   Does the Staff weather normalize the LPS class at the class level for any of the

2 other electric utilities this Commission rate regulates?

3   A.   No, it does not.

4   Q.   Has the Commission ruled on this issue before?

5   A.   Yes, in its Report and Order for Case No. ER-2006-0314, the Commission

6 stated:

7   "The Commission finds that the competent and substantial evidence supports
8   Staff's position, and finds this issue in favor of Staff. The LP class consists of a
9   fairly small number of large businesses engaged in wildly different enterprises;
10   hotels, office buildings, manufacturing, and hospitals are examples. These
11   businesses' electricity needs vary more due to the type of commerce they are in
12   than due to day-to-day temperature changes…"[4]

13

14   Q.   What is your recommendation?

15   A.   I recommend the Commission adopt the actual LPS usage with annualization

16 adjustments as proposed by Staff witness Dr. Seoung Joun Won.

17 **Hawthorn 5 Outage Rates**

18   Q.   In his rebuttal testimony[5], Mr. Burton Crawford states: "…Staff's analysis

19 results in an artificially high level of availability for the plant, inconsistent with what has

20 occurred over the past seven years, which may lead to an understatement of costs to serve

21 retail customers." Do you agree with Mr. Crawford?

22   A.   I agree that Staff's adjustment for the Hawthorn 5 SCR and transformer did

23 decrease the planned outage duration and forced outage rate. Staff witnesses Ms. Karen

24 Lyons and Mr. Carey G. Featherstone discuss Staff's reasons for making those adjustments in

25 their portion of the Staff Cost of Service Report entitled, **Other Non-Labor Adjustments**

---

[4] ER-2006-0314 Report and Order page 73
[5] Mr. Burton Crawford Rebuttal page 4, lines 19-21

1 **Hawthorn 5 SCR** and **Other Non-Labor Adjustment Hawthorn 5 Transformer**,

2 respectively.

3   Q.   Does this conclude your surrebuttal testimony?

4   A.   Yes, it does.