Exhibit No.: 109
Issues: Class Cost of Service

Witness: James A. Busch
Sponsoring Party: MO PSC Staff
Type of Exhibit: Rebuttal Testimony
Case No.: ER-2006-0314
Date Testimony Prepared: September 15, 2006

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

JAMES A. BUSCH

KANSAS CITY POWER & LIGHT

CASE NO. ER-2006-0314

Jefferson City, Missouri
September 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 JAMES A. BUSCH

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

James A. Busch, of lawful age, on his oath states: that he has participated in the preparation of the following Rebuttal Testimony in question and answer form, consisting of 11 pages of Rebuttal Testimony to be presented in the above case, that the answers in the following Rebuttal 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.

James A. Busch

Subscribed and sworn to before me this 14th day of September, 2006.

ROSEMARIE RIEDL
MY COMMISSION EXPIRES
June 1, 2009
NOTARY SEAL
#05509538
COLE COUNTY
NOTARY PUBLIC, STATE OF MISSOURI

Notary Public

My commission expires June 1, 2009

TABLE OF CONTENTS

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Q. Please state your name and business address.

A. My name is James A. Busch and my business address is P. O. Box 360, Jefferson City, Missouri 65102.

Q. By whom are you employed and in what capacity?

A. I am a Regulatory Economist III in the Economic Analysis Section of the Energy Department, Utility Operations Division of the Missouri Public Service Commission (Staff).

Q. Are you the same James A. Busch that filed direct testimony on behalf of Staff in this proceeding?

A. Yes I am.

Q. What is the purpose of your rebuttal testimony in this case?

A. The purpose of my rebuttal testimony is to respond to the class cost of service direct testimony of Kansas City Power & Light (KCPL or Company) witnesses Tim M. Rush and Lois J. Liechti, Office of the Public Counsel (Public Counsel) witness Barbara A. Meisenheimer, Ford Motor Company, Praxair, Inc., and Missouri Industrial Energy Consumers (Industrials) witness Maurice Brubaker, The Department of Energy – National Nuclear Security Administration (DOE) witness Gary C. Price. More

specifically, I will address the method used to allocate production capacity to the various classes based on each party's class cost of service study.

Q. Are there other Staff witnesses filing rebuttal testimony concerning rate design and class cost of service?

A. Yes. Staff witness Janice Pyatte will also be addressing rate design and class cost of service issues in her rebuttal testimony.

EXECUTIVE SUMMARY

Q. Please summarize your rebuttal testimony.

A. In this proceeding, Staff filed a class cost of service study utilizing an Average & Peak (12 class peaks) allocator for production and transmission costs. Both the Company and Public Counsel used a variation of the Average and Peak allocator in their CCOS studies. Industrial witness Brubaker utilized an Average and Excess allocator in his CCOS study.

Staff believes that the Average and Peak allocation method is more reasonable than the Average and Excess allocation method because the Average and Excess method insufficiently weights average demand. In fact, the Average and Excess method allocates costs according to peak demand, not a combination of peak demand and average demand as claimed by Mr. Brubaker.

CLASS COST OF SERVICE STUDY – ALLOCATION OF PRODUCTION CAPACITY AND TRANSMISSION COSTS

Q. What parties are presenting class cost of service (CCOS) study results?

A. Staff, KCPL, OPC, and the Industrials are presenting CCOS results. DOE, in the direct testimony of Gary Price has taken the results of KCPL's CCOS study and made rate design recommendations based on those results.

Q. What method did each party who filed a CCOS study use to allocate production capacity costs?

A. Staff utilized an Average and Peak (12 class peaks) method (12 NCP A&P). OPC performed two studies. One study used a 12 NCP A&P method. The other study used a time-of-use (TOU) allocator. KCPL used an A&P (1 coincident peak) method (1CP A&P). The Industrials used an Average and Excess method (3 NCD) (3NCP A&E). The number preceding the method means how many monthly peaks where used by the analyst. For example, a 12 NCP A&P means that the analyst used the 12 monthly noncoincident peaks.

Q. What is the difference between a noncoincident peak and a coincident peak?

A. A noncoincident peak refers to each class' peak usage regardless of when it occurred. A coincident peak refers to the entire system's peak. Therefore, assuming any one individual class' peak did not occur during the system peak, the sums of the noncoincident peaks for each class will exceed the coincident peak.

Q. Would you please describe KCPL's method it used to allocate production and transmission costs?

A. According to KCPL witness Liechti's direct testimony (Liechti direct, page 8, lines 13 – 17), KCPL used an Average and Peak method. According to Ms. Liechti, this method gives classes recognition for both usage and contribution to peak

load. The Company used a 1 CP when it derived its demand portion of this allocator. This means that the Company only used the class peaks during the time of the overall system peak.

Q. What is Staff's opinion of KCPL's allocation method?

A. Staff agrees that the most reasonable method to allocate production and transmission capacity is by utilizing an Average and Peak method. This is the same method Staff used in its CCOS study submitted in the direct testimony of Janice Pyatte. Staff disagrees with the Company's use of the system coincident peak (1 CP). Staff, in its CCOS study, used twelve non-coincident peaks (12 NCP). The 12 NCP approach is superior to the 1 CP approach because it relies on each class' peak usage for every month, not simply each class' usage at the time of the system peak. Production and transmission costs are incurred to meet the demands of the system for each and every month, not merely during the time of system peak. It can be assumed that during the time of the system peak, all generation resources are being utilized to meet the peaking conditions. This means that any maintenance that needs to be worked on the various generation facilities needs to be finished during non-system peaking months. Therefore, the 12 NCP version of the average and peak method takes this into account and is a more reasonable approach than the 1 CP method.

Q. Please describe the method used by Industrial witness Brubaker to allocate production and transmission capacity.

A. Mr. Brubaker utilized the "Average and Excess" method (A&E) for allocating production and transmission capacity. According to page 20, lines 18 – 22 of his direct testimony filed on August 22, 2006, under the A&E method, the average

demand is allocated to classes in proportion to their average demand. The difference between the system average demand and the system peak is then allocated to customer classes on the basis of a measure that represents their "peaking" or "variability" in usage.

Furthermore, Mr. Brubaker states on page 22, lines 10 – 17 of his direct testimony,

> Either a coincident peak study, using the demands during the peak summer months, or a version of an A&E cost of service study that uses class non-coincident peak loads occurring during the summer, would be most appropriate to reflect these characteristics. The results should be similar as long as only summer period peak loads are used. I will make my recommendations based on the A&E method. It considers the maximum class demands during the critical time periods, and is less susceptible to variations in the absolute hour in which peaks occur – producing a somewhat more stable result over time.

Q. Has Staff already addressed the problems with using a coincident peak study?

A. Yes. Please see Schedule JP-4 of Staff witness Pyatte's direct testimony.

Q. How does this A&E method differ from the A&P method used by Staff, Public Counsel (in one of its CCOS studies), and KCPL?

A. The difference between the two methods is how the demand piece of the allocator is determined. Both methods agree on the average piece of the allocator.

Q. What is that difference?

A. The demand-related piece of the A&E method is determined by taking the difference between a class' non-coincident peak demand and its average demand. In the case of Mr. Brubaker's CCOS study, each class' peak demand is determined by using the

maximum class demands during the summer months of June, July, and August (Brubaker direct filed page 22).

The Staff's method determines the appropriate demand-related weight by using the Capacity Utilization method as described in the direct testimony of Janice Pyatte filed on August 22, 2006. This method generally takes the monthly demands for each class for each month of the year, not just the three highest months, and determines each class' percent of that monthly maximum demand.

Q. What is Staff's concern with using the A&E method to allocate the demand portions of the production capacity costs?

A. Staff's major concern is that the A&E method improperly uses excess demands rather than peak demands to allocate the demand portion of the production capacity costs.

Q. Why is this a concern?

A. This is a concern because when the A&E method is developed it basically creates a demand allocator that is equivalent to each class' peak contribution. In other words, it completely ignores the energy weighting.

Q. Can you provide an example?

A. Yes I can. Please consider the following example.

Example 1

Class	Average Demand	Peak Demand	Excess Demand	Load Factors
A	100	120	20	83%
B	100	180	80	56%
System	200	300	100	67%

Class A's A&E allocator would be 0.4, the same as its percentage of peak demand (120/300 = 0.4). This would be calculated as its percent of average demand times the system load factor + its percent of excess demand times 1 – system load factor [(100/200 * 0.67) + (20/100 * (1-0.67))]. Class B's A&E allocator would be 0.6 [(100/200 * 0.67) + (80/100 * (1-0.67))], the same as its percentage of peak demand (180/300 = 0.6). Therefore, the A&E method is similar to a peak allocation method.

Q. Why does an electric utility increase its generation capacity?

A. If you follow the logic of the A&E method as proposed by Mr. Brubaker, you would believe that the only reason an electric utility adds generation capacity is to meet peak demands (Brubaker direct, page 19, lines 21 – 23, and page 20, lines 1 – 2, page 22, lines 6 – 9, page 25, lines 9 – 10). However, that is an overly simplistic view of resource planning. Comprehensive resource planning accounts for load requirements for each and every hour of the year, not just at times of system peaks. It also takes into account the current generations operating characteristics, e.g., maintenance outages, fuel type used.

Q. What do you mean by your statement that electric utilities add generation capacity to meet load requirements for every hour of the year rather than just to meet its system peak requirements?

A. There are three basic types of electric generation facilities: base, intermediate, and peak. Base generation facilities are generally the most expensive capacity plants to build, use coal or nuclear energy to generate electricity and are the cheapest to operate on a kWh basis. Peaking generation facilities are generally the least expensive to build, usually use natural gas to generate electricity, and are the most costly

to operate on a kWh basis. As implied by its name, intermediate facilities lie between base facilities and peaking facilities both in cost to build and cost to operate.

Therefore, if, as suggested by Mr. Brubaker in his direct testimony, the primary driver which continues to cause the utility to expand its generation and transmission capacity (Brubaker direct, page 22, lines 6 – 9), it would only make sense that the appropriate generation facility to build would be a relative cheaper peaking facility, i.e. a natural gas combustion turbine. Since the only reason to expand a electric utilities generation capacity are peak loads (according to Mr. Brubaker), it would make zero economic sense to spend billions of dollars to build a base generation facility since that new generation facility would only be run during the peak months.

Q. Is KCPL planning on adding new generation facilities over the next five years?

A. Yes. KCPL has a regulatory plan that indicates it is planning on spending billions of dollars to build a base load facility commonly referred to as Iatan 2. Both The Empire District Electric Company and Aquila Networks, Inc, as well as some other entities that the Commission does not regulate, are partners in this facility.

Q. Is Iatan 2 being built solely to satisfy KCPL's peak load requirements in the summer?

A. No, it is not. The decision to build Iatan 2 was only made after a detailed resource plan study that included the energy and peak growth over at least the next 20 years. When in the past KCPL was faced with just needing peaking energy, it added peaking capacity at its Hawthorn, Osawatomie and West Gardner sites.

Q. If generation and transmission facilities are built to satisfy the yearly loads of an electric utility, is the Average and Excess method employed by Mr. Brubaker more reasonable than the Average and Peak method utilized by the other parties in this proceeding?

A. No. Mr. Brubaker's method does not take into account the fact that generation facilities are built to meet the entire load of the electric utility. The A&E method unfairly puts too great of a responsibility on the classes that have lower load factors. This happens because the demand-related piece of the allocator is determined by the difference of each class' peak demand and the class' average demand. Thus, a low load factor class would have a greater difference between its peak demand and its average demand causing a greater amount of costs to be allocated to that class. It assumes that the most cost-effective customers to serve are high load factor customers when in fact, the diversity the lower load factor customers add can greatly reduce the cost of serving the high load factor customers. For example, if the low load factor customer's usage is a constant 100 megawatts (MW) and it was the only customer on the system, then the utility, assuming no reserve margin, would have to build a 100 MW base load plant and 100 MW of peaking plants to provide energy when the base load plant is down for maintenance. If 100 MW of low load factor customers that have no load for some hours were added to this utility, they could use energy from the peaking generation and the maintenance for the base load plant would be scheduled for when the low load factor customers are not demanding energy. Therefore, the costs to the high load factor customer are less because of the existence of the low load factor customers.

On the other hand, the A&P method considers contribution of each class to the system's total load, as opposed to each class' excess demands at peak. This is a more reasonable approach because the peak is a function of each class, not just one class.

Q. What do you mean by the term "load factor"?

A. The system load factor is the ratio of the system average demand to the system peak demand.

Q. Why is Staff's method of using twelve non-coincident peaks (12 NCP) more reasonable than KCPL's method of using a one coincident peak (1CP)?

A. Staff's method is more reasonable because it takes into account every month of the year, not just the month with the highest peak. This is more reasonable because of required maintenance. Generation facilities need to be taken out of service for maintenance. This would generally occur during low demand months. The amount of capacity to meet all of the systems loads must take into account: the demands in these low demand months, as well as the months in which the system may be peaking. Staff's 12 NCP takes this into account.

Q. Does Staff have any response to Public Counsel witness Meisenheimer's CCOS studies?

A. Yes. Ms. Meisenheimer conducted two CCOS studies. One utilized a time-or-use allocator (TOU) and the other study used a 12 NCP A&P, similar to Staff. Staff has often argued that a TOU allocator and 12 NCP A&P allocator give similar results; therefore, Staff has no issue with Public Counsel regarding the production and transmission capacity allocator.

Q. Does Staff have any response to the testimony of DOE witness Price?

A. It is Staff's understanding that Mr. Price did not perform his own CCOS study and simply made rate design recommendations based on the Company's CCOS study. Therefore, Staff has the same issues with Mr. Price as it does with the Company.

RATE DESIGN

Q. Is Staff making any changes to its rate design recommendation?

A. No, not at this time.

Q. Has Staff compared the rate design recommendations of the various parties in this case?

A. Yes it has. Please see the rebuttal testimony of Janice Pyatte for the comparisons of rate design testimony.

Q. Does this conclude your rebuttal testimony?

A. Yes.