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and Midwest Energy Consumers Group
Case No.: ER-2012-0174
Date Testimony Prepared: August 16, 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 Electric Service**

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) **Case No. ER-2012-0174**
) Tracking No. YE-2012-0404
)
)

Direct Testimony and Schedules of

Maurice Brubaker

On behalf of

**Missouri Industrial Energy Consumers
and
Midwest Energy Consumer's Group**

August 16, 2012



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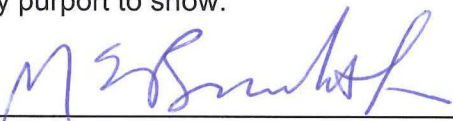
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STATE OF MISSOURI)
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COUNTY OF ST. LOUIS) **SS**

Affidavit of Maurice Brubaker

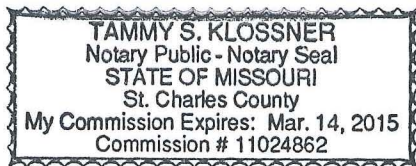
Maurice Brubaker, being first duly sworn, on his oath states:

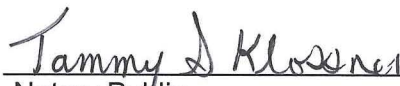
1. My name is Maurice Brubaker. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by Missouri Industrial Energy Consumers and Midwest Energy Consumer's Group in this proceeding on their behalf.
2. Attached hereto and made a part hereof for all purposes is my direct testimony and schedules which were prepared in written form for introduction into evidence in the Missouri Public Service Commission's Case No. ER-2012-0174.
3. I hereby swear and affirm that the testimony and schedules are true and correct and that they show the matters and things that they purport to show.



Maurice Brubaker

Subscribed and sworn to before me this 15th day of August, 2012.





Notary Public

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**Table of Contents to the
Direct Testimony of Maurice Brubaker**

| | |
|--|----|
| Summary..... | 3 |
| COST OF SERVICE PROCEDURES..... | 4 |
| Overview | 4 |
| Electricity Fundamentals..... | 4 |
| A CLOSER LOOK AT THE COST OF SERVICE STUDY | 8 |
| Functionalization | 8 |
| Classification..... | 9 |
| Demand vs. Energy Costs | 12 |
| Allocation..... | 14 |
| Utility System Characteristics..... | 15 |
| Making the Cost of Service Study – Summary..... | 21 |
| Adjustment of Class Revenues | 23 |
| Revenue Allocation | 26 |
| Analysis of Large Customer Rates..... | 29 |
| Appendix A: Qualifications of Maurice Brubaker | |
| Schedule MEB-COS-1 to Schedule MEB-COS-8 | |
| Schedule MEB-COS-Appendix | |

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Direct Testimony of Maurice Brubaker

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A Maurice Brubaker. My business address is 16690 Swingley Ridge Road, Suite 140,
3 Chesterfield, MO 63017.

4 **Q WHAT IS YOUR OCCUPATION?**

5 A I am a consultant in the field of public utility regulation and President of Brubaker &
6 Associates, Inc., energy, economic and regulatory consultants.

7 **Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

8 A This information is included in Appendix A to my testimony.

9 **Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

10 A I am appearing on behalf of Missouri Industrial Energy Consumers ("MIEC") and
11 Midwest Energy Consumer's Group ("MECG"). These companies purchase
12 substantial amounts of electricity from Kansas City Power & Light Company ("KCPL")
13 and the outcome of this proceeding will have an impact on their cost of electricity.

**Maurice Brubaker
Page 1**

1 **Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

2 A The purpose of my testimony is to present the results of a class cost of service study
3 for KCPL, to explain how the study should be used, to recommend an appropriate
4 allocation of any rate increase, and to make rate design recommendations.

5 **Q HOW IS YOUR TESTIMONY ORGANIZED?**

6 A First, I present an overview of cost of service principles and concepts. This includes
7 a description of how electricity is produced and distributed as well as a description of
8 the various functions that are involved; namely, generation, transmission and
9 distribution. This is followed by a discussion of the typical classification of these
10 functionalized costs into demand-related costs, energy-related costs and
11 customer-related costs.

12 With this as a background, I then explain the various factors which should be
13 considered in determining how to allocate these functionalized and classified costs
14 among customer classes.

15 Finally, I present the results of the detailed cost of service analysis for KCPL.
16 This cost study indicates how individual customer class revenues compare to the
17 costs incurred in providing service to them. This analysis and interpretation is then
18 followed by recommendations with respect to the alignment of class revenues with
19 class costs. I conclude by addressing rate design issues.

1 **Summary**

2 **Q PLEASE SUMMARIZE YOUR TESTIMONY AND RECOMMENDATIONS.**

3 A My testimony and recommendations may be summarized as follows:

- 4 1. Class cost of service is the starting point and most important guideline for
5 establishing the level of rates charged to customers.
- 6 2. KCPL exhibits significant summer peak demands as compared to demands in
7 other months.
- 8 3. There are two generally accepted methods for allocating generation and
9 transmission fixed costs that would apply to KCPL. These are the coincident
10 peak methodology and the average and excess (“A&E”) methodology.
- 11 4. The A&E methodology appropriately considers both class maximum demands
12 and class load factor, as well as diversity between class peaks and the system
13 peak.
- 14 5. In order to better reflect cost-causation, I have changed KCPL’s submitted cost of
15 service methodology in two respects:
- 16 (1) KCPL has used an obscure and inappropriate method to allocate
17 generation fixed costs, which I will address in my rebuttal testimony. I
18 have, instead, applied main-stream methods that this Commission has
19 previously endorsed.
- 20 (2) KCPL allocates the margin earned from off-system sales on a demand
21 basis. I have changed the allocation to reflect the more appropriate
22 energy-based allocation which the Commission has previously approved for
23 this purpose.
- 24 6. The results of my class cost of service study, incorporating the change in
25 methodology that I have applied, are summarized on Schedule MEB-COS-4.
26 Schedule MEB-COS-5 shows the adjustments required to move each class to its
27 cost of service on a revenue neutral basis at present rates.
- 28 7. A modest realignment of class revenues to move them closer to costs should be
29 implemented, as presented on Schedule MEB-COS-6.
- 30 8. Schedules MEB-COS-7 and MEB-COS-8 show my recommended adjustments to
31 the design of the Large Power Service (“LPS”) and Large General Service
32 (“LGS”) rates, respectively.

COST OF SERVICE PROCEDURES

Overview

Q PLEASE DESCRIBE THE COST ALLOCATION PROCESS.

A The objective of *cost allocation* is to determine what proportion of the utility's total revenue requirement should be recovered from each customer class. As an aid to this determination, cost of service studies are usually performed to determine the portions of the total costs that are incurred to serve each customer class. The cost of service study identifies the cost responsibility of the class and provides the foundation for revenue allocation and rate design. For many regulators, cost-based rates are an expressed goal. To better interpret cost allocation and cost of service studies, it is important to understand the production and delivery of electricity.

Electricity Fundamentals

Q IS ELECTRICITY SERVICE LIKE ANY OTHER GOODS OR SERVICES?

A No. Electricity is different from most other goods or services purchased by consumers. For example:

- It cannot be stored; must be delivered as produced;
- It must be delivered to the customer's home or place of business;
- The delivery occurs instantaneously when and in the amount needed by the customer; and
- Both the total quantity used (energy or kWh) by a customer and the rate of use (demand or kW) are important.

These unique characteristics differentiate electric utilities from other service-related industries.

The service provided by electric utilities is multi-dimensional. First, unlike most vital services, electricity must be delivered at the place of consumption – homes,

1 schools, businesses, factories – because this is where the lights, appliances,
2 machines, air conditioning, etc. are located. Thus, every utility must provide a path
3 through which electricity can be delivered regardless of the customer's **demand** and
4 **energy** requirements at any point in time.

5 Even at the same location, electricity may be used in a variety of applications.
6 Homeowners, for example, use electricity for lighting, air conditioning, perhaps
7 heating, and to operate various appliances. At any instant, several appliances may
8 be operating (e.g., lights, refrigerator, TV, air conditioning, etc.). Which appliances
9 are used and when reflects the second dimension of utility service – the rate of
10 electricity use or **demand**. The demand imposed by customers is an especially
11 important characteristic because the maximum demands determine how much
12 capacity the utility is obligated to provide.

13 Generating units, transmission lines and substations and distribution lines and
14 substations are rated according to the maximum demand that can safely be imposed
15 on them. (They are not rated according to average annual demand; that is, the
16 amount of energy consumed during the year divided by 8,760 hours.) On a hot
17 summer afternoon when customers demand 2,000 MW of electricity, the utility must
18 have at least 2,000 MW of generation, plus additional capacity to provide adequate
19 reserves, so that when a consumer flips the switch, the lights turn on, the machines
20 operate and air conditioning systems cool our homes, schools, offices, and factories.

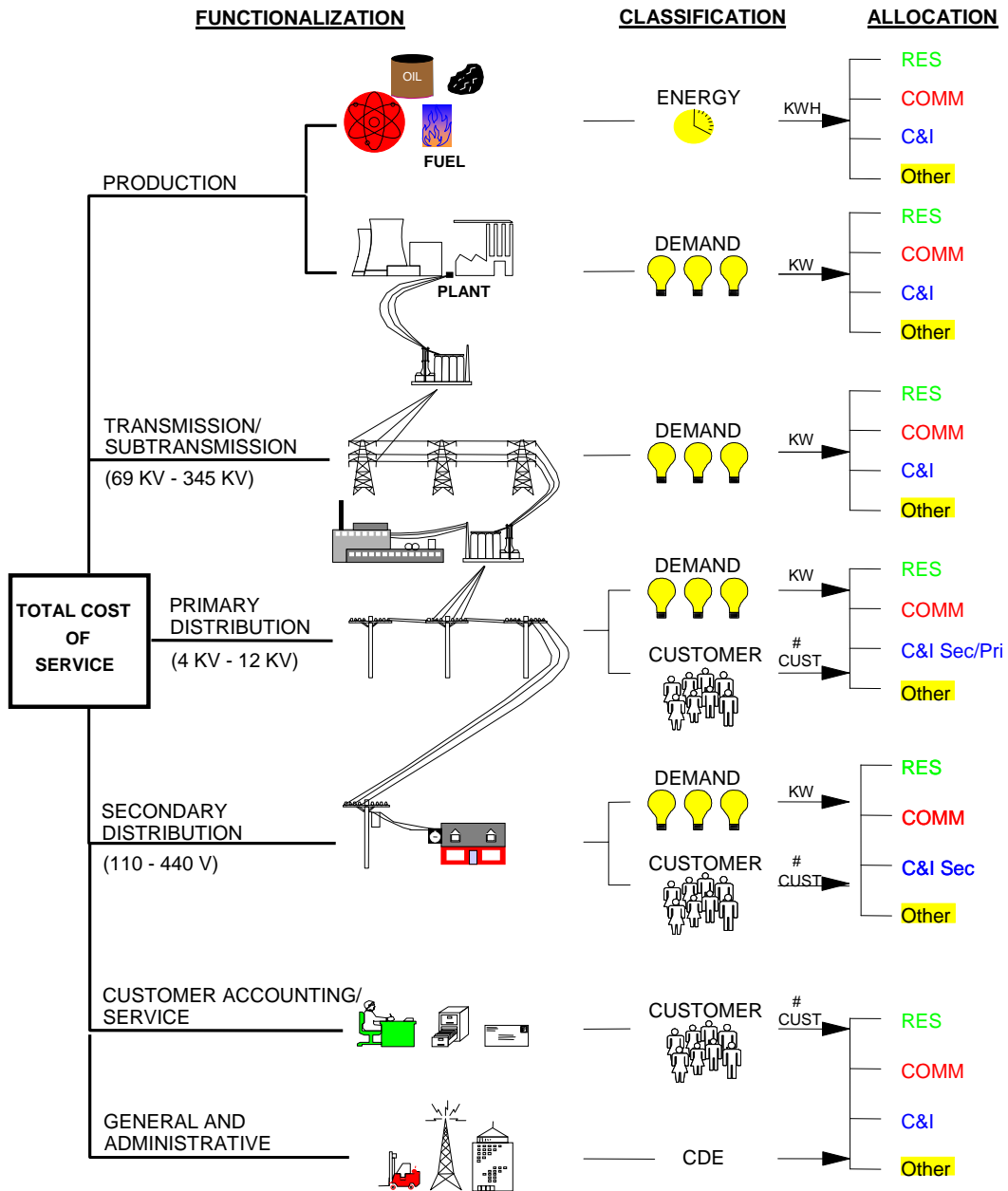
21 Satisfying customers' demand for electricity over time – providing **energy** – is
22 the third dimension of utility service. It is also the dimension with which many people
23 are most familiar, because people often think of electricity simply in terms of kWhs.
24 To see one reason why this isn't so, consider a more familiar commodity – tomatoes,
25 for example.

1 The tomatoes we buy at the supermarket for about \$2.00 a pound might
2 originally come from Florida where they are bought for about 30¢ a pound. In
3 addition to the cost of buying them at the point of production, there is the cost of
4 bringing them to the state of Missouri and distributing them in bulk to local
5 wholesalers. The cost of transportation, insurance, handling and warehousing must
6 be added to the original 30¢ a pound. Then they are distributed to neighborhood
7 stores, which adds more handling costs as well as the store's own costs of light, heat,
8 personnel and rent. Shoppers can then purchase as many or few tomatoes as they
9 desire at their convenience. In addition, there are losses from spoilage and damage
10 in handling. These "line losses" represent an additional cost which must be
11 recovered in the final price. What we are really paying for at the store is not only the
12 vegetable itself, but the service of having it available in convenient amounts and
13 locations. If we took the time and trouble (and expense) to go down to the wholesale
14 produce distributor, the price would be less. If we could arrange to buy them in bulk
15 in Florida, they would be even cheaper.

16 As illustrated in Figure 1, electric utilities are similar, except that in most cases
17 (including Missouri), a single company handles everything from production on down
18 through wholesale (bulk and area transmission) and retail (distribution to homes and
19 stores). The crucial difference is that, unlike producers and distributors of tomatoes,
20 electric utilities have an obligation to provide continuous reliable service. The
21 obligation is assumed in return for the exclusive right to serve all customers located
22 within its territorial franchise. In addition to satisfying the energy (or kWh)
23 requirements of its customers, the obligation to serve means that the utility must also
24 provide the necessary facilities to attach customers to the grid (so that service can be

- 1 used at the point where it is to be consumed) and these facilities must be responsive
- 2 to changes in the kilowatt demands whenever they occur.

Figure 1
PRODUCTION AND DELIVERY OF ELECTRICITY



A CLOSER LOOK AT THE COST OF SERVICE STUDY

1
2 **Q PLEASE EXPLAIN HOW A COST OF SERVICE STUDY IS PREPARED.**

3 A To the extent possible, the unique characteristics that differentiate electric utilities
4 from other service-related industries should be recognized in determining the cost of
5 providing service to each of the various customer classes. The basic procedure for
6 conducting a class cost of service study is simple. In an allocated cost of service
7 study, we identify the different types of costs (**functionalization**), determine their
8 primary causative factors (**classification**) and then apportion each item of cost
9 among the various rate classes (**allocation**). Adding up the individual pieces gives
10 the total cost for each customer class.

Functionalization

11
12 **Q PLEASE EXPLAIN FUNCTIONALIZATION.**

13 A Identifying the different levels of operation is a process referred to as
14 **functionalization**. The utility's investment and expenses are separated by function
15 (production, transmission, etc.). To a large extent, this is done in accordance with the
16 Uniform System of Accounts.

17 Referring to Figure 1, at the top level there is generation. The next level is the
18 extra high voltage transmission and subtransmission system (69,000 volts to 345,000
19 volts). Then the voltage is stepped down to primary voltage levels of distribution –
20 4,160 to 12,000 volts. Finally, the voltage is stepped down by pole transformers at
21 the "secondary" level to 110-440 volts used to serve homes, barbershops, light
22 manufacturing and the like. Additional investment and expenses are required to
23 serve customers at secondary voltages, compared to the cost of serving customers at
24 higher voltage.

1 Each additional transformation, thus, requires additional investment, additional
2 expenses and results in some additional electrical losses. To say that "a kilowatthour
3 is a kilowatthour" is like saying that "a tomato is a tomato." It's true in one sense, but
4 when you buy a kWh at home you're not only buying the energy itself but also the
5 service of having it delivered right to your doorstep in convenient form. Those who
6 buy at the bulk or wholesale level – like some of the Large Power Service customers
7 – pay less because some of the expenses to the utility are avoided. (Actually, the
8 expenses are borne by the customer who must invest in his own transformers and
9 other equipment, or pay separately for some services.)

10 **Classification**

11 **Q WHAT IS CLASSIFICATION?**

12 A Once the costs have been functionalized, the next step is to identify the primary
13 causative factor (or factors). This step is referred to as **classification**. Costs are
14 classified as demand-related, energy-related or customer-related.

15 Looking at the production function, the amount of production plant capacity
16 required is primarily determined by the peak rate of usage during the year. If the
17 utility anticipates a peak demand of 2,000 MW – it must install and/or contract for
18 enough generating capacity to meet that anticipated demand (plus some reserve to
19 compensate for variations in load and capacity that is temporarily unavailable).

20 There will be many hours during the day or during the year when not all of this
21 generating capacity will be needed. Nevertheless, it must be in place to meet the
22 peak demands on the system. Thus, production plant investment is usually classified
23 to demand. **Regardless of how production plant investment is classified, the**
24 **associated capital costs** (which include return on investment, depreciation, fixed

1 operation and maintenance (“O&M”) expenses, taxes and insurance) **are fixed**; that
2 is, **they do not vary with the amount of kWhs generated and sold**. These fixed
3 costs are determined by the amount of capacity (i.e., kilowatts) which the utility must
4 install to satisfy its obligation-to-serve requirement.

5 On the other hand, it is easy to see that the amount of fuel burned – and
6 therefore the amount of fuel expense – is closely related to the amount of energy
7 (number of kWhs) that customers use. Therefore, fuel expense is an energy-related
8 cost.

9 Most other O&M expenses are fixed and therefore are classified as
10 demand-related. Variable O&M expenses are classified as energy-related.
11 Demand-related and energy-related types of operating costs are not impacted by the
12 number of customers served.

13 Customer-related costs are the third major category. Obvious examples of
14 customer-related costs include the investment in meters and service drops (the line
15 from the pole to the customer's facility or house). Along with meter reading, posting
16 accounts and rendering bills, these "customer costs" may be several dollars per
17 customer, per month. Less obvious examples of customer-related costs may include
18 the investment in other distribution accounts.

19 A certain portion of the cost of the distribution system – poles, wires and
20 transformers – is required simply to attach customers to the system, regardless of
21 their demand or energy requirements. This minimum or "skeleton" distribution system
22 may also be considered a customer-related cost since it depends primarily on the
23 number of customers, rather than demand or energy usage.

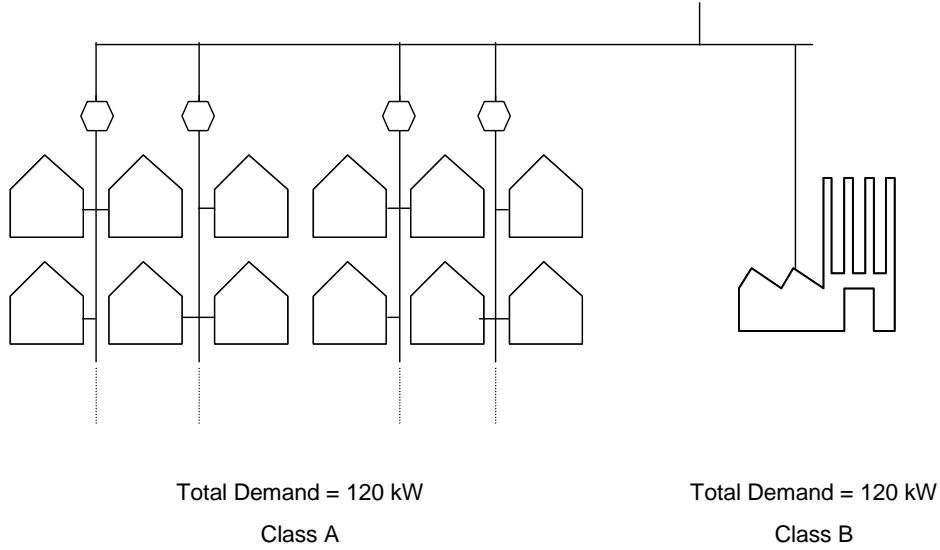
24 Figure 2, as an example, shows the distribution network for a utility with two
25 customer classes, A and B. The physical distribution network necessary to attach

1 Class A is designed to serve 12 customers, each with a 10-kilowatt load, having a
2 total demand of 120 kW. This is the same total demand as is imposed by Class B,
3 which consists of a single customer. Clearly, a much more extensive distribution
4 system is required to attach the multitude of small customers (Class A), than to attach
5 the single larger customer (Class B), despite the fact that the total demand of each
6 customer class is the same.

7 Even though some additional customers can be attached without additional
8 investment in some areas of the system, it is obvious that attaching a large number of
9 customers requires investment in facilities, not only initially but on a continuing basis
10 as a result of the need for maintenance and repair.

11 To the extent that the distribution system components must be sized to
12 accommodate additional load beyond the minimum, the balance is a demand-related
13 cost. Thus, the distribution system is classified as both demand-related and
14 customer-related.

Figure 2
Classification of Distribution Investment



1 **Demand vs. Energy Costs**

2 **Q WHAT IS THE DISTINCTION BETWEEN DEMAND-RELATED COSTS AND**
3 **ENERGY-RELATED COSTS?**

4 A The difference between demand-related and energy-related costs explains the fallacy
5 of the argument that "a kilowatthour is a kilowatthour." For example, Figure 3
6 compares the electrical requirements of two customers, A and B, each using 100-watt
7 light bulbs.

8 Customer A turns on all five of his/her 100-watt light bulbs for two hours.
9 Customer B, by contrast, turns on two light bulbs for five hours. Both customers use
10 the same amount of energy – 1,000 watthours or 1 kWh. However, Customer A
11 utilized electric power at a higher rate, 500 watts per hour or 0.5 kW, than
12 Customer B who demanded only 200 watts per hour or 0.2 kW.

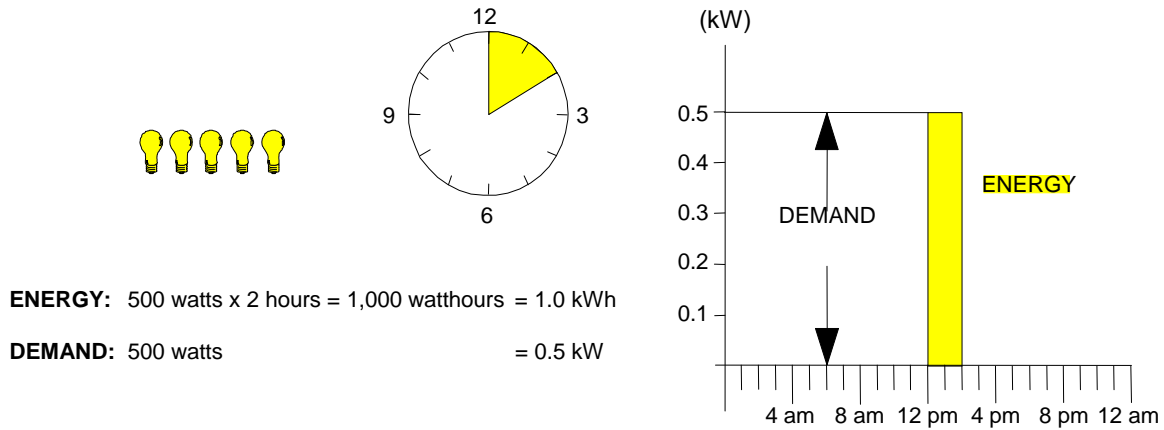
13 Although both customers had precisely the same kWh energy usage,
14 Customer A's kW demand was 2.5 times Customer B's. Therefore, the utility must
15 install 2.5 times as much generating capacity for Customer A as for Customer B. The
16 cost of serving Customer A, therefore, is much higher.

17 **Q DOES THIS HAVE ANYTHING TO DO WITH THE CONCEPT OF LOAD FACTOR?**

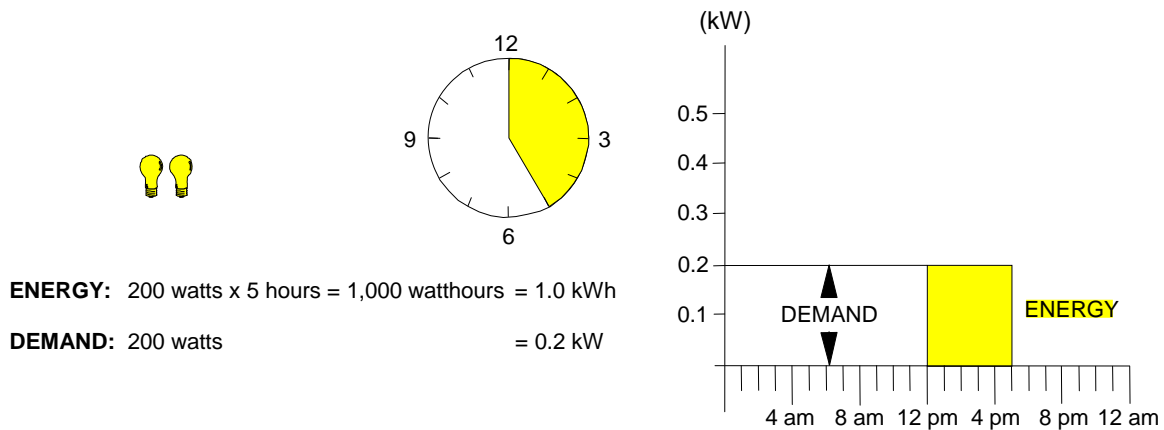
18 A Yes. Load factor is an expression of how uniformly a customer uses energy. In our
19 example of the light bulbs, the load factor of Customer B would be higher than the
20 load factor of Customer A because the use of electricity was spread over a longer
21 period of time, and the number of kWhs used for each kilowatt of demand imposed on
22 the system is much greater in the case of Customer B.

Figure 3 DEMAND VS. ENERGY

CUSTOMER A



CUSTOMER B



- 1 Mathematically, load factor is the average rate of use divided by the peak rate
- 2 of use. A customer with a higher load factor is less expensive to serve, on a per kWh
- 3 basis, than a customer with a low load factor, irrespective of size.

1 Consider also the analogy of a rental car which costs \$40/day and 20¢/mile. If
2 Customer A drives only 20 miles a day, the average cost will be \$2.20/mile. But for
3 Customer B, who drives 200 miles a day, spreading the daily rental charge over the
4 total mileage gives an average cost of 40¢/mile. For both customers, the fixed cost
5 rate (daily charge) and variable cost rate (mileage charge) are identical, but the
6 average total cost per mile will differ depending on how intensively the car is used.
7 Likewise, the average cost per kWh will depend on how intensively the generating
8 plant is used. A low load factor indicates that the capacity is idle much of the time; a
9 high load factor indicates a more steady rate of usage. Since industrial customers
10 generally have higher load factors than residential or commercial customers, they are
11 less costly to serve on a per-kWh basis. Again, we can say that "a kilowatthour is a
12 kilowatthour" as to energy content, but there may be a big difference in how much
13 generating plant investment is required to convert the raw fuel into electric energy.

14 **Allocation**

15 **Q WHAT IS ALLOCATION?**

16 A The final step in the cost of service analysis is the **allocation** of the costs to the
17 customer classes. Demand, energy and customer allocation factors are developed to
18 apportion the costs among the customer classes. Each factor measures the
19 customer class's contribution to the system total cost.

20 For example, we have already determined that the amount of fuel expense on
21 the system is a function of the energy required by customers. In order to allocate this
22 expense among classes, we must determine how much each class contributes to the
23 total kWh consumption and we must recognize the line losses associated with
24 transporting and distributing the kWh. These contributions, expressed in percentage

1 terms, are then multiplied by the expense to determine how much expense should be
2 attributed to each class. For demand-related costs, we construct an allocation factor
3 by looking at the important class demands.

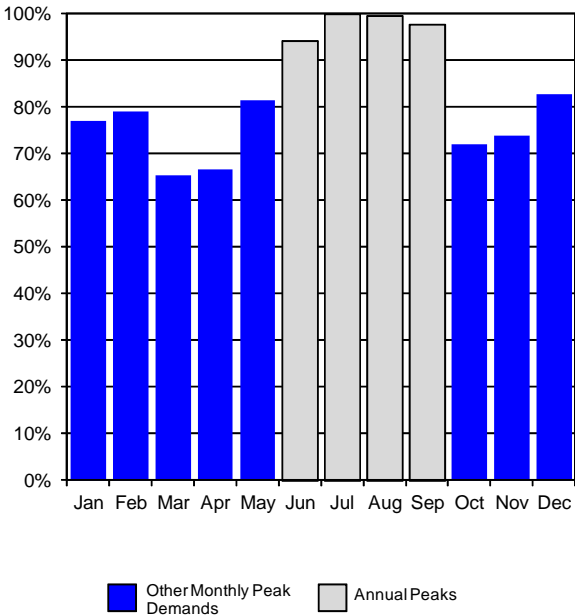
4 **Utility System Characteristics**

5 **Q WHAT IS THE IMPORTANCE OF UTILITY SYSTEM LOAD CHARACTERISTICS?**

6 A Utility system load characteristics are an important factor in determining the specific
7 method which should be employed to allocate fixed or demand-related costs on a
8 utility system. The most important characteristic is the annual load pattern of the
9 utility. These characteristics for KCPL's Missouri jurisdiction are shown on Schedule
10 MEB-COS-1. For convenience, it is also shown here as Figure 4.

Figure 4

KANSAS CITY POWER & LIGHT COMPANY
Analysis of KCP&L's (Missouri) Monthly Peak Demands
as a Percent of the Annual System Peak
For the Test Year Ended September 30, 2011



1 This shows the monthly system peak demands for the test year used in the study.
2 The highlighted bar shows the month in which the highest peak occurred.

3 This analysis shows that summer peaks dominate the KCPL system. (This
4 same information is presented in tabular form on Schedule MEB-COS-2.) This clearly
5 shows that the system peak occurred in July, and was substantially higher than the
6 monthly peaks occurring in most other months. The peaks in June, August and
7 September were 5.7%, 0.3%, and 2.3%, respectively, lower than the annual peak.

8 **Q WHAT CRITERIA SHOULD BE USED TO DETERMINE AN APPROPRIATE**
9 **METHOD FOR ALLOCATING PRODUCTION AND TRANSMISSION CAPACITY**
10 **COSTS AMONG THE VARIOUS CUSTOMER CLASSES?**

11 A The specific allocation method should be consistent with the principle of
12 cost-causation; that is, the allocation should reflect the contribution of each customer
13 class to the demands that caused the utility to incur capacity costs.

14 **Q WHAT FACTORS CAUSE ELECTRIC UTILITIES TO INCUR PRODUCTION AND**
15 **TRANSMISSION CAPACITY COSTS?**

16 A As discussed previously, production and transmission plant must be sized to meet the
17 maximum demand imposed on these facilities. Thus, an appropriate allocation
18 method should accurately reflect the characteristics of the loads served by the utility.
19 For example, if a utility has a high summer peak relative to the demands in other
20 seasons, then production and transmission capacity costs should be allocated
21 relative to each customer class's contribution to the summer peak demands. If a
22 utility has predominant peaks in both the summer and winter periods, then an
23 appropriate allocation method would be based on the demands imposed during both

1 the summer and winter peak periods. For a utility with a very high load factor and/or
2 a non-seasonal load pattern, then demands in all months may be important.

3 **Q WHAT DO THESE CONSIDERATIONS MEAN IN THE CONTEXT OF THE KCPL**
4 **SYSTEM?**

5 A As noted, the KCPL load pattern has predominant summer peaks. This means that
6 these demands should be the primary ones used in the allocation of generation and
7 transmission costs. Demands in other months are of much less significance, do not
8 compel the addition of generation capacity to serve them and should not be used in
9 determining the allocation of costs.

10 **Q WHAT SPECIFIC RECOMMENDATIONS DO YOU HAVE?**

11 A The two most predominantly used allocation methods in the industry are the
12 coincident peak method and the A&E demand method.

13 The coincident method utilizes the demands of customer classes occurring at
14 the time of the system peak or peaks selected for allocation. In the case of KCPL,
15 this would be one or more peaks occurring during the summer.

16 **Q WHAT IS THE A&E METHOD?**

17 A The A&E method is one of a family of methods which incorporates a consideration of
18 both the maximum rate of use (demand) and the duration of use (energy). As the
19 name implies, A&E makes a conceptual split of the system into an “average”
20 component and an “excess” component. The “average” demand is simply the total
21 kWh usage divided by the total number of hours in the year. This is the amount of
22 capacity that would be required to produce the energy if it were taken at the same

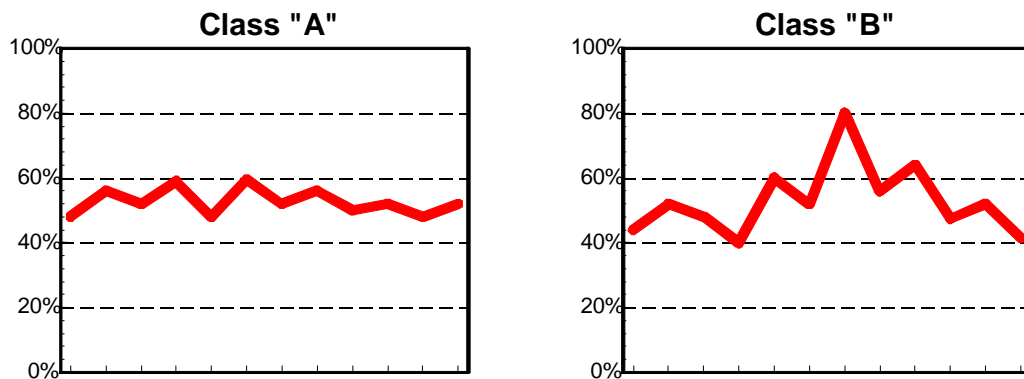
1 demand rate each hour. The system “excess” demand is the difference between the
2 system peak demand and the system average demand.

3 Under the A&E method, the average demand is allocated to classes in
4 proportion to their average demand (energy usage). The difference between the
5 system average demand and the system peak(s) is then allocated to customer
6 classes on the basis of a measure that represents their “peaking” or variability in
7 usage.¹

8 **Q WHAT DO YOU MEAN BY VARIABILITY IN USAGE?**

9 A As an example, Figure 5 shows two classes that have different monthly usage
10 patterns.

Figure 5
Load Patterns



11 Both classes use the same total amount of energy and, therefore, have the same
12 average demand. Class B, though, has a much greater maximum demand² than

¹NARUC Electric Utility Cost Allocation Manual, 1992, page 81.

²During any specified time period (e.g., month, year), the maximum demand of a class, regardless of when it occurs, is called the non-coincident peak demand.

1 Class A. The greater maximum demand imposes greater costs on the utility system.
2 This is because the utility must provide sufficient capacity to meet the projected
3 maximum demands of its customers. There may also be higher costs due to the
4 greater variability of usage of some classes. This variability requires that a utility
5 cycle its generating units in order to match output with demand on a real time basis.
6 The stress of cycling generating units up and down causes wear and tear on the
7 equipment, resulting in higher maintenance cost.

8 Thus, the excess component of the A&E method is an attempt to allocate the
9 additional capacity requirements of the system (measured by the system excess) in
10 proportion to the "peakiness" of the customer classes (measured by the class excess
11 demands).

12 **Q WHAT DEMAND ALLOCATION METHODOLOGY DO YOU RECOMMEND FOR**
13 **GENERATION AND TRANSMISSION?**

14 **A** First, in order to reflect cost-causation the methodology must give predominant weight
15 to loads occurring during the summer months. Loads during these months (the peak
16 loads) are the primary driver which has and continues to cause the utility to expand
17 its generation and transmission capacity, and therefore should be given predominant
18 weight in the allocation of capacity costs.

19 Either a coincident peak study, using the demands during the summer (peak)
20 months, or a version of an A&E cost of service study that uses class non-coincident
21 peak loads occurring during the summer, would be most appropriate to reflect these
22 characteristics. The results should be similar as long as only summer period peak
23 loads are used. I will make my recommendations based on the A&E method. It
24 considers the maximum class demands during the critical time periods, and is less

1 susceptible to variations in the absolute hour in which peaks occur – producing a
2 somewhat more stable result over time.

3 Based on test year load characteristics, I believe the most appropriate A&E
4 allocation would be using the two or three highest system peaks. However, the
5 allocation factors for all classes are very close to the A&E-4NCP allocation factors.

6 Schedule MEB-COS-3 shows the derivation of the A&E demand allocation
7 factor for generation using the four annual class non-coincident peaks, and page 1 of
8 my MEB-COS-Appendix shows the derivation of the A&E-2NCP allocation factor.

9 **Q REFERRING TO SCHEDULE MEB-COS-3, PLEASE EXPLAIN THE**
10 **DEVELOPMENT OF THE A&E ALLOCATION FACTOR.**

11 **A** Line 2 shows the average of the four non-coincident peaks for each class. Line 3
12 shows the annual amount of energy required by each class. Line 4 is the average
13 demand, in kilowatts, which is determined by dividing the annual energy in line 3 by
14 the number of hours (8,760) in a year. Line 5 shows the percentage relationship
15 between the average demand for each class and the total system.

16 The excess demand, shown on line 6, is equal to the non-coincident peak
17 demand shown on line 2 minus the average demand that is shown on line 4. Line 7
18 shows the excess demand percentage, which is a relationship among the excess
19 demand of each customer class and the total excess demand for all classes.

20 Finally, line 10 presents the composite A&E allocation factor. It is determined
21 by weighting the average demand responsibility of each class (which is the same as
22 each class's energy allocation factor) by the system load factor, and weighting the
23 excess demand factor by the quantity one minus the system load factor.

1 **Making the Cost of Service Study – Summary**

2 **Q PLEASE SUMMARIZE THE PROCESS AND THE RESULTS OF A COST OF**
3 **SERVICE ANALYSIS.**

4 A As previously discussed, the cost of service procedure involves three steps:

- 5 1. Functionalization – Identify the different functional "levels" of the system;
- 6 2. Classification – Determine, for each functional type, the primary cause or causes
7 (customer, demand or energy) of that cost being incurred; and
- 8 3. Allocation – Calculate the class proportional responsibilities for each type of cost
9 and spread the cost among classes.

10 **Q WHERE ARE YOUR COST OF SERVICE RESULTS PRESENTED?**

11 A The results are presented in Schedule MEB-COS-4, which reflects results at present
12 rates.

13 **Q REFERRING TO SCHEDULE MEB-COS-4, PLEASE EXPLAIN THE**
14 **ORGANIZATION AND WHAT IS SHOWN.**

15 A Schedule MEB-COS-4 is a summary of the key elements and the results of the class
16 cost of service study. The top section of the schedule shows the revenues, expenses
17 and operating income based on an A&E-4NCP cost of service study.

18 The next section shows the major elements of rate base, and the rate of return
19 at present rates for each customer class based on this cost of service study.

20 **Q DID KCPL SUBMIT A CLASS COST OF SERVICE STUDY?**

21 A Yes. KCPL submitted a class cost of service study. This study bases the allocation
22 of generation costs on an obscure and inappropriate allocation method. KCPL's
23 method is not grounded in appropriate cost-causation principles, and should not be

1 accepted. I will address this proposed methodology in more detail in my rebuttal
2 testimony.

3 **Q HAVE YOU USED ITS STUDY?**

4 A I have used the study framework as a basis for preparing my cost of service study.
5 As explained below, I have developed a cost of service study using a different
6 allocation for generation fixed costs, and also a different allocation of the margin on
7 off-system sales.

8 **Q HAVE YOU PREPARED ANY COST OF SERVICE STUDIES BESIDES THE
9 A&E-4NCP STUDY PRESENTED IN SCHEDULE MEB-COS-4?**

10 A Yes. I have prepared studies based on A&E-2NCP, and also 4CP methodologies.
11 The derivation of the generation capacity allocation factor and the results of each cost
12 of service study are presented in the Appendix to my schedules.

13 **Q OTHER THAN THE USE OF A DIFFERENT ALLOCATION FOR GENERATION
14 FIXED COSTS, HOW DO YOUR STUDIES DIFFER FROM THE ONE PRESENTED
15 BY KCPL?**

16 A There also is a difference in the allocation of the margin on off-system sales.

17 **Q WHAT IS THE ISSUE WITH RESPECT TO THE ALLOCATION OF OFF-SYSTEM
18 SALES?**

19 A KCPL has allocated the margin from off-system sales on the basis of the allocation of
20 steam fixed generation plant.

1 The more traditional approach is to allocate the revenues from off-system
2 sales to customer classes on the basis of class kWh requirements. This would make
3 the allocation of the revenues consistent with the allocation of the underlying costs.
4 (This method was recently adopted in a KCPL rate case, Case No. ER-2006-0314,
5 and re-affirmed in Ameren Missouri's rate case, Case No. ER-2010-0036).

6 **Q HOW DID YOU USE KCPL'S COST OF SERVICE MODEL IN PRODUCING YOUR**
7 **CLASS COST OF SERVICE STUDY?**

8 A It was the starting point. The results of KCPL's allocation first were replicated by
9 utilizing the data contained in its cost of service model. Many of KCPL's allocation
10 factors and functionalizations and classifications have been utilized. The principal
11 areas where I depart from KCPL and use a different approach were incorporated into
12 the allocations. They have previously been explained in this testimony.

13 I disagree with KCPL's allocation of certain DSM costs on a production
14 demand basis, but have not made a change in the attached COS studies because all
15 of the relevant costs could not be identified. I will address this issue in my rebuttal
16 testimony.

17 **Adjustment of Class Revenues**

18 **Q WHAT SHOULD BE THE PRIMARY BASIS FOR ESTABLISHING CLASS**
19 **REVENUE REQUIREMENTS AND DESIGNING RATES?**

20 A Cost should be the primary factor used in both steps.

21 Just as cost of service is used to establish a utility's total revenue requirement,
22 it should also be the primary basis used to establish the revenues collected from each
23 customer class and to design rate schedules.

1 Factors such as simplicity, gradualism and ease of administration may also be
2 taken into account, but the basic starting point and guideline throughout the process
3 should be cost of service. To the extent practicable, rate schedules should be
4 structured and designed to reflect the important cost-causative features of the service
5 provided, and to collect the appropriate cost from the customers within each class or
6 rate schedule, based upon the individual load patterns exhibited by those customers.

7 Electric rates also play a role in economic development, both with respect to
8 job creation and job retention. This is particularly true in the case of industries where
9 electricity is one of the largest components of the cost of production.

10 **Q WHAT IS THE BASIS FOR YOUR RECOMMENDATION THAT COST BE USED AS**
11 **THE PRIMARY FACTOR FOR THESE PURPOSES?**

12 A The basic reasons for using cost as the primary factor are equity, conservation, and
13 engineering efficiency (cost-minimization).

14 **Q PLEASE EXPLAIN HOW EQUITY IS ACHIEVED BY BASING RATES ON COST.**

15 A When rates are based on cost, each customer pays what it costs the utility to provide
16 service to that customer; no more and no less. If rates are based on anything other
17 than cost factors, then some customers will pay the costs attributable to providing
18 service to other customers – which is inherently inequitable.

19 **Q HOW DO COST-BASED RATES FURTHER THE GOAL OF CONSERVATION?**

20 A Conservation occurs when wasteful, inefficient use is discouraged or minimized. Only
21 when rates are based on costs do customers receive a balanced price signal upon
22 which to make their electric consumption decisions. If rates are not based on costs,

1 then customers who are not paying their full costs may be misled into using
2 electricity inefficiently in response to the distorted rate design signals they receive.

3 **Q WILL COST-BASED RATES ASSIST IN THE DEVELOPMENT OF**
4 **COST-EFFECTIVE DEMAND-SIDE MANAGEMENT (“DSM”) PROGRAMS?**

5 A Yes. The success of DSM (both energy efficiency and demand response programs)
6 depends, to a large extent, on customer receptivity. There are many actions that can
7 be taken by consumers to reduce their electricity requirements. A major element in a
8 customer's decision-making process is the amount of reduction that can be achieved
9 in the electric bill as a result of DSM activities. If the bill received by a customer is
10 subsidized by other customers; that is, the bill is determined using rates which are
11 below cost, that customer will have less reason to engage in DSM activities than
12 when the bill reflects the actual cost of the electric service provided.

13 For example, assume that the relevant cost to produce and deliver energy is
14 8¢ per kWh. If a customer has an opportunity to install energy efficiency or DSM
15 equipment that would allow the customer to reduce energy use or demand, the
16 customer will be much more likely to make that investment if the price of electricity
17 equals the cost of electricity, i.e., 8¢ per kWh, than if the customer is receiving a
18 subsidized rate of 6¢ per kWh.

19 **Q HOW DO COST-BASED RATES ACHIEVE THE COST-MINIMIZATION**
20 **OBJECTIVE?**

21 A When the rates are designed so that the energy costs, demand costs and customer
22 costs are properly reflected in the energy, demand and customer components of the

1 rate schedules, respectively, customers are provided with the proper incentives to
2 minimize their costs, which will in turn minimize the costs to the utility.

3 If a utility attempts to extract a disproportionate share of revenues from a class
4 that has alternatives available (such as producing products at other locations where
5 costs are lower), then the utility will be faced with the situation where it must discount
6 the rates or lose the load, either in part or in total. To the extent that the load could
7 have been served more economically by the utility, then either the other customers of
8 the utility or the stockholders (or some combination of both) will be worse off than if
9 the rates were properly designed on the basis of cost.

10 From a rate design perspective, overpricing the energy portion of the rate and
11 underpricing the fixed components of the rate (such as customer and demand
12 charges) will result in a disproportionate share of revenues being collected from large
13 customers and high load factor customers. To the extent that these customers may
14 have lower cost alternatives than do the smaller or the low load factor customers, the
15 same problems noted above are created.

16 **Revenue Allocation**

17 **Q PLEASE REFER AGAIN TO SCHEDULE MEB-COS-4 AND SUMMARIZE THE**
18 **RESULTS OF YOUR CLASS COST OF SERVICE STUDY.**

19 **A** As indicated on line 0400 of Schedule MEB-COS-4, movement of all classes to cost
20 of service will require an increase to the Residential class and a decrease to all other
21 classes.

1 **Q WHAT ADJUSTMENTS TO REVENUES WOULD BE REQUIRED AT PRESENT**
2 **RATES TO MOVE ALL CLASSES TO COST OF SERVICE?**

3 A This is shown on Schedule MEB-COS-5. The first five columns summarize the
4 results of the cost of service study at present rates, and are taken from
5 Schedule MEB-COS-4. The remaining columns of Schedule MEB-COS-5 determine
6 the amount of increase or decrease, on a revenue neutral basis, required to move
7 each customer class to the average rate of return at current revenue levels. That is, it
8 shows the amount of increase or decrease required to have every class yield the
9 same rate of return, before considering any overall increase in revenues. Note that
10 the Residential class would require an increase of about \$51 million, or 18.5%, in
11 order to move to cost of service. All other classes would require a corresponding
12 decrease. The decreases range from about 21% for the Lighting class to 8.5% for
13 the Large Power Service class.

14 **Q HOW DOES KCPL PROPOSE TO ADJUST REVENUES?**

15 A KCPL proposes essentially an equal percentage across-the-board increase.

16 **Q WOULD KCPL'S ALLOCATION MOVE CLASS RATES CLOSER TO COST OF**
17 **SERVICE?**

18 A No. KCPL's allocation would essentially maintain the status quo in which the
19 Residential class is below cost of service, and other classes are above cost of
20 service.

1 **Q DO YOU HAVE AN ALTERNATIVE RECOMMENDATION FOR ALLOCATION OF**
2 **KCPL'S REVENUE REQUIREMENT?**

3 A Yes. I will focus on adjustments to be made on a revenue neutral basis at present
4 rates. After having made my recommended revenue neutral adjustments at present
5 rates, any overall change in revenues allowed to KCPL can then be applied on an
6 equal percentage across-the-board basis to these adjusted class revenues.

7 **Q PLEASE EXPLAIN YOUR SPECIFIC PROPOSAL.**

8 A My specific proposal is shown on Schedule MEB-COS-6. Column 1 shows class
9 revenues at current rates. Column 2 shows my proposed cost of service adjustment.
10 This adjustment moves classes roughly 25% of the way toward cost of service. This
11 25% movement was selected because it makes a reasonable step in the right
12 direction without imposing too disruptive of a revenue increase on the Residential
13 class. An overall revenue-neutral increase of about 4.6% on the Residential class is
14 a relatively modest step, but at least it is a step in the right direction.

15 While some will want to talk about the impact on the Residential class of this
16 increase, it is also important not to lose sight of the fact that by not moving all the way
17 to cost of service, the other customer classes are continuing to bear more of the
18 burden of the revenue responsibility than they should. My recommendation of
19 moving 25% of the way toward cost of service, which limits the Residential class
20 revenue-neutral increase to 4.6% (as compared to the 18.5% increase required to
21 move all the way to cost of service) is relatively moderate, and must be considered in
22 light of the fact that other classes are being asked to continue to provide part of the
23 revenue responsibility that rightly should be shouldered by the Residential class.

1 **Analysis of Large Customer Rates**

2 **Q WHAT IS THE STRUCTURE OF THE TARIFFS APPLICABLE TO KCPL'S**
3 **LARGEST CUSTOMERS?**

4 A The LGS and LPS tariffs consist of a series of charges differentiated by voltage level.
5 There are separate charges for service at secondary voltage, service at primary
6 voltage, service at substation voltage, and service at transmission voltage. The rates
7 charged at the higher voltage levels are lower than the rates charged at the lower
8 voltage levels in order to recognize differences in cost of service.

9 At each voltage level, the rate consists of customer charges, facilities charges,
10 charges for reactive power, demand charges and energy charges. Demand charges
11 and energy charges also are seasonally differentiated, with summer charges being
12 applied during the four consecutive months beginning May 16 and ending
13 September 15.

14 **Q WHAT IS THE STRUCTURE OF THE DEMAND CHARGES?**

15 A In addition to being seasonally differentiated, the demand charges at each voltage
16 level consist of multiple block charges.

17 **Q WHAT IS THE STRUCTURE OF THE ENERGY CHARGES?**

18 A The energy charges are structured as three "hours use" blocks. The three blocks
19 consist of the first 180 hours use of the billing demand, the next 180 hours use of the
20 billing demand and the tail block is for consumption in excess of 360 hours use of the
21 billing demand.

22 These are what are known as hours use, or load factor based charges. The
23 rates decrease as the hours use increases to recognize the spreading of fixed costs

1 over more kilowatthours as the number of hours use, or load factor, increases. This
2 structure also recognizes that energy consumed in the high load factor block likely will
3 be off-peak or at times when energy costs are lower than during on-peak periods.

4 **Q PLEASE EXPLAIN HOW THE HOURS USE FUNCTION WORKS.**

5 A The number of kWh to be billed in each hours use block is determined by the
6 customer's billing demand and the amount of kWh purchased.

7 A customer operating basically one shift (eight hours a day for five days a
8 week) would have usage in the range of 180 kWh per kW of billing demand.³ A
9 customer operating two shifts would utilize approximately twice that much energy,
10 and therefore use an additional 180 or so kWh per kW of demand, thereby filling up
11 both the first and second blocks.

12 Thus, it is reasonable to consider the first block as being primarily the daytime
13 on-peak hours, the second block for early morning, evening and/or weekend hours,
14 and the third block for additional use in weekend and nighttime hours. Given these
15 considerations, it is appropriate that the energy charges for the initial hours use
16 blocks be higher than for the third hours use block in order to collect more fixed costs
17 during the on-peak and shoulder periods.

18 **Q CAN YOU ILLUSTRATE WITH AN EXAMPLE OF HOW THE RATE WORKS?**

19 A Yes. Assume that a customer has a 1,000 kW billing demand, and uses 500,000
20 kWh in a month. This customer would be using 500 kWh per kW,⁴ or 500 kWh for
21 each kW of demand. To apply the rate, the 1,000 kW of demand would be multiplied
22 times 180 kWh per kW, which is the size of the first block, and would result in 180,000

³8 hours/day x 5 days per week x 4.33 weeks per month = 173 hours

⁴500,000 ÷ 1,000 kW = 500 kWh/kW

1 kWh being priced out at the first block. The customer would also fully utilize the
2 second block, so 180,000 kWh would go in it as well. The remaining 140,000 kWh⁵
3 would be billed in the third, or high load factor block.

4 **Q WHAT IS THE LEVEL OF THE ENERGY CHARGES FOR THE HIGH LOAD**
5 **FACTOR (OVER 360 HOURS USE) BLOCK UNDER CURRENT TARIFFS?**

6 A The charges vary slightly by voltage level and by season, but range from
7 approximately 2.4¢/kWh to 2.6¢/kWh in LPS and from 3.1¢/kWh to 4.3¢/kWh for LGS.

8 **Q DO YOU AGREE WITH THE LEVEL OF THE OFF-PEAK ENERGY CHARGES IN**
9 **THE CURRENT TARIFFS?**

10 A No, I do not. I believe the high load factor block energy charges collect more fixed
11 costs than is appropriate.

12 **Q PLEASE EXPLAIN.**

13 A I have analyzed KCPL's current rate case filing and its claims for costs. KCPL's
14 calculated average variable costs (See Schedule PMN-3, page 2) are less than
15 1.8¢/kWh. The energy charges in the high load factor block of KCPL's current LGS
16 and LPS tariffs are substantially higher, as previously noted. Since KCPL proposes
17 an essentially equal percentage increase to collect its requested revenue increase,
18 these relationships would be perpetuated.

⁵500,000 - 180,000 - 180,000 = 140,000 kWh

1 **Q WHAT DO YOU CONCLUDE FROM THIS REVIEW?**

2 A Based on the level of the average variable costs and also the avoided energy costs, it
3 is clear that the off-peak energy charges are collecting more costs than appropriate.

4 **Q WHAT SHOULD BE THE LEVEL OF THE OFF-PEAK ENERGY CHARGE?**

5 A Recognizing that most of the fixed costs should be collected from use during the
6 on-peak period and that consumption in the high load factor block occurs mostly
7 during evening and weekend periods when KCPL's energy costs would be lower than
8 they are during the on-peak periods, it is reasonable that the high load factor energy
9 block be at a level approximating the utility's average variable costs.

10 This structure would collect more costs through demand charges and provide
11 better price signals to customers. It would also be a more equitable rate because it
12 will charge high load factor and low load factor customers more appropriately. This
13 structure also would improve the stability of KCPL's earnings. Because customer
14 demands are generally more stable than their energy purchases, this rate design
15 would make KCPL's revenue collection and earnings less volatile.

16 **Q HOW DO YOU PROPOSE TO ADJUST THE LGS AND LPS RATES IN THIS**
17 **CASE?**

18 A In the interest of gradualism, my proposal is to maintain the energy charges for the
19 high load factor (over 360 hours use per month, or over a 50% load factor) block at
20 their current levels, increase the middle blocks (hours use from 181 to 360) by three
21 quarters of the average percentage increase, and to collect the balance of the
22 revenue requirement for the tariff by applying a uniform percentage increase to the
23 remaining charges in the tariff. This includes the customer charge, the reactive

1 demand charge, the facilities charges, the demand charges and the initial block
2 energy charges.

3 **Q HAVE YOU PREPARED AN ILLUSTRATION OF THIS RATE DESIGN?**

4 A Yes. This appears on Schedules MEB-COS-7 and MEB-COS-8 attached to my
5 testimony.

6 **Q PLEASE EXPLAIN SCHEDULE MEB-COS-7.**

7 A The first two pages contain a summary of the rate values for the LPS rate. The first
8 column is present rates, the second is KCPL's proposed rates and the third is my
9 proposal at the level of KCPL's proposed increase. The first column of the detail
10 sheets for this schedule (pages 3-8) shows the billing units for each block of each
11 voltage level of the LPS rate. The next two columns show the current rates and
12 resulting revenues by block. The middle two columns show KCPL's proposed rates
13 and the resulting revenues.

14 The final two columns show the rate based on KCPL's proposed increase to
15 the LPS class, but with my rate design proposal.

16 Schedule MEB-COS-8 shows the same information for the LGS rate.

17 **Q HOW WOULD THE RATES BE DESIGNED TO MATCH WHATEVER AMOUNT OF
18 INCREASE THE COMMISSION AWARDS TO KCPL IN THIS CASE?**

19 A First, the amount of additional revenue to be collected from the LPS and LGS tariffs
20 would be determined. The increase for the middle block energy charges would be
21 equal to the overall percentage increase times 75%. The high load factor energy

1 blocks would not change. The balance of the increased revenue from each tariff
2 would be collected by uniformly increasing all of the remaining charges in the tariff.

3 **Q IN ADDITION TO ITS PROPOSAL FOR AN EQUAL PERCENTAGE ACROSS-THE-**
4 **BOARD INCREASE, HAS KCPL PROPOSED ANY NEW RATES OR RATE**
5 **DESIGN?**

6 A No, it has not. It seems content to simply percentage up all of the charges. KCPL
7 should be examining the tariff schedules and attempting to move the rate elements
8 closer to cost of service, to enhance the price signals given to customers.

9 **Q IS THERE ANYTHING ELSE THAT KCPL SHOULD BE DOING?**

10 A Yes. KCPL should be working with its larger customers, especially those who have
11 unique load patterns and abilities to curtail load, to determine what rate or contract
12 features would be appropriate to meet the needs of these customers, which may be
13 different from what is contained in the standard tariffs.

14 **Q DO THESE CUSTOMERS OFFER BENEFITS TO KCPL AND ITS OTHER**
15 **RATEPAYERS?**

16 A Yes. In many cases, these customers have unique load characteristics which allow
17 KCPL to reduce its peak demand or to otherwise improve its overall load factor. For
18 instance, some large customers have significant abilities to interrupt load. By making
19 effective use of the interruptible nature of these customers, KCPL should be better
20 able to reduce its annual peak and thereby reduce its overall revenue requirement.
21 Other customers may offer other features. By providing tailored opportunities to

1 these customers, KCPL should be able to increase its overall load factor and reduce
2 its overall operating costs.

3 **Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

4 **A Yes, it does.**

Appendix A

Qualifications of Maurice Brubaker

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A Maurice Brubaker. My business address is 16690 Swingley Ridge Road, Suite 140,
3 Chesterfield, MO 63017.

4 **Q PLEASE STATE YOUR OCCUPATION.**

5 A I am a consultant in the field of public utility regulation and President of the firm of
6 Brubaker & Associates, Inc. (BAI), energy, economic and regulatory consultants.

7 **Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**
8 **EXPERIENCE.**

9 A I was graduated from the University of Missouri in 1965, with a Bachelor's Degree in
10 Electrical Engineering. Subsequent to graduation I was employed by the Utilities
11 Section of the Engineering and Technology Division of Esso Research and
12 Engineering Corporation of Morristown, New Jersey, a subsidiary of Standard Oil of
13 New Jersey.

14 In the Fall of 1965, I enrolled in the Graduate School of Business at
15 Washington University in St. Louis, Missouri. I was graduated in June of 1967 with
16 the Degree of Master of Business Administration. My major field was finance.

17 From March of 1966 until March of 1970, I was employed by Emerson Electric
18 Company in St. Louis. During this time I pursued the Degree of Master of Science in
19 Engineering at Washington University, which I received in June, 1970.

1 In March of 1970, I joined the firm of Drazen Associates, Inc., of St. Louis,
2 Missouri. Since that time I have been engaged in the preparation of numerous
3 studies relating to electric, gas, and water utilities. These studies have included
4 analyses of the cost to serve various types of customers, the design of rates for utility
5 services, cost forecasts, cogeneration rates and determinations of rate base and
6 operating income. I have also addressed utility resource planning principles and
7 plans, reviewed capacity additions to determine whether or not they were used and
8 useful, addressed demand-side management issues independently and as part of
9 least cost planning, and have reviewed utility determinations of the need for capacity
10 additions and/or purchased power to determine the consistency of such plans with
11 least cost planning principles. I have also testified about the prudence of the actions
12 undertaken by utilities to meet the needs of their customers in the wholesale power
13 markets and have recommended disallowances of costs where such actions were
14 deemed imprudent.

15 I have testified before the Federal Energy Regulatory Commission (FERC),
16 various courts and legislatures, and the state regulatory commissions of Alabama,
17 Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia,
18 Guam, Hawaii, Illinois, Indiana, Iowa, Kentucky, Louisiana, Michigan, Missouri,
19 Nevada, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania,
20 Rhode Island, South Carolina, South Dakota, Texas, Utah, Virginia, West Virginia,
21 Wisconsin and Wyoming.

22 The firm of Drazen-Brubaker & Associates, Inc. was incorporated in 1972 and
23 assumed the utility rate and economic consulting activities of Drazen Associates, Inc.,
24 founded in 1937. In April, 1995 the firm of Brubaker & Associates, Inc. was formed. It
25 includes most of the former DBA principals and staff. Our staff includes consultants

1 with backgrounds in accounting, engineering, economics, mathematics, computer
2 science and business.

3 Brubaker & Associates, Inc. and its predecessor firm has participated in over
4 700 major utility rate and other cases and statewide generic investigations before
5 utility regulatory commissions in 40 states, involving electric, gas, water, and steam
6 rates and other issues. Cases in which the firm has been involved have included
7 more than 80 of the 100 largest electric utilities and over 30 gas distribution
8 companies and pipelines.

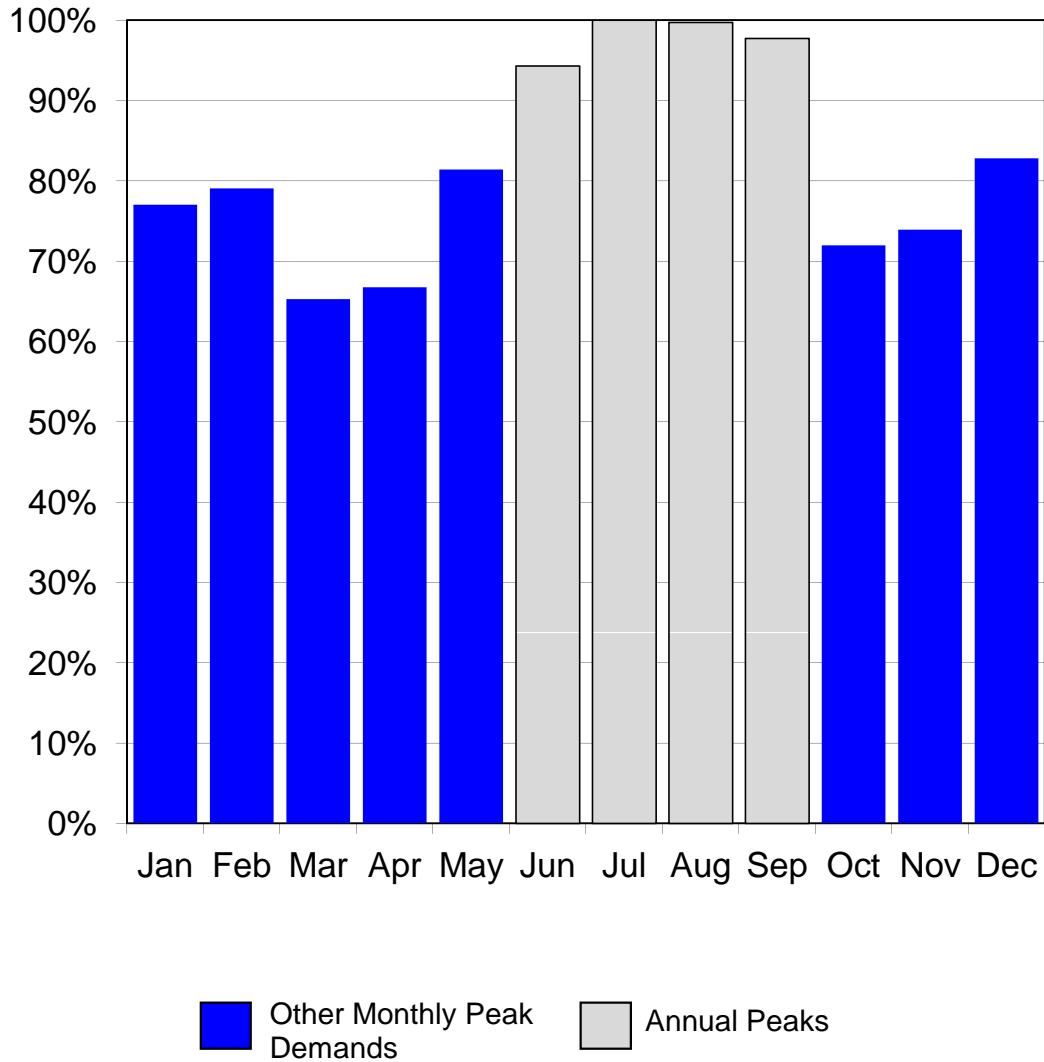
9 An increasing portion of the firm's activities is concentrated in the areas of
10 competitive procurement. While the firm has always assisted its clients in negotiating
11 contracts for utility services in the regulated environment, increasingly there are
12 opportunities for certain customers to acquire power on a competitive basis from a
13 supplier other than its traditional electric utility. The firm assists clients in identifying
14 and evaluating purchased power options, conducts RFPs and negotiates with
15 suppliers for the acquisition and delivery of supplies. We have prepared option
16 studies and/or conducted RFPs for competitive acquisition of power supply for
17 industrial and other end-use customers throughout the United States and in Canada,
18 involving total needs in excess of 3,000 megawatts. The firm is also an associate
19 member of the Electric Reliability Council of Texas and a licensed electricity
20 aggregator in the State of Texas.

21 In addition to our main office in St. Louis, the firm has branch offices in
22 Phoenix, Arizona and Corpus Christi, Texas.

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KANSAS CITY POWER & LIGHT COMPANY

Analysis of KCP&L's (Missouri) Monthly Peak Demands as a Percent of the Annual System Peak For the Test Year Ended September 30, 2011



KANSAS CITY POWER & LIGHT COMPANY

**Analysis of KCP&L's Monthly Peak Demands
as a Percent of the Annual System Peak
(Weather Normalized and with Losses)
For the Test Year Ended September 30, 2011**

| <u>Line</u> | <u>Description</u> | <u>Total Company MW (1)</u> | <u>Percent (2)</u> |
|-------------|--------------------|---|------------------------|
| 1 | January | 1,491 | 77.0 |
| 2 | February | 1,531 | 79.1 |
| 3 | March | 1,264 | 65.3 |
| 4 | April | 1,292 | 66.7 |
| 5 | May | 1,576 | 81.4 |
| 6 | June | 1,825 | 94.3 |
| 7 | July | 1,936 | 100.0 |
| 8 | August | 1,930 | 99.7 |
| 9 | September | 1,892 | 97.7 |
| 10 | October | 1,393 | 72.0 |
| 11 | November | 1,431 | 73.9 |
| 12 | December | 1,603 | 82.8 |

Source: KCPL Allocators MO Rev 2-23-12.xls

KANSAS CITY POWER & LIGHT COMPANY

Development of Average and Excess Demand Allocator Based on 4 Non-Coincident Peaks For the Test Year Ended September 30, 2011

| Line | Description | Missouri Retail (1) | Residential (2) | Small General Service (3) | Medium General Service (4) | Large General Service (5) | Large Power Service (6) | Other Lighting (7) |
|------------|-------------------------------------|---------------------------|--------------------|------------------------------------|-------------------------------------|------------------------------------|----------------------------------|--------------------------|
| 1 | Missouri System Peak | 1,935,936 | | | | | | |
| 2 | Avg of 4 Highest Monthly NCP Values | 2,075,278 | 909,823 | 99,070 | 248,770 | 458,018 | 349,270 | 10,327 |
| 3 | Energy Sales with Losses - MWh | 9,045,302 | 2,742,028 | 438,496 | 1,154,656 | 2,362,973 | 2,256,681 | 90,467 |
| 4 | Average Demand - kW | 1,032,569 | 313,017 | 50,057 | 131,810 | 269,746 | 257,612 | 10,327 |
| 5 | Average Demand - Percent | 1.000000 | 0.303144 | 0.048478 | 0.127653 | 0.261238 | 0.249487 | 0.010002 |
| 6 | Class Excess Demand - kW | 1,042,709 | 596,806 | 49,013 | 116,960 | 188,272 | 91,658 | - |
| 7 | Class Excess Demand - Percent | 1.000000 | 0.572361 | 0.047006 | 0.112169 | 0.180561 | 0.087903 | - |
| Allocator: | | | | | | | | |
| 8 | Annual Load Factor * Average Demand | 0.533369 | 0.161688 | 0.025857 | 0.068086 | 0.139336 | 0.133068 | 0.005335 |
| 9 | (1-LF) * Excess Demand | 0.466631 | 0.267081 | 0.021934 | 0.052342 | 0.084255 | 0.041018 | - |
| 10 | Average and Excess Demand Allocator | 1.000000 | 0.428769 | 0.047791 | 0.120428 | 0.223591 | 0.174087 | 0.005335 |

Notes:

Line 4 equals Line 3 ÷ 8.760

Line 6 equals Line 2- Line 4

System Annual Load Factor 53.34%

1 - Load Factor 46.66%

Source: KCPL Allocators MO Rev 2-23-12.xls

KANSAS CITY POWER & LIGHT COMPANY
2012 RATE CASE - Direct Filing
COST OF SERVICE - Missouri Jurisdiction
TY 9/30/11; Update TBD; K&M 8/31/12

| LINE NO. | DESCRIPTION | MISSOURI RETAIL (1) | RESIDENTIAL (2) | SMALL GEN. SERVICE (3) | MEDIUM GEN. SERVICE (4) | LARGE GEN. SERVICE (5) | LARGE PWR SERVICE (6) | TOTAL LIGHTING (7) |
|----------|--|---------------------|-----------------|------------------------|-------------------------|------------------------|-----------------------|--------------------|
| 0010 | SCHEDULE 1 - SUMMARY OF OPERATING INC & RATE BASE | | | | | | | |
| 0020 | | | | | | | | |
| 0030 | OPERATING REVENUE | | | | | | | |
| 0040 | RETAIL SALES REVENUE | 699,636,961 | 259,806,177 | 47,984,116 | 94,385,415 | 163,335,353 | 125,295,179 | 8,830,722 |
| 0050 | OTHER OPERATING REVENUE | 49,051,908 | 16,338,152 | 2,431,778 | 6,215,310 | 12,358,095 | 11,198,781 | 509,791 |
| 0060 | TOTAL OPERATING REVENUE | 748,688,868 | 276,144,329 | 50,415,894 | 100,600,724 | 175,693,449 | 136,493,960 | 9,340,513 |
| 0070 | | | | | | | | |
| 0080 | OPERATING EXPENSES | | | | | | | |
| 0090 | FUEL | 124,790,618 | 37,864,453 | 6,039,546 | 15,954,515 | 32,485,423 | 31,219,978 | 1,226,703 |
| 0100 | PURCHASED POWER | 24,345,430 | 7,532,510 | 1,189,362 | 3,103,358 | 6,331,380 | 5,935,822 | 252,997 |
| 0110 | OTHER OPERATION & MAINTENANCE EXPENSES | 296,422,803 | 141,948,864 | 17,504,188 | 33,592,326 | 57,195,075 | 43,250,875 | 2,931,474 |
| 0120 | DEPRECIATION EXPENSES (AFTER CLEARINGS) | 98,902,485 | 45,782,454 | 5,205,803 | 12,270,616 | 20,107,468 | 14,399,244 | 1,136,901 |
| 0130 | AMORTIZATION EXPENSES | 11,107,955 | 5,029,084 | 577,748 | 1,368,163 | 2,331,161 | 1,700,207 | 101,591 |
| 0140 | TAXES OTHER THAN INCOME TAXES | 48,547,311 | 22,398,032 | 2,620,817 | 5,909,919 | 9,926,489 | 7,216,700 | 475,351 |
| 0150 | CURRENT INCOME TAXES | 9,814,637 | (14,163,992) | 4,314,307 | 5,312,330 | 8,310,307 | 5,122,449 | 919,236 |
| 0160 | DEFERRED INCOME TAXES | 16,774,160 | 7,764,140 | 894,261 | 2,057,055 | 3,433,924 | 2,460,231 | 164,549 |
| 0170 | TOTAL ELECTRIC OPERATING EXPENSES | 630,705,397 | 254,155,547 | 38,346,032 | 79,568,282 | 140,121,226 | 111,305,506 | 7,208,803 |
| 0180 | | | | | | | | |
| 0190 | NET ELECTRIC OPERATING INCOME | 117,983,472 | 21,988,782 | 12,069,862 | 21,032,442 | 35,572,222 | 25,188,454 | 2,131,710 |
| 0200 | | | | | | | | |
| 0210 | RATE BASE | | | | | | | |
| 0220 | TOTAL ELECTRIC PLANT | 4,283,301,236 | 1,969,597,302 | 227,185,954 | 524,796,965 | 882,601,664 | 637,971,746 | 41,147,604 |
| 0230 | LESS: ACCUM. PROV. FOR DEPREC | 1,816,407,425 | 849,076,656 | 99,278,733 | 215,962,686 | 364,918,001 | 265,975,605 | 21,195,743 |
| 0240 | NET PLANT | 2,466,893,811 | 1,120,520,646 | 127,907,221 | 308,834,279 | 517,683,663 | 371,996,141 | 19,951,861 |
| 0250 | PLUS: | | | | | | | |
| 0260 | CASH WORKING CAPITAL | (47,690,286) | (20,661,956) | (2,879,418) | (6,108,950) | (10,196,019) | (7,329,713) | (514,230) |
| 0270 | MATERIALS & SUPPLIES | 51,855,549 | 23,275,090 | 2,661,497 | 6,363,892 | 10,998,444 | 8,114,521 | 442,103 |
| 0280 | PREPAYMENTS | 5,522,723 | 2,448,419 | 275,545 | 661,673 | 1,191,827 | 909,286 | 35,973 |
| 0290 | FUEL INVENTORY | 66,901,141 | 20,299,403 | 3,237,844 | 8,553,329 | 17,415,667 | 16,737,253 | 657,644 |
| 0300 | REGULATORY ASSETS | 121,304,313 | 49,640,766 | 6,355,804 | 14,798,626 | 27,677,305 | 21,599,867 | 1,231,946 |
| 0310 | LESS: | | | | | | | |
| 0320 | CUSTOMER ADVANCES FOR CONSTRUCTION | 158,781 | 88,149 | 10,508 | 20,915 | 24,434 | 11,469 | 3,306 |
| 0330 | CUSTOMER DEPOSITS | 4,192,439 | 2,179,087 | 1,607,581 | 335,161 | 65,338 | 5,272 | 0 |
| 0340 | DEFERRED INCOME TAXES | 485,201,862 | 223,111,153 | 25,735,068 | 59,447,713 | 99,978,952 | 72,267,875 | 4,661,100 |
| 0350 | DEFERRED GAIN ON SO2 EMISSIONS ALLOWANCE | 45,275,933 | 13,725,121 | 2,194,878 | 5,779,590 | 11,827,778 | 11,295,737 | 452,829 |
| 0360 | DEFERRED GAIN(LOSS) EMISSIONS ALLOWANCE | 2,121 | 643 | 103 | 271 | 554 | 529 | 21 |
| 0370 | TOTAL RATE BASE | 2,129,956,114 | 956,418,216 | 108,010,356 | 267,519,198 | 452,873,831 | 328,446,472 | 16,688,042 |
| 0380 | | | | | | | | |
| 0390 | RATE OF RETURN | 5.539% | 2.299% | 11.175% | 7.862% | 7.855% | 7.669% | 12.774% |
| 0400 | RELATIVE RATE OF RETURN | 1.00 | 0.42 | 2.02 | 1.42 | 1.42 | 1.38 | 2.31 |

Notes:

Production Plant and Expense Allocated using A&E-4NCP.
Margin on Sales Revenue Allocated on Energy.

KANSAS CITY POWER & LIGHT COMPANY

**Class Cost of Service Study Results
and Revenue Adjustments to Move Each Class to Cost of Service
Using Modified ECOS at Present Rates
(\$ in Thousands)**

| <u>Line</u> | <u>Rate Class</u> | <u>Current Revenues</u> (1) | <u>Current Rate Base</u> (2) | <u>Net Operating Income</u> (3) | <u>Earned ROR</u> (4) | <u>Indexed ROR</u> (5) | <u>Income @ Current ROR</u> (6) | <u>Difference in Income</u> (7) | <u>Revenue Increase</u> (8) | <u>Percentage Increase</u> (9) |
|-------------|------------------------|--------------------------------|---------------------------------|------------------------------------|--------------------------|---------------------------|------------------------------------|------------------------------------|--------------------------------|-----------------------------------|
| 1 | Residential | \$ 276,144 | \$ 956,418 | \$ 21,989 | 2.299% | 42 | \$ 52,978 | \$ 30,990 | \$ 51,154 | 18.5% |
| 2 | Small General Service | 50,416 | 108,010 | 12,070 | 11.175% | 202 | 5,983 | (6,087) | (10,047) | -19.9% |
| 3 | Medium General Service | 100,601 | 267,519 | 21,032 | 7.862% | 142 | 14,819 | (6,214) | (10,257) | -10.2% |
| 4 | Large General Service | 175,693 | 452,874 | 35,572 | 7.855% | 142 | 25,086 | (10,486) | (17,310) | -9.9% |
| 5 | Large Power Service | 136,494 | 328,446 | 25,188 | 7.669% | 138 | 18,193 | (6,995) | (11,546) | -8.5% |
| 6 | Total Lighting | <u>9,341</u> | <u>16,688</u> | <u>2,132</u> | 12.774% | 231 | <u>924</u> | <u>(1,207)</u> | <u>(1,993)</u> | -21.3% |
| 7 | Total | \$ 748,689 | \$ 2,129,956 | \$ 117,983 | 5.539% | 100 | \$ 117,983 | \$ 0 | \$ 0 | 0.0% |

Source: Schedule MEB-COS-4

KANSAS CITY POWER & LIGHT COMPANY

**Recommended Cost of Service Adjustments
Using Modified ECOS at Present Rates
(\$ in Millions)**

| <u>Line</u> | <u>Rate Class</u> | <u>Current Revenues (1)</u> | <u>Move 25% Toward Cost Of Service (2)</u> | <u>Adjusted Current Revenue (3)</u> | <u>Percent of Adjusted Current Revenue (4)</u> |
|-------------|------------------------|---------------------------------|--|---|--|
| 1 | Residential | \$ 276.1 | \$ 12.8 | \$ 288.9 | 38.59% |
| 2 | Small General Service | 50.4 | (2.5) | 47.9 | 6.40% |
| 3 | Medium General Service | 100.6 | (2.6) | 98.0 | 13.09% |
| 4 | Large General Service | 175.7 | (4.3) | 171.4 | 22.89% |
| 5 | Large Power Service | 136.5 | (2.9) | 133.6 | 17.85% |
| 6 | Total Lighting | <u>9.3</u> | <u>(0.5)</u> | <u>8.8</u> | 1.18% |
| 7 | Subtotal | \$ 748.7 | \$ - | \$ 748.7 | 100.00% |

**MO LARGE POWER SERVICE
SUMMARY OF PROPOSAL SCENARIO**

*** Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.**

| INPUT FOR MODEL | | | |
|----------------------------|---------------|---------------------|----------------|
| Cust Chg | Current Rates | Rates With Increase | Proposed Rates |
| A: CUSTOMER CHARGE | 811.13 | 933.14 | 972.18 |
| | - | - | - |
| | - | - | - |
| B: FACILITIES CHARGE | | | |
| SECONDARY: | 2.716 | 3.125 | 3.255 |
| PRIMARY: | 2.252 | 2.591 | 2.699 |
| SUBSTATION VOLTAGE | 0.679 | 0.781 | 0.814 |
| TRANSM VOLTAGE | - | - | - |
| C: DEMAND CHARGE | | | |
| <u>SECONDARY-SUMMER:</u> | | | |
| First 2443 kw | 10.539 | 12.124 | 12.631 |
| Next 2443 kw | 8.430 | 9.698 | 10.104 |
| Next 2443 kw | 7.062 | 8.124 | 8.464 |
| All kw over 7329 kw | 5.155 | 5.930 | 6.179 |
| <u>SECONDARY-WINTER</u> | | | |
| First 2443 kw | 7.164 | 8.242 | 8.586 |
| Next 2443 kw | 5.590 | 6.431 | 6.700 |
| Next 2443 kw | 4.932 | 5.674 | 5.911 |
| All kw over 7329 kw | 3.796 | 4.367 | 4.550 |
| <u>PRIMARY-SUMMER</u> | | | |
| First 2500 kw | 10.297 | 11.846 | 12.341 |
| Next 2500 kw | 8.238 | 9.477 | 9.874 |
| Next 2500 kw | 6.900 | 7.938 | 8.270 |
| All kw over 7500 kw | 5.037 | 5.795 | 6.037 |
| <u>PRIMARY-WINTER</u> | | | |
| First 2500 kw | 6.999 | 8.052 | 8.389 |
| Next 2500 kw | 5.463 | 6.285 | 6.548 |
| Next 2500 kw | 4.819 | 5.544 | 5.776 |
| All kw over 7500 kw | 3.710 | 4.268 | 4.447 |
| <u>SUBSTATION-SUMMER</u> | | | |
| First 2530 kw | 10.174 | 11.704 | 12.194 |
| Next 2530 kw | 8.139 | 9.363 | 9.755 |
| Next 2530 kw | 6.818 | 7.844 | 8.172 |
| All kw over 7590 kw | 4.978 | 5.727 | 5.966 |
| <u>SUBSTATION-WINTER</u> | | | |
| First 2530 kw | 6.917 | 7.957 | 8.290 |
| Next 2530 kw | 5.398 | 6.210 | 6.470 |
| Next 2530 kw | 4.763 | 5.479 | 5.709 |
| All kw over 7590 kw | 3.666 | 4.217 | 4.394 |
| <u>TRANSMISSION-SUMMER</u> | | | |
| First 2553 kw | 10.086 | 11.603 | 12.089 |
| Next 2553 kw | 8.067 | 9.280 | 9.669 |
| Next 2553 kw | 6.756 | 7.772 | 8.097 |
| All kw over 7659 kw | 4.933 | 5.675 | 5.912 |
| <u>TRANSMISSION-WINTER</u> | | | |
| First 2553 kw | 6.854 | 7.885 | 8.215 |
| Next 2553 kw | 5.350 | 6.155 | 6.412 |
| Next 2553 kw | 4.720 | 5.430 | 5.657 |
| All kw over 7659 kw | 3.633 | 4.179 | 4.354 |

**MO LARGE POWER SERVICE
SUMMARY OF PROPOSAL SCENARIO**

*** Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.**

| INPUT FOR MODEL | | | |
|---|---------------|---------------------|----------------|
| Cust Chg | Current Rates | Rates With Increase | Proposed Rates |
| D: ENERGY CHARGE | | | |
| <u>SECONDARY-SUMMER:</u> | | | |
| 0-180 hrs use per month | 0.06599 | 0.07592 | 0.07909 |
| 181-360 hrs use per month | 0.04444 | 0.05112 | 0.04945 |
| 361+ hrs use per month | 0.02566 | 0.02952 | 0.02566 |
| <u>SECONDARY-WINTER:</u> | | | |
| 0-180 hrs use per month | 0.05594 | 0.06435 | 0.06705 |
| 181-360 hrs use per month | 0.04043 | 0.04651 | 0.04499 |
| 361+ hrs use per month | 0.02541 | 0.02923 | 0.02541 |
| <u>PRIMARY-SUMMER:</u> | | | |
| 0-180 hrs use per month | 0.06448 | 0.07418 | 0.07728 |
| 181-360 hrs use per month | 0.04344 | 0.04997 | 0.04834 |
| 361+ hrs use per month | 0.02507 | 0.02884 | 0.02507 |
| <u>PRIMARY-WINTER:</u> | | | |
| 0-180 hrs use per month | 0.05467 | 0.06289 | 0.06552 |
| 181-360 hrs use per month | 0.03950 | 0.04544 | 0.04396 |
| 361+ hrs use per month | 0.02484 | 0.02858 | 0.02484 |
| <u>SUBSTATION-SUMMER</u> | | | |
| 0-180 hrs use per month | 0.06373 | 0.07332 | 0.07638 |
| 181-360 hrs use per month | 0.04293 | 0.04939 | 0.04777 |
| 361+ hrs use per month | 0.02477 | 0.02850 | 0.02477 |
| <u>SUBSTATION-WINTER</u> | | | |
| 0-180 hrs use per month | 0.05403 | 0.06216 | 0.06476 |
| 181-360 hrs use per month | 0.03904 | 0.04491 | 0.04344 |
| 361+ hrs use per month | 0.02454 | 0.02823 | 0.02454 |
| <u>TRANSMISSION-SUMMER</u> | | | |
| 0-180 hrs use per month | 0.06316 | 0.07266 | 0.07570 |
| 181-360 hrs use per month | 0.04254 | 0.04894 | 0.04734 |
| 361+ hrs use per month | 0.02456 | 0.02825 | 0.02456 |
| <u>TRANSMISSION-WINTER</u> | | | |
| 0-180 hrs use per month | 0.05354 | 0.06159 | 0.06417 |
| 181-360 hrs use per month | 0.03869 | 0.04451 | 0.04305 |
| 361+ hrs use per month | 0.02431 | 0.02797 | 0.02431 |
| E: REACTIVE DEMAND ADJUSTMENT | 0.682 | 0.782 | 0.817 |
| LPS Secondary | 100.00% | | 15.36% |
| LPS Primary | 100.00% | | 15.31% |
| LPS Substation Voltage | 100.00% | | 14.40% |
| LPS Transmission Voltage | 100.00% | | 15.28% |
| LPS Overall Change (*) | 0.00% | | 15.04% |
| Winter Price Below Summer (SUM-WIN)/SUM | 11.3% | | 11.6% |
| Overall Change | | | 15.04% |

| | | |
|------------------------------------|---------------|---------------|
| Revenue | \$127,310,955 | \$146,460,285 |
| Change in Revenue | | \$19,149,330 |
| Design Revenue per Revenue Summary | | \$19,149,337 |
| | | (\$8) |

**MO LARGE POWER
SECONDARY VOLTAGE - LPGSS**

* Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--------------------------------|---------------|---------------|--------------|----------------|--------------|---------------------|--------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | 112.6 | \$811.13 | \$91,364 | 933.14 | \$105,107 | \$972.18 | \$109,504 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | 113 | | \$91,364 | | \$105,107 | | \$109,504 |
| B: FACILITIES CHARGE | 268,599.3 | \$2.716 | \$729,516 | \$3.125 | \$839,373 | \$3.255 | \$874,291 |
| C: DEMAND CHARGE | | | | | | | |
| First 2443 kw | 213,450.8 | \$10.539 | \$2,249,558 | \$12.124 | \$2,587,877 | \$12.631 | \$2,696,097 |
| Next 2443 kw | 57,948.0 | \$8.430 | \$488,502 | \$9.698 | \$561,980 | \$10.104 | \$585,507 |
| Next 2443 kw | 21,587.7 | \$7.062 | \$152,453 | \$8.124 | \$175,379 | \$8.464 | \$182,719 |
| Over 7329 kw | 2,789.0 | \$5.155 | \$14,377 | \$5.930 | \$16,539 | \$6.179 | \$17,233 |
| | 295,776 | | \$2,904,889 | | \$3,341,775 | | \$3,481,555 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 53,146,926.4 | \$0.06599 | \$3,507,166 | \$0.07592 | \$4,034,915 | \$0.07909 | \$4,203,390 |
| 181-360 hrs use per month | 52,791,754.2 | \$0.04444 | \$2,346,066 | \$0.05112 | \$2,698,714 | \$0.04945 | \$2,610,552 |
| 361+ hrs use per month | 53,792,219.1 | \$0.02566 | \$1,380,308 | \$0.02952 | \$1,587,946 | \$0.02566 | \$1,380,308 |
| | 159,730,900 | | \$7,233,540 | | \$8,321,575 | | \$8,194,251 |
| E: REACTIVE DEMAND ADJUSTMENT | 2,517.5 | \$0.6820 | \$1,717 | \$0.7820 | \$1,969 | \$0.8170 | \$2,057 |
| F: MANUAL BILL USAGE/REVENUE | - | | - | | \$0 | | \$0 |
| REVENUE | | | \$10,961,026 | | \$12,609,799 | | \$12,661,658 |
| c/kwh | | | \$0.0686 | | \$0.0789 | | \$0.0793 |
| OVERALL CHANGE (%) | 2626 | | | | 15.04% | | 15.52% |
| used to reference avg customer | 1,418,094 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--|---------------|---------------|--------------|----------------|--------------|---------------------|--------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | 271.4 | \$811.13 | \$220,110 | 933.14 | \$253,219 | \$972.18 | \$263,813 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | 271 | | \$220,110 | | \$253,219 | | \$263,813 |
| B: FACILITIES CHARGE | 644,333.7 | \$2.716 | \$1,750,010 | \$3.125 | \$2,013,543 | \$3.255 | \$2,097,306 |
| C: DEMAND CHARGE | | | | | | | |
| First 2443 kw | 394,205.2 | \$7.164 | \$2,824,086 | \$8.242 | \$3,249,039 | \$8.586 | \$3,384,646 |
| Next 2443 kw | 87,205.0 | \$5.590 | \$487,476 | \$6.431 | \$560,815 | \$6.700 | \$584,273 |
| Next 2443 kw | 14,441.3 | \$4.932 | \$71,224 | \$5.674 | \$81,940 | \$5.911 | \$85,362 |
| Over 7329 kw | - | \$3.796 | \$0 | \$4.367 | \$0 | \$4.550 | \$0 |
| | 495,851 | | \$3,382,786 | | \$3,891,794 | | \$4,054,282 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 87,853,750.4 | \$0.05594 | \$4,914,539 | \$0.06435 | \$5,653,389 | \$0.06705 | \$5,890,594 |
| 181-360 hrs use per month | 86,402,157.8 | \$0.04043 | \$3,493,239 | \$0.04651 | \$4,018,564 | \$0.04499 | \$3,887,233 |
| 361+ hrs use per month | 86,376,877.1 | \$0.02541 | \$2,194,836 | \$0.02923 | \$2,524,796 | \$0.02541 | \$2,194,836 |
| | 260,632,785 | | \$10,602,614 | | \$12,196,749 | | \$11,972,663 |
| E: REACTIVE DEMAND ADJUSTMENT | 5,152.5 | \$0.6820 | \$3,514 | \$0.7820 | \$4,029 | \$0.8170 | \$4,210 |
| F: MANUAL BILL USAGE/REVENUE | - | | - | | \$0 | | \$0 |
| REVENUE | | | \$15,959,035 | | \$18,359,335 | | \$18,392,274 |
| c/kwh | | | \$0.0612 | | \$0.0704 | | \$0.0706 |
| OVERALL CHANGE (%) | 1827 | | | | 15.04% | | 15.25% |
| used to reference avg customer | 960,461 | | | | | | |
| ANNUAL | 420,363,685 | | \$26,920,061 | | \$30,969,133 | | \$31,053,932 |
| c/kwh | | | \$0.0640 | | \$0.0737 | | \$0.0739 |
| OVERALL CHANGE (%) | | | | | 15.04% | | 15.36% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | | | 10.8% | | 11.0% |

\\Doc\Shares\Prolaw\Docs\DLA\9593\Exhibit\221611.xls\RATE SUMMARIES

**MO LARGE POWER
PRIMARY VOLTAGE - LPGSP**

*** Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.**

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--------------------------------|--------------------|---------------|---------------------|----------------|---------------------|---------------------|---------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| | 111.9 | \$811.13 | \$90,760 | 933.14 | \$104,412 | 972.18 | \$108,781 |
| | - | \$0.00 | \$0 | - | \$0 | - | \$0 |
| | - | \$0.00 | \$0 | - | \$0 | - | \$0 |
| | <u>112</u> | | <u>\$90,760</u> | | <u>\$104,412</u> | | <u>\$108,781</u> |
| B: FACILITIES CHARGE | 557,676.1 | \$2.252 | \$1,255,887 | \$2.591 | \$1,444,939 | \$2.699 | \$1,505,168 |
| C: DEMAND CHARGE | | | | | | | |
| First 2500 kw | 285,690.3 | \$10.297 | \$2,941,753 | \$11.846 | \$3,384,288 | \$12.341 | \$3,525,704 |
| Next 2500 kw | 142,587.5 | \$8.238 | \$1,174,636 | \$9.477 | \$1,351,301 | \$9.874 | \$1,407,909 |
| Next 2500 kw | 69,629.0 | \$6.900 | \$480,440 | \$7.938 | \$552,715 | \$8.270 | \$575,832 |
| Over 7500 kw | 94,509.0 | \$5.037 | \$476,042 | \$5.795 | \$547,680 | \$6.037 | \$570,551 |
| | <u>592,416</u> | | <u>\$5,072,871</u> | | <u>\$5,835,984</u> | | <u>\$6,079,996</u> |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 106,447,261.6 | \$0.06448 | \$6,863,719 | \$0.07418 | \$7,896,258 | \$0.07728 | \$8,226,244 |
| 181-360 hrs use per month | 104,801,872.1 | \$0.04344 | \$4,552,593 | \$0.04997 | \$5,236,950 | \$0.04834 | \$5,066,122 |
| 361+ hrs use per month | 97,259,267.9 | \$0.02507 | \$2,438,290 | \$0.02884 | \$2,804,957 | \$0.02507 | \$2,438,290 |
| | <u>308,508,402</u> | | <u>\$13,854,603</u> | | <u>\$15,938,165</u> | | <u>\$15,730,657</u> |
| E: REACTIVE DEMAND ADJUSTMENT | 43,036 | \$0.682 | \$29,351 | \$0.782 | \$33,654 | \$0.817 | \$35,160 |
| E: MANUAL BILL USAGE/REVENUE | 4,045,717 | | \$291,532 | | \$335,382 | | \$335,382 |
| REVENUE | | | \$20,595,002 | | \$23,692,536 | | \$23,795,143 |
| c/kwh | | | \$0.0659 | | \$0.0758 | | \$0.0761 |
| OVERALL CHANGE (%) | 5294 | | | | 15.04% | | 15.54% |
| used to reference avg customer | 2,793,318 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--|--------------------|---------------|---------------------|----------------|---------------------|---------------------|---------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| | 282.1 | \$811.13 | \$228,825 | 933.14 | \$263,245 | \$972.18 | \$274,258 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | <u>282</u> | | <u>\$228,825</u> | | <u>\$263,245</u> | | <u>\$274,258</u> |
| B: FACILITIES CHARGE | 1,404,516.9 | \$2.252 | \$3,162,972 | \$2.591 | \$3,639,103 | \$2.699 | \$3,790,791 |
| C: DEMAND CHARGE | | | | | | | |
| First 2500 kw | 545,593.7 | \$6.999 | \$3,818,610 | \$8.052 | \$4,393,120 | \$8.389 | \$4,576,985 |
| Next 2500 kw | 221,180.5 | \$5.463 | \$1,208,309 | \$6.285 | \$1,390,120 | \$6.548 | \$1,448,290 |
| Next 2500 kw | 114,215.0 | \$4.819 | \$550,402 | \$5.544 | \$633,208 | \$5.776 | \$659,706 |
| Over 7500 kw | 128,285.0 | \$3.710 | \$475,937 | \$4.268 | \$547,520 | \$4.447 | \$570,483 |
| | <u>1,009,274</u> | | <u>\$6,053,259</u> | | <u>\$6,963,968</u> | | <u>\$7,255,465</u> |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 181,035,238.4 | \$0.05467 | \$9,897,196 | \$0.06289 | \$11,385,306 | \$0.06552 | \$11,861,429 |
| 181-360 hrs use per month | 178,452,696.8 | \$0.03950 | \$7,048,882 | \$0.04544 | \$8,108,891 | \$0.04396 | \$7,844,781 |
| 361+ hrs use per month | 169,405,160.1 | \$0.02484 | \$4,208,024 | \$0.02858 | \$4,841,599 | \$0.02484 | \$4,208,024 |
| | <u>528,893,095</u> | | <u>\$21,154,102</u> | | <u>\$24,335,796</u> | | <u>\$23,914,234</u> |
| E: REACTIVE DEMAND ADJUSTMENT | 92,659 | \$0.682 | \$63,193 | \$0.782 | \$72,459 | \$0.817 | \$75,702 |
| E: MANUAL BILL USAGE/REVENUE | 9,518,505 | | \$621,523 | | \$715,008 | | \$715,008 |
| REVENUE | | | \$31,283,874 | | \$35,989,580 | | \$36,025,459 |
| c/kwh | | | \$0.0581 | | \$0.0668 | | \$0.0669 |
| OVERALL CHANGE (%) | 3578 | | | | 15.04% | | 15.16% |
| used to reference avg customer | 1,874,799 | | | | | | |
| ANNUAL | 850,965,719 | | \$51,878,877 | | \$59,682,116 | | \$59,820,602 |
| c/kwh | | | \$0.0610 | | \$0.0701 | | \$0.0703 |
| OVERALL CHANGE (%) | | | | | 15.04% | | 15.31% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 11.8% | | 11.8% | | 12.1% |

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**MO LARGE POWER
SUBSTATION VOLTAGE - LPGSSS**

* Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--------------------------------|---------------|---------------|-------------|----------------|-------------|---------------------|-------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| | 10.3 | \$811.13 | \$8,345 | 933.14 | \$9,600 | \$972.18 | \$10,002 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | 10 | | \$8,345 | | \$9,600 | | \$10,002 |
| B: FACILITIES CHARGE | 229,511.9 | \$0.679 | \$155,839 | \$0.781 | \$179,249 | \$0.814 | \$186,823 |
| C: DEMAND CHARGE | | | | | | | |
| First 2530 kw | 30,565.4 | \$10.174 | \$310,972 | \$11.704 | \$357,737 | \$12.194 | \$372,714 |
| Next 2530 kw | 28,681.9 | \$8.139 | \$233,442 | \$9.363 | \$268,549 | \$9.755 | \$279,792 |
| Next 2530 kw | 20,250.5 | \$6.818 | \$138,068 | \$7.844 | \$158,845 | \$8.172 | \$165,487 |
| Over 7590 kw | 181,247.2 | \$4.978 | \$902,248 | \$5.727 | \$1,038,003 | \$5.966 | \$1,081,321 |
| | 260,745 | | \$1,584,731 | | \$1,823,134 | | \$1,899,315 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 46,934,106.7 | \$0.06373 | \$2,991,111 | \$0.07332 | \$3,441,209 | \$0.07638 | \$3,584,827 |
| 181-360 hrs use per month | 46,934,106.7 | \$0.04293 | \$2,014,881 | \$0.04939 | \$2,318,076 | \$0.04777 | \$2,242,042 |
| 361+ hrs use per month | 48,907,839.0 | \$0.02477 | \$1,211,447 | \$0.02850 | \$1,393,873 | \$0.02477 | \$1,211,447 |
| | 142,776,052 | | \$6,217,439 | | \$7,153,158 | | \$7,038,317 |
| E: REACTIVE DEMAND ADJUSTMENT | 22,039 | \$0.682 | \$15,030 | \$0.782 | \$17,234 | \$0.817 | \$18,006 |
| REVENUE | | | \$7,981,384 | | \$9,182,375 | | \$9,152,461 |
| c/kwh | | | \$0.0559 | | \$0.0643 | | \$0.0641 |
| OVERALL CHANGE (%) | 25345 | | | | 15.05% | | 14.67% |
| used to reference avg customer | 13,878,185 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--------------------------------|---------------|---------------|--------------|----------------|--------------|---------------------|--------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| | 25.7 | \$811.13 | \$20,856 | 933.14 | \$23,993 | \$972.18 | \$24,997 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | 26 | | \$20,856 | | \$23,993 | | \$24,997 |
| B: FACILITIES CHARGE | 574,894.1 | \$0.679 | \$390,353 | \$0.781 | \$448,992 | \$0.814 | \$467,964 |
| C: DEMAND CHARGE | | | | | | | |
| First 2530 kw | 60,514.6 | \$6.917 | \$418,580 | \$7.957 | \$481,515 | \$8.290 | \$501,666 |
| Next 2530 kw | 53,853.1 | \$5.398 | \$290,699 | \$6.210 | \$334,427 | \$6.470 | \$348,429 |
| Next 2530 kw | 40,469.5 | \$4.763 | \$192,756 | \$5.479 | \$221,732 | \$5.709 | \$231,040 |
| Over 7590 kw | 318,085.8 | \$3.666 | \$1,166,103 | \$4.217 | \$1,341,368 | \$4.394 | \$1,397,669 |
| | 472,923 | | \$2,068,137 | | \$2,379,042 | | \$2,478,805 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 85,126,133.3 | \$0.05403 | \$4,599,365 | \$0.06216 | \$5,291,440 | \$0.06476 | \$5,512,768 |
| 181-360 hrs use per month | 85,126,133.3 | \$0.03904 | \$3,323,324 | \$0.04491 | \$3,823,015 | \$0.04344 | \$3,697,879 |
| 361+ hrs use per month | 86,549,765.5 | \$0.02454 | \$2,123,931 | \$0.02823 | \$2,443,300 | \$0.02454 | \$2,123,931 |
| | 256,802,032 | | \$10,046,620 | | \$11,557,755 | | \$11,334,579 |
| E: REACTIVE DEMAND ADJUSTMENT | 22,455 | \$0.682 | \$15,315 | \$0.782 | \$17,560 | \$0.817 | \$18,346 |
| REVENUE | | | \$12,541,281 | | \$14,427,343 | | \$14,324,690 |
| c/kwh | | | \$0.0488 | | \$0.0562 | | \$0.0558 |
| OVERALL CHANGE (%) | 18393 | | | | 15.04% | | 14.22% |
| used to reference avg customer | 9,987,557 | | | | | | |

| | | | | | | | |
|---|-------------|--|--------------|--|--------------|--|--------------|
| ANNUAL | 399,578,085 | | \$20,522,665 | | \$23,609,718 | | \$23,477,151 |
| c/kwh | | | \$0.0514 | | \$0.0591 | | \$0.0588 |
| OVERALL CHANGE (%) | | | | | 15.04% | | 14.40% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 12.6% | | 12.6% | | 13.0% |

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**MO LARGE POWER
TRANSMISSION VOLTAGE - LPGSTR**

*** Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.**

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--------------------------------|-------------------|---------------|--------------------|----------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| | 6.7 | \$811.13 | \$5,441 | 933.14 | \$6,259 | \$972.18 | \$6,521 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | <u>7</u> | | <u>\$5,441</u> | | <u>\$6,259</u> | | <u>\$6,521</u> |
| B: FACILITIES CHARGE | 64,262 | \$0.000 | \$0 | \$0.000 | \$0 | \$0.000 | \$0 |
| C: DEMAND CHARGE | | | | | | | |
| First 2553 kw | 14,828.0 | \$10.086 | \$149,555 | \$11.603 | \$172,049 | \$12.089 | \$179,256 |
| Next 2553 kw | 10,217.3 | \$8.067 | \$82,423 | \$9.280 | \$94,817 | \$9.669 | \$98,791 |
| Next 2553 kw | 10,217.3 | \$6.756 | \$69,028 | \$7.772 | \$79,409 | \$8.097 | \$82,730 |
| Over 7659 kw | 33,027.1 | \$4.933 | \$162,923 | \$5.675 | \$187,429 | \$5.912 | \$195,256 |
| | <u>68,290</u> | | <u>\$463,930</u> | | <u>\$533,704</u> | | <u>\$556,033</u> |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 12,292,161.4 | \$0.06316 | \$776,373 | \$0.07266 | \$893,148 | \$0.07570 | \$930,517 |
| 181-360 hrs use per month | 11,778,738.2 | \$0.04254 | \$501,068 | \$0.04894 | \$576,451 | \$0.04734 | \$557,605 |
| 361+ hrs use per month | 7,663,893.9 | \$0.02456 | \$188,225 | \$0.02825 | \$216,505 | \$0.02456 | \$188,225 |
| | <u>31,734,794</u> | | <u>\$1,465,666</u> | | <u>\$1,686,105</u> | | <u>\$1,676,347</u> |
| E: REACTIVE DEMAND ADJUSTMENT | 5,239 | \$0.682 | \$3,573 | \$0.782 | \$4,097 | \$0.817 | \$4,280 |
| REVENUE | | | \$1,938,609 | | \$2,230,165 | | \$2,243,181 |
| c/kwh | | | \$0.0611 | | \$0.0703 | | \$0.0707 |
| OVERALL CHANGE (%) | 10181 | | | | 15.04% | | 15.71% |
| used to reference avg customer | 4,731,327 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--------------------------------|-------------------|---------------|--------------------|----------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| | 17.3 | \$811.13 | \$14,027 | 933.14 | \$16,136 | \$972.18 | \$16,812 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | - | \$0.00 | \$0 | - | \$0 | \$0.00 | \$0 |
| | <u>17</u> | | <u>\$14,027</u> | | <u>\$16,136</u> | | <u>\$16,812</u> |
| B: FACILITIES CHARGE | 160,186 | \$0.000 | \$0 | \$0.000 | \$0 | \$0.000 | \$0 |
| C: DEMAND CHARGE | | | | | | | |
| First 2553 kw | 39,471.0 | \$6.854 | \$270,534 | \$7.885 | \$311,229 | \$8.215 | \$324,254 |
| Next 2553 kw | 20,826.7 | \$5.350 | \$111,423 | \$6.155 | \$128,188 | \$6.412 | \$133,541 |
| Next 2553 kw | 20,418.7 | \$4.720 | \$96,376 | \$5.430 | \$110,873 | \$5.657 | \$115,508 |
| Over 7659 kw | 48,366.9 | \$3.633 | \$175,717 | \$4.179 | \$202,125 | \$4.354 | \$210,589 |
| | <u>129,083</u> | | <u>\$654,050</u> | | <u>\$752,416</u> | | <u>\$783,893</u> |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 23,232,675.3 | \$0.05354 | \$1,243,877 | \$0.06159 | \$1,430,900 | \$0.06417 | \$1,490,841 |
| 181-360 hrs use per month | 22,336,426.5 | \$0.03869 | \$864,196 | \$0.04451 | \$994,194 | \$0.04305 | \$961,583 |
| 361+ hrs use per month | 16,468,915.5 | \$0.02431 | \$400,359 | \$0.02797 | \$460,636 | \$0.02431 | \$400,359 |
| | <u>62,038,017</u> | | <u>\$2,508,433</u> | | <u>\$2,885,730</u> | | <u>\$2,852,783</u> |
| E: REACTIVE DEMAND ADJUSTMENT | 5,866 | \$0.682 | \$4,001 | \$0.782 | \$4,587 | \$0.817 | \$4,793 |
| REVENUE | | | \$3,180,510 | | \$3,658,870 | | \$3,658,280 |
| c/kwh | | | \$0.0513 | | \$0.0590 | | \$0.0590 |
| OVERALL CHANGE (%) | 7465 | | | | 15.04% | | 15.02% |
| used to reference avg customer | 3,587,542 | | | | | | |

| | | | | | | | |
|---|------------|--|-------------|--|-------------|--|-------------|
| ANNUAL | 93,772,811 | | \$5,119,119 | | \$5,889,034 | | \$5,901,461 |
| c/kwh | | | \$0.0546 | | \$0.0628 | | \$0.0629 |
| OVERALL CHANGE (%) | | | | | 15.04% | | 15.28% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 16.1% | | 16.1% | | 16.6% |

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**MO LARGE POWER
TRANSMISSION VOLTAGE - OFF PEAK - LPSTRO**

* Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--------------------------------|-------------------|---------------|--------------------|----------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| | 7.2 | 811.13 | \$5,821 | 933.14 | \$6,696 | 972.18 | \$6,976 |
| | - | - | \$0 | - | \$0 | - | \$0 |
| | - | - | \$0 | - | \$0 | - | \$0 |
| | <u>7</u> | | <u>\$5,821</u> | | <u>\$6,696</u> | | <u>\$6,976</u> |
| B: FACILITIES CHARGE | 87,908 | \$0.000 | \$0 | \$0.000 | \$0 | \$0.000 | \$0 |
| C: DEMAND CHARGE | | | | | | | |
| First 2553 kw | 20,470.5 | \$10.086 | \$206,465 | \$11.603 | \$237,519 | \$12.089 | \$247,468 |
| Next 2553 kw | 14,442.6 | \$8.067 | \$116,508 | \$9.280 | \$134,027 | \$9.669 | \$139,646 |
| Next 2553 kw | 10,253.2 | \$6.756 | \$69,270 | \$7.772 | \$79,688 | \$8.097 | \$83,020 |
| Over 7659 kw | 42,295.9 | \$4.933 | \$208,645 | \$5.675 | \$240,029 | \$5.912 | \$250,053 |
| | <u>87,462</u> | | <u>\$600,890</u> | | <u>\$691,263</u> | | <u>\$720,186</u> |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 15,743,183.2 | \$0.06316 | \$994,339 | \$0.07266 | \$1,143,900 | \$0.07570 | \$1,191,759 |
| 181-360 hrs use per month | 15,743,183.2 | \$0.04254 | \$669,715 | \$0.04894 | \$770,471 | \$0.04734 | \$745,282 |
| 361+ hrs use per month | 23,457,687.4 | \$0.02456 | \$576,121 | \$0.02825 | \$662,680 | \$0.02456 | \$576,121 |
| | <u>54,944,054</u> | | <u>\$2,240,175</u> | | <u>\$2,577,051</u> | | <u>\$2,513,162</u> |
| E: REACTIVE DEMAND ADJUSTMENT | 3,566 | \$0.682 | \$2,432 | \$0.782 | \$2,788 | \$0.817 | \$2,913 |
| REVENUE | | | \$2,849,318 | | \$3,277,799 | | \$3,243,238 |
| c/kwh | | | \$0.0519 | | \$0.0597 | | \$0.0590 |
| OVERALL CHANGE (%) | 12188 | | | | 15.04% | | 13.83% |
| used to reference avg customer | 7,656,577 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--------------------------------|-------------------|---------------|--------------------|----------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| | 16.8 | 811.13 | \$13,646 | 933.14 | \$15,699 | 972.18 | \$16,356 |
| | - | - | \$0 | - | \$0 | - | \$0 |
| | - | - | \$0 | - | \$0 | - | \$0 |
| | <u>17</u> | | <u>\$13,646</u> | | <u>\$15,699</u> | | <u>\$16,356</u> |
| B: FACILITIES CHARGE | 208,407 | \$0.000 | \$0 | \$0.000 | \$0 | \$0.000 | \$0 |
| C: DEMAND CHARGE | | | | | | | |
| First 2553 kw | 40,801.5 | \$6.854 | \$279,654 | \$7.885 | \$321,720 | \$8.215 | \$335,184 |
| Next 2553 kw | 25,280.4 | \$5.350 | \$135,250 | \$6.155 | \$155,601 | \$6.412 | \$162,098 |
| Next 2553 kw | 15,276.8 | \$4.720 | \$72,107 | \$5.430 | \$82,953 | \$5.657 | \$86,421 |
| Over 7659 kw | 50,268.1 | \$3.633 | \$182,624 | \$4.179 | \$210,071 | \$4.354 | \$218,868 |
| | <u>131,627</u> | | <u>\$669,634</u> | | <u>\$770,344</u> | | <u>\$802,571</u> |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 23,692,836.8 | \$0.05354 | \$1,268,514 | \$0.06159 | \$1,459,242 | \$0.06417 | \$1,520,369 |
| 181-360 hrs use per month | 23,692,836.8 | \$0.03869 | \$916,676 | \$0.04451 | \$1,054,568 | \$0.04305 | \$1,019,977 |
| 361+ hrs use per month | 36,065,772.7 | \$0.02431 | \$876,759 | \$0.02797 | \$1,008,760 | \$0.02431 | \$876,759 |
| | <u>83,451,446</u> | | <u>\$3,061,949</u> | | <u>\$3,522,570</u> | | <u>\$3,417,105</u> |
| E: REACTIVE DEMAND ADJUSTMENT | 4,009 | \$0.682 | \$2,734 | \$0.782 | \$3,135 | \$0.817 | \$3,276 |
| REVENUE | | | \$3,747,964 | | \$4,311,748 | | \$4,239,307 |
| c/kwh | | | \$0.0449 | | \$0.0517 | | \$0.0508 |
| OVERALL CHANGE (%) | 7824 | | | | 15.04% | | 13.11% |
| used to reference avg customer | 4,960,280 | | | | | | |

| | | | | | | | |
|---|-------------|--|-------------|--|-------------|--|-------------|
| ANNUAL | 138,395,500 | | \$6,597,282 | | \$7,589,547 | | \$7,482,545 |
| c/kwh | | | \$0.0477 | | \$0.0548 | | \$0.0541 |
| OVERALL CHANGE (%) | | | | | 15.04% | | 13.42% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 13.4% | | 13.4% | | 13.9% |

\\Doc\Shares\ProlawDocs\DLA\9593\Exhibit\221611.xls\RATE SUMMARIES

**MO LARGE POWER
PRIMARY VOLTAGE, OFF PEAK - LPGSPO**

* Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--------------------------------|-------------------|---------------|--------------------|----------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| | 34.2 | \$811.13 | \$27,723 | \$933.14 | \$31,893 | \$972.18 | \$33,227 |
| | - | \$0.00 | \$0 | \$0.00 | \$0 | \$0.00 | \$0 |
| | - | \$0.00 | \$0 | \$0.00 | \$0 | \$0.00 | \$0 |
| | <u>34</u> | | <u>\$27,723</u> | | <u>\$31,893</u> | | <u>\$33,227</u> |
| B: FACILITIES CHARGE | 172,417.8 | \$2.252 | \$388,285 | \$2.591 | \$446,735 | \$2.699 | \$465,356 |
| C: DEMAND CHARGE | | | | | | | |
| First 2500 kw | 81,013.6 | \$10.297 | \$834,197 | \$11.846 | \$959,687 | \$12.341 | \$999,789 |
| Next 2500 kw | 45,449.1 | \$8.238 | \$374,410 | \$9.477 | \$430,721 | \$9.874 | \$448,764 |
| Next 2500 kw | 27,357.1 | \$6.900 | \$188,764 | \$7.938 | \$217,161 | \$8.270 | \$226,243 |
| Over 7500 kw | 26,637.7 | \$5.037 | \$134,174 | \$5.795 | \$154,366 | \$6.037 | \$160,812 |
| | <u>180,458</u> | | <u>\$1,531,545</u> | | <u>\$1,761,934</u> | | <u>\$1,835,608</u> |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 32,186,301.6 | \$0.06448 | \$2,075,373 | \$0.07418 | \$2,387,580 | \$0.07728 | \$2,487,357 |
| 181-360 hrs use per month | 31,799,860.6 | \$0.04344 | \$1,381,386 | \$0.04997 | \$1,589,039 | \$0.04834 | \$1,537,205 |
| 361+ hrs use per month | 30,861,531.4 | \$0.02507 | \$773,699 | \$0.02884 | \$890,047 | \$0.02507 | \$773,699 |
| | <u>94,847,694</u> | | <u>\$4,230,457</u> | | <u>\$4,866,665</u> | | <u>\$4,798,261</u> |
| E: REACTIVE DEMAND ADJUSTMENT | 17,553 | \$0.682 | \$11,971 | \$0.782 | \$13,727 | \$0.817 | \$14,341 |
| F: MANUAL BILL USAGE/REVENUE | 3,481,018 | | \$239,640 | | \$275,685 | | \$275,685 |
| REVENUE | | | \$6,429,621 | | \$7,396,639 | | \$7,422,478 |
| c/kwh | | | 0.0654 | | 0.0752 | | 0.0755 |
| OVERALL CHANGE (%) | 5280 | | | | 15.04% | | 15.44% |
| used to reference avg customer | 2,775,129 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--------------------------------|--------------------|---------------|--------------------|----------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| | 84.8 | \$811.13 | \$68,802 | \$933.14 | \$79,151 | \$972.18 | \$82,462 |
| | - | \$0.00 | \$0 | \$0.00 | \$0 | \$0.00 | \$0 |
| | - | \$0.00 | \$0 | \$0.00 | \$0 | \$0.00 | \$0 |
| | <u>85</u> | | <u>\$68,802</u> | | <u>\$79,151</u> | | <u>\$82,462</u> |
| B: FACILITIES CHARGE | 414,204.2 | \$2.252 | \$932,788 | \$2.591 | \$1,073,203 | \$2.699 | \$1,117,937 |
| C: DEMAND CHARGE | | | | | | | |
| First 2500 kw | 152,795.4 | \$6.999 | \$1,069,415 | \$8.052 | \$1,230,309 | \$8.389 | \$1,281,801 |
| Next 2500 kw | 71,483.9 | \$5.463 | \$390,517 | \$6.285 | \$449,276 | \$6.548 | \$468,077 |
| Next 2500 kw | 33,815.9 | \$4.819 | \$162,959 | \$5.544 | \$187,475 | \$5.776 | \$195,321 |
| Over 7500 kw | 46,611.3 | \$3.710 | \$172,928 | \$4.268 | \$198,937 | \$4.447 | \$207,280 |
| | <u>304,706</u> | | <u>\$1,795,818</u> | | <u>\$2,065,997</u> | | <u>\$2,152,478</u> |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 53,996,438.4 | \$0.05467 | \$2,951,985 | \$0.06289 | \$3,395,836 | \$0.06552 | \$3,537,847 |
| 181-360 hrs use per month | 52,832,412.3 | \$0.03950 | \$2,086,880 | \$0.04544 | \$2,400,705 | \$0.04396 | \$2,322,513 |
| 361+ hrs use per month | 59,229,242.6 | \$0.02484 | \$1,471,254 | \$0.02858 | \$1,692,772 | \$0.02484 | \$1,471,254 |
| | <u>166,058,093</u> | | <u>\$6,510,120</u> | | <u>\$7,489,313</u> | | <u>\$7,331,614</u> |
| E: REACTIVE DEMAND ADJUSTMENT | 37,871 | \$0.682 | \$25,828 | \$0.782 | \$29,615 | \$0.817 | \$30,940 |
| F: MANUAL BILL USAGE/REVENUE | 8,247,046 | | \$509,975 | | \$586,682 | | \$586,682 |
| REVENUE | | | \$9,843,331 | | \$11,323,961 | | \$11,302,115 |
| c/kwh | | | \$0.0565 | | \$0.0650 | | \$0.0648 |
| OVERALL CHANGE (%) | 3592 | | | | 15.04% | | 14.82% |
| used to reference avg customer | 1,957,719 | | | | | | |

| | | | | | | | |
|---|-------------|--|--------------|--|--------------|--|--------------|
| ANNUAL | 272,633,851 | | \$16,272,952 | | \$18,720,600 | | \$18,724,593 |
| c/kwh | | | \$0.0597 | | \$0.0687 | | \$0.0687 |
| OVERALL CHANGE (%) | | | | | 15.04% | | 15.07% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 13.6% | | 13.6% | | 14.1% |

| | | | | | | | |
|---|----------------------|--|----------------------|--|----------------------|--|----------------------|
| SUMMER TOTAL (ALL RATES) | 792,541,895 | | \$47,905,641 | | \$55,111,512 | | \$55,274,922 |
| WINTER TOTAL (ALL RATES) | 1,357,875,470 | | \$72,808,032 | | \$83,759,089 | | \$83,702,817 |
| GRAND TOTAL (ANNUAL - ALL RATES) | <u>2,150,417,364</u> | | <u>\$127,310,955</u> | | <u>\$146,460,148</u> | | <u>\$146,460,285</u> |
| c/kwh Summer | | | \$0.0604 | | \$0.0695 | | \$0.0697 |
| c/kwh Winter | | | \$0.0536 | | \$0.0617 | | \$0.0616 |
| c/kwh Annual | | | \$0.0592 | | \$0.0681 | | \$0.0681 |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 11.3% | | 11.3% | | 11.6% |
| OVERALL CHANGE (%) | | | | | 15.041% | | 15.041% |

\\Doc\Shares\Prolaw\Docs\DLA\9593\Exhibit\221611.xls\RATE SUMMARIES

**MO LARGE GENERAL SERVICE
SUMMARY OF PROPOSAL SCENARIO**

*** Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.**

| INPUT FOR MODEL | | | |
|---|---------------|---------------------|----------------|
| Cust Chg | Current Rates | Rates With Increase | Proposed Rates |
| A: CUSTOMER CHARGE | | | |
| 0-24 KW | 91.02 | 104.71 | 107.78 |
| 25-199 KW | 91.02 | 104.71 | 107.78 |
| 200-999 KW | 91.02 | 104.71 | 107.78 |
| 1001+ KW | 777.15 | 894.04 | 920.25 |
| Separately Metered Space Heat | 2.09 | 2.40 | 2.47 |
| B: FACILITIES CHARGE | | | |
| SECONDARY: | 2.604 | 2.996 | 3.084 |
| PRIMARY: | 2.159 | 2.484 | 2.557 |
| C: DEMAND CHARGE | | | |
| SECONDARY-SUMMER: | 5.200 | 5.982 | 6.158 |
| SECONDARY-WINTER | 2.798 | 3.219 | 3.313 |
| PRIMARY-SUMMER | 5.081 | 5.845 | 6.017 |
| PRIMARY-WINTER | 2.735 | 3.146 | 3.239 |
| SECONDARY-WINTER - ELEC ONLY | 2.591 | 2.981 | 3.068 |
| PRIMARY-WINTER - ELEC ONLY | 2.530 | 2.911 | 2.996 |
| D: ENERGY CHARGE | | | |
| <u>SECONDARY-SUMMER:</u> | | | |
| 0-180 hrs use per month | 0.07637 | 0.08786 | 0.09043 |
| 181-360 hrs use per month | 0.05665 | 0.06517 | 0.06304 |
| 361+ hrs use per month | 0.04260 | 0.04901 | 0.04260 |
| <u>SECONDARY-WINTER:</u> | | | |
| 0-180 hrs use per month | 0.07017 | 0.08072 | 0.08309 |
| 181-360 hrs use per month | 0.04355 | 0.05010 | 0.04846 |
| 361+ hrs use per month | 0.03580 | 0.04118 | 0.03580 |
| <u>PRIMARY-SUMMER:</u> | | | |
| 0-180 hrs use per month | 0.07466 | 0.08589 | 0.08841 |
| 181-360 hrs use per month | 0.05530 | 0.06362 | 0.06154 |
| 361+ hrs use per month | 0.04160 | 0.04786 | 0.04160 |
| <u>PRIMARY-WINTER:</u> | | | |
| 0-180 hrs use per month | 0.06857 | 0.07888 | 0.08120 |
| 181-360 hrs use per month | 0.04251 | 0.04890 | 0.04731 |
| 361+ hrs use per month | 0.03510 | 0.04038 | 0.03510 |
| <u>SECONDARY-WINTER - ALL ELECTRIC</u> | | | |
| 0-180 hrs use per month | 0.06120 | 0.07041 | 0.07247 |
| 181-360 hrs use per month | 0.03752 | 0.04316 | 0.04175 |
| 361+ hrs use per month | 0.03140 | 0.03611 | 0.03140 |
| <u>PRIMARY-WINTER - ALL ELECTRIC</u> | | | |
| 0-180 hrs use per month | 0.05992 | 0.06893 | 0.07095 |
| 181-360 hrs use per month | 0.03669 | 0.04221 | 0.04083 |
| 361+ hrs use per month | 0.03080 | 0.03543 | 0.03080 |
| E: SEPARATELY METERED S/H-WINTER | | | |
| SECONDARY | 0.04721 | 0.05431 | 0.05590 |
| PRIMARY | 0.00000 | - | - |
| F: REACTIVE DEMAND ADJUSTMENT | | | |
| | 0.653 | 0.751 | 0.773 |
| LGS Secondary | 100.00% | 15.04% | 15.19% |
| LGS Primary | 100.00% | 15.04% | 15.44% |
| LGS Overall Change (*) | 0.00% | 15.04% | 15.23% |
| LGA Secondary | 100.00% | 15.04% | 14.68% |
| LGA Primary | 100.00% | 15.04% | 14.47% |
| LGA Winter Energy Overall Change | | 13.07% | 11.97% |
| LGA Overall Change (*) | 0.00% | 15.04% | 14.64% |
| Winter Price Below Summer (SUM-WIN)/SUM | 28.0% | 17.2% | 17.0% |
| Overall Change | | 15.041% | 15.04% |

| | | |
|------------------------------------|---------------|---------------|
| Revenue | \$164,291,222 | \$189,005,410 |
| Change in Revenue | | \$24,714,188 |
| Design Revenue per Revenue Summary | | \$24,711,683 |
| | | \$2,504 |

**MO LARGE GENERAL
SECONDARY VOLTAGE - LGSS**

*** Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.**

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|---|--------------------|-----------------|--------------------|------------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| 25-199 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 200-999 KW | 2,351.1 | \$91.02 | \$214,001 | \$104.71 | \$246,189 | \$107.78 | \$253,407 |
| 1001+ KW | 93.4 | \$777.15 | \$72,621 | \$894.04 | \$83,544 | \$920.25 | \$85,993 |
| Separately Metered Space Heat | - | \$2.09 | \$0 | \$2.40 | \$0 | \$2.47 | \$0 |
| | 2,445 | | \$286,622 | | \$329,732 | | \$339,400 |
| B: FACILITIES CHARGE | 1,094,490.8 | \$2.604 | \$2,850,054 | \$2.996 | \$3,279,094 | \$3.084 | \$3,375,410 |
| C: DEMAND CHARGE | 1,113,160.9 | \$5.200 | \$5,788,437 | \$5.982 | \$6,658,929 | \$6.158 | \$6,854,845 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 190,727,153.9 | \$0.0764 | \$14,565,833 | \$0.08786 | \$16,757,288 | \$0.09043 | \$17,247,457 |
| 181-360 hrs use per month | 153,242,558.8 | \$0.0567 | \$8,681,191 | \$0.06517 | \$9,986,818 | \$0.06304 | \$9,660,411 |
| 361+ hrs use per month | 74,331,905.5 | \$0.0426 | \$3,166,539 | \$0.04901 | \$3,643,007 | \$0.04260 | \$3,166,539 |
| | 418,301,618 | | \$26,413,563 | | \$30,387,112 | | \$30,074,407 |
| E: SEPARATELY METERED SPACE HEAT | - | \$0.0472 | \$0 | \$0.05431 | \$0 | \$0.05590 | \$0 |
| F: REACTIVE DEMAND ADJUSTMENT | - | \$0.653 | \$0 | \$0.751 | \$0 | \$0.773 | \$0 |
| MANUAL BILLS | - | | \$0 | | \$0 | | \$0 |
| REVENUE | | | \$35,338,676 | | \$40,654,867 | | \$40,644,061 |
| c/kwh | | | \$0.0845 | | \$0.0972 | | \$0.0972 |
| FLUCTUATION (%) | | | | | 15.04% | | 15.01% |
| <i>used to reference avg customer</i> | 171,113 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--|----------------------|-----------------|---------------------|------------------|---------------------|---------------------|---------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| 0-24 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | 107.78 | \$0 |
| 25-199 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | 107.78 | \$0 |
| 200-999 KW | 5,686.8 | \$91.02 | \$517,609 | \$104.71 | \$595,461 | 107.78 | \$612,919 |
| 1001+ KW | 211.2 | \$777.15 | \$164,131 | \$894.04 | \$188,818 | 920.25 | \$194,354 |
| Separately Metered Space Heat | - | \$2.09 | \$0 | \$2.40 | \$0 | 2.47 | \$0 |
| | 5,898 | | \$681,740 | | \$784,279 | | \$807,273 |
| B: FACILITIES CHARGE | 2,585,448.8 | \$2.604 | \$6,732,509 | \$2.996 | \$7,746,004 | \$3.084 | \$7,973,524 |
| C: DEMAND CHARGE | 1,917,697.8 | \$2.798 | \$5,365,718 | \$3.219 | \$6,173,069 | \$3.313 | \$6,353,333 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 313,999,870.2 | \$0.0702 | \$22,033,371 | \$0.08072 | \$25,346,070 | \$0.08309 | \$26,090,249 |
| 181-360 hrs use per month | 248,658,627.3 | \$0.0436 | \$10,829,083 | \$0.05010 | \$12,457,797 | \$0.04846 | \$12,049,997 |
| 361+ hrs use per month | 117,402,221.7 | \$0.0358 | \$4,203,000 | \$0.04118 | \$4,834,623 | \$0.03580 | \$4,203,000 |
| | 680,060,719 | | \$37,065,454 | | \$42,638,490 | | \$42,343,246 |
| E: SEPARATELY METERED SPACE HEAT | - | \$0.0472 | \$0 | \$0.05431 | \$0 | \$0.05590 | \$0 |
| F: REACTIVE DEMAND ADJUSTMENT | 2,060 | \$0.653 | \$1,345 | \$0.751 | \$1,547 | \$0.773 | \$1,593 |
| MANUAL BILLS | 2,816,716.0 | | \$214,132 | | \$246,340 | | \$246,340 |
| REVENUE | | | \$50,060,898 | | \$57,589,730 | | \$57,725,308 |
| c/kwh | | | \$0.0736 | | \$0.0847 | | \$0.0849 |
| FLUCTUATION (%) | | | | | 15.04% | | 15.31% |
| <i>used to reference avg customer</i> | 115,782 | | | | | | |
| ANNUAL ENERGY/REVENUE | 1,101,179,053 | | \$85,399,574 | | \$98,244,598 | | \$98,369,369 |
| c/kwh | | | \$0.0776 | | \$0.0892 | | \$0.0893 |
| FLUCTUATION (%) | | | | | 15.04% | | 15.19% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 12.9% | | 12.9% | | 12.6% |

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**MO LARGE GENERAL
PRIMARY VOLTAGE - LGSP**

*** Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.**

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|---------------------------------------|-------------------|---------------|--------------------|----------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| 0-24 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 25-199 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 200-999 KW | 195.0 | \$91.02 | \$17,746 | \$104.71 | \$20,415 | \$107.78 | \$21,013 |
| 1001+ KW | 61.5 | \$777.15 | \$47,773 | \$894.04 | \$54,958 | \$920.25 | \$56,570 |
| Separately Metered Space Heat | - | \$2.09 | \$0 | \$2.40 | \$0 | \$2.47 | \$0 |
| | <u>256</u> | | <u>\$65,519</u> | | <u>\$75,373</u> | | <u>\$77,583</u> |
| B: FACILITIES CHARGE | 217,109.4 | \$2.159 | \$468,739 | \$2.484 | \$539,300 | \$2.557 | \$555,149 |
| C: DEMAND CHARGE | 215,373.5 | \$5.081 | \$1,094,313 | \$5.845 | \$1,258,858 | \$6.017 | \$1,295,902 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 37,215,734.7 | \$0.0747 | \$2,778,527 | \$0.08589 | \$3,196,459 | \$0.08841 | \$3,290,243 |
| 181-360 hrs use per month | 28,452,913.8 | \$0.0553 | \$1,573,446 | \$0.06362 | \$1,810,174 | \$0.06154 | \$1,750,992 |
| 361+ hrs use per month | 11,975,565.7 | \$0.0416 | \$498,184 | \$0.04786 | \$573,151 | \$0.04160 | \$498,184 |
| | <u>77,644,214</u> | | <u>\$4,850,156</u> | | <u>\$5,579,784</u> | | <u>\$5,539,419</u> |
| E: SEPARATELY METERED SPACE HEAT | - | \$0.0000 | \$0 | \$0.00000 | \$0 | \$0.00000 | \$0 |
| F: REACTIVE DEMAND ADJUSTMENT | 19,995 | \$0.653 | \$13,057 | \$0.751 | \$15,016 | \$0.773 | \$15,456 |
| MANUAL BILLS | - | | \$0 | | \$0 | | \$0 |
| REVENUE | | | \$6,491,784 | | \$7,468,331 | | \$7,483,509 |
| c/kwh | | | \$0.0836 | | \$0.0962 | | \$0.0964 |
| FLUCTUATION (%) | | | | | 15.04% | | 15.28% |
| <i>used to reference avg customer</i> | 302,781 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--|--------------------|---------------|--------------------|----------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| 0-24 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 25-199 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 200-999 KW | 476.5 | \$91.02 | \$43,371 | \$104.71 | \$49,894 | \$107.78 | \$51,357 |
| 1001+ KW | 141.9 | \$777.15 | \$110,280 | \$894.04 | \$126,867 | \$920.25 | \$130,587 |
| Separately Metered Space Heat | - | \$2.09 | \$0 | \$2.40 | \$0 | \$2.47 | \$0 |
| | <u>618</u> | | <u>\$153,651</u> | | <u>\$176,762</u> | | <u>\$181,944</u> |
| B: FACILITIES CHARGE | 520,207.7 | \$2.159 | \$1,123,128 | \$2.484 | \$1,292,196 | \$2.557 | \$1,330,171 |
| C: DEMAND CHARGE | 375,983.6 | \$2.735 | \$1,028,315 | \$3.146 | \$1,182,844 | \$3.239 | \$1,217,811 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 65,215,477.8 | \$0.0686 | \$4,471,825 | \$0.07888 | \$5,144,197 | \$0.08120 | \$5,295,497 |
| 181-360 hrs use per month | 49,093,759.6 | \$0.0425 | \$2,086,976 | \$0.04890 | \$2,400,685 | \$0.04731 | \$2,322,626 |
| 361+ hrs use per month | 19,088,824.8 | \$0.0351 | \$670,018 | \$0.04038 | \$770,807 | \$0.03510 | \$670,018 |
| | <u>133,398,062</u> | | <u>\$7,228,819</u> | | <u>\$8,315,688</u> | | <u>\$8,288,140</u> |
| E: SEPARATELY METERED SPACE HEAT | - | \$0.0000 | \$0 | \$0.00000 | \$0 | \$0.00000 | \$0 |
| F: REACTIVE DEMAND ADJUSTMENT | 39,460 | \$0.653 | \$25,767 | \$0.751 | \$29,634 | \$0.773 | \$30,502 |
| MANUAL BILLS | 1,977,540.0 | | \$420,752 | | \$484,038 | | \$484,038 |
| REVENUE | | | \$9,980,432 | | \$11,481,163 | | \$11,532,607 |
| c/kwh | | | \$0.0748 | | \$0.0861 | | \$0.0865 |
| FLUCTUATION (%) | | | | | 15.04% | | 15.55% |
| <i>used to reference avg customer</i> | 215,714 | | | | | | |
| ANNUAL ENERGY/REVENUE | 213,019,816 | | \$16,472,216 | | \$18,949,495 | | \$19,016,116 |
| c/kwh | | | \$0.0773 | | \$0.0890 | | \$0.0893 |
| FLUCTUATION (%) | | | | | 15.04% | | 15.44% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 10.5% | | 10.5% | | 10.3% |

| | | | | | | | |
|---------------------------------------|----------------------|----------------------|--|----------------------|--|----------------------|--|
| SUMMER TOTAL (LGSS/LGSP) | 495,945,832 | \$41,830,460 | | \$48,123,199 | | \$48,127,570 | |
| WINTER TOTAL (LGSS/LGSP) | 813,458,781 | \$60,041,331 | | \$69,070,893 | | \$69,257,915 | |
| GRAND TOTAL (ANNUAL-LGSS/LGSP) | 1,314,198,870 | \$101,871,790 | | \$117,194,092 | | \$117,385,484 | |
| c/kwh | | \$0.0775 | | \$0.0892 | | \$0.0893 | |
| OVERALL CHANGE (%) | | | | 15.04% | | 15.23% | |

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**MO LARGE GENERAL
SECONDARY VOLTAGE, ALL ELECTRIC (ONE METER) - LGSSA**

*** Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.**

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|----------------------------------|---------------|---------------|--------------|----------------|--------------|---------------------|--------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| 0-24 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 25-199 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 200-999 KW | 528.1 | \$91.02 | \$48,063 | \$104.71 | \$55,292 | \$107.78 | \$56,914 |
| 1001+ KW | 163.5 | \$777.15 | \$127,081 | \$894.04 | \$146,195 | \$920.25 | \$150,481 |
| Separately Metered Space Heat | - | \$2.09 | \$0 | \$2.40 | \$0 | \$2.47 | \$0 |
| | 692 | | \$175,144 | | \$201,487 | | \$207,394 |
| B: FACILITIES CHARGE | 541,732.6 | \$2.604 | \$1,410,672 | \$2.996 | \$1,623,031 | \$3.084 | \$1,670,703 |
| C: DEMAND CHARGE | 496,711.6 | \$5.200 | \$2,582,900 | \$5.982 | \$2,971,329 | \$6.158 | \$3,058,750 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 87,664,673.3 | \$0.0764 | \$6,694,951 | \$0.08786 | \$7,702,218 | \$0.09043 | \$7,927,516 |
| 181-360 hrs use per month | 80,638,900.7 | \$0.0567 | \$4,568,194 | \$0.06517 | \$5,255,237 | \$0.06304 | \$5,083,476 |
| 361+ hrs use per month | 47,042,429.8 | \$0.0426 | \$2,004,008 | \$0.04901 | \$2,305,549 | \$0.04260 | \$2,004,008 |
| | 215,346,004 | | \$13,267,152 | | \$15,263,005 | | \$15,015,000 |
| E: SEPARATELY METERED SPACE HEAT | - | \$0.0472 | \$0 | \$0.05431 | \$0 | \$0.05590 | \$0 |
| F: REACTIVE DEMAND ADJUSTMENT | 3,198 | \$0.653 | \$2,088 | \$0.751 | \$2,401 | \$0.773 | \$2,472 |
| MANUAL BILLS | 3,458,714.2 | | \$263,589 | | \$303,237 | | \$303,237 |
| REVENUE | | | \$17,701,546 | | \$20,364,490 | | \$20,257,556 |
| c/kwh | | | \$0.0822 | | \$0.0946 | | \$0.0941 |
| FLUCTUATION (%) | | | | | 15.04% | | 14.44% |
| used to reference avg customer | 311,385 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|--|---------------|---------------|--------------|----------------|--------------|---------------------|--------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| 0-24 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 25-199 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 200-999 KW | 1,392.4 | \$91.02 | \$126,739 | \$104.71 | \$145,801 | \$107.78 | \$150,076 |
| 1001+ KW | 438.5 | \$777.15 | \$340,781 | \$894.04 | \$392,037 | \$920.25 | \$403,531 |
| Separately Metered Space Heat | - | \$2.09 | \$0 | \$2.40 | \$0 | \$2.47 | \$0 |
| | 1,831 | | \$467,520 | | \$537,839 | | \$553,607 |
| B: FACILITIES CHARGE | 1,438,104.6 | \$2.604 | \$3,744,825 | \$2.996 | \$4,308,562 | \$3.084 | \$4,435,115 |
| C: DEMAND CHARGE | 1,065,538.4 | \$2.591 | \$2,760,810 | \$2.981 | \$3,176,370 | \$3.068 | \$3,269,072 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 188,044,009.8 | \$0.0612 | \$11,508,293 | \$0.07041 | \$13,240,179 | \$0.07247 | \$13,627,549 |
| 181-360 hrs use per month | 168,838,480.0 | \$0.0375 | \$6,334,820 | \$0.04316 | \$7,287,069 | \$0.04175 | \$7,049,007 |
| 361+ hrs use per month | 94,112,123.7 | \$0.0314 | \$2,955,121 | \$0.03611 | \$3,398,389 | \$0.03140 | \$2,955,121 |
| | 450,994,613 | | \$20,798,234 | | \$23,925,636 | | \$23,631,677 |
| E: SEPARATELY METERED SPACE HEAT | - | \$0.0472 | \$0 | \$0.05431 | \$0 | \$0.05590 | \$0 |
| F: REACTIVE DEMAND ADJUSTMENT | 3,854 | \$0.653 | \$2,517 | \$0.751 | \$2,894 | \$0.773 | \$2,979 |
| MANUAL BILLS | 9,212,798.8 | | \$547,402 | | \$629,739 | | \$629,739 |
| REVENUE | | | \$28,321,308 | | \$32,581,041 | | \$32,522,189 |
| c/kwh | | | \$0.0628 | | \$0.0722 | | \$0.0721 |
| FLUCTUATION (%) | | | | | 15.04% | | 14.83% |
| used to reference avg customer | 246,320 | | | | | | |
| ANNUAL ENERGY/REVENUE | 679,012,130 | | \$46,022,853 | | \$52,945,530 | | \$52,779,745 |
| c/kwh | | | \$0.0678 | | \$0.0780 | | \$0.0777 |
| FLUCTUATION (%) | | | | | 15.04% | | 14.68% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 23.6% | | 23.6% | | 23.3% |

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**MO LARGE GENERAL
PRIMARY VOLTAGE, ALL ELECTRIC (ONE METER) - LGSPA**

*** Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.**

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|---------------------------------------|-------------------|---------------|--------------------|----------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| 0-24 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 25-199 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 200-999 KW | 6.6 | \$91.02 | \$597 | \$104.71 | \$687 | \$107.78 | \$707 |
| 1001+ KW | 39.4 | \$777.15 | \$30,583 | \$894.04 | \$35,183 | \$920.25 | \$36,214 |
| Separately Metered Space Heat | - | \$2.09 | \$0 | \$2.40 | \$0 | \$2.47 | \$0 |
| | <u>46</u> | | <u>\$31,180</u> | | <u>\$35,869</u> | | <u>\$36,921</u> |
| B: FACILITIES CHARGE | 156,596.8 | \$2.159 | \$338,092 | \$2.484 | \$388,986 | \$2.557 | \$400,418 |
| C: DEMAND CHARGE | 130,188.2 | \$5.081 | \$661,486 | \$5.845 | \$760,950 | \$6.017 | \$783,342 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 23,433,876.2 | \$0.0747 | \$1,749,573 | \$0.08589 | \$2,012,736 | \$0.08841 | \$2,071,789 |
| 181-360 hrs use per month | 20,686,240.2 | \$0.0553 | \$1,143,949 | \$0.06362 | \$1,316,059 | \$0.06154 | \$1,273,031 |
| 361+ hrs use per month | 14,669,645.4 | \$0.0416 | \$610,257 | \$0.04786 | \$702,089 | \$0.04160 | \$610,257 |
| | <u>58,789,762</u> | | <u>\$3,503,780</u> | | <u>\$4,030,883</u> | | <u>\$3,955,077</u> |
| E: SEPARATELY METERED SPACE HEAT | - | \$0.0000 | \$0 | \$0.00000 | \$0 | \$0.00000 | \$0 |
| F: REACTIVE DEMAND ADJUSTMENT | 8,184 | \$0.653 | \$5,344 | \$0.751 | \$6,146 | \$0.773 | \$6,326 |
| REVENUE | | | \$4,539,882 | | \$5,222,836 | | \$5,182,085 |
| c/kwh | | | \$0.0772 | | \$0.0888 | | \$0.0881 |
| FLUCTUATION (%) | | | | | 15.04% | | 14.15% |
| <i>used to reference avg customer</i> | 1,280,514 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|---|--------------------|---------------|--------------------|----------------|--------------------|---------------------|--------------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| 0-24 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 25-199 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 200-999 KW | 16.3 | \$91.02 | \$1,480 | \$104.71 | \$1,703 | \$107.78 | \$1,753 |
| 1001+ KW | 103.5 | \$777.15 | \$80,435 | \$894.04 | \$92,533 | \$920.25 | \$95,246 |
| Separately Metered Space Heat | - | \$2.09 | \$0 | \$2.40 | \$0 | \$2.47 | \$0 |
| | <u>120</u> | | <u>\$81,915</u> | | <u>\$94,236</u> | | <u>\$96,999</u> |
| B: FACILITIES CHARGE | 406,785.4 | \$2.159 | \$878,250 | \$2.484 | \$1,010,455 | \$2.557 | \$1,040,150 |
| C: DEMAND CHARGE | 288,505.4 | \$2.530 | \$729,919 | \$2.911 | \$839,839 | \$2.996 | \$864,362 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 51,761,577.6 | \$0.0599 | \$3,101,554 | \$0.06893 | \$3,567,926 | \$0.07095 | \$3,672,484 |
| 181-360 hrs use per month | 43,188,016.5 | \$0.0367 | \$1,584,568 | \$0.04221 | \$1,822,966 | \$0.04083 | \$1,763,367 |
| 361+ hrs use per month | 27,977,790.9 | \$0.0308 | \$861,716 | \$0.03543 | \$991,253 | \$0.03080 | \$861,716 |
| | <u>122,927,385</u> | | <u>\$5,547,838</u> | | <u>\$6,382,145</u> | | <u>\$6,297,567</u> |
| E: SEPARATELY METERED SPACE HEAT | - | \$0.0000 | \$0 | \$0.00000 | \$0 | \$0.00000 | \$0 |
| F: REACTIVE DEMAND ADJUSTMENT | 12,396 | \$0.653 | \$8,095 | \$0.751 | \$9,309 | \$0.773 | \$9,582 |
| REVENUE | | | \$7,246,016 | | \$8,335,984 | | \$8,308,660 |
| c/kwh | | | \$0.0589 | | \$0.0678 | | \$0.0676 |
| FLUCTUATION (%) | | | | | 15.04% | | -0.33% |
| <i>used to reference avg customer</i> | 1,026,413 | | | | | | |
| ANNUAL ENERGY/REVENUE | 181,717,147 | | \$11,785,898 | | \$13,558,820 | | \$13,490,745 |
| c/kwh | | | \$0.0649 | | \$0.0746 | | \$0.0742 |
| FLUCTUATION (%) | | | | | 15.04% | | 14.47% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 23.7% | | 23.7% | | 23.3% |

| | | | | |
|---|--------------------|---------------------|---------------------|---------------------|
| SUMMER TOTAL (LGSSA/LGSPA) | 274,135,766 | \$22,241,428 | \$25,587,325 | \$25,439,641 |
| WINTER TOTAL (LGSSA/LGSPA) | 573,921,999 | \$35,567,324 | \$40,917,025 | \$40,830,848 |
| GRAND TOTAL (ANNUAL-LGSSA/LGSPA) | 860,729,277 | \$57,808,751 | \$66,504,350 | \$66,270,489 |
| c/kwh | | \$0.0672 | \$0.0773 | \$0.0770 |
| OVERALL WINTER ENERGY CHANGE | | | 13.07% | 11.97% |
| OVERALL CHANGE (%) | | | 15.04% | 14.64% |

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**MO LARGE GENERAL
SECONDARY VOLTAGE, SPACE HEAT (TWO METER) - LGSSH**

*** Equal Percent Increase to All Rate Components except
Energy 181-360 Hours Use -- use 75% of Average Increase
Energy over 360 Hours Use -- use Current Rates
Rates Designed to Achieve KCP&L's Proposed Increase.**

SUMMER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|----------------------------------|---------------|---------------|-------------|----------------|-------------|---------------------|-------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| 0-24 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 25-199 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 200-999 KW | 133.3 | \$91.02 | \$12,130 | \$104.71 | \$13,954 | \$107.78 | \$14,363 |
| 1001+ KW | 16.1 | \$777.15 | \$12,506 | \$894.04 | \$14,387 | \$920.25 | \$14,809 |
| Separately Metered Space Heat | 149.4 | \$2.09 | \$312 | \$2.40 | \$358 | \$2.47 | \$369 |
| | 299 | | \$24,948 | | \$28,699 | | \$29,541 |
| B: FACILITIES CHARGE | 73,158.9 | \$2.604 | \$190,506 | \$2.996 | \$219,184 | \$3.084 | \$225,622 |
| C: DEMAND CHARGE | 56,820.4 | \$5.200 | \$295,466 | \$5.982 | \$339,900 | \$6.158 | \$349,900 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 9,512,614.7 | \$0.0764 | \$726,478 | \$0.08786 | \$835,778 | \$0.09043 | \$860,226 |
| 181-360 hrs use per month | 7,977,947.6 | \$0.0567 | \$451,951 | \$0.06517 | \$519,923 | \$0.06304 | \$502,930 |
| 361+ hrs use per month | 3,892,872.6 | \$0.0426 | \$165,836 | \$0.04901 | \$190,790 | \$0.04260 | \$165,836 |
| | 21,383,435 | | \$1,344,265 | | \$1,546,491 | | \$1,528,992 |
| E: SEPARATELY METERED SPACE HEAT | - | \$0.0000 | \$0 | \$0.00000 | \$0 | \$0.00000 | \$0 |
| F: REACTIVE DEMAND ADJUSTMENT | - | \$0.653 | \$0 | \$0.751 | \$0 | \$0.773 | \$0 |
| MANUAL BILLS | - | | \$0 | | \$0 | | \$0 |
| REVENUE | | | \$1,855,185 | | \$2,134,274 | | \$2,134,055 |
| c/kwh | | | \$0.0868 | | \$0.0998 | | \$0.0998 |
| FLUCTUATION (%) | | | | | 15.04% | | 15.03% |
| used to reference avg customer | 71,586 | | | | | | |

WINTER

| | BILLING UNITS | PRESENT RATES | | PROPOSED RATES | | RATES W/RATE DESIGN | |
|---|---------------|---------------|-------------|----------------|-------------|---------------------|-------------|
| | | Rate | Revenue | Rate | Revenue | Rate | Revenue |
| A: CUSTOMER CHARGE | | | | | | | |
| 0-24 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 25-199 KW | - | \$91.02 | \$0 | \$104.71 | \$0 | \$107.78 | \$0 |
| 200-999 KW | 261.5 | \$91.02 | \$23,806 | \$104.71 | \$27,387 | \$107.78 | \$28,190 |
| 1001+ KW | 31.5 | \$777.15 | \$24,500 | \$894.04 | \$28,185 | \$920.25 | \$29,011 |
| Separately Metered Space Heat | 293.1 | \$2.09 | \$613 | \$2.40 | \$703 | \$2.47 | \$724 |
| | 586 | | \$48,918 | | \$56,275 | | \$57,925 |
| B: FACILITIES CHARGE | 147,486.2 | \$2.604 | \$384,054 | \$2.996 | \$441,869 | \$3.084 | \$454,847 |
| C: DEMAND CHARGE | 117,344.7 | \$2.798 | \$328,330 | \$3.219 | \$377,732 | \$3.313 | \$388,763 |
| D: ENERGY CHARGE | | | | | | | |
| 0-180 hrs use per month | 9,238,165.6 | \$0.0702 | \$648,242 | \$0.08072 | \$745,705 | \$0.08309 | \$767,599 |
| 181-360 hrs use per month | 7,651,218.7 | \$0.0436 | \$333,211 | \$0.05010 | \$383,326 | \$0.04846 | \$370,778 |
| 361+ hrs use per month | 3,594,582.4 | \$0.0358 | \$128,686 | \$0.04118 | \$148,025 | \$0.03580 | \$128,686 |
| | 20,483,967 | | \$1,110,139 | | \$1,277,056 | | \$1,267,063 |
| E: SEPARATELY METERED SPACE HEAT | 18,725,990.7 | \$0.0472 | \$884,054 | \$0.05431 | \$1,017,009 | \$0.05590 | \$1,046,783 |
| F: REACTIVE DEMAND ADJUSTMENT | - | \$0.653 | \$0 | \$0.751 | \$0 | \$0.773 | \$0 |
| MANUAL BILLS | - | | \$0 | | \$0 | | \$0 |
| REVENUE | | | \$2,755,496 | | \$3,169,940 | | \$3,215,381 |
| c/kwh | | | \$0.0703 | | \$0.0808 | | \$0.0820 |
| FLUCTUATION (%) | | | | | 15.04% | | 16.69% |
| used to reference avg customer | 69,894 | | | | | | |
| | 63,895 | | | | | | |
| ANNUAL ENERGY/REVENUE | 60,593,392 | | \$4,610,681 | | \$5,304,214 | | \$5,349,436 |
| c/kwh | | | \$0.0761 | | \$0.0875 | | \$0.0883 |
| FLUCTUATION (%) | | | | | 15.04% | | 16.02% |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 19.0% | | 19.0% | | 17.8% |

| | | | | | | | |
|---|----------------------|----------------------|-------|----------------------|-------|----------------------|-------|
| SUMMER TOTAL (ALL RATES) | 791,465,033 | \$65,927,072 | | \$75,844,798 | | \$75,701,266 | |
| WINTER TOTAL (ALL RATES) | 1,426,590,737 | \$98,364,150 | | \$113,157,858 | | \$113,304,144 | |
| GRAND TOTAL (ANNUAL - ALL RATES) | 2,218,055,770 | \$164,291,222 | | \$189,002,656 | | \$189,005,410 | |
| c/kwh Summer | | \$0.0833 | | \$0.0958 | | \$0.0956 | |
| c/kwh Winter | | \$0.0690 | | \$0.0793 | | \$0.0794 | |
| c/kwh Annual | | \$0.0741 | | \$0.0852 | | \$0.0852 | |
| Winter Price Below Summer (SUM-WIN)/SUM | | | 17.2% | | 17.2% | | 17.0% |
| OVERALL CHANGE (%) | | | | 15.04% | | 15.04% | |

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KANSAS CITY POWER & LIGHT COMPANY

Development of Average and Excess Demand Allocator Based on 2 Non-Coincident Peaks For the Test Year Ended September 30, 2011

| Line | Description | Missouri Retail (1) | Residential (2) | Small General Service (3) | Medium General Service (4) | Large General Service (5) | Large Power Service (6) | Other Lighting (7) |
|------------|-------------------------------------|---------------------------|--------------------|------------------------------------|-------------------------------------|------------------------------------|----------------------------------|--------------------------|
| 1 | Missouri System Peak | 1,935,936 | | | | | | |
| 2 | Avg of 2 Highest Monthly NCP Values | 2,103,286 | 921,755 | 101,680 | 252,647 | 456,503 | 360,373 | 10,327 |
| 3 | Energy Sales with Losses - MWh | 9,045,302 | 2,742,028 | 438,496 | 1,154,656 | 2,362,973 | 2,256,681 | 90,467 |
| 4 | Average Demand - kW | 1,032,569 | 313,017 | 50,057 | 131,810 | 269,746 | 257,612 | 10,327 |
| 5 | Average Demand - Percent | 1.000000 | 0.303144 | 0.048478 | 0.127653 | 0.261238 | 0.249487 | 0.010002 |
| 6 | Class Excess Demand - kW | 1,070,717 | 608,738 | 51,624 | 120,837 | 186,758 | 102,761 | - |
| 7 | Class Excess Demand - Percent | 1.000000 | 0.568533 | 0.048214 | 0.112856 | 0.174423 | 0.095974 | - |
| Allocator: | | | | | | | | |
| 8 | Annual Load Factor * Average Demand | 0.533369 | 0.161688 | 0.025857 | 0.068086 | 0.139336 | 0.133068 | 0.005335 |
| 9 | (1-LF) * Excess Demand | 0.466631 | 0.265295 | 0.022498 | 0.052662 | 0.081391 | 0.044785 | - |
| 10 | Average and Excess Demand Allocator | 1.000000 | 0.426983 | 0.048355 | 0.120748 | 0.220727 | 0.177853 | 0.005335 |

Notes:

Line 4 equals Line 3 ÷ 8.760

Line 6 equals Line 2- Line 4

System Annual Load Factor 53.34%

1 - Load Factor 46.66%

Source: KCPL Allocators MO Rev 2-23-12.xls

KANSAS CITY POWER & LIGHT COMPANY
2012 RATE CASE - Direct Filing
COST OF SERVICE - Missouri Jurisdiction
TY 9/30/11; Update TBD; K&M 8/31/12

| LINE NO. | DESCRIPTION | MISSOURI RETAIL (1) | RESIDENTIAL (2) | SMALL GEN. SERVICE (3) | MEDIUM GEN. SERVICE (4) | LARGE GEN. SERVICE (5) | LARGE PWR SERVICE (6) | TOTAL LIGHTING (7) |
|----------|--|---------------------|-----------------|------------------------|-------------------------|------------------------|-----------------------|--------------------|
| 0010 | SCHEDULE 1 - SUMMARY OF OPERATING INC & RATE BASE | | | | | | | |
| 0020 | | | | | | | | |
| 0030 | OPERATING REVENUE | | | | | | | |
| 0040 | RETAIL SALES REVENUE | 699,636,961 | 259,806,177 | 47,984,116 | 94,385,415 | 163,335,353 | 125,295,179 | 8,830,722 |
| 0050 | OTHER OPERATING REVENUE | 49,051,908 | 16,329,418 | 2,434,535 | 6,216,876 | 12,344,090 | 11,217,197 | 509,791 |
| 0060 | TOTAL OPERATING REVENUE | 748,688,868 | 276,135,595 | 50,418,651 | 100,602,291 | 175,679,443 | 136,512,376 | 9,340,513 |
| 0070 | | | | | | | | |
| 0080 | OPERATING EXPENSES | | | | | | | |
| 0090 | FUEL | 124,790,618 | 37,864,453 | 6,039,546 | 15,954,515 | 32,485,423 | 31,219,978 | 1,226,703 |
| 0100 | PURCHASED POWER | 24,345,430 | 7,532,510 | 1,189,362 | 3,103,358 | 6,331,380 | 5,935,822 | 252,997 |
| 0110 | OTHER OPERATION & MAINTENANCE EXPENSES | 296,422,803 | 141,654,003 | 17,597,268 | 33,645,212 | 56,722,253 | 43,872,592 | 2,931,474 |
| 0120 | DEPRECIATION EXPENSES (AFTER CLEARINGS) | 98,902,485 | 45,666,301 | 5,242,470 | 12,291,449 | 19,921,212 | 14,644,153 | 1,136,901 |
| 0130 | AMORTIZATION EXPENSES | 11,107,955 | 5,014,606 | 582,318 | 1,370,759 | 2,307,944 | 1,730,736 | 101,591 |
| 0140 | TAXES OTHER THAN INCOME TAXES | 48,547,311 | 22,339,405 | 2,639,325 | 5,920,435 | 9,832,477 | 7,340,318 | 475,351 |
| 0150 | CURRENT INCOME TAXES | 9,814,637 | (13,928,675) | 4,240,023 | 5,270,124 | 8,687,647 | 4,626,281 | 919,236 |
| 0160 | DEFERRED INCOME TAXES | 16,774,160 | 7,743,972 | 900,628 | 2,060,672 | 3,401,583 | 2,502,755 | 164,549 |
| 0170 | TOTAL ELECTRIC OPERATING EXPENSES | 630,705,397 | 253,886,575 | 38,430,940 | 79,616,525 | 139,689,919 | 111,872,634 | 7,208,803 |
| 0180 | | | | | | | | |
| 0190 | NET ELECTRIC OPERATING INCOME | 117,983,472 | 22,249,019 | 11,987,711 | 20,985,766 | 35,989,524 | 24,639,741 | 2,131,710 |
| 0200 | | | | | | | | |
| 0210 | RATE BASE | | | | | | | |
| 0220 | TOTAL ELECTRIC PLANT | 4,283,301,236 | 1,964,397,645 | 228,827,359 | 525,729,570 | 874,263,795 | 648,935,262 | 41,147,604 |
| 0230 | LESS: ACCUM. PROV. FOR DEPREC | 1,816,407,425 | 846,786,584 | 100,001,653 | 216,373,431 | 361,245,774 | 270,804,240 | 21,195,743 |
| 0240 | NET PLANT | 2,466,893,811 | 1,117,611,062 | 128,825,706 | 309,356,139 | 513,018,021 | 378,131,022 | 19,951,861 |
| 0250 | PLUS: | | | | | | | |
| 0260 | CASH WORKING CAPITAL | (47,690,286) | (20,624,749) | (2,891,164) | (6,115,624) | (10,136,357) | (7,408,163) | (514,230) |
| 0270 | MATERIALS & SUPPLIES | 51,855,549 | 23,203,426 | 2,684,120 | 6,376,746 | 10,883,528 | 8,265,625 | 442,103 |
| 0280 | PREPAYMENTS | 5,522,723 | 2,439,595 | 278,331 | 663,255 | 1,177,677 | 927,891 | 35,973 |
| 0290 | FUEL INVENTORY | 66,901,141 | 20,299,403 | 3,237,844 | 8,553,329 | 17,415,667 | 16,737,253 | 657,644 |
| 0300 | REGULATORY ASSETS | 121,304,313 | 49,534,547 | 6,389,335 | 14,817,677 | 27,506,978 | 21,823,831 | 1,231,946 |
| 0310 | LESS: | | | | | | | |
| 0320 | CUSTOMER ADVANCES FOR CONSTRUCTION | 158,781 | 88,149 | 10,508 | 20,915 | 24,434 | 11,469 | 3,306 |
| 0330 | CUSTOMER DEPOSITS | 4,192,439 | 2,179,087 | 1,607,581 | 335,161 | 65,338 | 5,272 | 0 |
| 0340 | DEFERRED INCOME TAXES | 485,201,862 | 222,522,149 | 25,921,002 | 59,553,357 | 99,034,459 | 73,509,795 | 4,661,100 |
| 0350 | DEFERRED GAIN ON SO2 EMISSIONS ALLOWANCE | 45,275,933 | 13,725,121 | 2,194,878 | 5,779,590 | 11,827,778 | 11,295,737 | 452,829 |
| 0360 | DEFERRED GAIN(LOSS) EMISSIONS ALLOWANCE | 2,121 | 643 | 103 | 271 | 554 | 529 | 21 |
| 0370 | TOTAL RATE BASE | 2,129,956,114 | 953,948,135 | 108,790,100 | 267,962,229 | 448,912,952 | 333,654,656 | 16,688,042 |
| 0380 | | | | | | | | |
| 0390 | RATE OF RETURN | 5.539% | 2.332% | 11.019% | 7.832% | 8.017% | 7.385% | 12.774% |
| 0400 | RELATIVE RATE OF RETURN | 1.00 | 0.42 | 1.99 | 1.41 | 1.45 | 1.33 | 2.31 |

Notes:

Production Plant and Expense Allocated using A&E-2NCP.
Margin on Sales Revenue Allocated on Energy.

KANSAS CITY POWER & LIGHT COMPANY

**Development of
4 CP Demand Allocator
For the Test Year Ended September 30, 2011**

| <u>Line</u> | <u>Description</u> | <u>Missouri Retail (1)</u> | <u>Residential (2)</u> | <u>Small General Service (3)</u> | <u>Medium General Service (4)</u> | <u>Large General Service (5)</u> | <u>Large Power Service (6)</u> | <u>Other Lighting (7)</u> |
|-------------|-----------------------|------------------------------------|----------------------------|--|---|--|--|-----------------------------------|
| 1 | 4 CP Demand - kW | 1,874,930 | 764,709 | 96,422 | 238,198 | 434,373 | 341,228 | - |
| 2 | 4 CP Demand - Percent | 1.000000 | 0.407860 | 0.051427 | 0.127044 | 0.231674 | 0.181995 | - |

Source: KCPL Allocators MO Rev 2-23-12.xls

KANSAS CITY POWER & LIGHT COMPANY
2012 RATE CASE - Direct Filing
COST OF SERVICE - Missouri Jurisdiction
TY 9/30/11; Update TBD; K&M 8/31/12

| LINE NO. | DESCRIPTION | MISSOURI RETAIL (1) | RESIDENTIAL (2) | SMALL GEN. SERVICE (3) | MEDIUM GEN. SERVICE (4) | LARGE GEN. SERVICE (5) | LARGE PWR SERVICE (6) | TOTAL LIGHTING (7) |
|----------|--|---------------------|-----------------|------------------------|-------------------------|------------------------|-----------------------|--------------------|
| 0010 | SCHEDULE 1 - SUMMARY OF OPERATING INC & RATE BASE | | | | | | | |
| 0020 | | | | | | | | |
| 0030 | OPERATING REVENUE | | | | | | | |
| 0040 | RETAIL SALES REVENUE | 699,636,961 | 259,806,177 | 47,984,116 | 94,385,415 | 163,335,353 | 125,295,179 | 8,830,722 |
| 0050 | OTHER OPERATING REVENUE | 49,051,908 | 16,235,912 | 2,449,557 | 6,247,662 | 12,397,619 | 11,237,452 | 483,706 |
| 0060 | TOTAL OPERATING REVENUE | 748,688,868 | 276,042,088 | 50,433,673 | 100,633,076 | 175,732,972 | 136,532,631 | 9,314,428 |
| 0070 | | | | | | | | |
| 0080 | OPERATING EXPENSES | | | | | | | |
| 0090 | FUEL | 124,790,618 | 37,864,453 | 6,039,546 | 15,954,515 | 32,485,423 | 31,219,978 | 1,226,703 |
| 0100 | PURCHASED POWER | 24,345,430 | 7,532,510 | 1,189,362 | 3,103,358 | 6,331,380 | 5,935,822 | 252,997 |
| 0110 | OTHER OPERATION & MAINTENANCE EXPENSES | 296,422,803 | 138,497,223 | 18,104,409 | 34,684,530 | 58,529,382 | 44,556,408 | 2,050,851 |
| 0120 | DEPRECIATION EXPENSES (AFTER CLEARINGS) | 98,902,485 | 44,422,768 | 5,442,245 | 12,700,862 | 20,633,084 | 14,913,525 | 790,001 |
| 0130 | AMORTIZATION EXPENSES | 11,107,955 | 4,859,597 | 607,221 | 1,421,794 | 2,396,680 | 1,764,314 | 58,350 |
| 0140 | TAXES OTHER THAN INCOME TAXES | 48,547,311 | 21,711,736 | 2,740,161 | 6,127,084 | 10,191,792 | 7,476,282 | 300,255 |
| 0150 | CURRENT INCOME TAXES | 9,814,637 | (11,409,371) | 3,835,294 | 4,440,685 | 7,245,448 | 4,080,554 | 1,622,027 |
| 0160 | DEFERRED INCOME TAXES | 16,774,160 | 7,528,052 | 935,316 | 2,131,761 | 3,525,189 | 2,549,527 | 104,315 |
| 0170 | TOTAL ELECTRIC OPERATING EXPENSES | 630,705,397 | 251,006,968 | 38,893,552 | 80,564,588 | 141,338,378 | 112,496,410 | 6,405,501 |
| 0180 | | | | | | | | |
| 0190 | NET ELECTRIC OPERATING INCOME | 117,983,472 | 25,035,121 | 11,540,121 | 20,068,488 | 34,394,594 | 24,036,221 | 2,908,927 |
| 0200 | | | | | | | | |
| 0210 | RATE BASE | | | | | | | |
| 0220 | TOTAL ELECTRIC PLANT | 4,283,301,236 | 1,908,730,137 | 237,770,413 | 544,057,180 | 906,131,191 | 660,993,855 | 25,618,459 |
| 0230 | LESS: ACCUM. PROV. FOR DEPREC | 1,816,407,425 | 822,269,077 | 103,940,421 | 224,445,416 | 375,281,054 | 276,115,177 | 14,356,280 |
| 0240 | NET PLANT | 2,466,893,811 | 1,086,461,060 | 133,829,992 | 319,611,764 | 530,850,136 | 384,878,678 | 11,262,180 |
| 0250 | PLUS: | | | | | | | |
| 0260 | CASH WORKING CAPITAL | (47,690,286) | (20,226,415) | (2,955,156) | (6,246,769) | (10,364,387) | (7,494,449) | (403,109) |
| 0270 | MATERIALS & SUPPLIES | 51,855,549 | 22,436,190 | 2,807,377 | 6,629,346 | 11,322,739 | 8,431,823 | 228,073 |
| 0280 | PREPAYMENTS | 5,522,723 | 2,345,128 | 293,507 | 694,357 | 1,231,756 | 948,354 | 9,620 |
| 0290 | FUEL INVENTORY | 66,901,141 | 20,299,403 | 3,237,844 | 8,553,329 | 17,415,667 | 16,737,253 | 657,644 |
| 0300 | REGULATORY ASSETS | 121,304,313 | 48,397,367 | 6,572,024 | 15,192,075 | 28,157,967 | 22,070,165 | 914,716 |
| 0310 | LESS: | | | | | | | |
| 0320 | CUSTOMER ADVANCES FOR CONSTRUCTION | 158,781 | 88,149 | 10,508 | 20,915 | 24,434 | 11,469 | 3,306 |
| 0330 | CUSTOMER DEPOSITS | 4,192,439 | 2,179,087 | 1,607,581 | 335,161 | 65,338 | 5,272 | 0 |
| 0340 | DEFERRED INCOME TAXES | 485,201,862 | 216,216,270 | 26,934,049 | 61,629,463 | 102,644,320 | 74,875,763 | 2,901,996 |
| 0350 | DEFERRED GAIN ON SO2 EMISSIONS ALLOWANCE | 45,275,933 | 13,725,121 | 2,194,878 | 5,779,590 | 11,827,778 | 11,295,737 | 452,829 |
| 0360 | DEFERRED GAIN(LOSS) EMISSIONS ALLOWANCE | 2,121 | 643 | 103 | 271 | 554 | 529 | 21 |
| 0370 | TOTAL RATE BASE | 2,129,956,114 | 927,503,463 | 113,038,469 | 276,668,702 | 464,051,457 | 339,383,052 | 9,310,972 |
| 0380 | | | | | | | | |
| 0390 | RATE OF RETURN | 5.539% | 2.699% | 10.209% | 7.254% | 7.412% | 7.082% | 31.242% |
| 0400 | RELATIVE RATE OF RETURN | 1.00 | 0.49 | 1.84 | 1.31 | 1.34 | 1.28 | 5.64 |

Notes:

Production Plant and Expense Allocated using 4CP.
Margin on Sales Revenue Allocated on Energy.