

Exhibit No.:
Witness: Maurice Brubaker
Type of Exhibit: Surrebuttal Testimony
Issue: Class Cost of Service,
Revenue Allocation and
Rate Design
Sponsoring Parties: Ford Motor Company,
Praxair, Inc. and Missouri
Industrial Energy Consumers
Case No.: ER-2006-0314

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of the Application of
Kansas City Power & Light Company
for Approval to Make Certain Changes
in its Charges for Electric Service to
Begin the Implementation of Its
Regulatory Plan

Case No. ER-2006-0314

Surrebuttal Testimony and Schedules of

**Maurice Brubaker
on Cost of Service, Revenue
Allocation and Rate Design**

FILED

NOV 13 2006

Missouri Public
Service Commission

On Behalf of

**Ford Motor Company
Praxair, Inc. and
Missouri Industrial Energy Consumers**

October 6, 2006



BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

Project 8544

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MEL Exhibit No. 605
Case No(s). ER-2006-0314
Date 10-16-06 Rptr XF

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STATE OF MISSOURI

COUNTY OF ST. LOUIS

SS


Affidavit of Maurice Brubaker

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

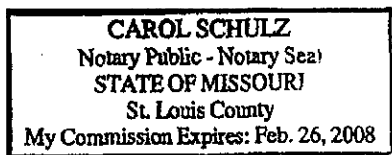
1. My name is Maurice Brubaker. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000. We have been retained by Ford Motor Company, Praxair, Inc. and Missouri Industrial Energy Consumers in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony on rate design issues which was prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2006-0314.

3. I hereby swear and affirm that the testimony is true and correct and that it shows the matters and things it purports to show.


Maurice Brubaker

Subscribed and sworn to before this 5th day of October 2006.




Notary Public

My Commission Expires February 26, 2008.

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Surrebuttal Testimony of Maurice Brubaker

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

2 **A Maurice Brubaker. My business address is 1215 Fern Ridge Parkway, Suite 208,**
3 **St. Louis, Missouri 63141-2000.**

4 **Q HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?**

5 **A Yes. I have previously filed direct and rebuttal testimony on both revenue**
6 **requirement and cost of service issues.**

7 **Q ARE YOUR QUALIFICATIONS ATTACHED TO AN EARLIER TESTIMONY?**

8 **A Yes. My qualifications were attached as Appendix A to my direct testimony on**
9 **revenue requirements that was filed on August 8, 2006.**

10 **Q WHAT ISSUES DO YOU ADDRESS IN YOUR SURREBUTTAL TESTIMONY?**

11 **A I will focus my surrebuttal primarily on several class cost of service issues: (1) the**
12 **allocation of generation and transmission fixed costs; (2) the allocation of energy**
13 **expenses; and (3) the allocation of the margin on off-system sales. These are the**

**Maurice Brubaker
Page 1**

1 issues which are most influential in determining the outcome of the class cost of
2 service studies filed by the various parties.

3 I also will provide limited surrebuttal on certain other class cost of service
4 issues including the allocation of certain elements of the distribution system, and the
5 treatment of losses in developing demand and allocation factors.

6 **Q PRIOR TO THIS CASE, HAVE YOU HAD OCCASION TO TESTIFY ABOUT THE**
7 **APPROPRIATE PRINCIPLES AND METHODS USED FOR COST ALLOCATION**
8 **ON ELECTRIC UTILITY SYSTEMS?**

9 A Yes. Over the last 36 years, I have testified on cost allocation issues on several
10 hundred occasions.

11 **Q PLEASE SUMMARIZE YOUR SURREBUTTAL TESTIMONY.**

12 A My surrebuttal testimony may be summarized as follows:

- 13 1. The average and excess (A&E) cost allocation methodology that uses class
14 non-coincident peak loads occurring during the three summer months is the most
15 appropriate method for allocation of KCPL generation and transmission fixed
16 costs.
- 17 2. The arguments of the various parties, which support allocating generation and
18 transmission fixed costs on a combination of demand and energy and/or using
19 demands from each of the 12 months of the year, miss the point and are
20 incomplete. These methods are inappropriate.
 - 21 a. These methods fail to recognize the summer peaking nature of the KCPL
22 system.
 - 23 b. These methods confuse cost-causation with utilization.
 - 24 c. These methods fail to recognize that if high load factor classes are to be
25 allocated above average capital costs, they should also be allocated below
26 average fuel costs.

- 1 3. The criticisms which Staff witness Busch has leveled against the A&E
2 methodology are misplaced because the example which he provides does not
3 utilize the A&E methodology, but rather is a coincident peak example.
- 4 4. The allocation testimony of Commission Staff class cost of service witnesses is at
5 odds with the testimony offered in this case by Commission Staff accounting and
6 resource planning witnesses.
- 7 5. The "unused energy" method applied by KCPL to allocate the margin on
8 off-systems sales suffers from many infirmities and does not appropriately
9 allocate margins.
- 10 6. A significant contributing factor to the Missouri jurisdiction's above-average load
11 factor is the high load factor Large Power class in Missouri. Commission Staff
12 class cost of service witnesses would deny to the high load factor customers the
13 benefits which their high load factor brings to the state of Missouri.
- 14 7. OPC's reliance upon a 1980 article concerning rural electric cooperatives is not
15 only inapplicable but the study itself fails to demonstrate the proposition for which
16 the OPC witness cites it.

17 **ALLOCATION OF GENERATION,**
18 **TRANSMISSION AND OFF-SYSTEM SALES**

19 Q WHICH TESTIMONIES WILL YOU ADDRESS IN THIS SECTION OF YOUR
20 SURREBUTTAL TESTIMONY?

21 A I address rebuttal testimonies filed by KCPL, MPSC Staff and OPC.

22 **Allocation of Generation and Transmission Costs**

23 Q WHAT DOES KCPL WITNESS TIM RUSH SAY IN REBUTTAL TO VARIOUS
24 PARTIES ON THE ISSUE OF THE ALLOCATION OF GENERATION AND
25 TRANSMISSION COSTS?

26 A In his rebuttal testimony, Mr. Rush continues to defend the Company's use of the
27 average and peak (A&P) method, arguing, in part, that allocating all fixed costs on

1 demands (and none on energy as the A&P method does) does not give recognition to
2 the different kinds of generating units that a utility installs to meet its load.

3 **Q DO YOU AGREE WITH MR. RUSH?**

4 A No, I do not agree with his conclusion. As I will explain in more detail later in my
5 rebuttal to Commission Staff and OPC (and as I have already explained to some
6 extent in my rebuttal testimony), the fact that a utility installs different kinds of plants
7 to meet its load does not mean that it is wrong to allocate fixed costs on demand. If
8 one wants to depart from this traditional approach of allocating fixed costs on
9 demand, and average energy costs on kilowatthours adjusted for losses, then it is
10 also necessary to recognize that the customers who get the higher allocation of
11 generation costs (the high load factor customers) should also get a correspondingly
12 lower allocation of the energy costs. None of the parties that have proposed
13 alternative allocation methodologies for generation and transmission fixed costs have
14 made the appropriate allocations of energy-related costs.

15 **Q WHAT ELSE DOES MR. RUSH HAVE TO SAY?**

16 A At page 3 of his rebuttal he criticizes Trigen's proposal and argues that "KCPL has
17 low cost generation capacity that is available during winter months, but is required to
18 meet maximum summer demand."

19 **Q IS THIS CONSISTENT WITH HIS ADVOCACY OF THE A&P METHOD?**

20 A No. While Mr. Rush is correct in his policies expressed in response to Trigen, it
21 appears that he meets himself coming and going when he tries to sustain this

1 argument in the face of the Company's explicit incorporation of energy consumption
2 into the allocation of generation- and transmission-related fixed costs.

3 **Q WHAT DOES STAFF WITNESS JAMES BUSCH HAVE TO SAY ON THIS**
4 **SUBJECT?**

5 A At page 6 of his testimony, Mr. Busch responds to my recommended use of the A&E
6 methodology. He provides an example which he says shows that A&E is equivalent
7 to the contribution to system peak.

8 **Q IS MR. BUSCH CORRECT?**

9 A No, he is wrong.

10 **Q PLEASE EXPLAIN.**

11 A Mr. Busch provides an example in which he assumes that every class experiences its
12 peak demand at the time of the system peak. Of course, then, he can show that
13 non-coincidence peaks and coincidence peaks are the same. His example proves
14 nothing. Typically (including in the case of KCPL), class peaks do not occur
15 coincident with the system peak, and particularly not so when we use multiple months
16 as I have done. Mr. Busch has created a strawman which does not represent the
17 A&E method, so his criticisms which he levels at his own strawman do not apply to
18 the A&E allocation method that I have employed.

1 Q DO ALL STAFF WITNESSES SHARE MR. BUSCH'S VIEW AS TO THE
2 APPROPRIATE WAY TO ALLOCATE GENERATION AND TRANSMISSION
3 COSTS?

4 A No. In response to KCPL's proposal to use a 12 coincident peak allocation method to
5 separate generation and transmission fixed costs among jurisdictions, Staff witness
6 Maloney submitted an extensive analysis which demonstrates that KCPL is a summer
7 peaking system. Staff accounting witnesses recommend that four summer coincident
8 peaks be used to allocate costs among jurisdictions. As I have noted in previous
9 testimony, this is generally consistent with the approach that I have taken which
10 recognizes the importance of summer peak demands.

11 Certainly it is not logical that a party would aggressively argue to reflect a
12 utility's summer peaking characteristics when allocating costs between jurisdictions,
13 and then aggressively argue to ignore such characteristics when attempting to
14 allocate costs among customer classes.

15 Q IF MR. BUSCH'S ALLOCATION METHOD WERE APPLIED TO THE
16 JURISDICTIONAL ALLOCATIONS, WHAT WOULD BE THE RESULT FOR
17 MISSOURI?

18 A Since Missouri has a higher load factor than Kansas, application of Mr. Busch's
19 recommended A&P methodology would allocate significantly more costs to Missouri
20 than even the 12 CP method which KCPL has proposed to use for jurisdictional
21 allocation.

1 **Q WHAT OTHER ARGUMENTS DOES MR. BUSCH MAKE?**

2 A At page 7 he makes mention of the fact that different kinds of generating units can be
3 installed for various purposes, that they have different fixed costs, and then
4 concludes that allocating all fixed costs on measures of peak demand (peak
5 responsibility or A&E) allocates too much costs to low load factor customers. Of
6 course, Mr. Bush fails to, as noted above, address the fact that the more capital
7 intensive plants have lower fuel costs. Mr. Busch's approach is to allocate a
8 disproportionate amount of capital costs to high load factor customers, but to allocate
9 average fuel costs (including fuel costs from high cost peaking units) to high load
10 factor customers so that they get the average energy cost, and not an energy cost
11 that would be more consistent with the higher share of base load plants which is
12 allocated to them.

13 **Q DO OTHER STAFF WITNESSES APPEAR TO AGREE THAT LOWER FUEL**
14 **COSTS WOULD CORRESPOND TO HIGHER LOAD FACTOR USERS?**

15 A Yes. Staff witness Featherstone in his September 8, 2006 rebuttal testimony makes
16 this explicit point at pages 2 and 10. He points out (for example, at page 2) that
17 because of the fact that Missouri has a higher load factor than Kansas, Missouri
18 would have average fuel and purchased power costs that are lower than the system
19 average. If this is true (and it is) in the context of a difference in load factor between
20 Missouri and Kansas of approximately eight percentage points, it is clearly true in the
21 case of Missouri jurisdictional classes where the load factors range from 70% for the
22 Large Power class down to 36% for the Residential class. Staff witness Lena Mantle
23 makes similar points in her September 8, 2006 rebuttal testimony.

Clearly, Mr. Featherstone and Ms. Mantle do not subscribe to Mr. Busch's statement (at page 9 of his rebuttal testimony) where he asserts that the presence of low load factor customers decreases the cost to serve high load factor customers.

4 Q DOES OPC WITNESS MEISENHEIMER MAKE ARGUMENTS SIMILAR TO THOSE
5 ADVANCED BY MR. BUSCH?

6 A Yes. Her rebuttal really adds nothing to the arguments that have already been made,
7 and for the same reasons as previously discussed in my rebuttal testimony and in this
8 surrebuttal testimony, her conclusions and criticisms of the A&E methodology are
9 misplaced.

MARGIN ON OFF-SYSTEM SALES

11 Q WHAT IS THE ISSUE WITH RESPECT TO THE ALLOCATION OF MARGIN ON
12 OFF-SYSTEM SALES?

13 A KCPL has employed what it has called the "unused energy" allocation method. As
14 has been previously been discussed, this method is entirely new, has not been used
15 in Missouri or anywhere else to my knowledge, and is overly simplistic in its
16 approach. I address this at pages 28 to 29 in my August 22, 2006 testimony.

At page 7 of his rebuttal testimony, KCPL witness Rush makes note of my use of the energy allocation factor for this purpose and claims that I have allocated the plant costs to low load factor customers but given the benefit to high load factor customers.

1 **Q DO YOU AGREE WITH MR. RUSH?**

2 A No, I do not. As pointed out in my August 22, 2006 testimony, KCPL's approach fails
3 to recognize that a substantial amount of the off-system sales are made from reserve
4 margin that is carried to support and make reliable the load of all customers, including
5 high load factor customers, does not consider timing of sales, and does not consider
6 that some of these sales are supported by power purchases rather than by native
7 generation. These are just some of the problems with KCPL's approach.

8 **Q HOW HAVE COMMISSION STAFF AND OPC RATE DESIGN WITNESSES**
9 **ALLOCATED MARGINS ON OFF-SYSTEM SALES?**

10 A As I pointed out in my rebuttal testimony, the Staff and OPC class cost of service
11 witnesses have allocated revenues from off-system sales (the portion that covers the
12 cost of fuel and purchased power as well as the margins) using a demand allocation
13 factor. As I have noted, it is inconsistent to allocate the fuel and purchased power
14 costs used to support these sales on an energy basis, and then to allocate that
15 portion of the revenues received from the sale that covers fuel and purchased power
16 costs on a demand basis. This is inconsistent and over-allocates costs to high load
17 factor customers. If Staff and OPC wanted to allocate the margin portion on a
18 demand allocation basis, they must allocate the portion of the revenue that covers
19 fuel and variable purchased power costs on an energy basis to be consistent.

1 **Q DO ALL STAFF WITNESSES AGREE WITH THE STAFF RATE DESIGN**
2 **WITNESSES?**

3 A No. Staff witnesses Featherstone, Mantle, Maloney and Traxler all have offered
4 testimony in support of allocating 100% of the revenues from off-systems sales
5 (including margins) on an energy basis.

6 Among other things, these Staff witnesses point out that because of Missouri's
7 high load factor, the KCPL system has more baseload capacity and therefore lower
8 fuel cost, which enables greater profits to be earned on off-system sales margins. I
9 believe these witnesses have accurately assessed the situation, and their
10 methodology should be employed, not the methodology advanced by the Staff class
11 cost of service witnesses.

12 **BENEFITS OF ABOVE-AVERAGE**
13 **MISSOURI JURISDICTIONAL LOAD FACTOR**

14 **Q THERE HAS BEEN MUCH DISCUSSION IN THIS CASE ABOUT THE BENEFITS**
15 **OF MISSOURI'S ABOVE-AVERAGE LOAD FACTOR. TO WHAT EXTENT DO**
16 **LARGE POWER CUSTOMERS CONTRIBUTE TO THE MISSOURI**
17 **JURISDICTIONAL LOAD FACTOR BEING ABOVE AVERAGE?**

18 A Significantly. The load factor with the Large Power class being served is more than
19 five percentage points higher than the load factor of the Missouri jurisdiction without
20 the Large Power customers. The Missouri jurisdiction load factor is about four
21 percentage points higher than the system average load factor. This clearly indicates
22 that the presence of the Large Power customers, with their above-average load
23 factor, contributes significantly to the overall load factor of the Missouri jurisdiction
24 being above the system average.

1 Commission Staff accounting and resource planning witnesses have provided
2 extensive analysis and testimony pointing out why high load factor is beneficial. At
3 the same time, however, the Commission Staff class cost of service witnesses
4 allocate costs (generation and transmission) and margins from off-system sales
5 among retail customer classes in a manner that does not recognize the benefits of
6 the high load factor that the Large Power customers bring to the system, and which
7 result in a lesser amount of costs, and a greater amount of profit on off-system sales,
8 being allocated to the Missouri jurisdiction. Theory aside, the inequity of this
9 approach is obvious.

10 **PRIMARY DISTRIBUTION SYSTEM**

11 **Q IN HER REBUTTAL TESTIMONY, DOES OPC WITNESS MEISENHEIMER**
12 **CONTINUE TO ARGUE THAT THERE SHOULD NOT BE A CUSTOMER**
13 **COMPONENT TO THE PRIMARY DISTRIBUTION NETWORK?**

14 **A** Yes, she does.

15 **Q IN HER REBUTTAL TESTIMONY, WHAT ARGUMENT DOES SHE MAKE?**

16 **A** Really nothing new from her previous testimony, which itself did not provide any
17 support. However, she does quote from a 1980 article published in *Public Utilities*
18 *Fortnightly*.

19 **Q HAVE YOU REVIEWED THAT ARTICLE?**

20 **A** Yes. Essentially, this article reported on the results of a study conducted by the Rural
21 Electrification Administration (then REA, now RUS) of changes in distribution plant

1 investment and number of customers over the period 1971 to 1978 for a large sample
2 of REA distribution utilities.

3 **Q DO YOU BELIEVE THAT THE STUDY WOULD BE APPLICABLE TO KCPL?**

4 A It is difficult to see that a study conducted for a group of REAs using data that is now
5 30 years old would be applicable to KCPL. Not only is the data quite old, but it is
6 questionable whether the characteristics of rural electric systems are applicable to
7 most of KCPL's service territory. Not only has technology changed, but certainly a
8 large part of KCPL's service territory cannot be described as rural.

9 **Q PUTTING ASIDE THE QUESTION OF APPLICABILITY, DO THE STUDY RESULTS**
10 **STAND FOR THE PROPOSITION THAT MS. MEISENHEIMER ATTRIBUTES TO**
11 **IT?**

12 A No. Ms. Meisenheimer's cites to this article for the proposition that investment in
13 distribution facilities is not correlated with the number of customers. However, the
14 study did not address this question. The study was basically done to examine
15 economies of scale in the electric distribution utilities.

16 Indeed, at page 37 the author notes:

17 "In 1979 we analyzed three randomly selected samples of distribution
18 borrowers' statistics. Multiple regression studies of the data indicated
19 high probabilities that historical economies of scale at the distribution
20 level still exist and would be confirmed by extensive economic
21 analyses of the total population. Our a priori reasoning, years of
22 experience, size stratification analyses, and the glaring lack of proof to
23 the contrary had let us to that thesis."

24 Indeed, the more extensive statistical study did in fact verify this. The
25 conclusion stated at page 38 of that article is:

1 "The consistency of the inverse correlations with change in year-round
2 farm and residential consumers and at all levels of growth rate show
3 continued economies of scale with respect to distribution system
4 investment."

5 In other words, the study found that investment per customer decreased as
6 customers were added. This provides no basis for the conclusion that Ms.
7 Meisenheimer has drawn, namely that investment in certain aspects of the distribution
8 system are not related to the number of customers. This is a question that the REA
9 study did not even address. Rather, as the article notes, it confirms the existence of
10 economies of scale. Thus, it provides no support for her position concerning the
11 proper classification of distribution primary investment.

12 **INCLUSION OF LOSSES ON DEMANDS**

13 **Q IN HER REBUTTAL, KCPL WITNESS LIECHTI TAKES ISSUE WITH YOUR**
14 **STATEMENT THAT KCPL DID NOT INCLUDE LOSSES ON DEMANDS. HAS SHE**
15 **ACCURATELY CHARACTERIZED YOUR TESTIMONY?**

16 **A** I believe she has interpreted it too broadly. I agree that KCPL has included losses on
17 both energy and demands. My only criticism was that in developing the A&P
18 allocation factor, it appears that the load factor which KCPL used to weight the
19 energy component of the allocation factor was calculated using a peak demand that
20 did not include losses.

21 While this is not an overwhelming issue in the context of the other issues in
22 the case, I will respond to Ms. Liechti for purposes of completeness.

23 **Q HAVE YOU PREPARED A SCHEDULE?**

24 **A** Yes. I have prepared Surrebuttal Schedule 1, consisting of four pages.

1 **Q PLEASE EXPLAIN THIS SCHEDULE.**

2 A Page 1 shows two sets of coincident peak demands that appear in KCPL's
3 workpapers. One is slightly higher than the other, and I believe the difference
4 between the two to be losses in delivery. The losses are calculated on line 3 of
5 page 1 and are generally in accord with loss factor information that we have seen
6 from KCPL's studies.

7 Page 2 shows KCPL's development of the A&P allocation factor and shows
8 that it used the lower of the two numbers (1900.6) MW for purposes of calculating the
9 load factor. (The remaining pages of this Schedule show the monthly data in detail,
10 and the total kW at the time of the annual peak in the right most column.)

11 This was the basis for my statement that KCPL did not appropriately consider
12 losses in its development of the A&P allocation factor.

13 **Q HAVE YOU HAD SUBSEQUENT CONVERSATIONS WITH KCPL ABOUT THIS**
14 **ISSUE?**

15 A Yes. I recently discussed this issue in more detail with KCPL and have been advised
16 that the demand numbers shown on page 3 of 4 of my Surrebuttal Schedule 1 do
17 include loss adjustments, and that KCPL inadvertently included loss adjustments a
18 second time in the schedule which appears as page 4 of Surrebuttal Schedule 1.

1 Q ACCEPTING THIS EXPLANATION BY KCPL, HAVE YOU RECALCULATED
2 YOUR 3 NCP-A&E ALLOCATION FACTOR AND THE RESULTING COST OF
3 SERVICE?

4 A Yes. The recalculated allocation factor appears on Surrebuttal Schedule 2 and a
5 summary of the cost of service study appears on Surrebuttal Schedule 3.

6 Q PLEASE SUMMARIZE THE DIFFERENCE IN RESULTS WHEN THESE CHANGES
7 ARE MADE?

8 A They are very minor. For example, the overpayment by the Large Power class
9 decreases from \$16.9 million to \$16.1 million, and the underpayment of the
10 Residential class decreases from \$39.3 million to \$39 million.

11 **REVENUE ALLOCATION**

12 Q AT PAGE 12 OF HER REBUTTAL TESTIMONY, STAFF WITNESS PYATTE
13 STATES THAT SHE IS OPPOSED TO CHANGING THE NON-RESIDENTIAL
14 CUSTOMER CLASS REVENUE REQUIREMENTS (SGS, MGS, LGS AND LP) BY
15 ANYTHING OTHER THAN A UNIFORM PERCENTAGE. DO YOU AGREE WITH
16 MS. PYATTE?

17 A Not entirely. The point that she makes is probably a lot more valid when considering
18 the relationships among SGS, MGS and LGS, and I would not particularly take issue
19 with how those three schedules are treated. However, I would point out that the
20 Large Power service schedule is somewhat different, in that customers are much
21 larger, are much more likely to be served at high voltage, have higher load factors
22 and are less seasonal in character. Furthermore, to the extent that there is an

1 upward progression across rate schedules, the LPS class is the ultimate rate
2 schedule on which a growing customer would reside, so a change (which would be
3 appropriate) of reducing this class more than the others would not cause disruption
4 among the smaller schedules in their interrelationships.

5 **Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

6 **A Yes, it does.**

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KANSAS CITY POWER & LIGHT COMPANY
CLASS COST OF SERVICE FOR MISSOURI CUSTOMERS
FOR THE TEST YEAR ENDED SEPTEMBER 30, 2005

Comparison of "Version 2" and "Version 3" Demands

<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>
1	Coincident Peak (MW) for 07/01/2005 from Tab "Version 2"	1,900.560	817.262	102.897	224.748	402.296	353.357
2	Coincident Peak for 07/01/2005 from Tab "Version 3"	2,006.610	867.360	109.194	238.480	425.710	365.866
3	Calculated Loss Factor (Line 2 / Line 1) - 1		0.061300	0.061197	0.061100	0.058201	0.035400

Data from KCPL File: 3a_3b_MO.xls

The demands on Line 1 are used to calculate KCPL's production allocator. See attached.

Average and Peak Allocator for Missouri

Class	Load Factor	Energy (WN MWH)	Energy Allocator	1 - Load Factor	1-CP Peak	1-CP Allocator	Average and Peak Allocator
RES	53.8%	2,664,695	29.7290%	46.2%	817.3	43.0022%	35.8612%
SGS	53.8%	486,738	5.4303%	46.2%	102.9	5.4141%	5.4228%
MGS	53.8%	1,047,615	11.6878%	46.2%	224.7	11.8226%	11.7501%
LGS	53.8%	2,276,089	25.3935%	46.2%	402.3	21.1670%	23.4409%
LPS	53.8%	2,401,479	26.7924%	46.2%	353.4	18.5941%	23.0048%
Lighting	53.8%	86,671	0.9670%	46.2%	0	0.0000%	0.5202%
		8,963,287	100.0000%		1900.6	100.0000%	100.0000%

$$\text{Load Factor} = \frac{\text{Annual Energy (MO)}}{\text{Annual Peak (MO) x 8760}}$$

$$\text{Load Factor} = \frac{8,963,287}{1900.6 \times 8760} = 53.8\%$$

$$\text{Average and Peak Allocator} = (\text{Load Factor} \times \text{Energy Allocator}) + ((1 - \text{Load Factor}) \times \text{1-CP Allocator})$$

Version #2: Weather Normalized

a) Coincident Peaks

	Residential	Small General	Medium General	Large General	Large Power	Total MW
	(MW)	Service (MW)	Service (MW)	Service (MW)	Service (MW)	
10/01/2004	393.950	46.687	144.942	274.185	314.368	
11/01/2004	417.851	57.845	126.989	305.681	272.376	
12/01/2004	501.368	57.558	124.699	307.440	279.019	
01/01/2005	444.259	79.573	131.867	363.683	274.590	
02/01/2005	466.669	58.522	126.675	320.084	277.911	
03/01/2005	389.946	50.657	122.493	279.753	281.233	
04/01/2005	322.852	50.169	125.633	259.236	299.552	
05/01/2005	509.561	81.671	180.469	357.233	347.378	
06/01/2005	733.292	102.859	210.369	390.373	365.735	
07/01/2005	817.262	102.897	224.748	402.296	353.357	1,900.560
08/01/2005	792.257	79.636	196.952	393.490	350.601	
09/01/2005	702.090	77.206	167.789	296.213	294.273	

Version #3: Weather Normalized

a) Coincident Peaks

	Residential	Small General	Medium General	Large General	Large Power	Total MW
	(MW)	Service (MW)	Service (MW)	Service (MW)	Service (MW)	
10/01/2004	418.099	49.544	153.798	290.143	325.497	
11/01/2004	443.466	61.385	134.748	323.471	282.018	
12/01/2004	532.102	61.081	132.319	325.333	288.896	
01/01/2005	471.493	84.443	139.924	384.849	284.310	
02/01/2005	495.275	62.104	134.415	338.713	287.749	
03/01/2005	413.849	53.757	129.977	296.035	291.188	
04/01/2005	342.643	53.239	133.309	274.323	310.156	
05/01/2005	540.798	86.669	191.496	378.023	359.676	
06/01/2005	778.243	109.153	223.222	413.093	378.682	
07/01/2005	867.360	109.194	238.480	425.710	365.866	2,006.610
08/01/2005	840.822	84.509	208.986	416.391	363.012	
09/01/2005	745.128	81.931	178.041	313.452	304.690	

KANSAS CITY POWER & LIGHT COMPANY

Development of Average and Excess Demand Allocator Based on 3 NonCoincident Peaks For the Test Year Ended September 2005

<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>
1	Average of 3 NCPs (JJA) - kW	1,955,907	824,911	112,796	231,548	410,667	375,984
2	Energy Sales with Losses - MWh	8,876,616	2,664,695	486,738	1,047,615	2,276,089	2,401,479
3	Average Demand - kW	1,013,312	304,189	55,564	119,591	259,828	274,141
4	Average Demand - Percent	1.000000	0.300193	0.054834	0.118020	0.256414	0.270540
5	Class Excess Demand - kW	942,594	520,723	57,232	111,957	150,839	101,843
6	Class Excess Demand - Percent	1.000000	0.552435	0.060718	0.118776	0.160026	0.108045
Allocator:							
7	Annual Load Factor * Average Demand	0.533165	0.160052	0.029235	0.062924	0.136711	0.144242
8	(1-LF) * Excess Demand	0.466835	0.257896	0.028345	0.055449	0.074706	0.050439
9	Average and Excess Demand Allocator	1.000000	0.417948	0.057581	0.118373	0.211417	0.194682

Notes:

Line 3 equals Line 2 ÷ 8.760

Line 5 equals Line 1 - Line 3

System Annual Load Factor 53.32% (8,876,616 MWh ÷ 1,900.56 MW ÷ 8760 hours)

1 - Load Factor 46.68%

KANSAS CITY POWER & LIGHT COMPANY

Class Cost of Service Study at Present Rates for Missouri Customers Average & Excess - 3NCP - Scenario For the Test Year Ended September 30, 2005 (Dollars in Thousands)

Line	Description	Allocators	Missouri Retail (1)	Residential (2)	Small General Service (3)	Medium General Service (4)	Large General Service (5)	Large Power Service (6)	Off Peak Lighting (7)	Other Lighting (8)
Summary of Results										
DEVELOPMENT OF RATE BASE										
1	PLANT IN SERVICE		\$ 2,647,510	\$ 1,188,222	\$ 204,241	\$ 317,069	\$ 506,516	\$ 417,019	\$ -	\$ 14,443
2	LESS: RESERVE FOR DEPRECIATION		1,209,981	536,549	90,418	143,520	233,289	198,592	-	7,592
3	NET PLANT IN SERVICE		1,437,549	651,673	113,823	173,549	273,226	218,427	-	6,850
4	RATE BASE ADDITIONS		70,755	27,417	4,468	8,197	15,359	14,668	-	646
5	RATE BASE DEDUCTIONS		336,272	146,982	26,636	40,110	65,393	55,393	-	1,758
6	TOTAL RATE BASE		1,172,031	532,108	91,654	141,636	223,192	177,702	-	5,738
Operating Revenues:										
7	Adjusted Sales Revenues		483,656	171,390	36,586	62,431	108,729	98,464	-	6,057
8	Other Revenues		101,743	32,652	5,743	11,948	24,916	25,631	-	854
9	Total Operating Revenue		585,399	204,042	42,328	74,379	133,645	124,094	-	6,910
OPERATING EXPENSES										
10	OPERATION & MAINTENANCE		361,899	141,529	23,196	41,395	77,693	74,164	-	3,922
11	DEPRECIATION & AMORT EXPENSE		69,798	31,699	5,631	8,202	12,841	10,512	-	914
12	Interest on Customer Deposits		469	263	171	29	5	1	-	-
13	TAXES OTHER THAN INCOME TAX		34,369	15,432	2,624	4,092	6,570	5,437	-	214
14	KCMO Earnings Tax		867	394	68	105	166	130	-	4
15	Federal And State Income Taxes		31,075	14,244	2,484	3,778	5,885	4,525	-	159
16	TOTAL OPERATING EXPENSES		498,477	203,562	34,174	57,600	103,159	94,769	-	5,213
17	OPERATING INCOME		\$ 86,922	\$ 480	\$ 8,155	\$ 16,779	\$ 30,486	\$ 29,326	\$ -	\$ 1,697
18	RATE OF RETURN		7.42%	0.09%	8.90%	11.85%	13.66%	16.50%		29.57%
19	INDEX RATE OF RETURN		100	1	120	160	184	223		399
20	Subsidies	1.000000	\$ -	\$ (38,983)	\$ 1,357	\$ 6,275	\$ 13,933	\$ 16,147	\$ -	\$ 1,271
21	Change Needed to Equalize ROR		\$ -	\$ 38,983	\$ (1,357)	\$ (6,275)	\$ (13,933)	\$ (16,147)	\$ -	\$ (1,271)
22	Percent of Sales Revenue		0.00%	22.75%	-3.71%	-10.05%	-12.81%	-16.40%		-20.99%