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Case No.: ER-2012-0174  
Date Testimony Prepared: August 16, 2012

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO. ER-2012-0174**

**DIRECT TESTIMONY**

**OF**

**F. JAY CUMMINGS**

**ON BEHALF OF**

**MISSOURI GAS ENERGY**

**August 16, 2012**

**MISSOURI PUBLIC SERVICE COMMISSION  
CASE NO. ER-2012-0174**

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OF  
F. JAY CUMMINGS**

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**SCHEDULES**

FJC-1	KCP&L Current and KCP&L Proposed Residential Rates
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## **SCHEDULES**

- FJC-6 KCP&L Average Annual Number of Residential Customers
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- FJC-9 Energy Charge Changes With Assumed Base Revenue Change

**DIRECT TESTIMONY OF F. JAY CUMMINGS**

**CASE NO. ER-2012-0174**

**AUGUST 16, 2012**

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

2 A. My name is F. Jay Cummings. My business address is 3625 North Hall Street,  
3 Suite 750, Dallas, Texas 75219.

4  
5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am a Senior Economist with Ruhter & Reynolds, Inc., Consulting Economists.

7  
8 **Q. PLEASE SUMMARIZE YOUR EDUCATION AND EXPERIENCE.**

9 A. I have a B.A. degree with a major in economics from Colgate University and a  
10 Ph.D. in economics from the University of Virginia. I have more than 27 years of  
11 utility regulatory experience gained through private and public sector positions.  
12 Since 2003, I have provided regulatory support services to the energy industry as  
13 a Senior Economist with Ruhter & Reynolds (2005 - present), an Executive  
14 Consultant with R. J. Covington Consulting, LLC (2003-2005) and as a Principal  
15 with Navigant Consulting, Inc. (2001-2003). Prior to Navigant Consulting, I was  
16 employed by Southern Union Company for more than 11 years. I joined Southern  
17 Union as Southern Union Gas' Director of Rates and Regulatory Affairs and  
18 became Vice President later that year. When my regulatory responsibilities for

1 Southern Union expanded to include its Missouri properties in 1994, I became  
2 Vice President, Pricing and Economic Analysis, a position I held until leaving  
3 Southern Union in 2001.

4  
5 Prior to joining Southern Union, I was employed by the Arizona Corporation  
6 Commission for six years. I held positions as the Utilities Division Assistant  
7 Director (1988-1991); Chief, Economics and Research Section (1985-1988); and  
8 Chief, Economics and Rates Section (1985). My work with the Arizona  
9 Corporation Commission covered regulation of electric, gas, telecommunications  
10 and water utilities.

11  
12 From 1973 through 1985, I was on the economics faculties of George Mason  
13 University (1973 - 1975) and the University of Texas at Dallas (1975 - 1985). My  
14 teaching and research focused on applied microeconomic analyses, which resulted  
15 in professional journal publications and conference and seminar presentations. I  
16 have submitted testimony in regulatory proceedings in Arizona, Arkansas,  
17 Massachusetts, Missouri, Oklahoma, Texas, and Washington.

18

19 **1. TESTIMONY PURPOSE AND RECOMMENDATIONS**

20

21 **Q. SUMMARIZE THE PURPOSE OF YOUR TESTIMONY.**

22 A. I have been retained by Southern Union Company, d/b/a Missouri Gas Energy  
23 (“MGE”) to analyze the Residential rate designs of Kansas City Power & Light

1 (“KCP&L”) and to provide recommendations regarding these rate designs to the  
2 Missouri Public Service Commission (“Commission”) in this case. My analysis  
3 and recommendations pertain to (1) cost-based, revenue-neutral Residential rate  
4 adjustments at current revenue, (2) the availability of the separate Residential  
5 General Use and Space Heat (“Space Heat”) schedules, and (3) the design of  
6 energy charges for Residential services.

7

8 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.**

9 A. First, I recommend revenue-neutral adjustments in current rates on the Residential  
10 schedules based on KCP&L’s cost of service results. These revenue adjustments  
11 remove the seasonal inequities in the collection of current revenue by equalizing  
12 the Residential rates of return at current rates in the summer and winter. The  
13 adjustments also remove the current inequities in the collection of winter revenue  
14 among Residential customers taking service on different rate schedules by  
15 equalizing the winter rates of return at current revenue on the various Residential  
16 rate schedules.

1           Second, based on ratemaking and public policy considerations, I recommend that  
2           the separate Residential Space Heat schedules be eliminated, and the customers  
3           served under these schedules be transferred to a consolidated General Use  
4           schedule.<sup>1</sup> In the alternative, I recommend that the Residential Space Heat  
5           services be scheduled for elimination in a subsequent rate case and that current  
6           rates for these services be adjusted based on the recommended Residential  
7           revenue-neutral shift in this case. In addition to freezing the prospective  
8           availability of these services in this case, this alternative recommendation  
9           includes tariff language regarding availability to ensure the effectiveness of  
10          freezing the schedules and to simplify their subsequent elimination.

11  
12          Third, I provide recommendations pertaining to the design of Residential energy  
13          charges based on (1) my revenue-neutral revenue adjustments and (2) the revenue  
14          change that is ultimately approved by the Commission. I recommend that the  
15          winter declining blocks be retained with the current rate differences among  
16          blocks, i.e., cents per kWh, for those schedules with blocked rates. If my  
17          recommendation to eliminate Space Heat is accepted, the current Space Heat rate  
18          blocks and rate block differences are used in the consolidated General Use  
19          schedule. If my alternative recommendation to freeze the Space Heat is accepted,  
20          I recommend that the current winter rate differences among blocks, i.e., cents per  
21          kWh, be retained on the respective schedules. I recommend no change in the

---

<sup>1</sup> KCP&L offers the following Residential services: General Use, General Use and Space Heat - One Meter, General Use and Space Heat - 2 Meters, Time of Day, and Other Use. General Use and Space Heat - 2 Meters was frozen in January 2007. As explained later in my testimony, the General Use and Space Heat - 2 Meters schedule cannot be consolidated with the General Use schedule because KCP&L has not provided the necessary billing determinants to perform the required rate calculation.

1 summer rate structures, with all current energy charges adjusted by the same per  
2 kWh amount to reflect the summer revenue change required by the recommended  
3 revenue-neutral adjustments.

4  
5 Regarding the Commission-approved base revenue change, I recommend that the  
6 base revenue change be assigned to the winter and summer to maintain the  
7 equalized seasonal rates of return for the Residential class resulting from my  
8 recommended revenue-neutral adjustments to current revenue based on KCP&L's  
9 cost of service results. The portion of the base revenue change to be collected  
10 from energy charges in each season is divided by each season's kWh and added to  
11 my recommended current, adjusted energy charges in all Residential schedules.<sup>2</sup>

12  
13 **2. CURRENT AND PROPOSED KCP&L RESIDENTIAL RATES**

14  
15 **Q. PLEASE DESCRIBE CURRENT KCP&L RESIDENTIAL RATES.**

16 A. Schedule FJC-1, columns (b) - (f) provides KCP&L's current Residential rates. I  
17 describe General Use and Space Heat services that encompass virtually all of  
18 KCP&L's Residential class.<sup>3</sup>

---

<sup>2</sup> My recommendations do not address Residential service charge changes to be implemented with the Commission-approved base revenue change. Rather, I address required energy charge changes after recognizing the revenue changes resulting from approved Residential service charge changes.

<sup>3</sup> The following table shows the average number of customers taking service under each schedule:

	<u>Customers</u>	<u>Percent</u>		<u>Customers</u>	<u>Percent</u>
General Use	188,357	79.12%	Time of Day	41	0.02%
Space Heat - One Meter	38,938	16.36	Other Use	5	< 0.01
Space Heat - 2 Meters	10,712	4.50			

Customer counts are from KCP&L Application, Appendix 1. As a result of the descriptions used in this source, the customer counts for the two Space Heat schedules shown above were confirmed in allocator data contained in KCP&L's Response to Data Request MGE-1.



1 The summer energy charges are the same for General Use and Space Heat, with a  
2 uniform energy rate for all usage.<sup>4</sup> Summer energy charges are higher than  
3 winter energy rates in corresponding schedules. In the winter, both General Use  
4 and General Use and Space Heat - One Meter have declining block energy  
5 charges. The Space General Use and Space Heat - One Meter winter energy  
6 charges are lower in each rate block than the General Use winter energy charges.  
7 Stated differently, average winter energy prices, i.e., the winter energy charge at a  
8 specific kWh usage based on the blocked rates divided that kWh usage, are lower  
9 for Space Heat - One Meter than for General Use. The non-heat portion of a  
10 customer's usage on frozen Space Heat - 2 Meters is priced the same as General  
11 Use in the winter; however, the space heat usage on the separate meter for Space  
12 Heat - 2 Meters schedule is priced significantly below General Use.

13

14 **Q. DOES KCP&L PROPOSE TO RETAIN THE LOWER AVERAGE**  
15 **WINTER ENERGY PRICES FOR SPACE HEATING?**

16 A. Yes. In fact, KCP&L requests an increase in the current winter energy price  
17 differences between General Use and Space Heat - One Meter and General Use  
18 through its proposed rates.<sup>5</sup> For example, the current average winter energy price  
19 is 0.94 cents per kWh lower for Space Heat - One Meter than General Use at 1000  
20 kWh.<sup>6</sup> This differential grows to 1.09 cents per kWh under its proposed rates.

---

<sup>4</sup> The monthly service charges are the same for General Use and Space Heat - One Meter, while the monthly service charge for General Use and Space Heat - 2 Meters is higher.

<sup>5</sup> KCP&L's proposed rates are contained in KCP&L Application, Appendix 1.

<sup>6</sup> Average winter usage is 1035 kWh for General Use and Space Heat - One Meter based on KCP&L's Response to Data Request MGE-4.

1 This same pattern occurs at other kWh usage levels. Similarly, the discount on  
2 the space heat portion of usage on the Space Heat - 2 Meters schedule becomes  
3 larger with KCP&L's proposed rates.

4

5 **Q. DO YOU HAVE ANY OBSERVATIONS REGARDING THE HISTORY**  
6 **OF KCP&L'S GENERAL USE AND SPACE HEAT WINTER ENERGY**  
7 **CHARGES?**

8 A. Yes. Residential rates set in KCP&L rate cases since 1999 generally resulted  
9 from stipulations and across-the-board increases. I have two observations on the  
10 resulting historical pattern of rate changes. First, the winter declining block  
11 structure has become more pronounced, i.e., greater per kWh differences between  
12 rate blocks, over time for both General Use and General Use and Space Heat -  
13 One Meter. These results are shown on lines 1-5 of Schedule FJC-2. Column g  
14 shows that KCP&L's proposed rates continue this trend.

15

16 Second, the rate advantage of Space Heat - One Meter over General Use has  
17 generally increased over time, as shown on lines 6-11 of Schedule FJC-2.<sup>7</sup>

18 Column g shows that KCP&L's proposed rates continue this growing Space Heat  
19 rate advantage.

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<sup>7</sup> While the Space Heating - One Meter schedule rate advantage has generally increased continually since 1999, it declined somewhat with rates implemented in 2011. This 2011 result reflects the effect of an approved rate case stipulation between KCP&L and MGE in which the first energy block rate for Space Heat - One Meter was increased 6 percent prior to application of the increase to residential energy charges (Non-Unanimous Stipulation and Agreement as to MGE Rate Design Issue, Case No. ER-2010-0355, February 4, 2011).

1           **3. RESIDENTIAL SPACE HEAT AND GENERAL USE SCHEDULES**

2

3   **Q.    WHAT JUSTIFICATION HAS KCP&L PROVIDED FOR THE USE OF**  
4           **LOWER WINTER ENERGY PRICES FOR RESIDENTIAL SPACE HEAT**  
5           **COMPARED TO GENERAL USE AT CURRENT RATES?**

6   **A.**    In response to an MGE data request seeking this justification, KCP&L simply  
7           provided broad references to its class cost of service study and several general  
8           rate design general considerations and indicated that the Commission has  
9           approved the tariffs.<sup>8</sup> No Residential schedule-specific information, studies,  
10          analyses, or explanations were provided to support the current price differences.

---

<sup>8</sup> KCP&L's Response to Data Request MGE-8. Part (a) of Data Request MGE-8 requested all justification, including studies, supporting data, cost bases, and explanations to support the current price differences between General Use and General Use and Space Heat - One Meter. Part (b) of Data Request MGE-8 requested justification, including studies, supporting data, cost bases, and explanations to support the increased price differences under proposed rates. The complete KCP&L Response to Data Request MGE-8 follows:

a) and b) The Commission has approved tariffs. Additionally, refer to the class cost of service study provide (sic) in response to data request MGE-1 and see response to DR MGE-7 as it may pertain to rate design.

The complete KCP&L Response to Data Request MGE-7 follows:

Mr. Rush did not rely on any single, specific study to support the rate design proposal offered in this case. The class cost of service study provided by Mr. Normand was reviewed and evaluated in conjunction with a few critical considerations. They are:

- Provide Revenue Stability and Risk Mitigation
- Implement Cost-based Rates
- Minimize Customer Dissatisfaction
- Simplify the Rate Structures
- Consider Technology Issues

1 Q. WHAT JUSTIFICATION HAS KCP&L PROVIDED FOR INCREASING  
2 THE AVERAGE WINTER ENERGY PRICE DIFFERENCES BETWEEN  
3 SPACE HEAT AND GENERAL USE WITH ITS PROPOSED RATE  
4 CHANGE?

5 A. In response to an MGE data request seeking this justification, KCP&L provided  
6 the same response it offered regarding current price differences (see footnote 8).  
7 No Residential schedule-specific information, studies, analyses, or explanations  
8 were provided to support the increased price differences at proposed rates.

9  
10 Q. DOES KCP&L'S COST OF SERVICE SUPPORT THE CURRENT  
11 LOWER PRICE FOR RESIDENTIAL SPACE HEATING SERVICES  
12 COMPARED TO THE GENERAL USE SERVICE AS KCP&L APPEARS  
13 TO SUGGEST IN ITS DATA REQUEST RESPONSE?

14 A. No.

15

16 Q. WHY IS THE COST OF SERVICE FOR A CUSTOMER CLASS AN  
17 IMPORTANT CONSIDERATION IN ASSIGNING REVENUE ON  
18 WHICH THE CLASS' RATES ARE SET?

19 A. Equity considerations require that each customer class pay the cost to serve the  
20 class. Achieving full equity among classes results in identical rates of return for  
21 each class based on the revenue produced from rates and the cost to serve each  
22 class. If the equity objective is not met, a portion of the cost to serve one or more  
23 classes is borne by other class(es). The term "customer class" in this context

1 should broadly be interpreted as tariff classifications. For example, Residential  
2 General Use is a different a “customer class” than General Use and Space Heat -  
3 One Meter for purposes of measuring the fairness of the rates customers pay.

4  
5 Such inequity exists in KCP&L’s current Residential rates. KCP&L’s cost of  
6 service results show that winter revenue produced from current Residential rates  
7 and the resulting winter rates of return for General Use and Space Heat (both  
8 schedules) relative to General Use do not support the relatively lower priced  
9 Space Heat service in the winter. Currently, General Use customers are  
10 inequitably paying a portion of the cost to serve Space Heat customers in the  
11 winter. In addition, KCP&L’s cost of service results show that for the Residential  
12 class as a whole, current rates and the resulting revenue produce a higher rate of  
13 return in the summer than in the winter.

14  
15 **Q. PROVIDE THE KCP&L COST OF SERVICE RESULTS THAT SUPPORT**  
16 **YOUR CONCLUSION REGARDING THESE RESIDENTIAL SERVICE**  
17 **INEQUITIES AT CURRENT RATES.**

18 A. The following table shows the seasonal rate of return differences for the  
19 Residential class and the substantially lower rate of return for Space Heat (both  
20 schedules) than for General Use and for the entire Residential class in the winter:<sup>9</sup>

21

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<sup>9</sup> Direct Testimony of Paul M. Normand, Case No. ER-2012-0174, Table 3, page 23. KCP&L’s Response to Data Request MGE-2 (c) indicates that General Use includes the relatively new Other Use rate in the cost of service. Only five customers were on the General Use schedule in the test year according to KCP&L Application, Appendix 1.

	<u>Annual</u>	<u>Summer</u>	<u>Winter</u>
1 Residential - All	5.432%	6.509%	4.498%
2 General Use	5.958%	6.797%	5.174%
3 Time of Day	5.039%	6.438%	3.739%
4 Space Heat - One Meter	4.165%	5.859%	2.922%
5 Space Heat - 2 Meters	2.963%	4.161%	2.284%

7 As explained later in my testimony, KCP&L's proposed revenue spread  
8 exacerbates the inequality in winter rates of return between the General Use and  
9 Space Heat schedules.

10

11 **Q. DID THE KCP&L COST OF SERVICE RESULTS IN ITS LAST RATE**  
12 **CASE SUPPORT THE LOWER PRICED RESIDENTIAL SPACE HEAT**  
13 **SERVICES COMPARED TO THE GENERAL USE SERVICE AT THAT**  
14 **TIME?**

15 A. No. In Case No. ER-2010-0355, revenues from Space Heating (both schedules)  
16 produced substantially lower winter rates of return than the rates of return for both  
17 the General Use schedule and for the entire Residential class. These results are  
18 shown below:<sup>10</sup>

	<u>Annual</u>	<u>Summer</u>	<u>Winter</u>
19 Residential - All	6.248%	6.198%	6.299%
20 General Use	6.597%	6.034%	7.218%
21 Time of Day	5.974%	6.748%	5.132%
22 Space Heat - One Meter	5.026%	6.883%	3.583%
23 Space Heat - 2 Meters	5.238%	6.895%	4.288%

25 The continuing winter rate advantage of Space Heat over General Use service has  
26 been accompanied by a continuing discrepancy between Space Heat and General  
27 Use winter rates of return. In Case No. ER-2010-0355, the KCP&L winter rate

<sup>10</sup> Direct Testimony of Paul M. Normand, Case No. ER-2010-0355, Table 3, page 19.

1 of return for Space Heat - One Meter was 3.64 percentage points lower than the  
2 winter rate of return for General Use at rates in effect at that time. While closing  
3 somewhat, this gap remains at 2.25 percentage points in this case with current  
4 rates. In Case No. ER-2010-0355, the KCP&L winter rate of return for Space  
5 Heat - 2 Meters was 2.93 percentage points lower than the winter rate of return for  
6 General Use at rates in effect at that time. This gap remains at 2.89 percentage  
7 points in this case with current rates.

8

9 Simply stated, Space Heat (both schedules) customers are inequitably paying less  
10 than their fair share of the cost to serve them relative to General Use customers,  
11 and this discrepancy has persisted. This continuing inequity should be addressed  
12 in assigning revenue to tariff classifications and designing rates in this case.

13

14 **Q. WHAT ARE THE WINTER PRICE CONSEQUENCES IF THE**  
15 **DISCREPANCY BETWEEN THE WINTER RATES OF RETURN FOR**  
16 **RESIDENTIAL SPACE HEAT COMPARED TO GENERAL USE ARE**  
17 **ELIMINATED?**

18 A. At current rates, the winter energy charge revenue per kWh and resulting winter  
19 rate of return for General Use is higher than for Space Heat (both schedules).  
20 Equalizing the rates of return seasonally for the Residential class and among the  
21 Residential schedules in the winter based on the KCP&L cost of service results at  
22 current revenues requires higher winter energy charge revenue per kWh for Space  
23 Heat and lower revenue per kWh for General Use. The energy charge revenue

1 per kWh differences is sharply reduced as a result of the required revenue shift,  
2 from 1.68 cents per kWh to 0.77 cents per kWh for Space Heat - One Meter  
3 compared to General Use and from 1.86 cents per kWh to 0.64 cents per/kWh for  
4 Space Heat - 2 Meters compared to General Use. The required Residential  
5 revenue shift seasonally and among the winter schedules and the resulting winter  
6 energy price consequences are developed in Schedule FJC-3.

7  
8 If both Space Heat (both schedules) and General Use customers were currently  
9 paying their fair share of the cost to serve them at current rates as indicated by the  
10 KCP&L cost of service results, the Space Heat price advantage would drop  
11 dramatically. The attractiveness of Space Heat to KCP&L's Residential  
12 customers today is due to the fact that it is underpriced.

13  
14 **Q. DO THE OTHER MISSOURI ELECTRIC UTILITIES HAVE SEPARATE**  
15 **ALL-ELECTRIC OR SPACE HEATING RESIDENTIAL RATES?**

16 A. No. Schedule FJC-4 provides the current Residential rates for Ameren Missouri  
17 ("Ameren") and The Empire District Electric Company ("Empire District").  
18 Neither of the other Missouri electric utilities offers a discounted Electric Space  
19 Heating service.



1 **Q. HOW DO THE RESIDENTIAL SERVICE RATES FOR OTHER**  
2 **MISSOURI ELECTRIC UTILITIES COMPARE TO THOSE FOR**  
3 **KCP&L?**

4 A. Both Ameren and Empire District have a fixed monthly charge and a single block  
5 summer energy charge. Ameren and Empire District have two-block, declining  
6 energy rates in the winter with block breaks at 750 kWh and 600 kWh,  
7 respectively. The winter rate differential between the first and second block is  
8 2.51 cents per kWh for Ameren and 1.99 cents per kWh for Empire District.

9  
10 By comparison, KCP&L's General Use schedule has a declining, three block  
11 winter energy rate structure as shown in Schedule FJC-1, with a current rate  
12 differential of 3.97 cent per kWh between the first two blocks (break at 600 kWh)  
13 and an additional 0.98 cent per kWh decline between the second and third block  
14 (break at 1000 kWh). Based on these pricing considerations, KCP&L has a  
15 stronger potential to add winter load through its current General Use blocked-rate  
16 pricing than does Ameren or Empire District without the need for separate,  
17 significantly lower-priced Space Heat schedules.

18  
19 **Q. DOES ELECTRICITY COMPARE FAVORABLY WITH NATURAL GAS**  
20 **FOR HEATING PURPOSES GIVEN KCP&L'S CURRENT WINTER**  
21 **RATES?**

22 A. No. Based on the U.S. Energy Administration's Heating Fuel Cost Comparison  
23 calculator and MGE's current natural gas price to Residential customers, electric

1 prices would have to be no more than 1.52 cents per kWh in order for a customer  
2 to save money on monthly utility bills through an electric space heating furnace  
3 rather than a gas furnace.<sup>11</sup> This result and results for various natural gas furnace  
4 efficiencies and alternative electric heating options are shown in the top panel of  
5 Schedule FJC-5. The schedule also shows that KCP&L's current winter energy  
6 charges are well above the electric prices needed to produce customer savings  
7 resulting from the choice of electricity rather than natural gas for space heating  
8 purposes. The electric heating option disadvantage for customers grows under  
9 KCP&L's proposed rates.

10  
11 **Q. BASED ON YOUR ELECTRIC-GAS COMPARISON, WHY THEN**  
12 **WOULD CUSTOMERS CHOOSE ELECTRICITY OVER NATURAL GAS**  
13 **FOR HEATING PURPOSES?**

14 A. Aside from possible one-time, equipment and installation cost differences, Space  
15 Heating - One Meter provides lower-price winter energy not only for heating but  
16 also for all other uses of electricity, so that the winter bills savings from these  
17 other uses of electricity may be sufficient to offset the price advantage that natural  
18 gas has for heating purposes. Customers may be naturally attracted to  
19 "discounted" rates too, regardless of whether that is really the wisest choice.

---

<sup>11</sup>The fuel cost comparison calculator is available through [www.eia.gov/neic/experts/heatcalc.xls](http://www.eia.gov/neic/experts/heatcalc.xls) (accessed on July 9, 2012). This calculation is based on U.S. Department of Energy northern region standard furnace efficiencies of 78% for electricity and 90% furnace for natural gas and heat contents of 3,412 Btus/kWh for electricity and 102,300 Btus/Ccf for natural gas. Furnace standards are from U.S. Department of Energy, "Energy Conservation Program: Conservation Standards for Residential Furnaces and Residential Central Air Conditioners and Heat Pumps," 10 CFR Part 430, issued October 24, 2011. Natural gas and electricity heat content values are from U. S. Energy Administration, *Monthly Energy Review*, July 2012, pages 176 and 178. MGE's current gas prices are contained on Sheet No. 24.3, effective February 13, 2012.

1 **Q. IS THIS A REASONABLE RATEMAKING APPROACH?**

2 A. No. Fairness considerations suggest that two residential customers should not pay  
3 different prices in the winter for lighting their homes, operating their televisions  
4 and refrigerators, and using other electric appliances just because one customer  
5 happens to heat his or her home with electricity and the other customer does not.  
6 Furthermore, the discounted Space Heat (both schedules) services are underpriced  
7 based on the cost to provide them. These two fairness considerations are not met  
8 with the KCP&L's Residential service offerings today.

9  
10 **Q. DO YOU HAVE ANY OTHER OBSERVATIONS REGARDING THE**  
11 **AVAILABILITY OF RESIDENTIAL SPACE HEAT SERVICE?**

12 A. Yes. Schedule FJC-6 shows that for a number of years, KCP&L's Residential  
13 General Use customer base has steadily declined at a time when its discounted  
14 Residential Space Heat customer base has continually grown. Even the two-  
15 meter Space Heating customer base has grown somewhat despite the schedule  
16 being "frozen" in 2007. Underpriced Space Heat services have contributed to this  
17 persistent imbalanced growth within the Residential class.

1                                   **4. RESIDENTIAL RATE DESIGN RECOMMENDATIONS**

2  
3                                   **4.1 CURRENT REVENUE SHIFT**

4  
5   **Q.    WHAT IS THE PURPOSE OF SHIFTING CURRENT RESIDENTIAL**  
6   **REVENUE SEASONALLY AND AMONG RATE SCHEDULES IN THE**  
7   **WINTER?**

8   A.    Current revenues are adjusted on a revenue-neutral basis based on the KCP&L  
9         cost of service results so that Residential customers seasonally and on different  
10        rate schedules in the winter contribute revenue through the rates they pay that  
11        reflect the cost to serve them. The recommended revenue shift and the resulting  
12        energy charge adjustments correct the current seasonal inequities in Residential  
13        revenue collection and correct the current relative under pricing of the Residential  
14        Space Heat services in the winter.

15  
16   **Q.    DOES KCP&L'S RECOMMENDATION TO SPREAD THE PROPOSED**  
17   **INCREASE AMONG THE RESIDENTIAL SCHEDULES ACHIEVE THIS**  
18   **SAME RESULT?**

19   A.    No. The KCP&L across-the-board recommendation based on current revenues  
20         without first adjusting Residential rates does not address Residential cost of  
21         service differences by season and within the rate schedules in the winter based on  
22         KCP&L's cost of service results. In fact, an across-the-board recommendation  
23         accentuates the rate of return differentials and resulting inequities within the

1 Residential class, as shown in Schedule FJC-7 with an illustrative 10 percent  
2 winter revenue increase.

3

4 **Q. EXPLAIN HOW YOU USE THE KCP&L COST OF SERVICE RESULTS**  
5 **TO ADJUST CURRENT RESIDENTIAL REVENUE.**

6 A. I recommend that current Residential revenue be adjusted based on a revenue-  
7 neutral shift seasonally and among the rate schedules in the winter to equalize  
8 summer and winter rates of return and to equalize the winter rates of return among  
9 the rate schedules. The required seasonal revenue change and the winter revenue  
10 changes among the Residential services are developed in Schedule FJC-3,  
11 discussed earlier in my testimony. I explain my recommendations on how rates  
12 must be adjusted to reflect these required revenue changes in Section 4.3. First, I  
13 explain my recommendations pertaining to the prospective availability of  
14 Residential Space Heat (both schedules).



1 result from impacts on air quality, water use and pollution, and soil  
2 contamination. Efficiency in energy consumption considers both appliance  
3 efficiency and the full fuel cycle efficiency of alternative energy sources, i.e., the  
4 amount of energy delivered to end users taking into account energy used in the  
5 full cycle from extraction to processing to generation to transmission to delivery.

6  
7 KCP&L Residential Space Heat services are inconsistent with today's public  
8 policy objectives. Offering separate, discounted Residential Space Heat services  
9 further blunts customer incentives to conserve electricity used for both heat and  
10 non-heat purposes in the winter.<sup>12</sup> Furthermore, the often-presumed benefits of  
11 winter electric load additions resulting from the availability of lower-priced  
12 Residential Space Heat services ignore the environment impacts of the increased  
13 winter electricity use.

14  
15 Finally, promotion of electricity through the Residential Space Heat services fails  
16 to consider that natural gas is more efficient than electricity for space heating  
17 purposes. Based on U.S. Department of Energy efficiency standards for  
18 residential furnaces and heat pumps, the consumption efficiency, i.e., combined  
19 appliance and fuel cycle efficiency, for a natural gas furnace is 74-82 percent

---

<sup>12</sup> The KCP&L General Use schedule has declining block winter energy charges that blunt customer conservation incentives and result in winter load additions that have environmental impacts. However, the availability of even lower-price Space Heat services worsens efforts to encourage energy conservation and to limit environmental impacts. In addition, it is not in KCP&L's interest to encourage customers to use less electricity in the winter because its net revenue would fall with declining usage.

1 while the consumption efficiency is 50 percent for an electric heat pump and 23  
2 percent for an electric furnace.<sup>13</sup>

3

4 **Q. DO YOU HAVE AN ALTERNATIVE RECOMMENDATION**  
5 **PERTAINING TO THE PROSPECTIVE AVAILABILITY OF THE**  
6 **RESIDENTIAL ELECTRIC SPACE HEAT SERVICES?**

7 A. While I recommend that these services be eliminated, I understand that the  
8 Commission may prefer to take a more gradual approach and schedule the  
9 elimination of the services for a subsequent rate case. To achieve this objective, I  
10 alternatively recommend that the Commission: (1) adjust current rates to  
11 incorporate the recommended current revenue shifts among Residential schedules  
12 explained in Section 4.1; (2) indicate its intent to eliminate all Space Heat  
13 services, (3) freeze the Space Heat - One Meter schedule, as it did for Space Heat  
14 - 2 Meters schedule in 2007, and (4) require tariff language regarding availability  
15 to ensure the effectiveness of freezing the schedules and to simplify their  
16 subsequent elimination. Each of these parts of this alternative recommendation is

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<sup>13</sup>These calculations are based on the following sources: (1) U.S. Department of Energy, "Energy Conservation Program: Conservation Standards for Residential Furnaces and Residential Central Air Conditioners and Heat Pumps," 10 CFR Part 430, issued October 24, 2011; (2) National Research Council, National Academy of Sciences, "Review of Site (Point-of-Use) and Full-Fuel-Cycle Measurement Approaches to DOE/EERE Building Appliance Energy-Efficiency Standards," May 15, 2009, page 6; and (3) U.S. Energy Information Administration, Fuel Cost Comparison Calculator available through [www.eia.gov/neic/experts/heatcalc.xls](http://www.eia.gov/neic/experts/heatcalc.xls) (accessed on July 9, 2012). The calculations are based on appliance efficiencies of 81 percent and 90 percent for weatherized and non-weatherized natural gas furnaces in the region that includes Missouri, respectively, in (1) and on a single-package heat pump with an 8.0 Heating System Performance Factor from (1) with an adjustment for Missouri shown in (3). The fuel cycle efficiencies used the calculations, provided in (2), are 91 percent for natural gas and 30 percent for electricity based on coal-fired power plants. In 2011, KCP&L's electric generation consisted of 80 percent coal, 15 percent nuclear, 3 percent natural gas and oil, and 2 percent wind (Great Plains Energy Incorporated/Kansas City Power & Light Company's 2011 SEC Form 10-K, page 8). The consumption efficiency for each energy source is the product of the appliance efficiency and fuel cycle efficiency.



1 necessary if the services are to be simply eliminated in a subsequent rate case.  
2 Merely freezing the prospective availability of the schedules in this case is not  
3 sufficient.

4

5 **Q. EXPLAIN YOUR TARIFF LANGUAGE RECOMMENDATION IN THE**  
6 **EVENT THE COMMISSION FREEZES THE RESIDENTIAL SPACE**  
7 **HEAT SCHEDULES.**

8 A. Freezing a rate schedule is intended to be a first step toward eliminating it in a  
9 subsequent rate case. Given this purpose, I recommend that the Commission  
10 require that the availability of the schedules as specified in the tariff be limited to  
11 existing customers at existing premises. If a customer moves from premise A to  
12 premise B, the service would not be available to the customer at premise B nor  
13 would the service be available to a different customer at premise A. This  
14 language should apply to both the General Use and Space Heat - One Meter and  
15 General Use and Space Heat - 2 Meters schedules. My intent is not only to avoid  
16 the possible growth in customers served under the Residential Space Heat  
17 schedules but also to ensure declining customer counts on the frozen schedules  
18 over time thereby simplifying their future elimination. I note that the current  
19 tariff language in the General Use and Space Heat - 2 Meters schedule has not  
20 been effective in achieving this result over the last five years, as shown in  
21 Schedule FJC-6.

1           **4.3 ADJUSTED RESIDENTIAL RATES AT CURRENT REVENUE**

2

3   **Q.    EXPLAIN HOW ENERGY CHARGES AT CURRENT REVENUE ARE**  
 4   **ADJUSTED TO REFLECT YOUR RECOMMENDED REVENUE SHIFT.**

5   A.    The required rates are developed in Schedule FJC-8.<sup>14</sup> Line 9 provides the  
 6    recommended winter revenue shift per kWh for each Residential schedule.  
 7    These amounts are used to adjust KCP&L's current winter energy charges.

8

9    If the Commission accepts my recommendation to eliminate Space Heat, a single  
 10   General Use schedule is developed with the current Space Heat rate blocks and  
 11   rate block rate differences (lines 14-15). My preferred recommendation is to  
 12   include General Use and Space Heat - 2 Meters in the consolidated General Use  
 13   schedule, but KCP&L has not provided billing determinants needed for the rate  
 14   calculation.<sup>15</sup> As a result, the separate meter Space Heat schedule remains

---

<sup>14</sup>The rates shown in Schedule FJC-8 are based on the KCP&L cost of service results. However, Residential base revenue in the KCP&L Application differs somewhat from the Residential base revenue in the KCP&L cost of service study. If the KCP&L Application Residential base revenue is used in the KCP&L cost of service study, the following per kWh changes to the rates shown in Schedule FJC-8 are required:

	<u>General Use</u>	<u>Space Heat- One Meter</u>	<u>Space Heat- 2 Meters</u>	<u>Time of Day</u>	<u>Other Use</u>
Winter Energy Charge					
Eliminate Space Heat					
All	0.00059			0.00472	0.00094
Non-Heat Load Meter			0.00059		
Heat Load Meter			0.00009		
Freeze Space Heat					
All	0.00069	0.00027		0.00472	0.00094
Non-Heat Load Meter			0.00059		
Heat Load Meter			0.00001		
Summer Energy Charge	(0.00085)	(0.00085)	(0.00085)	(0.00085)	(0.00085)

<sup>15</sup>KCP&L's Response to Data Request MGE-2-1. In KCP&L's Response to Data Request MGE-3-1, KCP&L confirmed that it is unwilling to provide these billings determinants as part of the discovery process and indicated that it could not develop reasonable estimates of these determinants.

1 separate and frozen in Schedule FJC-8. If KCP&L does not provide the necessary  
2 billing determinants during the course of this proceeding to enable development  
3 of General Use rates that include both Space Heat schedules, I recommend that  
4 the Commission direct KCP&L to include General Use and Space Heat - 2 Meters  
5 in the General Use schedule as part of its next rate case filing.

6  
7 If the Commission freezes Space Heat availability, current winter energy charges  
8 are adjusted by the recommended revenue shift per kWh on each Residential  
9 schedule, with no change in rate differences among blocks in the blocked  
10 schedules (lines 17-22). With either my primary or alternative recommendation,  
11 Line 9 revenue per kWh changes are used to adjust KCP&L's Time of Day and  
12 Other Use winter energy charges (line 12).

13  
14 The required summer energy charge change is shown on line 23. This per kWh  
15 amount is to be added to all current summer energy charges shown in Schedule  
16 FJC-1. My recommendation maintains the current rate structures with identical  
17 summer uniform energy charges for General Use, General Use and Space Heat -  
18 One Meter, and General Use and Space Heat - 2 Meters.

1 Q. WITH THE ELIMINATION OF SEPARATE SPACE HEAT SERVICES,  
2 YOU INDICATE THAT YOU PREFER TO INCLUDE SPACE HEAT - 2  
3 METERS IN THE GENERAL USE SCHEDULE. WHAT BILLING  
4 DETERMINANT DATA MUST KCP&L PROVIDE TO DEVELOP  
5 WINTER ENERGY CHARGES ON THIS BASIS?

6 A. In order to develop rates on this basis, KCP&L must provide the separate meter  
7 winter usage in two rate blocks, i.e., first 1000 kWh and over 1000 kWh. For  
8 illustrative purposes, based on an assumption that separate meter winter usage is  
9 split evenly between the two blocks, the resulting consolidated General Use  
10 winter rates at current revenue applicable to all current General Use and Space  
11 Heat customers would be:

12	Service Charge	\$9.00
13		
14	First 1000 kWh	0.08720
15	Over 1000 kWh	0.06210

16 Based on this illustrative calculation, the inclusion of Space Heat - 2 Meters in the  
17 consolidated General Use schedule should slightly reduce the rates in each of the  
18 two blocks in the General Use schedule.

1       **4.4 RESIDENTIAL RATES WITH APPROVED BASE REVENUE CHANGE**

2

3       **Q.    HOW WOULD YOUR RECOMMENDED RESIDENTIAL RATES BE**  
4       **ADJUSTED TO COLLECT ANY BASE REVENUE CHANGE APPROVED**  
5       **BY THE COMMISSION?**

6       A.    I recommend that the approved Residential base revenue change assigned to the  
7       winter and summer seasons to maintain the equalized winter and summer  
8       Residential rates of return resulting from my revenue-neutral adjustments. I have  
9       no recommendation regarding Residential service charges. After determining the  
10      revenue change in each season due to approved service charge changes, I  
11      recommend that the remaining revenue in each season be collected with a uniform  
12      per kWh change in all energy charges in each season. These energy charge  
13      changes are to be added to my recommended energy charges at current revenue  
14      developed in Schedule FJC-8.

15

16      These calculations are shown in Schedule FJC-9 with an assumed Residential  
17      base revenue increase of about one-third of the KCP&L request and an assumed  
18      five percent increase in all Residential service charges. The resulting energy  
19      charge changes shown on line 12 are to be added to the recommended energy  
20      charges at current revenue in each Residential schedule (Schedules FJC-8).

21

22      Schedule FJC-9 can be used to determine the energy charge changes from any  
23      base revenue increase that the Commission ultimately approves by inserting the  
24      approved base revenue increase to be collected from energy charges in line 5,

1 column d and the approved service charge revenue change in line 10. The  
2 resulting line 12 amounts would then be added to my recommended energy  
3 charges at current revenue in Schedule FJC-8.

4

5 **5. REGULATORY COMMISSION DECISIONS REGARDING KCP&L**

6

7 **Q. HAS KCP&L PROVIDED RECOMMENDATIONS TO REDUCE**  
8 **RESIDENTIAL WINTER ENERGY CHARGE DIFFERENCES**  
9 **BETWEEN GENERAL USE AND SPACE HEAT SCHEDULES**  
10 **ELSEWHERE?**

11 A. Yes. In its 2009 Kansas rate case, KCP&L, through its rebuttal testimony,  
12 explained that “Based on its cost data offered in the Normand study, Residential  
13 General Use rates in the winter are too high and Residential Heating rates in the  
14 winter are too low.”<sup>16</sup> Based on this result, KCP&L provided a recommendation  
15 to “move Residential winter rates closer to cost with revenue-neutral adjustments”  
16 with the result of reducing “the differential between General Use and Heating  
17 within the Residential class.”<sup>17</sup> The Kansas Corporation Commission (“KCC”)

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<sup>16</sup> Rebuttal Testimony of Tim M. Rush, Docket No. 10-KCPE-415-RTS, page 23, lines 6-8. The referenced Normand study showed the following Residential rates of return at rates in effect at that time:

	<u>Annual</u>	<u>Summer</u>	<u>Winter</u>
Residential - All	7.736%	7.726%	7.744%
Regular (General Use)	8.558%	7.485%	9.611%
Time of Day	7.108%	6.791%	7.384%
Water Heating (“WH”)	6.851%	7.567%	6.309%
Separately Metered - WH	5.650%	8.209%	4.256%
Space Heating (“SH”)	5.823%	8.547%	4.057%
Separately Metered - SH	7.226%	8.882%	6.241%

Direct Testimony of Paul M. Normand, Docket No. 10-KCPE-415-RTS, Table 3, page 19.

<sup>17</sup> *Id.*, page 23, lines 13-14, 20. KCP&L indicated that it provided the recommendation in the event that the Kansas Corporation Commission decided to implement rate design changes in this docket.

1 adopted these KCP&L recommendations adjusted for the KCC-approved revenue  
 2 requirement.<sup>18</sup>

3  
 4 Differences between Residential General Use and Electric Space Heat winter  
 5 energy charges, i.e., cents per kWh, were dramatically reduced as a result of the  
 6 KCC adoption of the KCP&L recommendation in Kansas as shown below:

		Residential Space Heat Rate Advantage Over General Use: Winter Rate Block Difference (Cents/kWh) <sup>19</sup>	
		<u>Before Rate Charge</u>	<u>After Rate Change</u>
11	<u>Electric Space Heat</u>		
12	First 1000 kWh	(2.83)	(0.73)
13	Over 1000 kWh	(4.10)	(1.57)
14			
15	<u>Electric Space Heat-</u>		
16	<u>Separate Meter</u>		
17	First 1000 kWh	0.86	2.12
18	Over 1000 kWh	(4.25)	(1.57)

19 As discussed earlier my testimony, KCP&L proposes to increase the current  
 20 winter energy charge differences between the Space Heat and General Use  
 21 schedules in this case in Missouri, contrary to the KCP&L recommendation and  
 22 the KCC order in its 2009 Kansas rate case.

<sup>18</sup> Order: 1) Addressing Prudence; 2) Approving Application, in Part; & 3) Ruling on Pending Requests Docket No. 10-KCPE-415-RTS, November 22, 2010, page 125.

<sup>19</sup> *Id.*, page 125 and Exhibit V, page 2 provide the following winter energy charges before and after the approved rate change:

	<u>Present Rates</u>			<u>New Rates</u>		
	<u>General Use</u>	<u>Space Heat</u>	<u>Space Heat- Separate Meter</u>	<u>General Use</u>	<u>Space Heat</u>	<u>Space Heat- Separate Meter</u>
First 1000 kWh	0.08037	0.05211	0.08899	0.07312	0.06581	0.09469
Over 1000 kWh	0.08003	0.03908	0.03758	0.07312	0.05746	0.05746

The Space Heat-Separate Meter schedule has been frozen to new customers since January 1, 2007.

1 In the Kansas case, KCP&L used its cost of service study results in developing its  
2 recommendation. In contrast, KCP&L does not recognize the KCP&L cost of  
3 service results in developing its proposed rates in this case. My recommendations  
4 in this case use the KCP&L cost of service results to reduce current Residential  
5 Space Heat-General Use winter energy charge differences so that customers on  
6 these schedules pay the cost to serve them.

7

8 **Q. DO YOU HAVE ANY OTHER OBSERVATIONS REGARDING THE**  
9 **KCC'S ORDER IN KCP&L'S 2009 RATE CASE?**

10 A. Yes. The KCC opened a rate design docket because the “current rate structure  
11 must be redesigned to move customer classes closer to the principal of cost  
12 causation” and ordered that various factors including the following be used:

- 13 • Further simplification of rate structure for Residential Classes by reducing  
14 the number of subclasses.
- 15 • Eliminate rate structures with artificial incentives to encourage a customer  
16 to switch end-use equipment.
- 17 • Incorporate the Commission’s energy efficiency and energy conservation  
18 goals.<sup>20</sup>

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<sup>20</sup> Order: 1) Addressing Prudence; 2) Approving Application, in Part; & 3) Ruling on Pending Requests  
Docket No. 10-KCPE-415-RTS, November 22, 2010, page 123, 124-25.



1 Q. HAS THE COMMISSION PREVIOUSLY ADDRESSED SEPARATE  
2 SPACE HEATING SERVICE FOR NON-RESIDENTIAL CUSTOMER  
3 CLASSES?

4 A. Yes. In Case No. ER-2007-0291, the Commission addressed separate all-electric  
5 space and separately-metered space heating services to KCP&L general service  
6 customers. In that case, the Commission froze these services to existing  
7 customers' locations and reduced the price advantage of these services over the  
8 general service schedules, with findings and decisions that included:

- 9
- 10 • Waiting until anywhere from 2009 to 2012 to address the rate disparities  
11 that the separately-metered space heating and all-electric tariff customers  
pay compared to the general service tariff customers is waiting too long.
  
  - 12 • Trigen's and Staff's argument that increasing all class' rates the same  
13 percentage would effectively increase the size of the general service-space  
14 heating discounts, and exacerbate the current problem, is compelling.
  
  - 15 • In a future rate case, the Commission might be willing to consider  
16 eliminating the discounts altogether. Allowing even more customers to  
17 use those discounts flies in the face of a possible move, supported by  
18 Staff, towards eliminating them entirely.<sup>21</sup>

19

20 Q. DO YOU HAVE ANY OBSERVATIONS REGARDING THESE  
21 MISSOURI AND KANSAS DECISIONS REGARDING KCP&L?

22 A. Yes. Through my testimony, I examine Residential Space Heat-General Use  
23 issues similar to those that that led the Commission to its 2007 decision regarding  
24 general service space heating services and that led the KCC to its 2010 decision  
25 regarding Residential space heating services. This examination supports my

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<sup>21</sup> Report and Order, Case No. ER-2007-0291, issued December 6, 2007, pages 77, 78, and 82. The Commission also froze Residential General Use and Space Heat - 2 Meters in this case.

1 recommendations in this case regarding the pricing and availability of Residential  
2 Space Heat services.

3

4 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

5 **A. Yes.**

**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 )

File No. ER-2012-0174

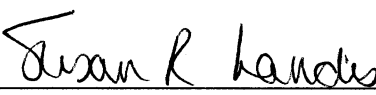
**AFFIDAVIT**

STATE OF TEXAS            )  
  )  
COUNTY OF DALLAS        )            ss

I, F. Jay Cummings, state that I am employed by Ruhter & Reynolds, Inc., Consulting Economists as a Senior Economist; that the Direct Testimony and schedules attached hereto have been prepared by me or under my direction and supervision on behalf of Southern Union Company, d/b/a Missouri Gas Energy; and, that the answers to the questions posed therein are true to the best of my knowledge, information and belief.

  
\_\_\_\_\_

Subscribed and sworn to before me this 15<sup>th</sup> day of August, 2012.

  
\_\_\_\_\_  
Notary Public

My Commission Expires:

7/29/2015  
(SEAL)

