

*Exhibit No.:*  
*Issue:* *Electric Vehicle Tariff Rate Design*  
*Witness:* *Byron M. Murray*  
*Sponsoring Party:* *MO PSC Staff*  
*Type of Exhibit:* *Rebuttal Testimony*  
*Case No.:* *ER-2016-0285*  
*Date Testimony Prepared:* *January 6, 2017*

**MISSOURI PUBLIC SERVICE COMMISSION**  
**COMMISSION STAFF DIVISION**

**REBUTTAL TESTIMONY**

**OF**

**BYRON M. MURRAY**

**KANSAS CITY POWER & LIGHT COMPANY**

**CASE NO. ER-2016-0285**

*Jefferson City, Missouri*  
*January 2017*

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1 **REBUTTAL TESTIMONY**

2 **OF**

3 **BYRON M. MURRAY**

4 **KANSAS CITY POWER & LIGHT COMPANY**

5 **CASE NO. ER-2016-0285**

6 **I. INTRODUCTION**

7 Q. Please state your name and business address.

8 A. My name is Byron M. Murray. My business address is 200 Madison St.,  
9 Jefferson City, MO 65101.

10 Q. Are you the same Byron M. Murray that previously filed testimony in  
11 Staff's Cost-of-Service Revenue Requirement Report ("COS") and Staff's Report  
12 Responding to Certain Commission Questions in this case?

13 A. Yes.

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

15 A. The purpose of my rebuttal testimony is to address issues discussed by  
16 Division of Energy's ("DE") witness Mr. Martin Hyman and KCPL witness Mr. Tim  
17 Rush.

18 **II. STAFF'S RECOMMENDED CHANGES**

19 Q. Has Staff's recommendation regarding the recovery of costs, revenues and  
20 investment related to KCPL's CCN change from Staff's Direct filing?

21 A. Yes

22 Q. What is Staff's current perspective of the method of treatment for the  
23 expenses incurred by KCPL for the development of the CCN?

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Byron M. Murray

1           A.     After review of testimony from other parties and under advice of Legal  
2 Counsel, Staff's recommendation has changed so that all cost and revenue associated  
3 with the installation, operation, and maintenance of the CCN should be accounted for  
4 above-the-line. Further, Staff recommends that any revenue received will go to cover the  
5 cost of the CCN pilot project. Any costs that are not covered by the revenue KCPL  
6 receives from the charging stations will be offset by a separate revenue imputation.

7           Q.     Under Staff's revised recommendation, are rate payers still held harmless?

8           A.     Yes.

9           Q.     Does Staff have any further discussion on the electric charging stations?

10          A.     Yes. Staff recommended adjustments in the Cost of Service Report at  
11 pages 174 and 175 in its direct filing made November 30, 2016, to remove the costs  
12 relating to the electric charging stations. These adjustments were made by Staff witness  
13 Keith Majors for both rate base and the income statement and are located in Accounting  
14 Schedule 4 - Plant-in-Service – P-290.1, Accounting Schedule 7 - Depreciation Reserve  
15 R-290.1, and Accounting Schedule 11 – Income Statement - E-154.1 and all should be  
16 removed from the cost of service calculation. In addition, the rate base component for  
17 the removal of deferred income taxes of \$622,205 relating to the electric charging station  
18 equipment, located on Accounting Schedule 2, Line 39, needs to be removed. These  
19 adjustments were made to disallow costs relating to the electric vehicle charging stations.  
20 Based on Staff's proposed treatment for these charging stations presented in this rebuttal,  
21 these adjustments are no longer necessary.

22   **A.     RESPONSE TO DE REGARDING PLUG-IN ELECTRIC VEHICLE TIME**  
23   **OF USE RATE (PEV-TOU)**

24          Q.     What type of rate would Staff recommend for a PEV-TOU Rate Schedule?

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1           A.     Staff is recommending that KCPL develop a residential PEV-TOU rate  
2 structure much like the Georgia Power (residential) PEV-TOU, which is specific to  
3 residential customers engaged in domestic charging. These charging outlets would not be  
4 available for sale to the general public. A new PEV-TOU rate schedule would be  
5 separate from KCPL's proposed Schedule CCN tariff, but would serve to offer  
6 EV owners and operators proper price signals and incentive to charge the EVs in off-peak  
7 and super off-peak hours.

8           Q.     Is Staff recommending a PEV-TOU rate for commercial and industrial  
9 customers with private EV usage?

10          A.     Not at this time.

11          Q.     Does Staff agree with Mr. Hyman's testimony indicating concerns with  
12 the cost of separately metering residential PEV charging?

13          A.     Yes. For residential charging, Staff would not expect there to be a cost  
14 justification at this time to install the separate metering necessary for a  
15 separately-metered residential PEV charging rate. Staff is supportive of the Georgia  
16 Power PEV-TOU model, which does not require a separate meter.

17          Q.     Does KCPL's current rate structure include separately-metered rates for a  
18 given end use?

19          A.     Yes. KCPL currently has, in addition to residential general use rates,  
20 residential all-electric rates Schedule R (B) and residential space heating rates  
21 Schedule R (C). Staff's recommendation in this case is analogous to KCPL's residential  
22 all-electric rates.

23          Q.     What is Staff's recommendation for a PEV-TOU rate?

1           A.     Staff recommends a single time of use rate schedule that would be  
2 applicable to all of the service taken by a residence qualifying for service under the  
3 PEV-TOU rate schedule. This schedule would be comparable to a Residential TOU rate,  
4 but it would contain three peak periods, instead of the traditional two. In line with  
5 Georgia Power's PEV-TOU rate as described in Staff's Report Responding to Certain  
6 Commission Questions, this PEV-TOU rate would contain on-peak, off-peak, and super  
7 off-peak charging periods. However, KCPL has indicated that its current billing system  
8 does not have the capability to handle the specialized pricing of TOU customers. Staff  
9 witnesses Sarah L. Kliethermes and Daniel I. Beck discuss TOU rates and KCPL's  
10 metering and billing system issues in Staff's Report Responding to Certain Commission  
11 Questions filed on December 14, 2016.

12     **B.     RESPONSE TO KCPL REGARDING ELECTRIC VEHICLES BENEFITS**

13           Q.     Have you reviewed Mr. Rush's assertion that all users will benefit from  
14 growth in PEV charging because the increased usage provides more kWh to spread the  
15 system costs over?

16           A.     I have reviewed those statements. What Mr. Rush does not discuss is that  
17 his conclusion requires assuming that other system costs will not increase due to growth  
18 in PEV charging. For example, if charging occurs on-peak, then the system will need to  
19 accommodate that growth through additional distribution components or even generation  
20 capacity. Mr. Rush's assertion is only reasonable if customers are adequately incented to  
21 charge at off-peak times, when excess capacity exists on both the distribution system and  
22 at the generation level.

23           Q.     Do you agree that the CCN will cause a downward pressure on rates?

1           A.     No, not without domestic PEV-TOU rates.  KCPL has not proposed a  
2 PEV-TOU rate schedule that would incentivize customers to charge in the off-peak  
3 hours.  Without properly designed PEV-TOU rates that incent EV owners to charge in  
4 off-peak hours, EV owners will likely charge their vehicle as soon as they arrive home  
5 each day.  In addition to the system costs concerns, it should also be noted that energy in  
6 these hours tends to be more expensive.  A properly designed PEV-TOU rate should give  
7 the EV owners the incentive to charge during off peak hours, thereby promoting load  
8 leveling.  According to NRDC’s witness, Mr. Garcia,

9                                 Real world data from the Department of Energy’s  
10                                 “EV Project” demonstrate that, in jurisdictions without  
11                                 active utility PEV programs where residential time-of-use  
12                                 tariffs are either not available or not widely adopted, PEV  
13                                 customers will plug in and charge immediately upon  
14                                 returning to work, potentially exacerbating evening system-  
15                                 wide peak demand.

16           Q.     Should KCPL develop a PEV-TOU rate in the next rate case?

17           A.     Although Staff would like to have a PEV-TOU rate schedule as an  
18 outcome of this case, it is Staff’s understanding that KCPL’s billing system does not have  
19 the capability to handle the specialized pricing of TOU customers.  Therefore, Staff  
20 would recommend that a PEV-TOU rate schedule be proposed in the next case.

21     **III.   CONCLUSION**

22           Q.     Please summarize Staff’s recommendation in this case.

23           A.     Staff recommends:

- 24                   1.   The costs associated with the CCN should be recorded above-  
25                   the-line and a revenue imputation should be made to offset any  
26                   revenue shortfall from the charging stations so that ratepayers are

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1 held harmless from costs that benefit only a few ratepayers, or  
2 non-KCPL customers.

3 2. The Commission should reject KCPL's proposed CCN tariff, and  
4 direct it to file a revised tariff that addresses on-peak and  
5 off-peak rates for the charging stations consistent with Staff's  
6 recommendation in Staff witness Robin Kliethermes' rebuttal  
7 testimony, and also Staff's recommendation to address KCPL's  
8 proposed use of discretionary session charges set by the host site  
9 owners.

10 3. Direct KCPL to design a PEV-TOU rate to be considered in its  
11 next general rate case.

12 Q. Does this complete your rebuttal testimony?

13 A. Yes it does.



**BEFORE THE PUBLIC SERVICE COMMISSION**

**OF THE STATE OF MISSOURI**

In the Matter of Kansas City Power & Light )  
Company's Request for Authority to ) Case No. ER-2016-0285  
Implement A General Rate Increase for )  
Electric Service )

**AFFIDAVIT OF BYRON M. MURRAY**

STATE OF MISSOURI )  
 )  
COUNTY OF COLE ) ss.

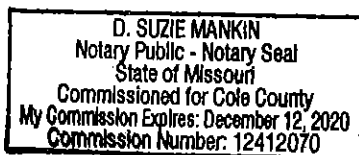
**COMES NOW BYRON M. MURRAY** and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Rebuttal Testimony; and that the same is true and correct according to his best knowledge and belief.

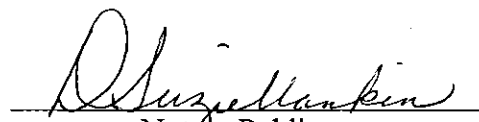
Further the Affiant sayeth not.

  
\_\_\_\_\_  
**BYRON M. MURRAY**

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 6<sup>th</sup> day of January, 2017.



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