

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

**APPLICATION OF LOUISVILLE GAS AND ELECTRIC)
COMPANY AND KENTUCKY UTILITIES COMPANY TO)
INSTALL AND OPERATE ELECTRIC CHARGING STATIONS)
IN THEIR CERTIFIED TERRITORIES, FOR APPROVAL) CASE NO.
OF AN ELECTRIC VEHICLE SUPPLY EQUIPMENT RIDER,) 2015-00355
AN ELECTRIC VEHICLE SUPPLY EQUIPMENT RATE, AN)
ELECTRIC VEHICLE CHARGING RATE, DEPRECIATION)
RATE, AND FOR A DEVIATION FROM THE REQUIREMENTS)
OF CERTAIN COMMISSION REGULATIONS)**

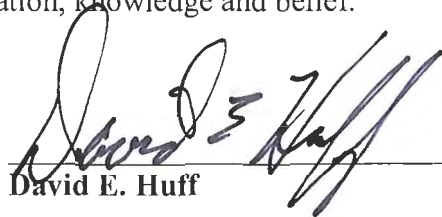
**RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
AND KENTUCKY UTILITIES COMPANY
TO
COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION
DATED JANUARY 25, 2016**

FILED: FEBRUARY 5, 2016


VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **David E. Huff**, being duly sworn, deposes and says that he is Director of Customer Energy Efficiency & Smart Grid Strategy for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.


David E. Huff

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 5th day of February 2016.

 (SEAL)
Notary Public


My Commission Expires:

JUDY SCHOOLER
Notary Public, State at Large, KY
My commission expires July 11, 2018
Notary ID # 512743

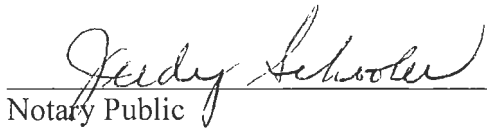
VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Rick E. Lovekamp**, being duly sworn, deposes and says that he is Manager – Regulatory Affairs/Tariffs for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.


Rick E. Lovekamp

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 5th day of February 2016.

 (SEAL)
Notary Public

My Commission Expires:
JUDY SCHOOLER
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**LOUISVILLE GAS AND ELECTRIC COMPANY
AND
KENTUCKY UTILITIES COMPANY**

**Response to Commission Staff's Second Request for Information
Dated January 25, 2016**

Case No. 2015-00355

Question No. 1

Witness: David E. Huff

- Q-1. Refer to the Corrections to Application and Testimony filed on November 30, 2015, Correction 1, which states that "over 750 plug-in electric hybrid vehicles and battery electric vehicles have been registered in the state of Kentucky since 2010." State the number of these vehicles that were registered in each of the Companies' territories.
- A-1. The Electric Power Research Institute is the source for this statement. Its research did not include detailed customer information (i.e. customer addresses) that would permit the Companies to identify the certified territory in which the vehicle is registered.

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Question No. 2

Witness: David E. Huff

- Q-2. Refer to the Companies' response to Commission Staff's First Request for Information ("Staff's First Request"), Item 1. The response indicates that, although the Companies' proposed tariffs are not yet approved, some of the Companies' customers have installed their own electric-vehicle charging stations ("charging station") "behind the customer meter."
- a. Given that customers are currently able to install charging stations, explain the necessity of the proposed Electric Vehicle Supply Equipment – Rider ("EVSE-R") tariff.
 - b. Explain the benefits and costs to customers of choosing to install electric-vehicle charging stations on their own, versus under the proposed EVSE-R tariff.
- A-2.
- a. EVSE-R service is for business customers who want their utility to provide a turn-key service for electric vehicle ("EV") charging services. EVSE-R combined with EVSE allows a business customer complete flexibility in locating a charging station where it would best meet the customer's needs. It allows a business customer to provide EV charging services to its patrons without the burden of selecting equipment, negotiating contracts, or addressing other logistical concerns necessary to provide these services.
 - b. Business customers value EV charging stations beyond just the station's cost. Generally, these customers feel that providing this service attracts new patrons to their business, enhances existing patron affinity for their business, and demonstrates their commitment to support a new, "greener" technology. Under EVSE-R, the customer receives the benefit of a known EV charging station service for a known monthly cost and thus can evaluate this cost against those implied benefits discussed previously in this paragraph.

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Question No. 3

Witness: David E. Huff

- Q-3. Explain why the Companies are giving customers a choice of placing the charging stations inside the meter or outside the meter rather, than requiring the charging stations to be inside the meter in order for usage to be metered.
- A-3. Simply to provide excellent customer service. Customer desire for optimal placement of charging stations may cause installation costs to exceed the charging station's cost. Installation costs can be minimized if both options are available to the customer.

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Question No. 4

Witness: David E. Huff

- Q-4. Refer to the Companies' response to Staff's First Request, Item 4, which states that "the terms and conditions of the EVC tariff will not be posted at the charging station." State whether the Companies are able to post the terms and conditions of the proposed Electric Vehicle Charging ("EVC") tariff at the charging stations. If such postings are possible, explain the Companies' decision to not do so.
- A-4. The Companies are able to post the terms and conditions of the proposed EVC Tariff at each charging station, but for several reasons prefer not to do so. First, Commission regulations do not require such posting. The Companies have not found any instance in which the Commission required such posting for a similar service. For example, the Commission does not require a water utility that operates a water hauling station to post its terms and conditions at the water hauling station site. Prior to the deregulation of telephone utilities, it did not require a telephone utility to post a copy of its terms and conditions of service next to each coin-operated payphone that the telephone utility operated.

Second, posting the terms and conditions at the charging station site is impractical. As the proposed tariff is two pages in length, it would be difficult to post on the charging stations. The posting would also be exposed to the effects of weather and sun and would likely deteriorate over time. It would require the Companies to make frequent inspections of the charging station sites to ensure that a posted physical copy of the terms and conditions is still at the charging site and is in a readable condition. It would also require the Companies to replace the existing version and post a new version of the terms and conditions each time the Companies revise those terms.

Third, the Companies have proposed a more effective means of notifying potential users of the EVC Tariff's terms and conditions. Each charging station will indicate on its display the URL address where the EVC Tariff's terms and conditions can be accessed with a smartphone or other mobile device. This information will be shown prior to the beginning of any transaction. If a potential user wishes to view the terms and conditions, he or she can do so using his or her mobile device. The Companies believe that electric vehicle users are likely to possess such devices, to be technologically savvy, and find it relatively easy

to access the terms and conditions if they desire to do so. This method also ensures that the current terms and conditions are always available to potential users.

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Question No. 5

Witness: John J. Spanos

- Q-5. Refer to the Companies' response to Staff's First Request, Item 5, which sought a list of the comparable charging station facilities referenced in John Spanos's letter included in the Companies' application. The response states that: (1) Mr. Spanos had "visited and reviewed a handful of Electric Vehicle Charging Stations owned by other utilities" and (2) the stations "are located all across the United States." (Emphasis added). However, no list was included. Provide a list of the handful of stations visited and reviewed by Mr. Spanos which identifies each station's charging level (AC Level 1, AC Level 2, or DC Fast Charging), the utility that owns the station, and the general location of the station.
- A-5. In addition to examining an electric charging station that the Companies maintain at the Auburndale Service Center, Mr. Spanos or his associates have examined utility-owned charging stations in Missouri, Wisconsin, and California. Mr. Spanos has also participated in American Gas Association/Edison Electric Institute surveys involving electric utilities in North Carolina, Massachusetts, Texas, Washington, Indiana and Virginia that have installed and operated charging stations. Confidentiality restrictions prohibit Mr. Spanos from disclosing the identity of these utilities. In his examinations, Mr. Spanos did not note or take into account the charging level of any station. Because charging stations represent an emerging and relatively new technology, Mr. Spanos believes that there is no current basis to distinguish charging stations based upon charging levels.

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Question No. 6

Witness: David E. Huff

- Q-6. Refer to the Companies' response to Staff's First Request, Item 8.d.(1). State whether the Companies employed an outside contractor to assist in the development of the request for proposals ("RFP") or in the analysis of the responses to the RFP. If so, provide the name of the contractor and a copy of any reports prepared by the contractor for the Companies.
- A-6. The Companies did not employ an outside contractor to assist in the development of the RFP nor in the analysis of the responses to the RFP.

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Question No. 7

Witness: David E. Huff

- Q-7. Refer to the Companies' response to Staff's First Request, Item 8.d(3), the attached CD, tab "Pricing Comparison Detail." Confirm that ChargePoint Product 1 and Product 5 were selected. If this cannot be confirmed, explain which of the products were chosen. If this can be confirmed, explain why those products were chosen over the other ChargePoint products.
- A-7. Yes, Product 1 and Product 5 were selected. These products were chosen because they have the "Gateway" functionality, which via an internal cellular modem, the station communicates with the ChargePoint network. This feature benefits drivers by permitting them to know of a station's availability, allows for remotely troubleshooting a charging station, and enables data transfer from the charging station for reporting purposes.

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Question No. 8

Witness: Rick E. Lovekamp

Q-8. Refer to the Companies' response to Staff's First Request, Item 9, which discusses the restriction of the proposed Electric Vehicle Supply Equipment ("EVSE") and EVSE-R tariffs to non-residential customers. Provide the following information related to residential customers:

- a. The number of customers taking service under the Residential Time-of-Day- Energy ("RTOD-E") tariff for each of the Companies.
- b. The number of customers taking service under the Residential Time-of-Day- Demand ("RTOD-D") tariff for each of the Companies.
- c. If known, the number of customers with electric vehicles served under each of the RTOD-E, RTOD-D, and Residential Service tariffs for each company.

A-8.

Number of customers as of January 25, 2016

a. RTOD-E

LGE:	29	KU:	10
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b. RTOD-D

LGE:	0	KU:	0
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- c. Prior to the creation of RTOD-E and RTOD-D rate schedules, the Companies offered a Low Emissions Vehicle Service ("LEV") Rate. The LEV Rate was available to customers who demonstrated that power delivered to premises was consumed, in part, for the powering of low emission vehicles licensed for operation on public streets or highways. Pursuant to the Commission's Orders of June 30, 2015 in Case Nos. 2014-00371 and 2014-00372, the LEV Rate ceased to be available effective July 1, 2015. Customers receiving service under the LEV rate schedule were required to take service under the Residential Service ("RS"), RTOD-E, or RTOD-D Rate schedules. The Companies do not currently offer a rate that requires proof of a low emission vehicle

as a requirement for service and, therefore no longer track this information. On July 1, 2015 the LEV customers were moved to the following rate schedules:

Rate Schedule	LG&E	KU
RTOD-E	18	7
RS	3	3

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Question No. 9

Witness: David E. Huff

- Q-9. Refer to the Companies' response to Staff's First Request, Item 10. Given that the fees proposed in the EVC tariff are calculated to recover all costs incurred to install, operate and maintain the charging stations, explain why a limit on the number of charging stations installed is necessary.
- A-9. The limit on the number of charging stations offered under the EVC tariff is designed to limit the Companies' financial commitment and to ensure that the Companies keep their commitment as set forth at page 7 of the Joint Application that "the capital outlay involved with such installations is not expected to exceed \$500,000 and will neither materially affect the financial condition of either Company nor result in increased charges to their customers."

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Question No. 10

Witness: David E. Huff

- Q-10. Refer to the Companies' response to Staff's First Request, Item 11 .d. The response states that a customer "may make reservations on a charging station where he or she can select a starting time to start a charge. At that time, the charge must be initiated." It also states that "[i]t is our vendor's experience that enabling preset start and/or end times does not encourage a driver to move his vehicle."
- a. Given the concern of the vendor, explain why reservations with preset start times will be allowed.
 - b. If the charge must be initiated at the designated start time, explain what happens if traffic, weather, etc., delays the customer beyond the start time.
- A-10. a. The first sentence of the Companies' Response to Commission Staff's First Request, Item 11(d) states, "No, it is not possible for customers to select and preset their charging times." The remainder of that response was intended to describe the full capabilities of the software and equipment selected. Based on the vendor's recommendations, the Companies will not use the reservation function.
- b. The Companies' have decided not to use the reservation function. If that were not the case, a customer with a reservation would pay the full hourly charging fee for their reservation period, regardless of whether he or she had arrived at the station and begun charging.

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Question No. 11

Witness: David E. Huff

- Q-11. Refer to the Companies' response to Staff's First Request, Item 13.b., the last bullet point.
- a. Explain how the customer currently using a charging station is incentivized to move his or her vehicle when charging is complete.
 - b. Explain whether a customer continues to pay the charging rate once the electric vehicle is fully charged but remains connected to the charging station.
- A-11. a. A customer is incentivized to move his or her vehicle because he or she will continue to incur a charging cost if it remains plugged into the charging station, even if its battery is fully charged. Please note that a customer will have the option of receiving a text message notifying him or her that his or her vehicle is completely charged. This option may be selected at the start of the charging session.
- b. Yes. See the response to question 11(a) above.

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Question No. 12

Witness: Rick E. Lovekamp

- Q-12. Refer to the Companies' response to Staff's First Request, Item 14.a. which states, "The FAC charge for EVSE (assumed energy) and EVSE-R customer will be part of the regular FAC charge on the bill." Refer also to the sample bills provided in response to Staff's First Request, Item 24. Confirm that the bills for EVSE customers show two FAC line items (one for their standard tariff and one for the EVSE tariff) and clarify that it is the Companies' intent to set out two FAC line items for EVSE customers.
- A-12. Yes, as indicated on the sample bills, customers billed on the EVSE rate will receive a bill that specifies two FAC line items related to the standard tariff and to the EVSE tariff.

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Question No. 13

Witness: Rick E. Lovekamp

- Q-13. Refer to the Companies' response to Staff's First Request, Item 16.a. If a site owner chooses to assess a fee for use of the charging station, explain how the fee will be developed and state whether the fee will be developed in coordination with Charge Point and/or the Companies.
- A-13. LG&E and KU will have no involvement in a charging station host's decision to assess a fee for the use of the charging station. Neither the Rate Schedule EVSE or Rider EVSE-R requires a customer to coordinate with LG&E and KU to develop a fee, but LG&E and KU will assist a site host if requested. It is the Companies' understanding that ChargePoint will also assist the site host if requested.

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Question No. 14

Witness: David E. Huff

- Q-14. Refer to the Companies' response to Staff's First Request, Item 19, which states that "[i]n order to develop rates the Companies assumed each charging station would provide one charge per day." Explain the basis for this assumption and provide the formulas and sample calculations for the charging rate assumptions.
- A-14. Charging times can take up to four to eight hours for a full charge. The usage at a new EV charging station is not currently known. Therefore, for the purposes of calculating rates, the Companies assumed one charge per day for four hours.

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Question No. 15

Witness: Rick E. Lovekamp

- Q-15. Refer to the Companies' response to Staff's First Request, Item 21. Explain how the General Service energy rate was chosen for use in calculating the monthly environmental surcharge for the charging stations.
- A-15. The General Service ("GS") rate is available to general lighting and small power loads for secondary service. As such, the GS rate is the most appropriate rate to apply to the electric service for the proposed charging stations.

Regarding environmental surcharge calculations, the GS rate is included in the Group 2 monthly environmental surcharge ("ECR") factor. To calculate the appropriate ECR factor, the base fuel factor is removed from the GS energy rate.

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Question No. 16

Witness: Rick E. Lovekamp

- Q-16. Refer to the Companies' response to Staff's First Request, Item 23. Explain whether an EVSE-R customer could experience an increase in demand because of the charging station. If an increase in demand could occur, explain why the increase in demand revenue that would be received by the Companies was not taken into consideration in calculating the proposed rates for the EVSE-R tariff.
- A-16. The EVSE-R rates were designed to recover the cost of the charging station only. An EVSE-R Customer may experience an increase in demand as a result of charging station use. The possible increase in demand revenue was not taken into consideration when calculating the proposed rates as the Customer should be aware of the increased demand and energy associated with the installation of the charging station as it would for additions to internal processes.

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Question No. 17

Witness: Rick E. Lovekamp

- Q-17. Refer to the Companies' response to Staffs First Request, Item 24, the sample bills attached to the response. The front pages of the sample bills show the environmental surcharge being calculated by multiplying the environmental surcharge percentage by the revenue total of the basic service charge, energy charge, and demand-side management charge after deducting the base fuel charge associated with the kWh used.¹ The second pages of the sample bills state in the Billing Information section that when calculating the environmental surcharge, the fuel cost included in both the energy charge and fuel adjustment are deducted from electric charges. However, only the fuel cost included in the energy charge is deducted on the first pages. Explain why the fuel cost associated with the fuel adjustment is not deducted when calculating the environmental surcharge.
- A-17. Base non-fuel revenue includes the customer, non-fuel energy, and demand charges for each rate schedule included within Group 2 to which the Environmental Surcharge mechanism is applicable and automatic adjustment clause revenues for the Demand-Side Management Cost Recovery Mechanism as applicable for each rate schedule in Group 2.

Using the Sample Bill on Pages 3 and 4 of the Attachment to Response to PSC 1-24, the calculations are set forth below. There are two calculations below to show how a customer can achieve the same non-fuel energy charges.

Rate Type: General Service Three Phase	
Basic Service Charge	\$ 40.00
Energy Charge (\$0.08948 x 4,972 kWh)	444.89
Electric DSM (\$0.00066 x 4,972 kWh)	3.28
Environmental Surcharge (15.12% x (\$488.17 - \$135.49))	53.33
Electric Fuel Adjustment (\$-0.00207 x 4,972 kWh)	-10.29
EVSE-R Single EV Charger Fee	132.49
Total Electric Charges	\$ 663.70

¹ The amount deducted is equal to the base fuel rate multiplied by the kWh used.

Non-Fuel Energy Calculation (Option No. 1)

	Basic Service Charge	\$ 40.00
Plus:	Energy Charge ($\$0.08948 \times 4,972 \text{ kWh}$)	444.89
	Electric DSM ($\$0.00066 \times 4,972 \text{ kWh}$)	3.28
	Sub-Total	\$ 488.17
Less:	Base Fuel Factor ($4,972 \text{ kWh} \times \0.02725)	135.49
	Total Non-Fuel Energy	\$ 352.68

Non-Fuel Energy Calculation (Option No. 2)

	Total Electric Charges	\$ 663.70
Less:	EVSE-R Single EV Charger Fee	132.49
	Electric Fuel Adjustment ($\$-0.00207 \times 4,972 \text{ kWh}$)	-10.29
	Environmental Surcharge ($15.12\% \times (\$488.17 - \$135.49)$)	53.33
	Sub-Total	\$ 488.17
Less:	Base Fuel Factor ($4,972 \text{ kWh} \times \0.02725)	135.49
	Total Non-Fuel Energy	\$ 352.68