



a PPL company

Mr. Jeff DeRouen  
Executive Director  
Kentucky Public Service Commission  
211 Sower Boulevard  
Frankfort, Kentucky 40601

January 31, 2014

**RE: *Low Emission Vehicle Service ("LEV") Report***  
**Case No. 2009-00548**

Dear Mr. DeRouen:

Pursuant to the Kentucky Public Service Commission's Final Order in Case No. 2009-00548, which approved the rates and charges for service that included Standard Rate Low Emission Vehicle Service ("LEV"), Kentucky Utilities Company hereby file this report in compliance with Section 4 under AVAILABILITY OF SERVICE, Original Sheet No. 79.

Should you have any questions regarding the enclosed, please do not hesitate to contact me

Sincerely,

A handwritten signature in black ink that reads "Rick E. Lovekamp". The signature is written in a cursive, flowing style.

Rick E. Lovekamp

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FEB 3 2014

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**Louisville Gas and Electric Company and Kentucky Utilities Company  
Standard Rate Low Emission Vehicle Service (“LEV”) Report  
Submitted to Kentucky Public Service Commission  
January 31, 2014**

Pursuant to the Kentucky Public Service Commission’s Final Orders in Case No. 2009-00548 and in Case No. 2009-00549, which approved the rates and charges for service that included Standard Rate Low Emission Vehicle Service (“LEV”), Louisville Gas and Electric Company (“LG&E”) and Kentucky Utilities Company (“KU”) (collectively “the Companies”) hereby file this report in compliance with Section 4 under AVAILABILITY OF SERVICE, Original Sheet No. 79.

The LEV rate was designed as a three year pilot program which may be restricted to a maximum of one hundred customers otherwise served under Rate Schedule RS (residential) (or GS where the GS service is used in conjunction with RS service to serve a detached garage and energy usage is no more than 300 kWh per month) to assess customer response to off peak power pricing differentials for low emission vehicles. This three-year pilot program is currently limited to customers who demonstrate that the power delivered to premises is consumed, in part, for the powering of low emission vehicles licensed for operation on public streets or highways. Such vehicles include: 1) battery electric vehicles or plug-in hybrid electric vehicles recharged through a charging outlet at customer’s premises; and 2) natural gas vehicles refueled through an electric-powered refueling appliance at customer’s premises. LEV pilot program participation is voluntary and features three energy (kWh) pricing periods (off peak, intermediate, and peak) as opposed to a standard residential customer’s flat rate. The purpose of this rate structure is to provide an economic incentive for customers to consume more of their energy off peak which is recognized as having a greater availability of supply. The rate structure changes depending on the time of year and is detailed below.

<b>May through September</b>		
<b>Time</b>	<b>Weekdays</b>	<b>Weekends</b>
Midnight to 10 a.m.	Off Peak	Off Peak
10 a.m. to 1 p.m.	Intermediate	Off Peak
1 p.m. to 7 p.m.	Peak	Off Peak
7 p.m. to 10 p.m.	Intermediate	Off Peak
10 p.m. to Midnight	Off Peak	Off Peak
<b>October through April</b>		
<b>Time</b>	<b>Weekdays</b>	<b>Weekends</b>
Midnight to 6 a.m.	Off Peak	Off Peak
6 a.m. to 12 p.m.	Peak	Off Peak
12 p.m. to 10 p.m.	Intermediate	Off Peak
10 p.m. to Midnight	Off Peak	Off Peak

During the pilot period, the Companies had a total of only nine customers participating in the program (six LG&E and three KU customers). At the end of 2013, the number of customers participating had increased to 18 (13 LG&E and five KU customers). The Companies compared customers’ energy usage by price tier and then utilized the data to compare a standard rate bill and LEV rate bill for the length of customers’ participation on the program. As detailed in the chart below, the Companies found that seven of the nine customers who were on the LEV pilot

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program during the initial three year period realized a decrease in their total monthly bill as compared to what they would have been charged under the standard rate.

Name	LEV Rate Effective Date	Number of Bills	LEV Rate Total (\$)	Rate RS Total (\$)	Difference Total (\$)	Average Difference per Bill (\$)
Customer 1	17-Jun-11	27	4,940.30	4,988.64	(48.33)	(1.79)
Customer 2	11-Jan-12	20	1,720.18	1,829.05	(108.87)	(5.44)
Customer 3	9-Jul-12	15	1,276.94	1,535.18	(258.24)	(17.22)
Customer 4	6-Aug-12	13	995.75	1,032.87	(37.11)	(2.85)
Customer 5	21-Jan-13	7	890.69	849.26	41.43	5.92
Customer 6	18-Feb-13	7	\$340.23	\$394.75	(54.52)	(7.79)
Customer 7	8-Jun-13	3	\$264.05	\$291.31	(27.26)	(9.09)
Customer 8	19-Jun-13	3	\$512.52	\$549.03	(36.51)	(12.17)
Customer 9	24-Jul-13	3	\$571.58	\$566.44	5.14	1.71

Additionally, the Companies compared LEV pilot participants' 12-month historical usage (i.e., usage prior to beginning of pilot) and LEV pilot usage. This data is detailed in the following table. Costs are total customer electric billed costs.

LEV Rate Participant Usage and Costs		Monthly Energy Usage (kWh)			Monthly Bill Total (\$)		
		Min	Max	Avg	Min	Max	Avg
Customer 1	12 Months Prior to Pilot	1,187	3,838	2,097	98.39	289.06	166.70
	27 Months on the Pilot	698	4,014	2,148	62.23	335.66	182.97
Customer 2	12 Months Prior to Pilot	500	1,608	941	46.61	134.36	84.13
	20 Months on the Pilot	425	1,510	987	35.54	117.56	86.01
Customer 3	12 Months Prior to Pilot	676	2,070	1,150	58.03	160.69	93.15
	15 Months on the Pilot	297	2,055	1,205	20.74	143.22	85.13
Customer 4	12 Months Prior to Pilot	514	1,067	786	47.41	85.96	66.26
	13 Months on the Pilot	569	1,450	904	49.06	114.98	76.60
Customer 5	12 Months Prior to Pilot	782	2,070	1,167	61.54	160.69	97.96
	7 Months on the Pilot	768	2,024	1,287	69.00	234.83	127.24
Customer 6	12 Months Prior to Pilot	742	1,305	1,065	\$63.97	\$110.01	\$88.81
	7 Months on the Pilot	486	709	568	\$44.76	\$52.40	\$48.60
Customer 7	12 Months Prior to Pilot	374	1,415	748	\$39.70	\$122.96	\$70.75
	3 Months on the Pilot	479	1,341	986	\$43.02	\$119.06	\$88.02
Customer 8	12 Months Prior to Pilot	1,349	3,188	2,297	\$115.78	\$278.71	\$200.09
	3 Months on the Pilot	1,867	2,004	1,943	\$166.62	\$174.66	\$170.84
Customer 9	12 Months Prior to Pilot	1,957	7,578	3,871	\$166.31	\$647.19	\$332.66
	3 Months on the Pilot	1,263	2,946	2,071	\$123.97	\$276.37	\$190.53

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The Companies also found that on average all LEV pilot participants used most of their energy during the off peak pricing period. However, not all LEV pilot participants used energy equally during intermediate and peak pricing periods. This trend is depicted in the chart below.

<b>LEV Rate Participant Average Monthly Usage by Price Tier (kWh)</b>			
Customer 1	Off Peak	1,223	56.95%
	Intermediate	497	23.16%
	Peak	427	19.90%
Customer 2	Off Peak	604	61.13%
	Intermediate	249	25.21%
	Peak	135	13.67%
Customer 3	Off Peak	930	77.13%
	Intermediate	229	19.04%
	Peak	46	3.83%
Customer 4	Off Peak	550	60.83%
	Intermediate	217	23.97%
	Peak	137	15.20%
Customer 5	Off Peak	623	48.42%
	Intermediate	342	26.54%
	Peak	322	25.03%
Customer 6	Off Peak	441	77.53%
	Intermediate	98	17.22%
	Peak	30	5.25%
Customer 7	Off Peak	684	69.31%
	Intermediate	195	19.77%
	Peak	108	10.92%
Customer 8	Off Peak	1,282	66.01%
	Intermediate	383	19.70%
	Peak	278	14.29%
Customer 9	Off Peak	1,183	57.14%
	Intermediate	431	20.80%
	Peak	457	22.07%

The results do indicate some promise for shifting consumption patterns. Nonetheless, the Companies recognize that the number of program participants is too small to deduce any concrete suggestions related to a larger group of customers.

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Moreover, the impact of the LEV pilot participants on the Companies’ electric system has been minimal thus far. Typically, LEV charging loads are low at Level 1 charging (i.e., charging the vehicle from a standard 120V household outlet) and present no infrastructure concerns. Level 2 charging (i.e. charging the vehicle through a 240V charging station installed on premise) loads can reach up to 19.2 kW; however, most residential Level 2 installations operate at a lower power (i.e., no more than 7.5 kW). Nonetheless, the Companies recognize that such installations need to be carefully reviewed. Only one of the LEV pilot program participants installed a Level 2 charger with a load capacity of approximately 10 kW. The Companies reviewed the electric distribution service equipment at the customer’s location and upgraded infrastructure to avoid the potential for problems.

The program allows the Companies to evaluate existing electric distribution infrastructure on an individual basis, to ensure LEV charging loads are adequately served. However, the pilot does not track those customers who are LEV owners but are not interested in the LEV rate. With increased penetration and no accurate method for tracking LEVs and their charging service locations, the Companies recognize that there is some uncertainty with predicting their actual impact on the Companies’ electric system load and capacity. Affected infrastructure would include (in order) services, secondary and transformers and potentially primary conductor should infiltration of LEVs escalate.

Even though the program was established to target residential customers with low emission vehicles, it enabled the Companies the opportunity to introduce a product offering to residential customers which assists in raising awareness of a time-of-use pricing rate structure and potentially shifting energy and demand to off peak periods in general. The Companies recommend continuance of the LEV rate schedule as originally approved. Furthermore, the Companies propose that any desired or necessary changes to this tariff be handled through normal course of a general base rate case.