

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

**In the Matter of:**

<b>AN ELECTRONIC EXAMINATION BY THE PUBLIC</b>	)	
<b>SERVICE COMMISSION OF THE ENVIRONMENTAL</b>	)	
<b>SURCHARGE MECHANISM OF LOUISVILLE GAS</b>	)	<b>CASE NO.</b>
<b>AND ELECTRIC COMPANY FOR THE TWO-YEAR</b>	)	<b>2019-00206</b>
<b>BILLING PERIOD ENDING APRIL 30, 2019</b>	)	

**DIRECT TESTIMONY OF**  
**DEREK A. RAHN**  
**MANAGER, REVENUE REQUIREMENT COS**  
**LG&E AND KU SERVICES COMPANY**

**Filed: July 26, 2019**

1 **Q. Please state your name, title, and business address.**

2 A. My name is Derek A. Rahn. I am the Manager, Revenue Requirement COS for  
3 Kentucky Utilities Company (“KU” or “Company”) and Louisville Gas and Electric  
4 Company (“LG&E”) and an employee of LG&E and KU Services Company, which  
5 provides services to LG&E and KU (collectively “Companies”). My business address  
6 is 220 West Main Street, Louisville, Kentucky, 40202. A complete statement of my  
7 education and work experience is attached to this testimony as Appendix A.

8 **Q. Have you previously testified before this Commission?**

9 A. Yes. I have previously testified before this Commission in proceedings concerning the  
10 Companies’ fuel adjustment clauses, environmental cost recovery (“ECR”) surcharge  
11 mechanisms, and the ECR compliance plan proceedings (Case No. 2016-00026 (KU)  
12 and Case No. 2016-00027 (LG&E)).

13 **Q. Are you sponsoring any exhibits?**

14 A. Yes. I am sponsoring two exhibits identified as:

- 15 • Exhibit DAR-1 – Roll-in.
- 16 • Exhibit DAR-2 – Revised ECR Monthly Filings

17 **Q. What is the purpose of this proceeding?**

18 A. The purpose of this proceeding is to review the past operation of LG&E’s  
19 environmental surcharge, including the six-month billing period ending April 30, 2019  
20 that is part of the two-year billing period also ending April 30, 2019, determine whether  
21 the surcharge amounts collected during the period are just and reasonable, and then  
22 incorporate or “roll-in” such surcharge amounts into LG&E’s existing electric base  
23 rates.

1 **Q. What is the purpose of your testimony?**

2 A. The purpose of my testimony is to summarize the operation of LG&E's environmental  
3 surcharge during the billing period under review, demonstrate that the amount collected  
4 during the period was just and reasonable, present and discuss LG&E's proposed  
5 adjustment to the Environmental Surcharge Revenue Requirement based on the  
6 operation of the surcharge during the period and explain how the environmental  
7 surcharge factors were calculated during the period under review. In addition, my  
8 testimony will recommend that the cumulative ECR revenue requirement for the twelve  
9 months ending with the expense month of February 2019 be used for purposes of  
10 incorporating or "rolling-into" LG&E's electric base rates the appropriate surcharge  
11 amounts using the methodology previously approved by the Commission, most  
12 recently in Case No. 2017-00267.

13 **Q. Please summarize the operation of the environmental surcharge for the billing**  
14 **period included in this review.**

15 A. LG&E billed an environmental surcharge to its customers from November 1, 2018  
16 through April 30, 2019. For purposes of the Commission's examination in this case,  
17 the monthly LG&E environmental surcharges are considered as of the six-month billing  
18 period ending April 30, 2019; that same review period is part of the two-year billing  
19 period also ending April 30, 2019. (The three previous billing periods were reviewed  
20 in Case Nos. 2018-00052, 2018-00258, and 2019-00015.) In each month of the six-  
21 month period under review in this proceeding, LG&E calculated the environmental  
22 surcharge factors in accordance with its ECR Tariff, and the requirements of the  
23 Commission's previous orders concerning LG&E's environmental surcharge. The

1 calculations were made in accordance with the Commission-approved monthly forms  
2 and filed with the Commission ten days before the new monthly charge was billed by  
3 the Company.

4 **Q. What costs were included in the calculation of the environmental surcharge**  
5 **factors for the billing period under review?**

6 A. The capital and operating costs included in the calculation of the environmental  
7 surcharge factors for the six-month billing period under review were the costs incurred  
8 each month by LG&E from September 2018 through February 2019, as detailed in the  
9 attachment in response to Question No. 2 of the Commission Staff's Request for  
10 Information, incorporating all required revisions.

11 The monthly environmental surcharge factors applied during the billing period  
12 under review were calculated consistent with the Commission's Orders in LG&E's  
13 previous applications to assess or amend its environmental surcharge mechanism and  
14 plan, as well as Orders issued in previous review cases. The monthly environmental  
15 surcharge reports filed with the Commission during this time reflect the various  
16 changes to the reporting forms ordered by the Commission from time-to-time.

17 **Q. Please describe the most recently approved changes to LG&E's ECR Compliance**  
18 **Plan.**

19 A. In Case No. 2016-00027, the Commission approved LG&E's 2016 ECR Compliance  
20 Plan that included three new projects and associated operation and maintenance costs.  
21 Pursuant to the Commission's August 8, 2016 Order approving the Settlement  
22 Agreement in Case No. 2016-00027, LG&E began including the approved projects in

1 the monthly filing for the August 2016 expense month that was billed in October 2016  
2 with separate authorized rates of return for the Pre-2016 and 2016 ECR Plans.

3 **Q. Please describe the most recently approved changes to the environmental**  
4 **surcharge mechanism and the monthly ES Forms.**

5 A. There were two changes approved in Case No. 2019-00015, LG&E's most recent ECR  
6 six-month review case.

7 First, the Commission increased the return on equity to be used in the monthly  
8 environmental surcharge filings to 9.725% for all ECR Plans. Pursuant to the  
9 Commission's April 30, 2019 Order, the changes were implemented with the April  
10 2019 expense month that was billed in June 2019. The higher return on equity,  
11 therefore, will not impact the recovery of costs for this review period. However, the  
12 higher return on equity will be used in this proceeding to establish the overall rate of  
13 return on capital to be used to calculate the environmental surcharge in future filings as  
14 discussed later in this testimony.

15 Second, the Commission approved a form change on ES Form 2.00, which  
16 eliminated the section for Proceeds From By-Product and Allowance Sales.

17 **Q. Is LG&E proposing any changes to the environmental surcharge mechanism and**  
18 **the monthly ES Forms?**

19 A. No, there are currently no needed changes to the ES Forms.

20 **Q. Is LG&E proposing any changes to its Environmental Cost Recovery Surcharge**  
21 **tariff?**

22 A. No. There are currently no needed changes to the Environmental Cost Recovery  
23 Surcharge tariff.

1 **Q. Are there any changes or adjustments in Rate Base from the originally filed**  
2 **expense months?**

3 A. Yes. During the period under review, there were changes to Rate Base from the  
4 originally filed billing months November through February as summarized in LG&E's  
5 response to the Commission Staff's Request for Information, Question No. 1. The  
6 changes reflect a change to the Eligible Accumulated Depreciation on ES Form 2.10  
7 that flow thru the formula and are provided as Exhibit DAR-2.

8 **Q. Are there any changes necessary to the jurisdictional revenue requirement**  
9 **(E(m))?**

10 A. Yes. Adjustments to E(m) are necessary for compliance with the Commission's Order  
11 in Case No. 2000-00386, to reflect the actual changes in the overall rate of return on  
12 capitalization that is used in the determination of the return on environmental rate base.

13 Pursuant to the terms of the Settlement Agreement approving the 2011 ECR  
14 Plan, LG&E calculated the short- and long-term debt rate using average daily balances  
15 and daily interest rates in the calculation of the overall rate of return true-up adjustment  
16 for the six-month period ending February 28, 2019. For the expense months of  
17 September 2018 through February 2019, the weighted average cost of capital was based  
18 on the balances as of February 28, 2019 and the 9.70% return on equity for all Plan  
19 projects. The details of and support for these calculations are shown in LG&E's  
20 response to Question No. 1 of the Commission Staff's First Request for Information.

21 **Q. Are there any other corrections to information provided in the monthly filings**  
22 **during the billing period under review?**

1 A. No. There are no other corrections to information provided in the monthly filings  
2 during the six-month billing period under review.

3 **Q. As a result of the operation of the environmental surcharge during the billing**  
4 **period under review, is an adjustment to the revenue requirement necessary?**

5 A. Yes. LG&E experienced an under-recovery of \$292,006 for the billing period ending  
6 April 30, 2019. LG&E's response to Question No. 2 of the Commission Staff's  
7 Request for Information shows the calculation of the under-recovery. An adjustment  
8 to the revenue requirement is necessary to reconcile the collection of past surcharge  
9 revenues with actual costs for the billing period under review.

10 **Q. Has LG&E identified the causes of the under-recovery during the billing period**  
11 **under review?**

12 A. Yes. LG&E has identified the primary components that make up the under-recovery  
13 during the billing period under review. The components are: (1) changes in overall  
14 rate-of-return as previously discussed, (2) the use of 12-month average revenues to  
15 determine the billing factor. The details and support of the components that make up  
16 the under-recovery during the billing period under review are shown in LG&E's  
17 response to Question No. 2 of the Commission Staff's Request for Information.

18 **Q. Please explain how the function of the ECR mechanism contributes to the**  
19 **recovery position in the billing period under review.**

20 A. The use of 12-month average revenues to calculate the monthly billing factors and then  
21 applying those same billing factors to the actual monthly revenues will result in an  
22 over- or under-collection of ECR revenues. The table below shows a comparison of  
23 the 12-month average revenues used in the monthly filings to determine the ECR billing

1 factors and the actual revenues to which the ECR billing factors were applied in the  
2 billing month.

Expense Month	12-Month Average Revenues	Billing Month	Actual Revenues Subject to ECR Billing Factors
September 2018	\$76,218,781	November 2018	\$63,013,666
October 2018	\$76,746,791	December 2018	\$67,877,370
November 2018	\$76,808,370	January 2018	\$73,257,650
December 2018	\$76,866,902	February 2018	\$70,491,683
January 2019	\$76,219,629	March 2019	\$68,349,952
February 2019	\$76,004,124	April 2019	\$60,626,901

\*The 12-month average revenues and the Actual Revenues subject to ECR Billing Factors reflect net revenues for Group 2.

3

4 Generally, an under-recovery will occur when actual revenues for the billing  
5 month are less than the 12-month average revenues used for the expense month.  
6 Likewise, an over-recovery will usually occur when actual revenues for the billing  
7 month are greater than the 12-month average revenues used for the expense month.

8 **Q. What kind of adjustment is LG&E proposing in this case as a result of the**  
9 **operation of the environmental surcharge during the billing period?**

10 A. LG&E is proposing that the under-recovery be collected in one month following the  
11 Commission's Order in this proceeding. Specifically, LG&E recommends that the  
12 Commission approve an increase to the Environmental Surcharge Revenue  
13 Requirement spread over one month. The proposed increase of \$292,006 per month  
14 for one month would begin in the second full billing month following the  
15 Commission's Order in this proceeding. This method is consistent with the method of  
16 implementing previous over- or under-recovery positions in prior ECR review cases.

17



1 **Q. What is the bill impact on a residential customer for the proposed collection of the**  
2 **under-recovery?**

3 A. The inclusion of the collection reflecting the under-recovery position in the  
4 determination of the ECR billing factor will increase the billing factor by  
5 approximately 0.32%. For a residential customer using an average of 979 kWh per  
6 month, the impact of the adjusted ECR billing factor would be an increase of  
7 approximately \$0.34 per month for one month.

8 **Q. Should the Commission approve incorporating into LG&E's base rates the**  
9 **environmental surcharge amounts found just and reasonable for the two-year**  
10 **billing period ending April 2019?**

11 A. Yes. In Exhibit DAR-1, LG&E provides the surcharge amount that LG&E believes  
12 should be incorporated into its existing base rates. The exhibit includes all supporting  
13 calculations, work papers, and assumptions. It is now appropriate to incorporate into  
14 electric base rates the surcharge amounts the Commission finds just and reasonable for  
15 the two-year billing period ending April 2019. LG&E recommends that an incremental  
16 environmental surcharge amount of \$4,784,265 be incorporated into base rates at the  
17 conclusion of this case. LG&E determined the incremental roll-in amount of  
18 \$4,784,265 using environmental surcharge rate base as of February 28, 2019 and  
19 environmental surcharge operating expenses for the twelve-month period ending  
20 February 28, 2019. If approved, the total amount of environmental surcharge that will  
21 be included in base rates will be \$131,340,413. The implementation of the change in  
22 base rates reflecting the roll-in amount should take effect with bills rendered beginning

1 with the first billing cycle in the second month following the month in which the  
2 Commission issues its Order in this proceeding.

3 **Q. How should the surcharge amount be incorporated into LG&E's base rates?**

4 A. The surcharge factor reflects a percentage of revenue approach, rather than a per-kWh  
5 approach. The Commission previously approved LG&E's proposed roll-in  
6 methodology in Case Nos. 2011-00232, 2013-00243, 2015-00222, and most recently  
7 in 2017-00267. LG&E uses a two-step roll-in methodology as shown below:

8 Step #1 – Customer Group Allocation: Allocate the roll-in between Group 1 and Group  
9 2 customers based on the percentage of each group's total base revenue to  
10 LG&E's total base revenue (excluding base environmental surcharge revenue).

11 Step #2 – Group Rate Class Allocation:

- 12 • Group 1 amount from Step 1 is allocated to the Group 1 rate classes based on total  
13 base revenues excluding base environmental surcharge revenues.
- 14 • Group 2 amount from Step 1 is allocated to Group 2 rate classes based on non-fuel  
15 base revenues excluding base environmental surcharge revenues.

16 Furthermore, for Group 1 and Group 2, the amount of the roll-in will be spread  
17 to the energy portion of rates (without a demand charge) and to the demand portion of  
18 rates (with a separately metered and billed demand component). Lastly, lighting rates  
19 will continue to be billed on a per-light basis.

20 LG&E recommends that this method continue to be used to accomplish this  
21 roll-in to base rates.

22 **Q. Does LG&E believe that modifications will need to be made to either the**  
23 **surcharge mechanism or the monthly surcharge reports as a result of**

1 **incorporating additional environmental surcharge amounts into LG&E's existing**  
2 **base rates?**

3 A. No. The incorporation of additional environmental surcharge revenues into existing  
4 base rates does not require modifications to the surcharge mechanism or monthly ES  
5 Forms.

6 **Q. If the Commission accepts LG&E's recommendation to incorporate the proposed**  
7 **amount into base rates, what will be the impact on LG&E's ECR revenue**  
8 **requirement?**

9 A. The incorporation of the recommended surcharge amount into base rates will increase  
10 base rates and, two months later, decrease ECR revenues by an equal amount. There  
11 will be no impact on the environmental costs LG&E is allowed to recover from its  
12 customers; only the method of collection will be impacted.

13 **Q. Please explain why ECR revenues will not decrease in the same month that base**  
14 **rates will increase.**

15 A. The ECR is billed on a two-month lag, meaning that costs are incurred, for example, in  
16 February 2019 (expense month) and ECR billing factor revenues are collected two  
17 months later in April 2019 (billing month). LG&E's determination of costs recoverable  
18 through the billing factor (E(m) for the expense month) are reduced by the ECR  
19 revenue included in base rates. Therefore, total ECR costs for the month of February  
20 are collected from customers through base rates in February and through the ECR  
21 billing mechanism in April. If base rates increase due to a roll-in in February, the  
22 portion of ECR costs incurred in February that is recovered through base rates will  
23 increase and the resulting decrease in the ECR billing factor will be applied in April.

1 If the decrease in the ECR billing factor were applied in February, the same month that  
2 base rates change, then LG&E would not be collecting the correct amount of ECR  
3 revenue associated with costs incurred in December. This is because the February  
4 billing factor is associated with the December expense month and must be calculated  
5 using base rates in effect in December.

6 **Q. What rate of return is LG&E proposing to use for all ECR Plans upon the**  
7 **Commission's Order in this proceeding?**

8 A. LG&E is recommending an overall rate of return on capital of 8.70%, including the  
9 currently approved 9.725% return on equity and adjusted capitalization, to be used to  
10 calculate the environmental surcharge. This is based on capitalization as of February  
11 28, 2019, the Commission's Order of April 30, 2019 in Case No. 2019-00015 and use  
12 of the 2019 gross-up revenue factor that excludes the \$199 manufacturing tax  
13 deduction.

14 See the response and attachment to Commission Staff's Request for  
15 Information Question No. 5 following this testimony.

16 **Q. What is your recommendation to the Commission in this case?**

17 A. LG&E makes the following recommendations to the Commission in this case:

18 a) The Commission should approve the proposed increase to the Environmental  
19 Surcharge Revenue Requirement over five months. The proposed increase of  
20 \$292,006 per month for one month starting the second full billing month  
21 following the Commission's Order in this proceeding;

22 b) The Commission should determine the environmental surcharge amount for the  
23 six-month billing period ending April 30, 2019 to be just and reasonable;

1 c) The Commission should approve the use of an overall rate of return on capital  
2 of 8.70%, using a return on equity of 9.725%, beginning in the second full  
3 billing month following the Commission's Order in this proceeding, and;

4 d) The Commission should approve a "roll-in" of \$4,784,265 in incremental  
5 environmental costs into LG&E's base rates, for a total base rate ECR  
6 component of \$131,340,413, to be included in base rates following the  
7 methodology previously approved by the Commission and implemented by  
8 LG&E. The implementation of the change in base rates reflecting the roll-in  
9 amount should take effect with bills rendered beginning with the first billing  
10 cycle in the second month following the month in which the Commission issues  
11 its Order in this proceeding.

12 **Q. Does this conclude your testimony?**

13 **A. Yes.**

VERIFICATION


COMMONWEALTH OF KENTUCKY )  
 ) SS:  
COUNTY OF JEFFERSON )

The undersigned, **Derek A. Rahn**, being duly sworn, deposes and says that he is Manager - Revenue Requirement COS for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.



**Derek A. Rahn**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 24<sup>th</sup> day of July 2019.



(SEAL)  
Notary Public

My Commission Expires:  
**Judy Schooler**  
**Notary Public, ID No. 603967**  
**State at Large, Kentucky**  
**Commission Expires 7/11/2022**

## APPENDIX A

### **Derek A. Rahn**

Manager, Revenue Requirement COS  
LG&E and KU Services Company  
220 West Main Street  
Louisville, Kentucky 40202  
(502) 627-4127

### Previous Positions

Manager, Transmission Policy & Tariffs	Sept. 2010 – Oct. 2015
Group Leader, Transmission Operations Engineering	Dec. 2008 – Sept. 2010
Supervisor, Operations (Ghent Power Station)	Dec. 2007 – Dec. 2008
Electrical Engineer II (Ghent Power Station)	Jul. 2005 – Dec. 2007
Project Engineer (TubeMaster, Inc)	Dec 2003 – Jul. 2005

### Education

Masters of Business Administration,  
Bellarmine University, July 2010.  
Bachelor of Science in Electrical Engineering,  
University of Kentucky, December 2003.

### Training:

Managing People & Processes (2014), IUS Leadership Program (2007-2008), Professional Development Program (2007-2008), Global Leadership Summit (2013, 2015, & 2017), Mentoring Program (2008, 2014 - 2019), Advanced Operator (2008), Project Management (2006), and Basic Shaft Alignment (2006).

### Civic Activities

Power of One Committee Member (2007 – 2019)  
Saratoga Springs Neighborhood Association Board (2017- 2019)

## Louisville Gas And Electric Company Calculation of ECR Roll-in At February 28, 2017

<b>Calculation of Revenue Requirement for Roll-In:</b>		Environmental Compliance Plans at Feb. 28, 2019	Jurisdictional Basis
Environmental Compliance Rate Base			
Pollution Control Plant in Service	ES Form 2.00, February 2019	\$ 1,183,394,235	\$ 1,140,128,158
Pollution Control CWIP Excluding AFUDC	ES Form 2.00, February 2019	320,851,819	309,121,156
Subtotal		\$ 1,504,246,054	\$ 1,449,249,314
Additions:			
Emission Allowances	ES Form 2.00, February 2019	\$ 141	\$ 136
Cash Working Capital Allowance	ES Form 2.00, February 2019	695,233	669,815
Net Unamortized Closure Cost Balance	ES Form 2.00, February 2019	12,037,967	11,597,847
Subtotal		\$ 12,733,341	\$ 12,267,798
Deductions:			
Accumulated Depreciation on Pollution Control Plant	ES Form 2.00, February 2019	\$ 95,598,136	\$ 92,102,973
Pollution Control Deferred Income Taxes	ES Form 2.00, February 2019	267,188,174	257,419,507
Subtotal		\$ 362,786,310	\$ 349,522,480
Environmental Compliance Rate Base		\$ 1,154,193,085	\$ 1,111,994,632
Rate of Return -- Environmental Compliance Rate Base		ES Form 1.10, February 2019	8.66%
<b>Return on Environmental Compliance Rate Base</b>		\$ 99,953,121	\$ 99,953,121
Pollution Control Operating Expenses			
12 Month Depreciation and Amortization Expense	See Support Schedule A	\$ 28,593,176	\$ 27,547,781
12 Month Taxes Other than Income Taxes	See Support Schedule A	1,664,241	1,603,395
12 Month Operating and Maintenance Expense, net of amt in base rates	See Support Schedule A	7,528,675	7,253,419
12 Month CCR Amortization	See Support Schedule A	634,384	611,190
12 Month Amortization of Excess ADIT with Gross-Up	See Support Schedule A	(82,209)	
12 Month Emission Allowance Expense	See Support Schedule A	-	-
12 Month Beneficial Reuse Expense, net of amounts in base rates	See Support Schedule A	(1,966,812)	(1,894,904)
12 Month KPSC Consultant Expense	See Support Schedule A	-	-
<b>Total Pollution Control Operating Expenses</b>		\$ 36,371,455	\$ 35,120,881
<b>Gross Proceeds from Allowance Sales</b>		\$ -	\$ -
<b>Total Company Environmental Surcharge Gross Revenue Requirement -- Roll In Amount</b>			
Return on Environmental Compliance Rate Base		\$ 99,953,121	\$ 99,953,121
Pollution Control Operating Expenses		36,371,455	35,120,881
Less Gross Proceeds from Allowance Sales		-	-
Roll In Amount		\$ 136,324,576	\$ 135,074,002
<b>Jurisdictional Allocation Ratio -- Roll In</b>		96.3439%	
<b>Jurisdictional Revenues for 12 Months for Roll In</b>		\$ 1,090,790,746	
<b>Roll In Jurisdictional Environmental Surcharge Factor:</b>			
Total Company Environmental Surcharge Gross Revenue Requirement -- Roll In Amount		\$ 136,324,576	
Jurisdictional Allocation Ratio -- Roll In		96.3439%	
Jurisdictional Environmental Surcharge Gross Revenue Requirement -- Gross Roll In Amount		\$ 131,340,413	
Less Jurisdictional Environmental Revenue Previously Rolled In		126,556,149	
Jurisdictional Environmental Surcharge Gross Revenue Requirement -- Net Roll In Amount		\$ 4,784,265	



**Louisville Gas And Electric Company**  
**Calculation of ECR Roll-in At February 28, 2017**

**Support Schedule A**

12 Month Balances for Selected Operating Expense Accounts

**Current Plans**

	Depreciation & Amortization Steam Plant	Taxes Other than Income Taxes	Operating and Maintenance Expense			Amortization of Monthly Closure Costs	Amortization of Excess ADIT with Gross-Up	Emission Allowance Expense FERC 509	Beneficial Reuse Expense FERC 501	KPSC Consultant Expense	Total
			FERC 502	FERC 506	FERC 512						
Mar-18	\$ 2,355,580	\$ 139,268	\$ -	\$ 271,069	\$ 397,842	\$ 39,074	\$ -	\$ -	\$ 43,682	\$ -	3,246,515
Apr-18	2,355,580	139,268	-	349,431	326,522	41,143	-	-	(295,848)	-	2,916,097
May-18	2,355,580	139,268	-	329,095	155,480	42,014	-	-	(346,853)	-	2,674,583
Jun-18	2,366,698	139,268	-	420,836	200,878	43,676	(33,591)	-	(225,197)	-	2,912,568
Jul-18	2,377,807	139,268	-	442,749	201,423	49,548	(5,872)	-	(146,456)	-	3,058,466
Aug-18	2,377,776	139,263	-	421,134	137,247	53,449	(7,513)	-	(153,494)	-	2,967,862
Sep-18	2,384,374	139,263	-	397,617	261,436	55,582	(5,872)	-	(168,053)	-	3,064,347
Oct-18	2,391,001	139,263	-	350,378	363,428	57,467	(5,872)	-	(104,890)	-	3,190,776
Nov-18	2,391,001	139,263	-	377,211	262,042	61,117	(5,872)	-	(48,950)	-	3,175,812
Dec-18	2,388,406	139,263	-	441,877	131,081	61,819	(5,872)	-	(382,078)	-	2,774,496
Jan-19	2,413,343	135,793	-	480,479	183,663	63,771	(5,872)	-	(26,656)	-	3,244,521
Feb-19	2,436,030	135,793	-	423,126	202,630	65,723	(5,872)	-	(111,452)	-	3,145,978
less Base Rate amount									(566)		(566)
<b>Totals</b>	<b>28,593,176</b>	<b>1,664,241</b>	<b>-</b>	<b>4,705,002</b>	<b>2,823,673</b>	<b>634,384</b>	<b>(82,209)</b>	<b>-</b>	<b>(1,966,812)</b>	<b>-</b>	<b>36,371,455</b>

**Support Schedule B**

12 Month Balances for Allowance Sales

	Total Proceeds from Allowance Sales ES Form 2.00
Mar-18	-
Apr-18	-
May-18	-
Jun-18	-
Jul-18	-
Aug-18	-
Sep-18	-
Oct-18	-
Nov-18	-
Dec-18	-
Jan-19	-
Feb-19	-
<b>Totals</b>	<b>-</b>

**Support Schedule C**

12 Month Balances for Jurisdictional Revenues and Allocation Ratio

	KY Retail Revenues, Excl. Envir. Surch. Revenues ES Form 3.10	Total Company Revenues, Excluding Envir. Surch. Revenues ES Form 3.10	KY Retail Allocation Ratio KY Retail/ Total Company
Mar-18	\$ 76,788,619	\$ 81,502,134	94.22%
Apr-18	81,271,113	84,303,901	96.40%
May-18	84,419,534	86,346,389	97.77%
Jun-18	102,811,173	104,440,751	98.44%
Jul-18	110,891,417	112,728,275	98.37%
Aug-18	107,259,532	109,117,592	98.30%
Sep-18	102,937,931	106,209,009	96.92%
Oct-18	92,645,227	95,536,078	96.97%
Nov-18	76,503,824	79,017,088	96.82%
Dec-18	81,552,830	88,734,681	91.91%
Jan-19	89,063,690	95,326,505	93.43%
Feb-19	84,645,856	88,922,646	95.19%
<b>Totals</b>	<b>\$ 1,090,790,746</b>	<b>\$ 1,132,185,051</b>	<b>96.3439%</b>

**LOUISVILLE GAS AND ELECTRIC COMPANY  
ENVIRONMENTAL SURCHARGE REPORT**

**Net Group E(m) and  
Group Environmental Surcharge Billing Factors  
For the Expense Month of September 2018**

**GROUP 1 (Total Revenue)**

Group 1 E(m) -- ES Form 1.10, line 15	=	\$ (986,545)
Group 1 ES Billing Factor -- ES Form 1.10, line 17	=	-2.51%

**GROUP 2 (Net Revenue)**

Group 2 E(m) -- ES Form 1.10, line 15	=	\$ (1,291,324)
Group 2 ES Billing Factor -- ES Form 1.10, line 17	=	-3.50%

Effective Date for Billing: November billing cycle beginning October 30, 2018

Submitted by: \_\_\_\_\_

Title: Manager, Revenue Requirement COS

Date Submitted: October 19, 2018

**LOUISVILLE GAS AND ELECTRIC COMPANY  
ENVIRONMENTAL SURCHARGE REPORT**

**Calculation of Total E(m) and  
Group Surcharge Billing Factors**

For the Expense Month of September 2018

**Calculation of Total E(m)**

$E(m) = [(RB / 12) (ROR + (ROR - DR)(TR / (1 - TR)))] + OE - BAS + BR$ , where  
 RB = Environmental Compliance Rate Base  
 ROR = Rate of Return on the Environmental Compliance Rate Base  
 DR = Debt Rate (both short-term and long-term debt)  
 TR = Composite Federal & State Income Tax Rate  
 OE = Pollution Control Operating Expenses  
 BAS = Total Proceeds from By-Product and Allowance Sales  
 BR = Beneficial Reuse Operating Expenses

		Environmental Compliance Plans
(1) RB	= \$	1,138,211,886
(2) RB / 12	= \$	94,850,991
(3) $(ROR + (ROR - DR) (TR / (1 - TR)))$	=	8.73%
(4) OE	= \$	3,232,400
(5) BAS	= \$	0
(6) BR	= \$	(168,053)
(7) E(m)	$(2) \times (3) + (4) - (5) + (6)$	= \$ 11,344,839

**Calculation of Adjusted Net Jurisdictional E(m)**

(8) Jurisdictional Allocation Ratio for Expense Month -- ES Form 3.10	=	96.92%
(9) Jurisdictional E(m) = Total E(m) x Jurisdictional Allocation Ratio [(7) x (8)]	= \$	10,995,418
(10) Adjustment for (Over)/Under-collection pursuant to Case No. 2018-0052	= \$	(730,092)
(11) Prior Period Adjustment (if necessary)	= \$	-
(12) Revenue Collected through Base Rates	= \$	12,543,195
(13) Adjusted Net Jurisdictional E(m) [(9) + (10) + (11) - (12)]	= \$	(2,277,869)

**Calculation of Group Environmental Surcharge Billing Factors**

		<u>GROUP 1 (Total Revenue)</u>	<u>GROUP 2 (Net Revenue)</u>
(14) Revenue as a Percentage of 12-month Total Revenue ending with the Current Month -- ES Form 3.00	=	43.31%	56.69%
(15) Group E(m) [(13) x (14)]	= \$	(986,545)	\$ (1,291,324)
(16) Group R(m) = Average Monthly Group Revenue for the 12 Months Ending with the Current Expense Month -- ES Form 3.00	= \$	39,338,285	\$ 36,880,496
(17) Group Environmental Surcharge Billing Factors [(15) ÷ (16)]	=	<b>-2.51%</b>	<b>-3.50%</b>

**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**ENVIRONMENTAL SURCHARGE REPORT**

Revenue Requirements of Environmental Compliance Costs  
For the Expense Month of September 2018

**Determination of Environmental Compliance Rate Base**

	Environmental Compliance Plan	
Eligible Pollution Control Plant	\$ 1,180,978,599	
Eligible Pollution CWIP Excluding AFUDC	290,017,518	
Subtotal		\$ 1,470,996,117
Additions:		
Inventory - Emission Allowances per ES Form 2.31, 2.32, 2.33, and 2.34	142	
Cash Working Capital Allowance	897,853	
Net Unamortized Closure Cost Balance <sup>1</sup>	10,184,948	
Subtotal		11,082,943
Deductions:		
Accumulated Depreciation on Eligible Pollution Control Plant	83,562,679	
Pollution Control Deferred Income Taxes	260,304,495	
Subtotal		343,867,174
Environmental Compliance Rate Base		\$ 1,138,211,886

**Determination of Pollution Control Operating Expenses**

	Environmental Compliance Plan	
Monthly Operations & Maintenance Expense		\$ 659,053
Monthly Depreciation & Amortization Expense		2,384,374
less investment tax credit amortization		-
Monthly Taxes Other Than Income Taxes - Eligible Plant		139,263
Monthly Taxes Other Than Income Taxes - Closure Costs		-
Amortization of Monthly Closure Costs		55,582
Amortization of Excess ADIT with gross-up	\$ (4,407)	1,33245 (5,872)
Monthly Emission Allowance Expense from ES Form 2.31, 2.32, 2.33, and 2.34		-
Monthly Surcharge Consulting Fees		-
Construction Monitoring Consultant Fee		-
Total Pollution Control Operations Expense		\$ 3,232,400

**Determination of Beneficial Reuse Operating Expenses**

	Environmental Compliance Plan	
Total Monthly Beneficial Reuse Expense		\$ (168,053)
Adjustment for Beneficial Reuse in Base Rates (from ES Form 2.61)		-
Net Beneficial Reuse Operations Expense		\$ (168,053)

**Proceeds From By-Product and Allowance Sales**

	Total Proceeds	Amount in Base Rates	Net Proceeds
	(1)	(2)	(1) - (2)
Allowance Sales	\$ 0	\$ -	\$ 0
Scrubber By-Products Sales	-	-	-
Total Proceeds from Sales	\$ 0	\$ -	\$ 0

Note 1: The net unamortized closure cost balance is comprised of CCR closure cost expenditures less accumulated amortization, accumulated deferred income taxes and amount in base rates.

**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**ENVIRONMENTAL SURCHARGE REPORT**  
Plant, CWIP & Depreciation Expense

For the Month Ended: September 30, 2018

(1) Description	(2) Eligible Plant In Service	(3) Eligible Accumulated Depreciation	(4) CWIP Amount Excluding AFUDC	(5) Eligible Net Plant In Service	(6) Deferred Tax Balance as of 9/30/2018	(7) Monthly ITC Amortization Credit	(8) Monthly Depreciation Expense	(9) Monthly Property Tax Expense
				(2)-(3)+(4)				
<b>2009 Plan:</b>								
Project 22 - Cane Run CCP Storage (Landfill - Phase I) [CANCELLED]								
Project 23 - Trimble County Ash Treatment Basin (BAP/GSP)	\$ 9,599,354	\$ 1,450,855	\$ -	\$ 8,148,499	\$ 1,012,276		\$ 10,336	\$ 1,030
Project 24 - Trimble County CCP Storage (Landfill - Phase 1)	\$ 13,399,111	\$ 564,604	\$ 108,015,982	\$ 120,850,489	\$ 2,250,479		\$ 28,310	\$ 1,675
Project 25 - Beneficial Reuse	\$ 7,413,755	\$ 725,420	\$ -	\$ 6,688,335	\$ 1,444,903		\$ 14,253	\$ 852
Subtotal	\$ 30,412,220	\$ 2,740,879	\$ 108,015,982	\$ 135,687,323	\$ 4,707,658	\$ -	\$ 52,899	\$ 3,557
Less Retirements and Replacement resulting from implementation of 2009 Plan	\$ (1,329,419)	\$ (372,436)	\$ -	\$ (956,982)	\$ (296,464)		\$ (3,135)	\$ (120)
Net Total - 2009 Plan:	\$ 29,082,801	\$ 2,368,442	\$ 108,015,982	\$ 134,730,341	\$ 4,411,193	\$ -	\$ 49,764	\$ 3,438
<b>2011 Plan:</b>								
Project 26 - Mill Creek Station Air Compliance	\$ 1,035,408,460	\$ 73,665,640	\$ 41,770	\$ 961,784,590	\$ 231,687,501		\$ 2,081,433	\$ 122,127
Project 27 - Trimble County Unit 1 Air Compliance	\$ 100,846,405	\$ 7,319,244	\$ 464	\$ 93,527,625	\$ 21,595,045		\$ 230,052	\$ 11,950
Subtotal	\$ 1,136,254,865	\$ 80,984,884	\$ 42,235	\$ 1,055,312,215	\$ 253,282,546	\$ -	\$ 2,311,484	\$ 134,076
Less Retirements and Replacement resulting from implementation of 2011 Plan	\$ (41,832)	\$ (750)	\$ -	\$ (41,082)	\$ (4,868)		\$ (61)	\$ (5)
Net Total - 2011 Plan:	\$ 1,136,213,033	\$ 80,984,134	\$ 42,235	\$ 1,055,271,133	\$ 253,277,678	\$ -	\$ 2,311,424	\$ 134,071
<b>2016 Plan:</b>								
Project 28 - Supplemental Mercury Control	\$ 4,506,424	\$ 111,707	\$ (14,344)	\$ 4,380,372	\$ 820,723		\$ 7,411	\$ 486
Project 29 - Mill Creek New Process Water Systems	\$ 11,113,070	\$ 240,119	\$ 149,941,163	\$ 160,814,113	\$ 1,768,558		\$ 14,909	\$ 1,242
Project 30 - Trimble County New Process Water Systems	\$ 379,213	\$ 17,264	\$ 32,032,483	\$ 32,394,432	\$ 66,744		\$ 866	\$ 46
Subtotal	\$ 15,998,706	\$ 369,090	\$ 181,959,301	\$ 197,588,918	\$ 2,656,024	\$ -	\$ 23,186	\$ 1,774
Less Retirements and Replacement resulting from implementation of 2016 Plan	\$ (315,942)	\$ (158,987)	\$ -	\$ (156,955)	\$ (40,400)		\$ -	\$ (20)
Net Total - 2016 Plan:	\$ 15,682,764	\$ 210,103	\$ 181,959,301	\$ 197,431,963	\$ 2,615,624	\$ -	\$ 23,186	\$ 1,754
Net Total - All Plans:	\$ 1,180,978,599	\$ 83,562,679	\$ 290,017,518	\$ 1,387,433,437	\$ 260,304,495	\$ -	\$ 2,384,374	\$ 139,263

Note 1: Trimble County projects for the 2009 Plan are proportionately shared by KU at 48% and LG&E at 52%.

Note 2: Effective with the September 2012 expense month, Project 22 is cancelled and the previous CWIP balance is included on ES Form 2.50 as an expense for the September 2012 expense month.

Note 3: The Deferred Tax Balance includes Excess Deferred Taxes resulting from the Tax Cuts and Jobs Act.

**LOUISVILLE GAS AND ELECTRIC COMPANY  
ENVIRONMENTAL SURCHARGE REPORT**

**Net Group E(m) and  
Group Environmental Surcharge Billing Factors  
For the Expense Month of October 2018**

**GROUP 1 (Total Revenue)**

Group 1 E(m) -- ES Form 1.10, line 15	=	\$ (116,926)
Group 1 ES Billing Factor -- ES Form 1.10, line 17	=	-0.29%

**GROUP 2 (Net Revenue)**

Group 2 E(m) -- ES Form 1.10, line 15	=	\$ (152,799)
Group 2 ES Billing Factor -- ES Form 1.10, line 17	=	-0.41%

Effective Date for Billing: December billing cycle beginning November 30, 2018

Submitted by: \_\_\_\_\_

Title: Manager, Revenue Requirement COS

Date Submitted: November 20, 2018

**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**ENVIRONMENTAL SURCHARGE REPORT**

**Calculation of Total E(m) and**  
**Group Surcharge Billing Factors**

**For the Expense Month of October 2018**

**Calculation of Total E(m)**

E(m) = [(RB / 12) (ROR+(ROR -DR)(TR/(1-TR)))] + OE - BAS + BR, where

RB	=	Environmental Compliance Rate Base
ROR	=	Rate of Return on the Environmental Compliance Rate Base
DR	=	Debt Rate (both short-term and long-term debt)
TR	=	Composite Federal & State Income Tax Rate
OE	=	Pollution Control Operating Expenses
BAS	=	Total Proceeds from By-Product and Allowance Sales
BR	=	Beneficial Reuse Operating Expenses

		Environmental Compliance Plans
(1) RB	=	\$ 1,144,981,635
(2) RB / 12	=	\$ 95,415,136
(3) (ROR + (ROR - DR) (TR / (1 - TR)))	=	8.73%
(4) OE	=	\$ 3,295,665
(5) BAS	=	\$ 0
(6) BR	=	\$ (104,890)
(7) E(m)	(2) x (3) + (4) - (5) + (6)	= \$ 11,520,517

**Calculation of Adjusted Net Jurisdictional E(m)**

(8)	Jurisdictional Allocation Ratio for Expense Month -- ES Form 3.10	= 96.97%
(9)	Jurisdictional E(m) = Total E(m) x Jurisdictional Allocation Ratio [(7) x (8)]	= \$ 11,171,445
(10)	Adjustment for (Over)/Under-collection pursuant to Case No. 2018-0052	= \$ -
(11)	Prior Period Adjustment (if necessary)	= \$ -
(12)	Revenue Collected through Base Rates	= \$ 11,441,170
(13)	Adjusted Net Jurisdictional E(m) [(9) + (10) + (11) - (12)]	= \$ (269,725)

**Calculation of Group Environmental Surcharge Billing Factors**

		<u>GROUP 1 (Total Revenue)</u>	<u>GROUP 2 (Net Revenue)</u>
(14)	Revenue as a Percentage of 12-month Total Revenue ending with the Current Month -- ES Form 3.00	= 43.35%	56.65%
(15)	Group E(m) [(13) x (14)]	= \$ (116,926)	\$ (152,799)
(16)	Group R(m) = Average Monthly Group Revenue for the 12 Months Ending with the Current Expense Month -- ES Form 3.00	= \$ 39,693,788	\$ 37,053,003
(17)	Group Environmental Surcharge Billing Factors [(15) ÷ (16)]	= <b>-0.29%</b>	<b>-0.41%</b>

**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**ENVIRONMENTAL SURCHARGE REPORT**

Revenue Requirements of Environmental Compliance Costs  
For the Expense Month of October 2018

**Determination of Environmental Compliance Rate Base**

	Environmental Compliance Plan	
Eligible Pollution Control Plant	\$ 1,180,978,599	
Eligible Pollution CWIP Excluding AFUDC	300,330,824	
Subtotal		\$ 1,481,309,423
Additions:		
Inventory - Emission Allowances per ES Form 2.31, 2.32, 2.33, and 2.34	142	
Cash Working Capital Allowance	892,458	
Net Unamortized Closure Cost Balance <sup>1</sup>	10,532,392	
Subtotal		11,424,992
Deductions:		
Accumulated Depreciation on Eligible Pollution Control Plant	85,956,816	
Pollution Control Deferred Income Taxes	261,795,964	
Subtotal		347,752,780
Environmental Compliance Rate Base		\$ 1,144,981,635

**Determination of Pollution Control Operating Expenses**

	Environmental Compliance Plan	
Monthly Operations & Maintenance Expense		\$ 713,806
Monthly Depreciation & Amortization Expense		2,391,001
less investment tax credit amortization		-
Monthly Taxes Other Than Income Taxes - Eligible Plant		139,263
Monthly Taxes Other Than Income Taxes - Closure Costs		-
Amortization of Monthly Closure Costs		57,467
Amortization of Excess ADIT with gross-up	\$ (4,407)	1,33245 (5,872)
Monthly Emission Allowance Expense from ES Form 2.31, 2.32, 2.33, and 2.34		-
Monthly Surcharge Consulting Fees		-
Construction Monitoring Consultant Fee		-
Total Pollution Control Operations Expense		\$ 3,295,665

**Determination of Beneficial Reuse Operating Expenses**

	Environmental Compliance Plan	
Total Monthly Beneficial Reuse Expense		\$ (104,890)
Adjustment for Beneficial Reuse in Base Rates (from ES Form 2.61)		-
Net Beneficial Reuse Operations Expense		\$ (104,890)

**Proceeds From By-Product and Allowance Sales**

	Total Proceeds	Amount in Base Rates	Net Proceeds
	(1)	(2)	(1) - (2)
Allowance Sales	\$ 0	\$ -	\$ 0
Scrubber By-Products Sales	-	-	-
Total Proceeds from Sales	\$ 0	\$ -	\$ 0

Note 1: The net unamortized closure cost balance is comprised of CCR closure cost expenditures less accumulated amortization, accumulated deferred income taxes and amount in base rates.



LOUISVILLE GAS AND ELECTRIC COMPANY  
ENVIRONMENTAL SURCHARGE REPORT  
Plant, CWIP & Depreciation Expense

For the Month Ended: October 31, 2018

(1) Description	(2) Eligible Plant In Service	(3) Eligible Accumulated Depreciation	(4) CWIP Amount Excluding AFUDC	(5) Eligible Net Plant In Service	(6) Deferred Tax Balance as of 10/31/2018	(7) Monthly ITC Amortization Credit	(8) Monthly Depreciation Expense	(9) Monthly Property Tax Expense
				(2)-(3)+(4)				
<b>2009 Plan:</b>								
Project 22 - Cane Run CCP Storage (Landfill - Phase I) [CANCELLED]								
Project 23 - Trimble County Ash Treatment Basin (BAP/GSP)	\$ 9,599,354	\$ 1,461,191	\$ -	\$ 8,138,163	\$ 1,018,726		\$ 10,336	\$ 1,030
Project 24 - Trimble County CCP Storage (Landfill - Phase 1)	\$ 13,399,111	\$ 592,914	\$ 110,425,557	\$ 123,231,754	\$ 2,253,467		\$ 28,310	\$ 1,675
Project 25 - Beneficial Reuse	\$ 7,413,755	\$ 739,673	\$ -	\$ 6,674,082	\$ 1,446,500		\$ 14,253	\$ 852
Subtotal	\$ 30,412,220	\$ 2,793,778	\$ 110,425,557	\$ 138,043,999	\$ 4,718,693	\$ -	\$ 52,899	\$ 3,557
Less Retirements and Replacement resulting from implementation of 2009 Plan	\$ (1,329,419)	\$ (372,436)	\$ -	\$ (956,982)	\$ (296,464)		\$ (3,135)	\$ (120)
Net Total - 2009 Plan:	\$ 29,082,801	\$ 2,421,341	\$ 110,425,557	\$ 137,087,017	\$ 4,422,229	\$ -	\$ 49,764	\$ 3,438
<b>2011 Plan:</b>								
Project 26 - Mill Creek Station Air Compliance	\$ 1,035,408,460	\$ 75,751,932	\$ 637,527	\$ 960,294,054	\$ 233,009,299		\$ 2,086,292	\$ 122,127
Project 27 - Trimble County Unit 1 Air Compliance	\$ 100,846,405	\$ 7,549,296	\$ 221,984	\$ 93,519,093	\$ 21,671,844		\$ 230,052	\$ 11,950
Subtotal	\$ 1,136,254,865	\$ 83,301,228	\$ 859,511	\$ 1,053,813,148	\$ 254,681,143	\$ -	\$ 2,316,344	\$ 134,076
Less Retirements and Replacement resulting from implementation of 2011 Plan	\$ (41,832)	\$ (811)	\$ -	\$ (41,021)	\$ (4,853)		\$ (61)	\$ (5)
Net Total - 2011 Plan:	\$ 1,136,213,033	\$ 83,300,417	\$ 859,511	\$ 1,053,772,126	\$ 254,676,290	\$ -	\$ 2,316,283	\$ 134,071
<b>2016 Plan:</b>								
Project 28 - Supplemental Mercury Control	\$ 4,506,424	\$ 119,118	\$ (14,344)	\$ 4,372,961	\$ 829,456		\$ 7,411	\$ 486
Project 29 - Mill Creek New Process Water Systems	\$ 11,113,070	\$ 256,797	\$ 155,574,817	\$ 166,431,091	\$ 1,841,532		\$ 16,677	\$ 1,242
Project 30 - Trimble County New Process Water Systems	\$ 379,213	\$ 18,130	\$ 33,485,284	\$ 33,846,367	\$ 66,857		\$ 866	\$ 46
Subtotal	\$ 15,998,706	\$ 394,044	\$ 189,045,756	\$ 204,650,419	\$ 2,737,846	\$ -	\$ 24,954	\$ 1,774
Less Retirements and Replacement resulting from implementation of 2016 Plan	\$ (315,942)	\$ (158,987)	\$ -	\$ (156,955)	\$ (40,400)		\$ -	\$ (20)
Net Total - 2016 Plan:	\$ 15,682,764	\$ 235,057	\$ 189,045,756	\$ 204,493,464	\$ 2,697,446	\$ -	\$ 24,954	\$ 1,754
Net Total - All Plans:	\$ 1,180,978,599	\$ 85,956,816	\$ 300,330,824	\$ 1,395,352,607	\$ 261,795,964	\$ -	\$ 2,391,001	\$ 139,263

Note 1: Trimble County projects for the 2009 Plan are proportionately shared by KU at 48% and LG&E at 52%.

Note 2: Effective with the September 2012 expense month, Project 22 is cancelled and the previous CWIP balance is included on ES Form 2.50 as an expense for the September 2012 expense month.

Note 3: The Deferred Tax Balance includes Excess Deferred Taxes resulting from the Tax Cuts and Jobs Act.

**LOUISVILLE GAS AND ELECTRIC COMPANY  
ENVIRONMENTAL SURCHARGE REPORT**

**Net Group E(m) and  
Group Environmental Surcharge Billing Factors  
For the Expense Month of November 2018**

**GROUP 1 (Total Revenue)**

Group 1 E(m) -- ES Form 1.10, line 15	=	\$ 476,073
Group 1 ES Billing Factor -- ES Form 1.10, line 17	=	1.20%

**GROUP 2 (Net Revenue)**

Group 2 E(m) -- ES Form 1.10, line 15	=	\$ 622,387
Group 2 ES Billing Factor -- ES Form 1.10, line 17	=	1.68%

Effective Date for Billing: January billing cycle beginning January 2, 2019

Submitted by: \_\_\_\_\_

Title: Manager, Revenue Requirement COS

Date Submitted: December 21, 2018

**LOUISVILLE GAS AND ELECTRIC COMPANY  
ENVIRONMENTAL SURCHARGE REPORT**

**Calculation of Total E(m) and  
Group Surcharge Billing Factors**

For the Expense Month of November 2018

**Calculation of Total E(m)**

$E(m) = [(RB / 12) (ROR + (ROR - DR)(TR / (1 - TR)))] + OE - BAS + BR$ , where  
 RB = Environmental Compliance Rate Base  
 ROR = Rate of Return on the Environmental Compliance Rate Base  
 DR = Debt Rate (both short-term and long-term debt)  
 TR = Composite Federal & State Income Tax Rate  
 OE = Pollution Control Operating Expenses  
 BAS = Total Proceeds from By-Product and Allowance Sales  
 BR = Beneficial Reuse Operating Expenses

		Environmental Compliance Plans
(1) RB	= \$	1,149,277,534
(2) RB / 12	= \$	95,773,128
(3) $(ROR + (ROR - DR) (TR / (1 - TR)))$	=	8.66%
(4) OE	= \$	3,224,762
(5) BAS	= \$	0
(6) BR	= \$	(48,950)
(7) E(m)	$(2) \times (3) + (4) - (5) + (6)$	= \$ 11,469,764

**Calculation of Adjusted Net Jurisdictional E(m)**

(8) Jurisdictional Allocation Ratio for Expense Month -- ES Form 3.10	=	96.82%
(9) Jurisdictional E(m) = Total E(m) x Jurisdictional Allocation Ratio [(7) x (8)]	= \$	11,105,026
(10) Adjustment for (Over)/Under-collection pursuant to Case No. 2018-0052	= \$	(579,324)
(11) Prior Period Adjustment (if necessary)	= \$	-
(12) Revenue Collected through Base Rates	= \$	9,427,242
(13) Adjusted Net Jurisdictional E(m) [(9) + (10) + (11) - (12)]	= \$	1,098,460

**Calculation of Group Environmental Surcharge Billing Factors**

		<u>GROUP 1 (Total Revenue)</u>	<u>GROUP 2 (Net Revenue)</u>
(14) Revenue as a Percentage of 12-month Total Revenue ending with the Current Month -- ES Form 3.00	=	43.34%	56.66%
(15) Group E(m) [(13) x (14)]	= \$	476,073	\$ 622,387
(16) Group R(m) = Average Monthly Group Revenue for the 12 Months Ending with the Current Expense Month -- ES Form 3.00	= \$	39,719,418	\$ 37,088,952
(17) Group Environmental Surcharge Billing Factors [(15) ÷ (16)]	=	<b>1.20%</b>	<b>1.68%</b>

**LOUISVILLE GAS AND ELECTRIC COMPANY  
ENVIRONMENTAL SURCHARGE REPORT**

Revenue Requirements of Environmental Compliance Costs  
For the Expense Month of November 2018

**Determination of Environmental Compliance Rate Base**

	Environmental Compliance Plan	
Eligible Pollution Control Plant	\$ 1,180,978,599	
Eligible Pollution CWIP Excluding AFUDC	307,888,949	
Subtotal		\$ 1,488,867,548
Additions:		
Inventory - Emission Allowances per ES Form 2.31, 2.32, 2.33, and 2.34	141	
Cash Working Capital Allowance	812,205	
Net Unamortized Closure Cost Balance <sup>1</sup>	11,236,025	
Subtotal		12,048,371
Deductions:		
Accumulated Depreciation on Eligible Pollution Control Plant	88,350,952	
Pollution Control Deferred Income Taxes	263,287,433	
Subtotal		351,638,385
Environmental Compliance Rate Base		\$ 1,149,277,534

**Determination of Pollution Control Operating Expenses**

	Environmental Compliance Plan	
Monthly Operations & Maintenance Expense		\$ 639,253
Monthly Depreciation & Amortization Expense		2,391,001
less investment tax credit amortization		-
Monthly Taxes Other Than Income Taxes - Eligible Plant		139,263
Monthly Taxes Other Than Income Taxes - Closure Costs		-
Amortization of Monthly Closure Costs		61,117
Amortization of Excess ADIT with gross-up	\$ (4,407)	1,33245 (5,872)
Monthly Emission Allowance Expense from ES Form 2.31, 2.32, 2.33, and 2.34		-
Monthly Surcharge Consulting Fees		-
Construction Monitoring Consultant Fee		-
Total Pollution Control Operations Expense		\$ 3,224,762

**Determination of Beneficial Reuse Operating Expenses**

	Environmental Compliance Plan	
Total Monthly Beneficial Reuse Expense		\$ (48,950)
Adjustment for Beneficial Reuse in Base Rates (from ES Form 2.61)		-
Net Beneficial Reuse Operations Expense		\$ (48,950)

**Proceeds From By-Product and Allowance Sales**

	Total Proceeds	Amount in Base Rates	Net Proceeds
	(1)	(2)	(1) - (2)
Allowance Sales	\$ 0	\$ -	\$ 0
Scrubber By-Products Sales	-	-	-
Total Proceeds from Sales	\$ 0	\$ -	\$ 0

Note 1: The net unamortized closure cost balance is comprised of CCR closure cost expenditures less accumulated amortization, accumulated deferred income taxes and amount in base rates.

LOUISVILLE GAS AND ELECTRIC COMPANY  
ENVIRONMENTAL SURCHARGE REPORT  
Plant, CWIP & Depreciation Expense

For the Month Ended: November 30, 2018

(1) Description	(2) Eligible Plant In Service	(3) Eligible Accumulated Depreciation	(4) CWIP Amount Excluding AFUDC	(5) Eligible Net Plant In Service	(6) Deferred Tax Balance as of 11/30/2018	(7) Monthly ITC Amortization Credit	(8) Monthly Depreciation Expense	(9) Monthly Property Tax Expense
				(2)-(3)+(4)				
<b>2009 Plan:</b>								
Project 22 - Cane Run CCP Storage (Landfill - Phase I) [CANCELLED]								
Project 23 - Trimble County Ash Treatment Basin (BAP/GSP)	\$ 9,599,354	\$ 1,471,526	\$ -	\$ 8,127,828	\$ 1,025,176		\$ 10,336	\$ 1,030
Project 24 - Trimble County CCP Storage (Landfill - Phase 1)	\$ 13,399,111	\$ 621,224	\$ 112,158,254	\$ 124,936,141	\$ 2,256,456		\$ 28,310	\$ 1,675
Project 25 - Beneficial Reuse	\$ 7,413,755	\$ 753,926	\$ -	\$ 6,659,829	\$ 1,448,097		\$ 14,253	\$ 852
Subtotal	\$ 30,412,220	\$ 2,846,676	\$ 112,158,254	\$ 139,723,798	\$ 4,729,729	\$ -	\$ 52,899	\$ 3,557
Less Retirements and Replacement resulting from implementation of 2009 Plan	\$ (1,329,419)	\$ (372,436)	\$ -	\$ (956,982)	\$ (296,464)		\$ (3,135)	\$ (120)
Net Total - 2009 Plan:	\$ 29,082,801	\$ 2,474,240	\$ 112,158,254	\$ 138,766,815	\$ 4,433,265	\$ -	\$ 49,764	\$ 3,438
<b>2011 Plan:</b>								
Project 26 - Mill Creek Station Air Compliance	\$ 1,035,408,460	\$ 77,838,224	\$ 664,376	\$ 958,234,611	\$ 234,331,096		\$ 2,086,292	\$ 122,127
Project 27 - Trimble County Unit 1 Air Compliance	\$ 100,846,405	\$ 7,779,348	\$ 368,165	\$ 93,435,222	\$ 21,748,643		\$ 230,052	\$ 11,950
Subtotal	\$ 1,136,254,865	\$ 85,617,572	\$ 1,032,541	\$ 1,051,669,834	\$ 256,079,740	\$ -	\$ 2,316,344	\$ 134,076
Less Retirements and Replacement resulting from implementation of 2011 Plan	\$ (41,832)	\$ (871)	\$ -	\$ (40,961)	\$ (4,838)		\$ (61)	\$ (5)
Net Total - 2011 Plan:	\$ 1,136,213,033	\$ 85,616,700	\$ 1,032,541	\$ 1,051,628,873	\$ 256,074,902	\$ -	\$ 2,316,283	\$ 134,071
<b>2016 Plan:</b>								
Project 28 - Supplemental Mercury Control	\$ 4,506,424	\$ 126,530	\$ (467)	\$ 4,379,427	\$ 838,190		\$ 7,411	\$ 486
Project 29 - Mill Creek New Process Water Systems	\$ 11,113,070	\$ 273,474	\$ 160,388,591	\$ 171,228,187	\$ 1,914,506		\$ 16,677	\$ 1,242
Project 30 - Trimble County New Process Water Systems	\$ 379,213	\$ 18,995	\$ 34,310,030	\$ 34,670,248	\$ 66,971		\$ 866	\$ 46
Subtotal	\$ 15,998,706	\$ 418,999	\$ 194,698,154	\$ 210,277,862	\$ 2,819,667	\$ -	\$ 24,954	\$ 1,774
Less Retirements and Replacement resulting from implementation of 2016 Plan	\$ (315,942)	\$ (158,987)	\$ -	\$ (156,955)	\$ (40,400)		\$ -	\$ (20)
Net Total - 2016 Plan:	\$ 15,682,764	\$ 260,012	\$ 194,698,154	\$ 210,120,907	\$ 2,779,267	\$ -	\$ 24,954	\$ 1,754
Net Total - All Plans:	\$ 1,180,978,599	\$ 88,350,952	\$ 307,888,949	\$ 1,400,516,595	\$ 263,287,433	\$ -	\$ 2,391,001	\$ 139,263

Note 1: Trimble County projects for the 2009 Plan are proportionately shared by KU at 48% and LG&E at 52%.

Note 2: Effective with the September 2012 expense month, Project 22 is cancelled and the previous CWIP balance is included on ES Form 2.50 as an expense for the September 2012 expense month.

Note 3: The Deferred Tax Balance includes Excess Deferred Taxes resulting from the Tax Cuts and Jobs Act.

**LOUISVILLE GAS AND ELECTRIC COMPANY  
ENVIRONMENTAL SURCHARGE REPORT**

**Net Group E(m) and  
Group Environmental Surcharge Billing Factors  
For the Expense Month of December 2018**

**GROUP 1 (Total Revenue)**

Group 1 E(m) -- ES Form 1.10, line 15	=	\$ (178,933)
Group 1 ES Billing Factor -- ES Form 1.10, line 17	=	-0.45%

**GROUP 2 (Net Revenue)**

Group 2 E(m) -- ES Form 1.10, line 15	=	\$ (233,451)
Group 2 ES Billing Factor -- ES Form 1.10, line 17	=	-0.63%

Effective Date for Billing: February billing cycle beginning January 31, 2019

Submitted by: \_\_\_\_\_

Title: Manager, Revenue Requirement COS

Date Submitted: January 18, 2019

**LOUISVILLE GAS AND ELECTRIC COMPANY  
ENVIRONMENTAL SURCHARGE REPORT**

**Calculation of Total E(m) and  
Group Surcharge Billing Factors**

For the Expense Month of December 2018

**Calculation of Total E(m)**

E(m) = [(RB / 12) (ROR+(ROR -DR)(TR/(1-TR)))] + OE - BAS + BR, where

RB = Environmental Compliance Rate Base  
ROR = Rate of Return on the Environmental Compliance Rate Base  
DR = Debt Rate (both short-term and long-term debt)  
TR = Composite Federal & State Income Tax Rate  
OE = Pollution Control Operating Expenses  
BAS = Total Proceeds from By-Product and Allowance Sales  
BR = Beneficial Reuse Operating Expenses

		Environmental Compliance Plans
(1) RB	=	\$ 1,156,291,859
(2) RB / 12	=	\$ 96,357,655
(3) (ROR + (ROR - DR) (TR / (1 - TR)))	=	8.66%
(4) OE	=	\$ 3,156,574
(5) BAS	=	\$ 0
(6) BR	=	\$ (382,078)
(7) E(m)	(2) x (3) + (4) - (5) + (6)	= \$ 11,119,069

**Calculation of Adjusted Net Jurisdictional E(m)**

(8) Jurisdictional Allocation Ratio for Expense Month -- ES Form 3.10	=	91.91%
(9) Jurisdictional E(m) = Total E(m) x Jurisdictional Allocation Ratio [(7) x (8)]	=	\$ 10,219,536
(10) Adjustment for (Over)/Under-collection pursuant to Case No. 2018-0052	=	\$ (579,325)
(11) Prior Period Adjustment (if necessary)	=	\$ -
(12) Revenue Collected through Base Rates	=	\$ 10,052,595
(13) Adjusted Net Jurisdictional E(m) [(9) + (10) + (11) - (12)]	=	\$ (412,384)

**Calculation of Group Environmental Surcharge Billing Factors**

		<u>GROUP 1 (Total Revenue)</u>	<u>GROUP 2 (Net Revenue)</u>
(14) Revenue as a Percentage of 12-month Total Revenue ending with the Current Month -- ES Form 3.00	=	43.39%	56.61%
(15) Group E(m) [(13) x (14)]	=	\$ (178,933)	\$ (233,451)
(16) Group R(m) = Average Monthly Group Revenue for the 12 Months Ending with the Current Expense Month -- ES Form 3.00	=	\$ 39,788,944	\$ 37,077,958
(17) Group Environmental Surcharge Billing Factors [(15) ÷ (16)]	=	-0.45%	-0.63%

**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**ENVIRONMENTAL SURCHARGE REPORT**

Revenue Requirements of Environmental Compliance Costs  
For the Expense Month of December 2018

**Determination of Environmental Compliance Rate Base**

	Environmental Compliance Plan	
Eligible Pollution Control Plant	\$ 1,182,524,245	
Eligible Pollution CWIP Excluding AFUDC	317,229,948	
Subtotal		\$ 1,499,754,193
Additions:		
Inventory - Emission Allowances per ES Form 2.31, 2.32, 2.33, and 2.34	141	
Cash Working Capital Allowance	725,138	
Net Unamortized Closure Cost Balance <sup>1</sup>	11,336,858	
Subtotal		12,062,137
Deductions:		
Accumulated Depreciation on Eligible Pollution Control Plant	90,742,493	
Pollution Control Deferred Income Taxes	264,781,978	
Subtotal		355,524,471
Environmental Compliance Rate Base		\$ 1,156,291,859

**Determination of Pollution Control Operating Expenses**

	Environmental Compliance Plan	
Monthly Operations & Maintenance Expense		\$ 572,958
Monthly Depreciation & Amortization Expense		2,388,406
less investment tax credit amortization		-
Monthly Taxes Other Than Income Taxes - Eligible Plant		139,263
Monthly Taxes Other Than Income Taxes - Closure Costs		-
Amortization of Monthly Closure Costs		61,819
Amortization of Excess ADIT with gross-up	\$ (4,407)	1,33245 (5,872)
Monthly Emission Allowance Expense from ES Form 2.31, 2.32, 2.33, and 2.34		-
Monthly Surcharge Consulting Fees		-
Construction Monitoring Consultant Fee		-
Total Pollution Control Operations Expense		\$ 3,156,574

**Determination of Beneficial Reuse Operating Expenses**

	Environmental Compliance Plan	
Total Monthly Beneficial Reuse Expense		\$ (382,078)
Adjustment for Beneficial Reuse in Base Rates (from ES Form 2.61)		-
Net Beneficial Reuse Operations Expense		\$ (382,078)

**Proceeds From By-Product and Allowance Sales**

	Total Proceeds	Amount in Base Rates	Net Proceeds
	(1)	(2)	(1) - (2)
Allowance Sales	\$ 0	\$ -	\$ 0
Scrubber By-Products Sales	-	-	-
Total Proceeds from Sales	\$ 0	\$ -	\$ 0

Note 1: The net unamortized closure cost balance is comprised of CCR closure cost expenditures less accumulated amortization, accumulated deferred income taxes and amount in base rates.



**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**ENVIRONMENTAL SURCHARGE REPORT**  
Plant, CWIP & Depreciation Expense

For the Month Ended: December 31, 2018

(1) Description	(2) Eligible Plant In Service	(3) Eligible Accumulated Depreciation	(4) CWIP Amount Excluding AFUDC	(5) Eligible Net Plant In Service	(6) Deferred Tax Balance as of 12/31/2018	(7) Monthly ITC Amortization Credit	(8) Monthly Depreciation Expense	(9) Monthly Property Tax Expense
				(2)-(3)+(4)				
<b>2009 Plan:</b>								
Project 22 - Cane Run CCP Storage (Landfill - Phase I) [CANCELLED]								
Project 23 - Trimble County Ash Treatment Basin (BAP/GSP)	\$ 9,599,354	\$ 1,481,862	\$ -	\$ 8,117,492	\$ 1,031,627		\$ 10,336	\$ 1,030
Project 24 - Trimble County CCP Storage (Landfill - Phase 1)	\$ 13,684,241	\$ 649,762	\$ 114,597,936	\$ 127,632,414	\$ 2,261,256		\$ 28,538	\$ 1,675
Project 25 - Beneficial Reuse	\$ 7,413,755	\$ 768,179	\$ -	\$ 6,645,576	\$ 1,449,694		\$ 14,253	\$ 852
Subtotal	\$ 30,697,350	\$ 2,899,803	\$ 114,597,936	\$ 142,395,482	\$ 4,742,576	\$ -	\$ 53,127	\$ 3,557
Less Retirements and Replacement resulting from implementation of 2009 Plan	\$ (1,329,419)	\$ (372,436)	\$ -	\$ (956,982)	\$ (296,464)		\$ (3,135)	\$ (120)
Net Total - 2009 Plan:	\$ 29,367,931	\$ 2,527,367	\$ 114,597,936	\$ 141,438,500	\$ 4,446,112	\$ -	\$ 49,992	\$ 3,438
<b>2011 Plan:</b>								
Project 26 - Mill Creek Station Air Compliance	\$ 1,035,408,460	\$ 79,924,516	\$ 702,664	\$ 956,186,608	\$ 235,652,894		\$ 2,086,292	\$ 122,127
Project 27 - Trimble County Unit 1 Air Compliance	\$ 100,846,405	\$ 8,009,400	\$ 368,165	\$ 93,205,171	\$ 21,825,442		\$ 230,052	\$ 11,950
Subtotal	\$ 1,136,254,865	\$ 87,933,916	\$ 1,070,829	\$ 1,049,391,778	\$ 257,478,336	\$ -	\$ 2,316,344	\$ 134,076
Less Retirements and Replacement resulting from implementation of 2011 Plan	\$ (41,832)	\$ (932)	\$ -	\$ (40,900)	\$ (4,823)		\$ (61)	\$ (5)
Net Total - 2011 Plan:	\$ 1,136,213,033	\$ 87,932,984	\$ 1,070,829	\$ 1,049,350,878	\$ 257,473,514	\$ -	\$ 2,316,283	\$ 134,071
<b>2016 Plan:</b>								
Project 28 - Supplemental Mercury Control	\$ 4,512,896	\$ 131,118	\$ (6,939)	\$ 4,374,839	\$ 848,188		\$ 4,588	\$ 486
Project 29 - Mill Creek New Process Water Systems	\$ 12,367,114	\$ 290,151	\$ 166,218,675	\$ 178,295,638	\$ 1,987,480		\$ 16,677	\$ 1,242
Project 30 - Trimble County New Process Water Systems	\$ 379,213	\$ 19,861	\$ 35,349,448	\$ 35,708,799	\$ 67,085		\$ 866	\$ 46
Subtotal	\$ 17,259,223	\$ 441,130	\$ 201,561,183	\$ 218,379,276	\$ 2,902,753	\$ -	\$ 22,131	\$ 1,774
Less Retirements and Replacement resulting from implementation of 2016 Plan	\$ (315,942)	\$ (158,987)	\$ -	\$ (156,955)	\$ (40,400)		\$ -	\$ (20)
Net Total - 2016 Plan:	\$ 16,943,281	\$ 282,143	\$ 201,561,183	\$ 218,222,321	\$ 2,862,352	\$ -	\$ 22,131	\$ 1,754
Net Total - All Plans:	\$ 1,182,524,245	\$ 90,742,493	\$ 317,229,948	\$ 1,409,011,700	\$ 264,781,978	\$ -	\$ 2,388,406	\$ 139,263

Note 1: Trimble County projects for the 2009 Plan are proportionately shared by KU at 48% and LG&E at 52%.

Note 2: Effective with the September 2012 expense month, Project 22 is cancelled and the previous CWIP balance is included on ES Form 2.50 as an expense for the September 2012 expense month.

Note 3: The Deferred Tax Balance includes Excess Deferred Taxes resulting from the Tax Cuts and Jobs Act.