

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

**AN EXAMINATION BY THE PUBLIC SERVICE)
COMMISSION OF THE ENVIRONMENTAL)
SURCHARGE MECHANISM OF LOUISVILLE GAS) CASE NO.
AND ELECTRIC COMPANY FOR THE SIX-MONTH) 2016-00438
BILLING PERIOD ENDING OCTOBER 31, 2016)**


**RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION TO
APPENDIX B OF COMMISSION'S ORDER
DATED JANUARY 4, 2017**

FILED: JANUARY 24, 2017

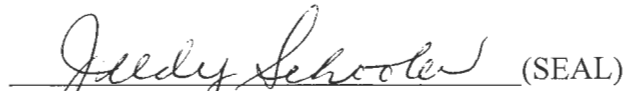
VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Derek A. Rahn**, being duly sworn, deposes and says that he is Manager - Revenue Requirement 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.


Derek A. Rahn

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 24th day of January 2017.

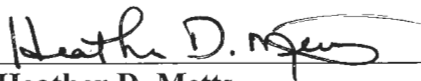

Notary Public (SEAL)

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, **Heather D. Metts**, being duly sworn, deposes and says that she is Director – Regulatory Accounting & Reporting for LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge and belief.


Heather D. Metts

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 24th day of January 2017.

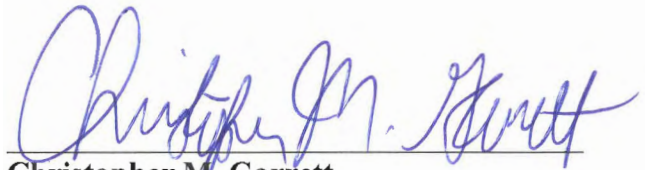
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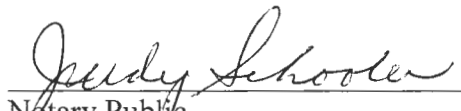
VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Christopher M. Garrett**, being duly sworn, deposes and says that he is Director – Rates 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.


Christopher M. Garrett

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 24th day of January 2017.

 (SEAL)
Notary Public

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

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
To Appendix B of Commission's Order Dated January 4, 2017**

Case No. 2016-00438

Question No. 1

Witness: Derek A. Rahn / Heather D. Metts

- Q-1. Concerning the rate of return on the 2009, 2011, and 2016 amendments to the environmental compliance plan, for the period under review, calculate any true-up adjustment needed to recognize changes in LG&E's cost of debt, preferred stock, accounts receivable financing (if applicable), or changes in LG&E's jurisdictional capital structure as of October 31, 2016. Include all assumptions and other supporting documentation used to make this calculation. Any true-up adjustment is to be included in the determination of the over- or under-recovery of the surcharge for the corresponding billing period under review. Provide all exhibits and schedules of your response in Excel spreadsheet format, with formulas intact and unprotected and all rows and columns accessible.
- A-1. The question requests capital structure as of October 31, 2016. To be consistent with most recent review cases and the period under review, the response uses a capital structure as of August 31, 2016 (last expense month in the 6-month review period).

See the attachment provided in Excel format.

LG&E calculated the true-up adjustment to recognize changes in the cost of debt and capital structure in two steps, shown on Pages 1 and 2 of the attachment to this response. Page 1 reflects the true-up required due to the changes between the Rate Base as filed and the Rate Base as Revised through the Monthly Filings. During the period under review, a revision was made to reflect the issue on ES Form 2.61 in the June 2016 expense month filing and described further in response to Question No. 7. Also, a revision was made in the August 2016 expense month to allocate O&M expenses between the pre-2016 Plans and the 2016 Plan. Resulting rate base changes are identified in column (6) on page 1. Page 2 represents the true-up in the Rate of Return as filed compared to the actual Rate of Return calculations, which impacted the true-up adjustment for the period under review in this case. No further revisions to Rate Base were identified in preparation of this response.

Page 3 provides the adjusted weighted average cost of capital for the expense period ending August 31, 2016 to true-up the months in the review period utilizing the return on equity of 10.00% as agreed to for all pre-2016 ECR Plans and approved by the Commission in its October 24, 2016 Order in Case No. 2016-00215. LG&E calculated the short- and long-

term debt rates using average daily balances and daily interest rates pursuant to the Commission's Order in Case No. 2011-00161.

Page 4 provides the adjusted weighted average cost of capital for the expense period ending August 31, 2016 to true-up the months in the review period utilizing the return on equity of 9.80% as agreed to for the 2016 ECR Plan and approved by the Commission in its August 8, 2016 Order in Case No. 2016-00027. LG&E calculated the short- and long-term debt rates using average daily balances and daily interest rates pursuant to the Commission's Order in Case No. 2011-00161.

Page 5 provides detail for short- and long-term debt for the expense period ending August 31, 2016.

Attachment in Excel

The attachment(s)
provided in separate
file(s) in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
To Appendix B of Commission's Order Dated January 4, 2017**

Case No. 2016-00438

Question No. 2

Witness: Derek A. Rahn

- Q-2. Prepare a summary schedule showing the calculation of Total E(m), Net Retail E(m), and the surcharge factor for the expense months covered by the applicable billing period. Include the expense months for the two expense months subsequent to the billing period in order to show the over- and under-recovery adjustments for the months included for the billing period under review. The summary schedule is to incorporate all corrections and revisions to the monthly surcharge filings LG&E has submitted during the billing period under review. Include all supporting calculations and documentation for any such additional over- or under-recovery. Provide all exhibits and schedules of your response in Excel spreadsheet format, with formulas intact and unprotected and all rows and columns accessible.
- A-2. See the attachment provided in Excel format. For the period under review, LG&E experienced a net over-recovery of \$1,697,822.

Attachment in Excel

The attachment(s)
provided in separate
file(s) in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
To Appendix B of Commission's Order Dated January 4, 2017**

Case No. 2016-00438

Question No. 3

Witness: Christopher M. Garrett

- Q-3. Provide the calculations, assumptions, work papers, and other supporting documents used to determine the amounts LG&E has reported during each billing period under review for Pollution Control Deferred Income Taxes. Provide all exhibits and schedules of your response in Excel spreadsheet format, with formulas intact and unprotected and all rows and columns accessible.
- A-3. LG&E calculates Deferred Income Taxes as the taxable portion of the difference between book depreciation, using straight line depreciation, and tax depreciation, generally using 20 year MACRS accelerated depreciation, bonus depreciation, or 5 or 7 year rapid amortization. Accelerated depreciation results in a temporary tax savings to the Company and the Accumulated Deferred Tax balance reflects the value of those temporary savings as a reduction to environmental rate base.

See the attachment for the calculation of Deferred Income Taxes and the balance of Accumulated Deferred Income Taxes reported each month of the review period.

Attachment in Excel

The attachment(s)
provided in separate
file(s) in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
To Appendix B of Commission's Order Dated January 4, 2017**

Case No. 2016-00438

Question No. 4

Witness: Heather D. Metts

- Q-4. Refer to ES Form 2.50, Pollution Control - Operations & Maintenance Expenses, for the expense months covered by the applicable billing period. For each expense account number listed on this schedule, explain the reason (s) for any change in the expense levels from month to month if that change is greater than plus or minus 10 percent.
- A-4. Attached is a schedule showing the changes in the operations and maintenance expense accounts for March 2016 through August 2016 expense months. The changes in the expense levels are reasonable and generally occurred as a part of routine plant operations and maintenance.

2011 Plan

Fluctuations in scrubber maintenance expenses, account 512055, were the result of normal system maintenance of the scrubbers at all Mill Creek Units 1, 2, 3 and 4 (MC1, MC2, MC3 and MC4). The increase in April 2016 was due to corrective maintenance performed to repair a clearwell pump, underflow tank agitator gearbox and a hydrocyclone feed pump. The increase in August 2016 was due to corrective maintenance to rebuild mechanical seals on the reaction tank agitator.

Fluctuations in sorbent injection operations expenses, account 506159, were the result of on-going operation of Trimble County Unit 1 (TC1).

Fluctuations in sorbent injection reactant (hydrated lime) expenses, account 506152, were the result of on-going operation of TC1 and the operation of the hydrated lime system at Mill Creek. The variances are driven by the purchase and delivery timing of the raw consumable material as well as variations in generation and coal quality. MC3 was offline for 10 weeks beginning in April 2016, returning to service in June 2016 and MC2 had increased generation beginning in July 2016. TC1 received increased tons of hydrated lime in July 2016.

Fluctuations in sorbent injection maintenance expenses, account 512152, were the result of normal system maintenance. The higher expenses in March 2016 were the result of

lanceless hydrated lime injection testing and drop-through feeder replacement on TC1 and leak repair and hose replacement on MC1 and MC2.

Fluctuations in baghouse maintenance expense, account 512156, were the result of normal system maintenance on baghouses for MC1, MC2, MC3 and MC4. The increase in March 2016 is due to induced draft (ID) fan inspection on MC1 and MC2.

Fluctuations in activated carbon expenses, account 506151, were driven by the purchase and delivery timing of the raw consumable material as well as variations in generation and coal quality. MC3 was offline for 10 weeks beginning April 2016. Mill Creek began using a different mercury mitigation product “Mercontrol” in August 2016. Mercontrol is a liquid injection material that is booked to account 506153 (2016 Plan).

2016 Plan

Mercury mitigation expenses, account 506153, are the result of initially filling the tank at Mill Creek in August. In order to meet compliance standards, use of Mercontrol was effective August 2016.

Attachment in Excel

The attachment(s)
provided in separate
file(s) in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
To Appendix B of Commission's Order Dated January 4, 2017**

Case No. 2016-00438

Question No. 5

Witness: Heather D. Metts

Q-5. In Case No. 2000-00386,¹ the Commission ordered that LG&E's cost of debt and preferred stock would be reviewed and re-established during the six-month review case. Provide the following information as of October 31, 2016:

- a. The outstanding balances for long-term debt, short-term debt, preferred stock, and common equity. Provide this information on total company and Kentucky jurisdictional bases.
- b. The blended interest rates for long-term debt, short-term debt, and preferred stock. Include all supporting calculations showing how these blended interest rates were determined. If applicable, provide the blended interest rates on total company and Kentucky jurisdictional bases. For each outstanding debt listed, indicate whether the interest rate is fixed or variable.
- c. LG&E's calculation of its weighted average cost of capital for environmental surcharge purposes.
- d. Provide all supporting exhibits and schedules in Excel spreadsheet format, with formulas intact and unprotected and all rows and columns accessible.

A-5. The question requests information as of October 31, 2016. To be consistent with most recent review cases and the period under review, the response uses information as of August 31, 2016 (last expense month in the 6-month review period).

Please see the attachments being provided in Excel format for the period ended August 31, 2016 under review. There was no preferred stock outstanding as of August 31, 2016; therefore, it is not listed in the attached schedules.

¹ Case No. 2000-00386, Louisville Gas and Electric Company (Ky. PSC Apr. 18, 2001).

For the period ended August 31, 2016, LG&E proposes utilizing a return on equity of 10.00% as agreed to for all pre-2016 ECR Plan projects and approved by the Commission in its October 24, 2016 Order in Case No. 2016-00215.

For the period ended August 31, 2016, LG&E proposes utilizing a return on equity of 9.80% as agreed to for all 2016 ECR Plan projects and approved by the Commission in its August 8, 2016 Order in Case No. 2016-00027.

LG&E recommends the continued use of an effective tax rate of 38.6660% in the gross-up revenue factor used in the rate of return calculation for the period ended August 31, 2016. LG&E will incur a tax loss in 2016 as a result of bonus depreciation and will be unable to take the Internal Revenue Code §199 manufacturing tax deduction.

Attachment in Excel

The attachment(s)
provided in separate
file(s) in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
To Appendix B of Commission's Order Dated January 4, 2017**

Case No. 2016-00438

Question No. 6

Witness: Derek A. Rahn

Q-6. Provide the actual average residential customer's usage. Based on this usage amount, provide the dollar impact the over/under recovery will have on the average residential customer's bill for the requested recovery period. Provide all supporting calculations and documentation in Excel spreadsheet format, with formulas intact and unprotected and all rows and columns accessible.

A-6. See the attachment provided in Excel format.

The actual average residential customer's usage for the 12-months ending November 30, 2016 is 974 kWh per month. Actual average monthly usage for residential customers will vary monthly depending on the time of year.

Based on distributing the over-recovered position of \$1,697,822 over two months (\$848,911 per month), the ECR billing factor will be lower by approximately 1.02% per month for two months. For a residential customer using 974 kWh per month, the impact of the adjusted ECR billing factor would be a decrease of approximately \$0.98 per month for two months, using rates and adjustment clause factors in effect for the December 2016 billing month.

Attachment in Excel

The attachment(s)
provided in separate
file(s) in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
To Appendix B of Commission's Order Dated January 4, 2017**

Case No. 2016-00438

Question No. 7

Witness: Derek A. Rahn

- Q-7. Refer to LG&E's monthly environmental surcharge reports for expense months of May and June 2016, ES Form 2.6, lines 1 and 2. The amounts in the column labeled "Total" are the same for both months. Explain whether this is an error and provide any necessary corrections.
- A-7. In the June 2016 expense month on ES Form 2.61 lines 1 and 2, the values were not correct. The values have been corrected and forms impacted by the correction are attached with changes highlighted. Billing factors for the expense months of June 2016 through August 2016 were unchanged as a result of the correction.

June 2016 Expense Month

ES FORM 1.00

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

**Net Group E(m) and
Group Environmental Surcharge Billing Factors
For the Expense Month of June 2016**

GROUP 1 (Total Revenue)

Group 1 E(m) -- ES Form 1.10, line 15	=	\$ 1,673,455
Group 1 ES Billing Factor -- ES Form 1.10, line 17	=	4.94%

GROUP 2 (Net Revenue)

Group 2 E(m) -- ES Form 1.10, line 15	=	\$ 2,393,265
Group 2 ES Billing Factor -- ES Form 1.10, line 17	=	7.53%

Effective Date for Billing: August billing cycle beginning August 1, 2016

Submitted by: _____

Title: Manager - Revenue Requirement

Date Submitted: July 22, 2016

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

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

For the Expense Month of June 2016

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	=	\$	954,611,059
(2) RB / 12	=	\$	79,550,922
(3) (ROR + (ROR - DR) (TR / (1 - TR)))	=		10.10%
(4) OE	=	\$	2,752,373
(5) BAS	=	\$	-
(6) BR	=	\$	43,872
(7) E(m)	(2) x (3) + (4) - (5) + (6)	=	\$ 10,830,889

Calculation of Adjusted Net Jurisdictional E(m)

(8) Jurisdictional Allocation Ratio for Expense Month -- ES Form 3.10	=		98.24%
(9) Jurisdictional E(m) = Total E(m) x Jurisdictional Allocation Ratio [(7) x (8)]	=	\$	10,640,265
(10) Adjustment for (Over)/Under-collection pursuant to Case No. 2015-00412	=	\$	-
(11) Prior Period Adjustment (if necessary)	=	\$	-
(12) Revenue Collected through Base Rates	=	\$	6,573,545
(13) Adjusted Net Jurisdictional E(m) [(9) + (10) + (11) - (12)]	=	\$	4,066,720

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	=	41.15%	58.85%
(15) Group E(m) [(13) x (14)]	=	\$ 1,673,455	\$ 2,393,265
(16) Group R(m) = Average Monthly Group Revenue for the 12 Months Ending with the Current Expense Month -- ES Form 3.00	=	\$ 33,872,949	\$ 31,784,479
(17) Group Environmental Surcharge Billing Factors [(15) ÷ (16)]	=	4.94%	7.53%

LOUISVILLE GAS AND ELECTRIC COMPANY ENVIRONMENTAL SURCHARGE REPORT

Revenue Requirements of Environmental Compliance Costs
For the Expense Month of June 2016

Determination of Environmental Compliance Rate Base

	Environmental Compliance Plan	
Eligible Pollution Control Plant	\$ 1,109,890,053	
Eligible Pollution CWIP Excluding AFUDC	32,781,585	
Subtotal		\$ 1,142,671,638
Additions:		
Inventory - Emission Allowances per ES Form 2.31, 2.32 and 2.33	149	
Cash Working Capital Allowance	809,587	
Subtotal		809,736
Deductions:		
Accumulated Depreciation on Eligible Pollution Control Plant	20,489,187	
Pollution Control Deferred Income Taxes	168,381,128	
Subtotal		188,870,315
Environmental Compliance Rate Base		\$ 954,611,059

Determination of Pollution Control Operating Expenses

	Environmental Compliance Plan
Monthly Operations & Maintenance Expense	\$ 848,359
Monthly Depreciation & Amortization Expense	1,781,027
less investment tax credit amortization	-
Monthly Taxes Other Than Income Taxes	122,987
Monthly Emission Allowance Expense from ES Form 2.31, 2.32 and 2.33	0
Monthly Surcharge Consulting Fees	-
Construction Monitoring Consultant Fee	-
Total Pollution Control Operations Expense	\$ 2,752,373

Determination of Beneficial Reuse Operating Expenses

	Environmental Compliance Plan
Total Monthly Beneficial Reuse Expense	\$ 44,565
Adjustment for Beneficial Reuse in Base Rates (from ES Form 2.61)	(693)
Net Beneficial Reuse Operations Expense	\$ 43,872

Proceeds From By-Product and Allowance Sales

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

ES FORM 2.40

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
O&M Expenses and Determination of Cash Working Capital Allowance

For the Month Ended: June 30, 2016

Environmental Compliance Plan	
O&M Expenses	Amount
11th Previous Month	\$ 394,440
10th Previous Month	422,250
9th Previous Month	480,862
8th Previous Month	380,681
7th Previous Month	336,937
6th Previous Month	391,185
5th Previous Month	425,498
4th Previous Month	953,423
3rd Previous Month	755,621
2nd Previous Month	469,704
Previous Month	573,860
Current Month	892,231
Total 12 Month O&M	\$ 6,476,692

Determination of Working Capital Allowance	
12 Months O&M Expenses	\$ 6,476,692
One Eighth (1/8) of 12 Month O&M Expenses	1/8
Pollution Control Cash Working Capital Allowance	\$ 809,587

ES FORM 2.60

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

**Beneficial Reuse - Operations & Maintenance Expenses
For the Month Ended: June 30, 2016**

Third Party	O&M Expense Account	Plant	Total O&M
C and B Marine	501253 - ECR Fly Ash Disposal	Trimble County	\$ 13,538
Legner Energy Group	501253 - ECR Fly Ash Disposal	Trimble County	\$ -
Charah	502011 - ECR Other Waste Disposal	Mill Creek	\$ 9,962
Kosmos Cement Co	502011 - ECR Other Waste Disposal	Mill Creek	\$ -
Synmat	502011 - ECR Other Waste Disposal	Trimble County	\$ 11,051
Facilities Performance Grp	501253 - ECR Fly Ash Disposal	Trimble County	\$ 10,013
Total Monthly Beneficial Reuse Expense			\$ 44,565
Adjustment for Beneficial Reuse in Base Rates (from ES Form 2.61)			\$ (693)
Net Beneficial Reuse O&M Expense			\$ 43,872

ES FORM 2.61

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

**Beneficial Reuse Opportunities
For the Month Ended: June 30, 2016**

On-Site CCP Disposal O&M Expense		Mill Creek	Trimble County	Total
Existing Beneficial Reuse Opportunities (Pre 2009 Plan Project)				
(1)	12 Months Ending with Expense Month	\$ 141,735	\$ (8,317)	\$ 133,418
(2)	Monthly Amount [(1) / 12]	\$ 11,811	\$ (693)	\$ 11,118
2009 Plan Project 25				
(3)	Monthly Amount (Expense/Revenue)	\$ 9,962	\$ 34,603	\$ 44,565
Total Beneficial Reuse - Generating Station				
(4)	Monthly Expense [(2) + (3)]	\$ 21,773	\$ 33,910	\$ 55,683
Beneficial Reuse in Base Rates				
(5)	Annual Expense Amount (12 Mo Ending with Last Test Year)	\$ -	\$ -	\$ -
(6)	Monthly Expense Amount [(5) / 12]	\$ -	\$ -	\$ -
(7)	Total Generating Station Less Base Rates [(4) - (6)]	\$ 21,773	\$ 33,910	\$ 55,683
(8)	Less 2009 Plan Project 25 [(7) - (3)]	\$ 11,811	\$ (693)	\$ 11,118
If Line (8) Greater than Zero, No Adjustment				
If Line (8) Less than Zero, Adjustment for Base Rates				
Adjustment for Base Rate Amount (to ES Form 2.60)		\$ -	\$ (693)	\$ (693)

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

July 2016 Expense Month

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

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

For the Expense Month of July 2016

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

		Pre-2016 Environmental Compliance Plans	2016 Environmental Compliance Plans
(1) RB	=	\$ 953,595,902	\$ 4,002,510
(2) RB / 12	=	\$ 79,466,325	\$ 333,543
(3) $(ROR + (ROR - DR) (TR / (1 - TR)))$	=	10.10%	9.92%
(4) OE	=	\$ 2,995,295	\$ 8,226
(5) BAS	=	\$ 0	Not Applicable
(6) BR	=	\$ 49,416	Not Applicable
(7) E(m)	$(2) \times (3) + (4) - (5) + (6)$	\$ 11,070,810	\$ 41,314
(8) Total E(m) = sum of Pre-2016 E(m) + 2016 E(m)	=	\$ 11,112,124	

Calculation of Adjusted Net Jurisdictional E(m)

(9) Jurisdictional Allocation Ratio for Expense Month -- ES Form 3.10	=	98.26%
(10) Jurisdictional E(m) = Total E(m) x Jurisdictional Allocation Ratio [(8) x (9)]	=	\$ 10,918,773
(11) Adjustment for (Over)/Under-collection pursuant to Case No. 2015-00412	=	\$ -
(12) Prior Period Adjustment (if necessary)	=	\$ -
(13) Revenue Collected through Base Rates	=	\$ 7,610,902
(14) Adjusted Net Jurisdictional E(m) [(10) + (11) + (12) - (13)]	=	\$ 3,307,871

Calculation of Group Environmental Surcharge Billing Factors

		<u>GROUP 1 (Total Revenue)</u>	<u>GROUP 2 (Net Revenue)</u>
(15) Revenue as a Percentage of 12-month Total Revenue ending with the Current Month -- ES Form 3.00	=	41.48%	58.52%
(16) Group E(m) [(14) x (15)]	=	\$ 1,372,105	\$ 1,935,766
(17) Group R(m) = Average Monthly Group Revenue for the 12 Months Ending with the Current Expense Month -- ES Form 3.00	=	\$ 34,240,652	\$ 31,932,179
(18) Group Environmental Surcharge Billing Factors [(16) ÷ (17)]	=	4.01%	6.06%

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Revenue Requirements of Environmental Compliance Costs
For the Expense Month of July 2016

Determination of Environmental Compliance Rate Base

	Pre-2016 Environmental Compliance Plan		2016 Environmental Compliance Plan	
Eligible Pollution Control Plant	\$ 1,109,890,053		\$ -	
Eligible Pollution CWIP Excluding AFUDC	42,321,950		3,478,593	
Subtotal		\$ 1,152,212,003		\$ 3,478,593
Additions:				
Inventory - Emission Allowances per ES Form 2.31, 2.32, 2.33, and 2.34	148			
Cash Working Capital Allowance	870,594			
Net Unamortized Closure Cost Balance ¹			523,917	
Subtotal		870,742		523,917
Deductions:				
Accumulated Depreciation on Eligible Pollution Control Plant	22,546,012		-	
Pollution Control Deferred Income Taxes	176,940,831		-	
Subtotal		199,486,843		-
Environmental Compliance Rate Base		\$ 953,595,902		\$ 4,002,510

Determination of Pollution Control Operating Expenses

	Pre-2016 Environmental Compliance Plan	2016 Environmental Compliance Plan
Monthly Operations & Maintenance Expense	\$ 833,084	\$ -
Monthly Depreciation & Amortization Expense	2,039,224	-
less investment tax credit amortization	-	-
Monthly Taxes Other Than Income Taxes - Eligible Plant	122,987	-
Monthly Taxes Other Than Income Taxes - Closure Costs		-
Amortization of Monthly Closure Costs		8,226
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	\$ 2,995,295	\$ 8,226

Determination of Beneficial Reuse Operating Expenses

	Environmental Compliance Plan
Total Monthly Beneficial Reuse Expense	\$ 50,109
Adjustment for Beneficial Reuse in Base Rates (from ES Form 2.61)	(693)
Net Beneficial Reuse Operations Expense	\$ 49,416

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.

ES FORM 2.40

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
O&M Expenses and Determination of Cash Working Capital Allowance

For the Month Ended: July 31, 2016

Environmental Compliance Plan	
O&M Expenses	Amount
11th Previous Month	\$ 422,250
10th Previous Month	480,862
9th Previous Month	380,681
8th Previous Month	336,937
7th Previous Month	391,185
6th Previous Month	425,498
5th Previous Month	953,423
4th Previous Month	755,621
3rd Previous Month	469,704
2nd Previous Month	573,860
Previous Month	892,231
Current Month	882,500
Total 12 Month O&M	\$ 6,964,752

Determination of Working Capital Allowance	
12 Months O&M Expenses	\$ 6,964,752
One Eighth (1/8) of 12 Month O&M Expenses	1/8
Pollution Control Cash Working Capital Allowance	\$ 870,594

August 2016 Expense Month

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT

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

For the Expense Month of August 2016

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

	Pre-2016 Environmental Compliance Plans	2016 Environmental Compliance Plan
(1) RB	= \$ 947,386,902	\$ 5,945,233
(2) RB / 12	= \$ 78,948,909	\$ 495,436
(3) $(ROR + (ROR - DR) (TR / (1 - TR)))$	= 10.10%	9.92%
(4) OE	= \$ 2,731,643	\$ 369,776
(5) BAS	= \$ 0	Not Applicable
(6) BR	= \$ 92,569	Not Applicable
(7) E(m) (2) x (3) + (4) - (5) + (6)	= \$ 10,798,052	\$ 418,924
(8) Total E(m) = sum of Pre-2016 E(m) + 2016 E(m)	= \$ 11,216,976	

Calculation of Adjusted Net Jurisdictional E(m)

(9) Jurisdictional Allocation Ratio for Expense Month -- ES Form 3.10	=	99.53%
(10) Jurisdictional E(m) = Total E(m) x Jurisdictional Allocation Ratio [(8) x (9)]	= \$	11,164,256
(11) Adjustment for (Over)/Under-collection pursuant to Case No. 2015-00412	= \$	-
(12) Prior Period Adjustment (if necessary)	= \$	-
(13) Revenue Collected through Base Rates	= \$	7,849,281
(14) Adjusted Net Jurisdictional E(m) [(10) + (11) + (12) - (13)]	= \$	3,314,975

Calculation of Group Environmental Surcharge Billing Factors

		<u>GROUP 1 (Total Revenue)</u>	<u>GROUP 2 (Net Revenue)</u>
(15) Revenue as a Percentage of 12-month Total Revenue ending with the Current Month -- ES Form 3.00	=	41.44%	58.56%
(16) Group E(m) [(14) x (15)]	= \$	1,373,726	\$ 1,941,249
(17) Group R(m) = Average Monthly Group Revenue for the 12 Months Ending with the Current Expense Month -- ES Form 3.00	= \$	34,728,708	\$ 32,543,571
(18) Group Environmental Surcharge Billing Factors [(16) ÷ (17)]	=	3.96%	5.97%

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

Revenue Requirements of Environmental Compliance Costs
For the Expense Month of August 2016

Determination of Environmental Compliance Rate Base

	Pre-2016 Environmental Compliance Plan		2016 Environmental Compliance Plan	
Eligible Pollution Control Plant	\$ 1,126,199,820		\$ -	
Eligible Pollution CWIP Excluding AFUDC	30,992,178		5,005,628	
Subtotal		\$ 1,157,191,998		\$ 5,005,628
Additions:				
Inventory - Emission Allowances per ES Form 2.31, 2.32, 2.33, and 2.34	148			
Cash Working Capital Allowance	898,636		44,905	
Net Unamortized Closure Cost Balance ¹			894,700	
Subtotal		898,784		939,605
Deductions:				
Accumulated Depreciation on Eligible Pollution Control Plant	24,618,254		-	
Pollution Control Deferred Income Taxes	186,085,626		-	
Subtotal		210,703,880		-
Environmental Compliance Rate Base		\$ 947,386,902		\$ 5,945,233

Determination of Pollution Control Operating Expenses

	Pre-2016 Environmental Compliance Plan	2016 Environmental Compliance Plan
Monthly Operations & Maintenance Expense	\$ 554,015	\$ 359,239
Monthly Depreciation & Amortization Expense	2,054,641	-
less investment tax credit amortization	-	-
Monthly Taxes Other Than Income Taxes - Eligible Plant	122,987	-
Monthly Taxes Other Than Income Taxes - Closure Costs		-
Amortization of Monthly Closure Costs		10,537
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	\$ 2,731,643	\$ 369,776

Determination of Beneficial Reuse Operating Expenses

	Environmental Compliance Plan
Total Monthly Beneficial Reuse Expense	\$ 93,160
Adjustment for Beneficial Reuse in Base Rates (from ES Form 2.61)	(590)
Net Beneficial Reuse Operations Expense	\$ 92,569

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.

ES FORM 2.40

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
O&M Expenses and Determination of Cash Working Capital Allowance

For the Month Ended: August 31, 2016

Environmental Compliance Plan		
O&M Expenses	Pre-2016 Environmental Compliance Plans	2016 Environmental Compliance Plan
11th Previous Month	\$ 480,862	\$ -
10th Previous Month	380,681	-
9th Previous Month	336,937	-
8th Previous Month	391,185	-
7th Previous Month	425,498	-
6th Previous Month	953,423	-
5th Previous Month	755,621	-
4th Previous Month	469,704	-
3rd Previous Month	573,860	-
2nd Previous Month	892,231	-
Previous Month	882,500	-
Current Month	646,584	359,239
Total 12 Month O&M	\$ 7,189,087	\$ 359,239

Determination of Working Capital Allowance		
12 Months O&M Expenses	\$ 7,189,087	\$ 359,239
One Eighth (1/8) of 12 Month O&M Expenses	1/8	1/8
Pollution Control Cash Working Capital Allowance	\$ 898,636	\$ 44,905