#### **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	) 2015-00412
<b>BILLING PERIOD ENDING OCTOBER 31, 2015</b>	)

#### CORRECTED

#### RESPONSE OF LOUISVILLE GAS AND ELECTRIC COMPANY TO COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION TO APPENDIX B OF COMMISSION'S ORDER DATED DECEMBER 21, 2015 AND AMENDED ORDER DATED JANUARY 7, 2016

**FILED: JANUARY 19, 2016** 

#### Response to Commission Staff's First Request for Information To Appendix B of Commission's Order Dated December 21, 2015 and Amended Order January 7, 2016

#### Case No. 2015-00412

#### CORRECTED QUESTION AND ATTACHMENT

#### Question No. 1

#### Witness: Derek A. Rahn / Christopher M. Garrett

- Q-1. Concerning the rate of return on the 2009 and 2011 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 August 31, 2015. 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 underrecovery 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. See the attachment being 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. However, during the period under review there were no revisions to reflect. 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 June, 2015 to true-up the months in the review period utilizing the return on equity of 10.25% as agreed to for all ECR Plans and approved by the Commission in its December 20, 2012 Order in Case No. 2012-00222. Page 4 provides the adjusted weighted average cost of capital for the expense period ending August 31, 2015 to true-up the months in the review period utilizing the return on equity of 10.00% as agreed to for all ECR Plans and approved by the Commission in its June 30, 2015 Order in Case No. 2014-00372. 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. 2011-00162.

LG&E recommends using an effective tax rate of 38.6660% in the gross-up revenue factor used in the rate of return calculation for the expense periods ended June 30, 2015 and August 31, 2015. LG&E will incur a tax loss in 2015 as a result of bonus depreciation and will be unable to take the Internal Revenue Code §199 manufacturing tax deduction.

Page 5 provides detail for short- and long-term debt for the expense period ending June 30, 2015. Page 6 provides detail for short- and long-term debt for the expense period ending August 31, 2015.

	lectric Company turn True-up Adjus	tment - Revised Rate	e Base			CORREC'	FED Attachment (	o Response to Question N Page 1
pact on Calculat	ed E(m)							Rahn / Gar
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Billing Month	Expense Month	Rate of Return as Filed	Rate Base as Filed	Rate Base As Revised	Change in Rate Base	True-up Adjustment	Jurisdictional Allocation, ES Form 1.10	Jurisdictional True up Adjustment
					(5) - (4)	(3) * (6) / 12		(7) * (8)
May-15	Mar-15	10.43%	\$ 779,523,251	\$ 779,523,251	\$ 0	\$ 0	91.90%	\$
Jun-15	Apr-15	10.43%	819,161,023	819,161,023	0	0	93.04%	
Jul-15	May-15	10.43%	829,641,051	829,641,051	0	0	96.00%	
Aug-15	Jun-15	10.07%	846,554,245	846,554,245	0	0	98.72%	
Sep-15	Jul-15	9.85%	893,392,268	893,392,268	0	0	99.14%	
Oct-15	Aug-15	9.85%	911,216,286	911,216,286	0	0	99.09%	
	Ū.					\$ 0		\$

	lectric Company turn True-up Adjus	tment - Revised Rate	of Return			CORREC	CTED Attachment	to Response to Question No Page 2 o
pact on Calculat	ed E(m)							Rahn / Garr
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Billing Month	Expense Month	Rate of Return as Filed	Rate of Return as Revised	Change in Rate of Return	Rate Base as Revised	True-up Adjustment	Jurisdictional Allocation, ES Form 1.10	Jurisdictional True up Adjustment
				(4) - (3)		(5) * (6) / 12		(7) * (8)
May-15	Mar-15	10.43%	10.46%	0.03%	\$ 779,523,251	\$ 19,488	91.90%	\$ 17,9
Jun-15	Apr-15	10.43%	10.46%	0.03%	819,161,023	20,479	93.04%	19,0
Jul-15	May-15	10.43%	10.46%	0.03%	829,641,051	20,741	96.00%	19,9
Aug-15	Jun-15	10.07%	10.46%	0.39%	846,554,245	275,130	98.72%	271,6
Sep-15	Jul-15	9.85%	10.24%	0.39%	893,392,268	290,352	99.14%	287,8
Oct-15	Aug-15	9.85%	10.24%	0.39%	911,216,286	296,145	99.09%	293,4
						\$ 922,336	-	\$ 909,7

### Adjusted Electric Rate of Return on Common Equity - ECR Plans <u>As of June 30, 2015</u>

<u>ELECTRIC</u>	Per Books 06-30-15 (1)	Capital Structure (2)	Electric Rate Base Percentage (3)	Electric Capitalization (Col 1 x Col 3) (4)	Adjustments to Capitalization (Col 18) (5)	Adjusted Electric Capitalization (Cal 4 + Cal 5) (6)	Adjusted Capital Structure (7)	Annual Cost Rate (8)	Cost of Capital (Col 8 x Col 7) (9)
1. Short Term Debt	\$ 229,585,638 (c)	6.72%	82.350%	\$ 189,063,773	\$ (55,128,770)	\$ 133,935,003	6.71%	0.54%	0.04%
2. Long Term Debt	1,354,869,483 (c)	39.63%	82.350%	1,115,735,020	(325,112,080)	790,622,940	39.63%	3.67%	1.45%
3. Common Equity	1,834,443,203	53.65%	82.350%	1,510,663,978	(440,127,762)	1,070,536,216	53.66%	10.25%	5.50%
4. Total Capitalization	\$ 3,418,898,325	100.000%		\$ 2,815,462,771	\$ (820,368,612)	\$ 1,995,094,159	100.000%		6.99%

5. Weighted Cost of Capital Grossed up for Income Tax Effect {ROR + (ROR - DR) x [TR / (1 - TR)]}

10.46%

<u>ELECTRIC</u>	Electric Capitalization (Col 4) (10)	Capital Structure (11)	Trimble County Inventories (a) (Col 11 x Col 12 Line 4) (12)	Investments in OVEC & Other (Col 11 x Col 13 Line 4) (13)	JDIC (Col 11 x Col 14 Line 4) (14)	Environmental Compliance Rate Base (Col 11 x Col 15 Line 4) (15)	DSM Rate Base (Col 11 x Col 16 Line 4) (16)	Advanced Coal Investment Tax Credit (b) (Col 11 x Col 17 Line 4) (17)	Total Adjustments To Capital (Sum of Col 12 - Col 17) (18)
1. Short Term Debt	\$ 189,063,773	6.72%	\$ (314,447)	\$ (78,074)	\$ 919,075	\$ (56,888,445)	\$ (208,648)	\$ 1,441,769	\$ (55,128,770)
2. Long Term Debt	1,115,735,020	39.63%	(1,854,394)	(460,430)	5,420,079	(335,489,447)	(1,230,463)	8,502,575	(325,112,080)
3. Common Equity	1,510,663,978	53.65%	(2,510,428)	(623,317)	7,337,552	(454,176,353)	(1,665,767)	11,510,551	(440,127,762)
4. Total Capitalization	\$ 2,815,462,771	100.000%	\$ (4,679,269)	\$ (1,161,821)	\$ 13,676,706	\$ (846,554,245)	\$ (3,104,878)	\$ 21,454,895	\$ (820,368,612)

(a)	Trimble County Inventories	As of June 30, 2015		
	Materials and Supplies		\$	9,806,164
	Stores Expense			1,805,325
	Coal			6,780,762
	Limestone			193,549
	Fuel Oil			125,845
	Emission Allowances		_	5,430
	Total Trimble County Inventories		\$	18,717,075
	Multiplied by Disallowed Portion			25.00%
	Trimble County Inv. Disallowed		\$	4,679,269

(b) Reflects Investment Tax Credit treatment per Case No. 2007-00179.

(c) Average daily balance per Settlement Agreement in Case No. 2011-00162.

### Adjusted Electric Rate of Return on Common Equity - ECR Plans As of August 31, 2015

<u>ELECTRIC</u>	Per Books 08-31-15 (1)	Capital Structure (2)	Electric Rate Base Percentage (3)	Electric Capitalization (Col 1 x Col 3) (4)	Adjustments to Capitalization (Col 18) (5)	Adjusted Electric Capitalization (Col 4 + Col 5) (6)	Adjusted Capital Structure (7)	Annual Cost Rate (8)	Cost of Capital (Col 8 x Col 7) (9)
1. Short Term Debt	\$ 240,958,388 (c)	6.99%	82.350%	\$ 198,429,233	\$ (61,923,693)	\$ 136,505,540	6.99%	0.51%	0.04%
2. Long Term Debt	1,354,898,416 (c)	39.30%	82.350%	1,115,758,846	(348,154,680)	767,604,166	39.30%	3.67%	1.44%
3. Common Equity	1,851,728,783	53.71%	82.350%	1,524,898,653	(475,811,396)	1,049,087,257	53.71%	10.00%	5.37%
4. Total Capitalization	\$ 3,447,585,587	100.000%		\$ 2,839,086,732	\$ (885,889,769)	\$ 1,953,196,963	100.000%		6.85%

5. Weighted Cost of Capital Grossed up for Income Tax Effect {ROR + (ROR - DR) x [TR / (1 - TR)]}

10.24%

<u>ELECTRIC</u>	Electric Capitalization (Col 4) (10)	Capital Structure (11)	Inv	Trimble County Inventories (a) (Col 11 x Col 12 Line 4) (12)		Investments in OVEC & Other (Col 11 x Col 13 Line 4) (13)		JDIC (Col 11 x Col 14 Line 4) (14)		Environmental Compliance Rate Base (Col 11 x Col 15 Line 4) (15)		DSM Rate Base 111 x Col 16 Line 4) (16)	l Ta	lvanced Coal Investment ax Credit (b) 11 x Col 17 Line 4) (17)	Total Adjustments To Capital (Sum of Col 12 - Col 17) (18)	
1. Short Term Debt	\$ 198,429,233	6.99%	\$	(347,855)	\$	(81,211)	\$	946,166	\$	(63,694,018)	\$	(241,619)	\$	1,494,844	\$	(61,923,693)
2. Long Term Debt	1,115,758,846	39.30%		(1,955,753)		(456,596)		5,319,643		(358,108,000)		(1,358,460)		8,404,486		(348,154,680)
3. Common Equity	1,524,898,653	53.71%		(2,672,862)		(624,014)		7,270,179		(489,414,268)		(1,856,562)		11,486,131		(475,811,396)
4. Total Capitalization	\$ 2,839,086,732	100.000%	\$	(4,976,470)	\$	(1,161,821)	\$	13,535,988	\$	(911,216,286)	\$	(3,456,641)	\$	21,385,461	\$	(885,889,769)

(a)	Trimble County Inventories	As of August 31, 2015	
	Materials and Supplies		\$ 10,039,359
	Stores Expense		1,777,578
	Coal		7,794,582
	Limestone		163,594
	Fuel Oil		130,719
	Emission Allowances		 47
	Total Trimble County Inventories		\$ 19,905,879
	Multiplied by Disallowed Portion		 25.00%
	Trimble County Inv. Disallowed		\$ 4,976,470

(b) Reflects Investment Tax Credit treatment per Case No. 2007-00179.

(c) Average daily balance per Settlement Agreement in Case No. 2011-00162.

		USING AVERA	GE DA	June 3			RECR	FILINGS							Rahn / Garre
USING AVERAGE DAILY BALANCES AND INTEREST RATES FOR ECR FILINGS LONG-TERM DEBT															
									Annual	ized Cost					
							Am	ortized Debt	Am	ortized Loss-					
								Issuance				er of Credit			Embedded
	Due	Rate		Principal	_	Interest/(Income)	Ex	p/Discount	Rea	cquired Debt	and	d other fees		Total	Cost
Pollution Control Bonds -	05/04/07	0.7000/		05 000 000		407 507		50.040	•	400.004				057 470	4 400
Jefferson Co. 2000 Series A	05/01/27	0.790%	\$	25,000,000	4 \$		\$	53,640	\$	106,234	\$		\$	357,472	1.430
Frimble Co. 2000 Series A	08/01/30	0.151%		83,335,000		125,686		37,913		144,074		255,624		563,296	0.676
lefferson Co. 2001 Series A	09/01/27	0.124%		10,104,000		12,566		19,900		-		30,479		62,945	0.623
lefferson Co. 2001 Series A	09/01/26	0.214%		22,500,000		48,172		9,838		77,633		22,568		158,211	0.703
Trimble Co. 2001 Series A	09/01/26	1.050%		27,500,000		288,750		54,356		76,388		- 8		419,493	1.525
Jefferson Co. 2001 Series B	11/01/27	1.350%		35,000,000		472,500		58,366		60,206		- 8		591,072	1.689
Trimble Co. 2001 Series B	11/01/27	1.350%		35,000,000		472,500		58,264		60,023		- 6		590,787	1.688
Trimble Co. 2002 Series A	10/01/32	0.194%		41,665,000		80,939		36,613		55,960		146,891 l	C	320,403	0.769
Louisville Metro 2003 Series A	10/01/33	1.650%		128,000,000		2,112,000		152,242		314,515		-		2,578,757	2.015
Louisville Metro 2005 Series A	02/01/35	2.200%		40,000,000	3	880,000		67,226		84,816		-		1,032,043	2.580
Trimble Co. 2007 Series A	06/01/33	4.600%		60,000,000		2,760,000		47,644		6,632		-		2,814,277	4.690
Louisville Metro 2007 Series A	06/01/33	1.150%		31,000,000	3	356,500		63,701		30,899		-		451,101	1.455
Louisville Metro 2007 Series B	06/01/33	1.600%		35,200,000		563,200		54,312		27,602		-		645,115	1.833
Called Bonds				-		-		-	2	68,634				68,634	
First Mortgage Bonds -															
2010 due 2015	11/15/15	1.625%		250,000,000		4,062,500		522,783	**	-		-		4,585,283	1.834
Debt discount on FMB	11/15/15	1.625%		(88,531)				177,031	**					177,031	-199.965
2010 due 2020	11/15/40	5.125%		285,000,000		14,606,250			**	-		-		14,725,753	5.167
Debt discount on FMB	11/15/40	5.125%		(2,635,897)				103,605	**					103,605	-3.931
2013 due 2043	11/15/43	4.650%		250,000,000		11,625,000		91,453						11,716,453	4.687
Debt discount on FMB	11/15/43	4.650%		(1,710,089)		,,		60,137						60,137	-3.517
Regulatory Liability - Swap Hedging FMB	11/15/43			(.,,,		(1,438,018)								(1,438,018)	-3.342
S-3 SEC Shelf Registration	03/27/15							486						486	
Revolving Credit Facility	07/28/19							590,101	5	57,296		626,881		1,274,277	
Total External Debt			\$	1,354,869,483	\$	37,226,142	\$	2,379,116	\$	1,170,914	\$	1,082,442	\$	41,858,613	3.089
				,,,				,, .		, .,.		,,	_ <u>.</u>	,,.	
Interest Rate Swaps:															
JP Morgan Chase Bank 5.495% - Trimble Co. 2000 Series A	11/01/20	1			\$	4,515,084	\$		\$		\$		s	4,515,084	
Morgan Stanley Capital Services 3.657% - Louisville	11/01/20	1			φ	4,515,064	φ	-	φ	-	φ	-	¢	4,515,064	
Metro 2003 Series A	10/01/33	1				1,127,421				-		-		1,127,421	
Morgan Stanley Capital Services 3.645% - Louisville	10/01/00	•				1,121,121								.,	
Metro 2003 Series A	10/01/33	1				1,123,592		-		-		-		1,123,592	
Bank of America - Louisville Metro 2003 Series A	10/01/33	1				1,139,546		-		-		-		1,139,546	
Interest Rate Swaps External Debt		-			\$		\$	-	\$	-	\$	-	\$	7,905,643	0.583
Notes Payable to PPL			\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	
Fotal Internal Debt			\$	-	\$		\$		\$	-	\$	-	\$	<u> </u>	0.000
iotai internai Dept			Φ	-	\$		Φ		φ		Φ		¢		0.000
		Total	\$	1,354,869,483	\$	45,131,785	\$	2,379,116	\$	1,170,914	\$	1,082,442	\$	49,764,256	3.673

LOUISVILLE GAS AND ELECTRIC COMPANY ANALYSIS OF THE EMBEDDED COST OF CAPITAL AT

CORRECTED Attachment to Response to Question No. 1 Page 5 of 6

			SHO	ORT-TE	RM DEBT									
								Annuali	ed Cost					
	Maturity	Rate	Principal		Interest	Ex	pense		Loss	I	Premium		Total	Embedded Cost
Notes Payable to Associated Company	NA	0.000%	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	0.000% 0.000%
Revolving Credit Facility Payable Commercial Paper Program	Varies	0.536%	 229,585,638		1,229,890								1,229,890	0.000%
		Total	\$ 229,585,638	\$	1,229,890	\$	<u> </u>	\$		\$		\$	1,229,890	0.536%
Embedded Cost of Total Debt			\$ 1,584,455,122	\$	46,361,675	\$	2,379,116	\$	1,170,914	\$	1,082,442	\$	50,994,146	3.218%
** Debt discount shown on separate line.														
1 Additional interest due to Swap Agreements:							iration of Swap	LG	Fixed &E Swap	LO	Fixed &E Swap	C	Variable	

		Swap	LG&E Swap	LG&E Swap	Counterparty
Underlying Debt Being Hedged	Notional Amount	Agreement	Position	Position	Swap Position
Series Z - PCB	83,335,000	11/01/20	5.495%	5.495%	BMA Index
Series CC, DD & EE - PCB	32,000,000	10/01/33	3.657%	3.657%	68% of 1 mo LIBOR
Series CC, DD & EE - PCB	32,000,000	10/01/33	3.645%	3.645%	68% of 1 mo LIBOR
Series CC, DD & EE - PCB	32,000,000	10/01/33	3.695%	3.695%	68% of 1 mo LIBOR
	179,335,000				

2 Call premium and debt expense is being amortized in accordance with ASC 980, Regulated Operations.
3 Remarketed bonds, issued at long term fixed rate.
4 Remarketed bonds, issued at a variable rate.
5 Includes setup fees for Wells Fargo, Bank of America and Royal Bank of Scotland amended July 28, 2019 with a five year term.

a - Remarketing fee = 10 basis points b - Remarketing fee = 25 basis points c - Revolving Credit Facility fee = 12.5 basis points

## LOUISVILLE GAS AND ELECTRIC COMPANY ANALYSIS OF THE EMBEDDED COST OF CAPITAL AT August 31, 2015 USING AVERAGE DAILY BALANCES AND INTEREST RATES FOR ECR FILINGS

CORRECTED Attachment to Response t	o Question No. 1
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	Rahn / Garrett

Trimble Co. 2000 Series A         00           Jefferson Co. 2001 Series A         00           Jefferson Co. 2001 Series A         00           Trimble Co. 2001 Series A         01           Jefferson Co. 2001 Series B         11           Trimble Co. 2001 Series B         11           Trimble Co. 2002 Series A         11           Louisville Metro 2003 Series A         10           Louisville Metro 2005 Series A         00           Trimble Co. 2007 Series A         00           Louisville Metro 2007 Series A         00           Louisville Metro 2007 Series A         00           Louisville Metro 2007 Series A         00	Due 15/01/27 18/01/30 19/01/27 19/01/26 1/01/27 1/01/23 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/01/35 1/0	Rate           0.793%           0.159%           0.133%           0.224%           1.050%           1.350%           1.350%           0.222%           1.60%           2.200%           4.600%           1.150%	\$ Principal 25,000,000 83,335,000 10,104,000 22,500,000 27,500,000 35,000,000 35,000,000 41,665,000 128,000,000	\$	rest/(Income) 198,141 132,793 13,417 50,454 288,750 472,500	I	54,107 38,129 20,017 9,889	Amo	ized Cost ortized Loss- cquired Debt 124,566 144,857	ter of Credit d other fees - 256,759 30,617		Total 376,815 572,538 64,050	Embedded Cost 1.507% 0.687%
Jefferson Co. 2000 Series A         02           Trimble Co. 2000 Series A         00           Jefferson Co. 2001 Series B         11           Trimble Co. 2001 Series B         11           Louisville Metro 2003 Series A         11           Louisville Metro 2005 Series A         00           Louisville Metro 2007 Series A         00	08/01/30 09/01/27 09/01/26 09/01/26 11/01/27 11/01/27 10/01/32 0/01/33 02/01/33 06/01/33	0.159% 0.133% 0.224% 1.350% 1.350% 0.202% 1.650% 2.200% 4.600% 1.150%	\$ 83,335,000 10,104,000 22,500,000 27,500,000 35,000,000 35,000,000 41,665,000	\$	132,793 13,417 50,454 288,750	\$	38,129 20,017	\$	144,857	\$ 256,759	b	572,538	0.687%
Trimble Co. 2000 Series A         Ot           Jefferson Co. 2001 Series B         11           Trimble Co. 2001 Series A         10           Louisville Metro 2003 Series A         11           Louisville Metro 2005 Series A         02           Trimble Co. 2007 Series A         02           Louisville Metro 2007 Series A         04	08/01/30 09/01/27 09/01/26 09/01/26 11/01/27 11/01/27 10/01/32 0/01/33 02/01/33 06/01/33	0.159% 0.133% 0.224% 1.350% 1.350% 0.202% 1.650% 2.200% 4.600% 1.150%	\$ 83,335,000 10,104,000 22,500,000 27,500,000 35,000,000 35,000,000 41,665,000	\$	132,793 13,417 50,454 288,750	\$	38,129 20,017	\$	144,857	\$ 256,759	b	572,538	0.687%
Jefferson Co. 2001 Series A         03           Jefferson Co. 2001 Series A         06           Trimble Co. 2001 Series B         11           Jefferson Co. 2001 Series B         11           Trimble Co. 2001 Series B         11           Trimble Co. 2002 Series A         11           Louisville Metro 2003 Series A         11           Louisville Metro 2005 Series A         02           Trimble Co. 2007 Series A         02           Louisville Metro 2007 Series A         04           Louisville Metro 2007 Series B         04	99/01/27 99/01/26 99/01/26 11/01/27 11/01/27 10/01/32 10/01/33 92/01/33 96/01/33	0.133% 0.224% 1.050% 1.350% 0.202% 1.650% 2.200% 4.600% 1.150%	10,104,000 22,500,000 27,500,000 35,000,000 35,000,000 41,665,000		13,417 50,454 288,750		20,017		-				
Jefferson Co. 2001 Series A         00           Trimble Co. 2001 Series A         00           Jefferson Co. 2001 Series B         11           Trimble Co. 2001 Series B         11           Trimble Co. 2002 Series A         11           Louisville Metro 2003 Series A         11           Louisville Metro 2005 Series A         00           Trimble Co. 2007 Series A         00           Louisville Metro 2007 Series A         00           Louisville Metro 2007 Series A         00           Louisville Metro 2007 Series B         00	99/01/26 19/01/26 11/01/27 11/01/27 10/01/32 10/01/33 12/01/35 16/01/33 16/01/33	0.224% 1.050% 1.350% 1.350% 0.202% 1.650% 2.200% 4.600% 1.150%	22,500,000 27,500,000 35,000,000 35,000,000 41,665,000		50,454 288,750				-	30,617	b	64.050	
Trimble Co. 2001 Series A         OS           Jefferson Co. 2001 Series B         11           Trimble Co. 2001 Series A         11           Louisville Metro 2003 Series A         11           Louisville Metro 2005 Series A         00           Trimble Co. 2007 Series A         00           Louisville Metro 2007 Series B         00	09/01/26 11/01/27 10/01/27 10/01/32 10/01/33 02/01/35 06/01/33 06/01/33	1.050% 1.350% 1.350% 0.202% 1.650% 2.200% 4.600% 1.150%	27,500,000 35,000,000 35,000,000 41,665,000		288,750		9.889			/ -			0.634%
Jefferson Co. 2001 Series B         11           Trimble Co. 2001 Series A         11           Trimble Co. 2002 Series A         11           Louisville Metro 2003 Series A         11           Louisville Metro 2005 Series A         02           Trimble Co. 2007 Series A         02           Trimble Co. 2007 Series A         02           Louisville Metro 2007 Series A         02	1/01/27 1/01/27 0/01/32 0/01/33 02/01/33 06/01/33	1.350% 1.350% 0.202% 1.650% 2.200% 4.600% 1.150%	35,000,000 35,000,000 41,665,000						77,842	22,690	а	160,876	0.715%
Trimble Co. 2001 Series B         1"           Trimble Co. 2002 Series A         11           Louisville Metro 2003 Series A         11           Louisville Metro 2005 Series A         00           Trimble Co. 2007 Series A         00           Louisville Metro 2007 Series A         00           Louisville Metro 2007 Series A         00           Louisville Metro 2007 Series B         00	1/01/27 0/01/32 0/01/33 02/01/33 06/01/33 06/01/33	1.350% 0.202% 1.650% 2.200% 4.600% 1.150%	35,000,000 41,665,000		472,500		54,914		76,802		a	420,467	1.529%
Trimble Co. 2002 Series A         11           Louisville Metro 2003 Series A         10           Louisville Metro 2005 Series A         00           Trimble Co. 2007 Series A         00           Louisville Metro 2007 Series A         00	0/01/32 0/01/33 02/01/35 06/01/33 06/01/33	0.202% 1.650% 2.200% 4.600% 1.150%	41,665,000				58,950		60,533		а	591,983	1.691%
Louisville Metro 2003 Series A         10           Louisville Metro 2005 Series A         00           Trimble Co. 2007 Series A         00           Louisville Metro 2007 Series A         00           Louisville Metro 2007 Series A         00           Louisville Metro 2007 Series A         00	0/01/33 02/01/35 06/01/33 06/01/33	1.650% 2.200% 4.600% 1.150%			472,500		58,828		60,349		а	591,678	1.691%
Louisville Metro 2005 Series A         02           Trimble Co. 2007 Series A         00           Louisville Metro 2007 Series A         00           Louisville Metro 2007 Series B         00	02/01/35 06/01/33 06/01/33	2.200% 4.600% 1.150%	128,000,000		84,331		36,819		56,264	147,458	b	324,873	0.780%
Trimble Co. 2007 Series A     04       Louisville Metro 2007 Series A     04       Louisville Metro 2007 Series B     04	06/01/33 06/01/33	4.600% 1.150%			2,112,000		153,285		316,224	-		2,581,509	2.017%
Trimble Co. 2007 Series A     04       Louisville Metro 2007 Series A     04       Louisville Metro 2007 Series B     04	06/01/33 06/01/33	4.600% 1.150%	40,000,000		880,000		67,799		85,277	-		1,033,076	2.583%
Louisville Metro 2007 Series A 04 Louisville Metro 2007 Series B 04	6/01/33	1.150%	60,000,000		2,760,000		47,903		47,992	-		2,855,895	4.760%
Louisville Metro 2007 Series B 00			31,000,000		356,500		64,193		35,648	-		456,341	1.472%
		1.600%	35,200,000		563,200		54,528		33,099	-		650,827	1.849%
I contraction of the second			-				-		-			-	
First Mortgage Bonds -													
2010 due 2015 1	1/15/15	1.625%	250,000,000		4,062,500		525,623	••	-	-		4,588,123	1.835%
Debt discount on FMB 11	1/15/15	1.625%	(73,501)				177,993	••				177,993	-242.165%
	1/15/40	5.125%	285,000,000		14,606,250		120,152		-	-		14,726,402	5.167%
	1/15/40	5.125%	(2,627,101)		,,		104,168					104,168	-3.965%
	1/15/43	4.650%	250,000,000		11.625.000		91,950					11.716.950	4.687%
	1/15/43	4.650%	(1,704,983)		11,020,000		60,463					60,463	-3.546%
	1/15/43	4.03078	(1,704,903)		(1,445,829)		00,403					(1,445,829)	-3.360%
	1/13/43				(1,445,629)							(1,445,629)	-3.300%
Revolving Credit Facility 03	07/28/19						588,148	2	77,191	630,286	с	1,295,625	
Total External Debt			\$ 1,354,898,416	\$	37,232,507	\$	2,387,859	\$	1,196,645	\$ 1,087,810	\$	41,904,821	3.093%
Interest Rate Swaps:													
JP Morgan Chase Bank 5.495% - Trimble Co. 2000													
	1/01/20	1		\$	4,499,527	\$	-	\$	-	\$ -	\$	4,499,527	
	0/01/33	1			1,120,453		-		-	-		1,120,453	
Morgan Stanley Capital Services 3.645% - Louisville Metro 2003 Series A 10	0/01/33	1			1,116,645		-		-	-		1,116,645	
	0/01/33	1		_	1,132,513	-	-		-	 -		1,132,513	
Interest Rate Swaps External Debt				\$	7,869,138	\$		\$	-	\$ -	\$	7,869,138	0.581%
Notes Payable to PPL			\$ -	\$	-	\$	-	\$	-	\$ -	\$	-	
Total Internal Debt			\$ -	\$	-	\$	-	\$	-	\$ -	\$	-	0.000%
		Total	\$ 1,354,898,416	\$									

			SHO	ORT-TE	RM DEBT							
								Annual	ized Cost			
	Maturity	Rate	Principal		Interest	E	xpense		Loss_	Premium	Total.	Embedded Cost
Notes Payable to Associated Company Revolving Credit Facility Payable	NA	0.505%	\$ -	\$	-	\$	-	\$	-	\$ -	\$ -	0.000% 0.000%
Commercial Paper Program	Varies	0.511%	 240,958,388		1,230,334					 -	 1,230,334	0.000%
		Total	\$ 240,958,388	\$	1,230,334	\$	<u> </u>	\$		\$ 	\$ 1,230,334	0.511%
Embedded Cost of Total Debt			\$ 1,595,856,804	\$	46,331,978	\$	2,387,859	\$	1,196,645	\$ 1,087,810	\$ 51,004,292	3.196%
** Debt discount shown on separate line.												
1 Additional interest due to Swap Agreements:						Exp	piration of		Fixed	Fixed	Variable	

iterest due to Swap Agreements.			Expiration of	Fixeu	Fixeu	variable	
			Swap	LG&E Swap	LG&E Swap	Counterparty	
	Underlying Debt Being Hedged	Notional Amount	Agreement	Position	Position	Swap Position	
	Series Z - PCB	83,335,000	11/01/20	5.495%	5.495%	BMA Index	
	Series CC, DD & EE - PCB	32,000,000	10/01/33	3.657%	3.657%	68% of 1 mo LIBOR	
	Series CC, DD & EE - PCB	32,000,000	10/01/33	3.645%	3.645%	68% of 1 mo LIBOR	
	Series CC, DD & EE - PCB	32,000,000	10/01/33	3.695%	3.695%	68% of 1 mo LIBOR	
		179,335,000					

2 Includes setup fees for Wells Fargo and Bank of America amended July 28, 2014 with a five year term. (Royal Bank of Scotland written off July 2015.)

a - Remarketing fee = 10 basis points b - Remarketing fee = 25 basis points c - Revolving Credit Facility fee = 12.5 basis points

#### Response to Commission Staff's First Request for Information To Appendix B of Commission's Order Dated December 21, 2015 and Amended Order Dated January 7, 2016

#### Case No. 2015-00412

### CORRECTED ATTACHMENT

#### 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 two expense months subsequent to the billing period in order to show the overand under-recovery adjustments for the months included in 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 \$1,702,207.

. ,	and Jurisdictional Surcha or Expense Months Marc	arge Billing Factor ch 2015 through August 20	015					Page 1 of Ral
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Expense Month	Rate Base as Revised	Monthly Rate Base as Revised	Rate of Return as Revised	Operating Expenses (net of allowance proceeds)	Total E(m)	Jurisdictional Allocation Ratio	Retail E(m)	Comments: As Revised in Th Review
	ES Form 2.00	(2) / 12		ES Form 2.00	(3) * (4) + (5)	ES Form 1.10	(6) * (7)	
Mar-15	\$ 779,523,251	\$ 64,960,271	10.46%	\$ 760,595 \$	7,555,440	91.90%	\$ 6,943,449	
Apr-15	819,161,023	68,263,419	10.46%	742,215	7,882,569	93.04%	7,333,942	
May-15	829,641,051	69,136,754	10.46%	1,119,161	8,350,866	96.00%	8,016,831	
Jun-15	846,554,245	70,546,187	10.46%	1,525,610	8,904,741	98.72%	8,790,760	
Jul-15	893,392,268	74,449,356	10.24%	1,770,155	9,393,769	99.14%	9,312,983	
Aug-15	911,216,286	75,934,691	10.24%	1,802,293	9,578,005	99.09%	9,490,845	

Calculation of E	. ,	onal Surcharge Billing Fact						CORRECTED	) Attachment to Re	sponse to Question No. Page 2 of
·	•	onths March 2015 through	0				(0)	(0)		Rał
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Retail E(m) for All		Retail E(m) Including all Adjustments to be billed		Monthly Billing Factor	ECR Revenue Recovered Through	Billing	ECR Billing Factor	ECR Billing Factor Revenues	Combined Total
Expense Month	ECR Plans	for Over/Under-Collection	as ECR	1)	(Group 2)	Base Rates	Period	Revenues (Group 1)	(Group 2)	Over/(Under) Recover
	Page 1 Col (8)	Case No. 2015-00021	(2) + (3)	As Filed	As Filed	As Filed		As Filed	As Filed	(7) + (9) + (10) - (4)
Mar-15	6,943,449	\$ 0	\$ 6,943,449	6.74%	10.61%	\$ 1,234,925	May-15	\$ 1,911,821	\$ 3,197,608	\$ (599,0
Apr-15	7,333,942	0	7,333,942	7.43%	11.70%	1,029,918	Jun-15	2,881,379	3,885,583	462,9
May-15	8,016,831	0	8,016,831	8.19%	12.90%	1,080,083	Jul-15	3,578,182	4,704,483	1,345,9
Jun-15	8,790,760	(326,442)	8,464,318	8.19%	12.88%	1,291,806	Aug-15	3,673,762	4,148,857	650,1
Jul-15	9,312,983	0	9,312,983	9.08%	14.29%	1,363,819	Sep-15	3,738,324	4,893,352	682,5
Aug-15	9,490,845	0	9,490,845	9.08%	14.29%	1,514,745	Oct-15	2,626,559	4,509,370	(840,1
			\$ 49,562,369			\$ 7,515,296		\$ 18,410,028	\$ 25,339,252	\$ 1,702,2

#### **CORRECTED** Attachment to Response to Question No. 2 Louisville Gas & Electric Company Reconciliation of Combined Over/(Under) Recovery Page 3 of 3 Summary Schedule for Expense Months March 2015 through August 2015 Rahn (1) (2) (3) (4) (5) (6) (8) (9) (7) Jurisdictional Jurisdictional Billing Rate of Return as Rate of Return as Change in Rate Rate Base as Impact of change Allocation, Impact Month Expense Month Filed Revised of Return Revised in Rate of Return ES Form 1.10 (Over)/Under (4) - (3) (5) \* (6) / 12 (7) \* (8) May-15 10.43% 10.46% 0.03% \$ 779,523,251 \$ 91.90% \$ 17,910 Mar-15 19,488 Jun-15 0.03% 20,479 93.04% 19,054 Apr-15 10.43% 10.46% 819,161,023 Jul-15 May-15 10.43% 10.46% 0.03% 829,641,051 20,741 96.00% 19,911 Aug-15 10.07% 846,554,245 275,130 98.72% 271,608 Jun-15 10.46% 0.39% Sep-15 Jul-15 9.85% 10.24% 0.39% 893,392,268 290,352 99.14% 287,855 911,216,286 Oct-15 9.85% 10.24% 0.39% 296,145 99.09% 293,450 Aug-15 \$ 922,336 \$ 909,789 (1) (2) (3) (4) (5) Recovery Position Explanation - Over/(Under) Combined Total Rate of Return Use of 12 Month Average Billing Expense Over/(Under) True-up as Month Month Recovery Originally Filed Revenues (Q2, pg 2, Col 11)

May-15	Mar-15	\$ (599,095) \$	(17,910) \$	(581,186)
Jun-15	Apr-15	462,939	(19,054)	481,993
Jul-15	May-15	1,345,917	(19,911)	1,365,828
Aug-15	Jun-15	650,106	(271,608)	921,715
Sep-15	Jul-15	682,512	(287,855)	970,367
Oct-15	Aug-15	(840,171)	(293,450)	(546,721)
Total for 6 months		\$ 1,702,207 \$	(909,789) \$	2,611,996

OVER/(UNDER) RECONCILIATION	
Combined Over/(Under) Recovery	\$ 1,702,207
Due to Change in ROR in Current 6-month Period       \$ (909,789)         Use of 12 Month Average Revenues       \$ 2,611,996	
Subtotal	\$ 1,702,207
Unreconciled Difference	\$ 0

#### Response to Commission Staff's First Request for Information To Appendix B of Commission's Order Dated December 21, 2015 and Amended Order Dated January 7, 2016

#### Case No. 2015-00412

#### CORRECTED ATTACHMENT

#### **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. Please 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.

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.

### Louisville Gas and Electric Company Deferred Tax Calculations Environmental Compliance Plans, by Approved Project

2009 - Plan Project 23 - Trimble County Ash Treatment Basis (BAP/GSP)

Month	Plant Balance	Book Depreciation	Tax Depreciation	Temporary Difference	Income Tax Rate	Deferred Tax	Accumulated Deferred Taxes	Deferred Taxes on Retirements
Beg Balance							634,642	
Mar-15	9,599,354	19,647	45,709	26,062	38.9000%	10,138	644,780	63,566
Apr-15	9,599,354	19,647	45,706	26,059	38.9000%	10,137	654,917	63,566
May-15	9,599,354	19,647	45,708	26,061	38.9000%	10,138	665,055	63,566
Jun-15	9,599,354	19,647	45,707	26,060	38.9000%	10,137	675,192	63,566
Jul-15	9,599,354	19,647	45,710	26,063	38.9000%	10,139	685,330	-
Aug-15	9,599,354	19,647	45,706	26,059	38.9000%	10,137	695,467	-

#### Louisville Gas and Electric Company Deferred Tax Calculations Environmental Compliance Plans, by Approved Project

#### <u> 2009 - Plan</u>

Project 32 - Trimble County CCP Storage (Landfill - Phase I)

Month	Plant Balance	Book Depreciation	Tax Depreciation	Temporary Difference	Income Tax Rate	Deferred Tax	Accumulated Deferred Taxes	Deferred Taxes on Retirements
Beg Balance		200100101011	20010010101	2		20101104 14	-	
Mar-15	4,067,717	4,152	187,650	183,498	38.9000%	71,381	71,381	-
Apr-15	4,067,717	8,304	191,800	183,496	38.9000%	71,380	142,761	-
May-15	4,067,717	8,304	191,802	183,498	38.9000%	71,381	214,142	-
Jun-15	4,067,717	8,304	191,802	183,498	38.9000%	71,381	285,523	-
Jul-15	4,067,717	8,304	191,804	183,500	38.9000%	71,382	356,904	-
Aug-15	4,067,717	8,304	191,800	183,496	38.9000%	71,380	428,284	-

Due to Bonus Depreciation for tax purposes taken on certain components of Project 24, the deferred tax calculation for this project is computed separately for Federal and State purposes. Specifically, for Federal taxes, certain assets received 50% bonus depreciation, which reduces the Federal tax basis to 50% of the plant balance. A sample calculation of deferred taxes for Aug 2015 is shown below:

Federal Basis	Book Depr.	Federal Tax D	Fed. Differenc	Fed Tax Rate	Fed Def Tax
2,033,858	7,889	211,013	203,124	35.0000%	71,093
State Basis	Book Depr.	State Tax Dep	St. Difference	State Tax Rate	St Def Tax
4,067,717	7,889	15,254	7,365	6.0000%	442
					St. Offset for Fed Taxes not Owed
					(155)

Total Deferred Tax 71,381

#### CORRECTED Attachment to Response to Question No. 3 Page 3 of 4 Garrett

#### Louisville Gas and Electric Company Deferred Tax Calculations Environmental Compliance Plans, by Approved Project

#### <u> 2009 - Plan</u>

Project 25 -Beneficial Reuse

							Accumulated	Deferred
		Book	Тах	Temporary	Income Tax		Deferred	Taxes on
Month	Plant Balance	Depreciation	Depreciation	Difference	Rate	Deferred Tax	Taxes	Retirements
Beg Balance							897,299	
Mar-15	4,556,730	9,291	13,023	3,732	38.9000%	1,452	898,751	13,242
Apr-15	4,556,730	9,078	12,810	3,732	38.9000%	1,452	900,203	13,242
May-15	4,556,730	9,078	12,809	3,731	38.9000%	1,451	901,654	13,242
Jun-15	4,556,730	9,078	12,810	3,732	38.9000%	1,452	903,106	13,242
Jul-15	4,556,730	9,078	12,812	3,734	38.9000%	1,453	904,558	-
Aug-15	4,556,730	9,078	12,810	3,732	38.9000%	1,452	906,010	-

Due to Bonus Depreciation for tax purposes taken on certain components of Project 25, the deferred tax calculation for this project is computed separately for Federal and State purposes. Specifically, for Federal taxes, certain assets received 50% bonus depreciation, which reduces the Federal tax basis to 50% of the plant balance. A sample calculation of deferred taxes for Aug 2015 is shown below:

Federal Basis	Book Depr.	Federal Tax D	Fed. Differenc	Fed Tax Rate	Fed Def Tax
2,318,136	9,099	11,634	2,535	35.0000%	887
State Basis	Book Depr.	State Tax Dep	St. Difference	State Tax Rate	St Def Tax
4,556,730	9,099	23,567	14,468	6.0000%	868
					St. Offset for Fed Taxes not Owed
					(304)
					. ,

Total Deferred Tax 1,452

#### Louisville Gas and Electric Company Deferred Tax Calculations Environmental Compliance Plans, by Approved Project

#### <u> 2011 - Plan</u>

Project 26 - Mill Creek Station Air Compliance

Month	Plant Balance	Book Depreciation	Tax Depreciation	Temporary Difference	Income Tax Rate	Deferred Tax	Accumulated Deferred Taxes	Deferred Taxes on Retirements
Beg Balance							57,957,313	
Mar-15	328,596,413	570,219	1,744,614	1,174,395	38.9000%	456,840	58,414,153	5,171,517
Apr-15	342,124,347	581,981	1,853,334	1,271,353	38.9000%	494,556	58,908,709	5,171,517
May-15	700,169,914	928,665	19,028,365	18,099,700	38.9000%	7,040,783	65,949,492	6,229,322
Jun-15	700,169,914	1,263,587	19,363,285	18,099,698	38.9000%	7,040,783	72,990,275	6,229,322
Jul-15	700,169,914	1,263,587	19,363,285	18,099,698	38.9000%	7,040,783	80,031,058	-
Aug-15	700,169,914	1,263,587	19,363,285	18,099,698	38.9000%	7,040,783	87,071,841	-

Due to Bonus Depreciation for tax purposes taken on certain components of Project 26, the deferred tax calculation for this project is computed separately for Federal and State purposes. Specifically, for Federal taxes, certain assets received 50% bonus depreciation, which reduces the Federal tax basis to 50% of the plant balance. A sample calculation of deferred taxes for Aug 2015 is shown below:

Federal Basis	Book Depr.	Federal Tax D	Fed. Difference	Fed Tax Rate	Fed Def Tax	
982,514	1,220,420	5,057	(1,215,363)	35.0000%	(425,377)	
9,378		150	150	35.0000%	53	
2,975,818		16,558	16,558	35.0000%	5,795	
(5,725)		(34)	(34)	35.0000%	(12)	
162,474,132		1,551,496	1,551,496	35.0000%	543,024	
3,354,199		20,178	20,178	35.0000%	7,062	
13,527,934		119,175	119,175	35.0000%	41,711	
129,731,687		16,216,461	16,216,461	35.0000%	5,675,761	
228,313,880		2,711,227	2,711,227	35.0000%	948,929	
State Basis	Book Depr.	State Tax Dep	St. Difference	State Tax Rate	St Def Tax	
1,965,028	1,220,420	10,115	(1,210,305)	6.0000%	(72,618)	
18,756		300	300	6.0000%	18	
3,107,474		17,290	17,290	6.0000%	1,037	
(5,725)		(34)	(34)	6.0000%	(2)	
319,795,834		3,053,791	3,053,791	6.0000%	183,227	
3,354,199		20,178	20,178	6.0000%	1,211	
13,527,934		119,175	119,175	6.0000%	7,151	
358,045,567		4,251,791	4,251,791	6.0000%	255,107	
					St. Offset for Fec (131,296)	Taxes not Owed

Total Deferred Tax 7,040,782

#### Response to Commission Staff's First Request for Information To Appendix B of Commission's Order Dated December 21, 2015 and Amended Order Dated January 7, 2016

#### Case No. 2015-00412

#### **Question No. 4**

#### Witness: Christopher M. Garrett

- Q-4. Refer to ES Form 2.50, Pollution Control Operations & Maintenance Expenses, for the March 2015 through August 2015 expense months. 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 please find a schedule showing the changes in the operations and maintenance expense accounts for March 2015 through August 2015 expense months. The changes in the expense levels are reasonable and generally occurred as a part of routine plant operations and maintenance.

2011 Plan

The variances in scrubber operations expenses, account 502056, are driven by the purchase and delivery timing of the raw consumable material as well as variations in generation and coal quality. Effective July 2015, these expenses were included in base rates resulting in their removal from the ECR mechanism.

Fluctuations in scrubber maintenance expenses, account 512055, are the result of normal system maintenance of the new scrubbers at Mill Creek Units 1, 2 and 4 (MC1, MC2 and MC4). MC1 and MC2 were placed in service in July 2015.

Fluctuations in sorbent injection operations expenses, account 506159, are the result of ongoing operation of Trimble County Unit 1 (TC1).

Fluctuations in sorbent injection reactant (hydrated lime) expenses, account 506152, are the result of on-going operation of TC1 and the new 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.

Fluctuations in baghouse operations during July and August 2015, account 506156, are the result of accounting corrections.

Fluctuations in baghouse maintenance expense, account 512156, are the result of normal system maintenance on baghouses for MC1, MC2 and MC4.

Fluctuation in activated carbon expenses, account 506151, are the result of accounting corrections.

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

#### Pollution Control - Operations & Maintenance Expenses

	O&M Expense Account	Mar-15	Apr-15	% Change from Prior Period	May-15	% Change from Prior Period	Jun-15	% Change from Prior Period	Jul-15	% Change from Prior Period	Aug-15	% Change from Prior Period
2009 Plan												
502013	ECR Landfill Operations	-	-	0%	-	0%	-	0%	-	0%	-	0%
512107	ECR Landfill Maintenance	-	-	0%	-	0%	-	0%	-	0%	-	0%
Adjustm	nent for CCP Disposal in Base Rates (ES Form 2.51)	-	-	0%	-	0%	-	0%	-	0%	-	0%
	Total 2009 Plan O&M Expenses	-	-	0%	-	0%	-	0%	-	0%	-	0%
2011 Plan					1				1		1	
502056	ECR Scrubber Operations	120,393.09	151,788.09	26%	121,606.78	-20%	222,841.81	83%	-	-100%	-	0%
512055	ECR Scrubber Maintenance	89,241.81	21,642.55	-76%	31,383.89	45%	21,596.09	-31%	49,903.15	131%	47,501.94	-5%
506159	ECR Sorbent Injection Operation	12,493.96	7,843.66	-37%	22,840.27	191%	8,988.40	-61%	15,810.23	76%	8,812.98	-44%
506152	ECR Sorbent Reactant - Reagent Only	126,929.65	171,700.03	35%	198,122.02	15%	271,868.22	37%	255,782.60	-6%	300,801.57	18%
512152	ECR Sorbent Injection Maintenance	25,451.39	30,029.67	18%	44,769.78	49%	44,490.05	-1%	44,356.51	0%	52,746.22	19%
506156	ECR Baghouse Operations	-	-	0%	-	0%	-	0%	20,331.23	100%	(26,269.36)	-229%
512156	ECR Baghouse Maintenance	11,284.23	4,977.44	-56%	6,327.80	27%	18,695.38	195%	10,350.50	-45%	594.43	-94%
506151	ECR Activated Carbon	-	-	0%	29,256.00	100%	-	-100%	(29,256.00)	-100%	-	100%
Adjustm	nent for Base Rates Baseline Amounts	(202,659.68)	(202,659.68)	0%	(202,659.68)	0%	(202,659.68)	0%	-	100%	-	0%
	Total 2011 Plan O&M Expenses	183,134.45	185,321.76	1%	251,646.86	36%	385,820.27	53%	367,278.22	-5%	384,187.78	5%

#### Response to Commission Staff's First Request for Information To Appendix B of Commission's Order Dated December 21, 2015 and Amended Order Dated January 7, 2016

#### Case No. 2015-00412

#### **Question No. 5**

#### Witness: Christopher M. Garrett

- Q-5. In Case No. 2000-00386,<sup>6</sup> the Commission ordered LG&E's cost of debt and preferred stock to be reviewed and reestablished during the 6-month review cases. Provide the following information as of August 31, 2015:
  - 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 exhibits and schedules of your response in Excel spreadsheet format, with formulas intact and unprotected and all rows and columns accessible.
- A-5. a-d. Please see the attachments being provided in Excel format for the period ended August 31, 2015 under review. There was no preferred stock outstanding as of August 31, 2015; therefore, it is not listed in the attached schedules.

LG&E is utilizing a return on equity of 10.00% as agreed to for all ECR Plans and approved by the Commission in its June 30, 2015 Order in Case No. 2014-00372.

LG&E recommends the continued use of an effective tax rate of 38.6660% in the grossup revenue factor used in the rate of return calculation for the period ended August 31, 2015. As discussed in Question No. 1, LG&E will incur a tax loss in 2015 as a result of bonus depreciation and will be unable to take the Internal Revenue Code §199 manufacturing tax deduction.

<sup>&</sup>lt;sup>6</sup>Case No. 2000-00386, Louisville Gas and Electric Company (Ky. PSC Apr. 18, 2001).

#### Adjusted Electric Rate of Return on Common Equity - ECR Plans As of August 31, 2015

ELECTRIC	Per Books 08-31-15 (1)	Capital Structure (2)	Electric Rate Base Percentage (3)	Electric Capitalization (Col 1 x Col 3) (4)	Adjustments to Capitalization (Col 18) (5)	Adjusted Electric Capitalization (Col 4 + Col 5) (6)	Adjusted Capital Structure (7)	Annual Cost Rate (8)	Cost of Capital (Col 8 x Col 7) (9)
1. Short Term Debt	\$ 282,182,026	8.09%	82.350%	\$ 232,376,898	\$ (71,668,482)	\$ 160,708,416	8.09%	0.41%	0.03%
2. Long Term Debt	1,354,969,776	38.84%	82.350%	1,115,817,610	(344,079,585)	771,738,025	38.84%	3.65%	1.42%
3. Common Equity	1,851,728,783	53.07%	82.350%	1,524,898,653	(470,141,702)	1,054,756,951	53.07%	10.00%	5.31%
4. Total Capitalization	\$ 3,488,880,584	100.000%		\$ 2,873,093,161	\$ (885,889,769)	\$ 1,987,203,392	100.000%		6.76%

5. Weighted Cost of Capital Grossed up for Income Tax Effect {ROR + (ROR - DR) x [TR / (1 - TR)]}

10.11%

	Electric Capitalization (Col 4) (10)	Capital Structure (11)	In	mble County ventories (a) <sup>11 x Col 12 Line 4</sup> ) (12)	in C	NVEC & Other 11 x Col 13 Line 4) (13)	(0	JDIC Col 11 x Col 14 Line 4) (14)	Environmental Compliance Rate Base ol 11 x Col 15 Line 4) (15)	DSM Rate Base 111 x Col 16 Line 4) (16)	l Ta	Ivanced Coal Investment ax Credit (b) 11 x Col 17 Line 4) (17)	Total Adjustments To Capital m of Col 12 - Col 17) (18)
<b>ELECTRIC</b>													
1. Short Term Debt	\$ 232,376,898	8.09%	\$	(402,596)	\$	(93,991)	\$	1,095,061	\$ (73,717,398)	\$ (279,642)	\$	1,730,084	\$ (71,668,482)
2. Long Term Debt	1,115,817,610	38.84%		(1,932,861)		(451,251)		5,257,378	(353,916,405)	(1,342,559)		8,306,113	(344,079,585)
3. Common Equity	1,524,898,653	53.07%		(2,641,013)		(616,579)		7,183,549	(483,582,483)	(1,834,440)		11,349,264	(470,141,702)
4. Total Capitalization	\$ 2,873,093,161	100.000%	\$	(4,976,470)	\$	(1,161,821)	\$	13,535,988	\$ (911,216,286)	\$ (3,456,641)	\$	21,385,461	\$ (885,889,769)

(a)	Trimble County Inventories	As of August 31, 2015	
	Materials and Supplies		\$ 10,039,359
	Stores Expense		1,777,578
	Coal		7,794,582
	Limestone		163,594
	Fuel Oil		130,719
	Emission Allowances		 47
	Total Trimble County Inventories		\$ 19,905,879
	Multiplied by Disallowed Portion		 25.00%
	Trimble County Inv. Disallowed		\$ 4,976,470

(b) Reflects Investment Tax Credit treatment per Case No. 2007-00179.

Attachment to Response to Question No. 5 (a-d) Page 1 of 3 Garrett

### Attachment to Response to Question No. 5 (a-d) Page 2 of 3 Garrett

### LOUISVILLE GAS AND ELECTRIC COMPANY ANALYSIS OF THE EMBEDDED COST OF CAPITAL AT August 31, 2015

				LOI	NG-TE	RM DEBT									
								nortized Debt Issuance	Ar	alized Cost nortized Loss- Reacquired		ter of Credit			Embeddeo
Pollution Control Bonds -	Due	Rate		Principal	Inte	erest/(Income)	E>	kp/Discount		Debt	an	d other fees		Total	Cost
Jefferson Co. 2000 Series A	05/01/27	0.798%	\$	25,000,000	\$	199,406		54,642	\$	125,891	\$		\$	379,939	1.5209
Trimble Co. 2000 Series A	08/01/30	0.280%	•	83,335,000	•	233,338		38,561	•	146,396	+	254,997		673,292	0.808
Jefferson Co. 2001 Series A	09/01/27	0.260%		10,104,000		26,270		20,250		0,000		30,403		76,923	0.7619
Jefferson Co. 2001 Series A	09/01/26	0.250%		22,500,000		56,250		10,005		78,885		22,500		167,640	0.745
Trimble Co. 2001 Series A	09/01/26	1.050%		27,500,000		288,750		56,300		77,619		22,000		422,669	1.5379
Jefferson Co. 2001 Series B	11/01/27	1.350%		35,000,000		472,500		60,376		61,176				594,052	1.697
Trimble Co. 2001 Series B	11/01/27	1.350%		35,000,000		472,500		60,216		60,996				593,712	1.6969
Trimble Co. 2001 Series B	10/01/32	0.262%		41,665,000		109,162		37,229		56,862		146,578		349,831	0.8409
Louisville Metro 2003 Series A	10/01/32	1.650%				2,112,000		155,446		319,586		140,576	,	2,587,032	2.0219
Louisville Metro 2005 Series A	02/01/35	2.200%		128,000,000 40,000,000		2,112,000		69,029		319,586 86,184		-		2,567,032	2.021
								48,412							
Trimble Co. 2007 Series A	06/01/33	4.600%		60,000,000		2,760,000				48,502		-		2,856,914	4.762
Louisville Metro 2007 Series A	06/01/33	1.150%		31,000,000		356,500		65,234		36,027		-		457,761	1.4779
Louisville Metro 2007 Series B Called Bonds	06/01/33	1.600%		35,200,000		563,200		55,450		33,451		-		652,101	1.8539
First Mortgage Bonds -															
2010 due 2015	11/15/15	1.625%		250,000,000		4,062,500		531,210 *	*	-		-		4,593,710	1.8379
Debt discount on FMB	11/15/15	1.625%		(36,429)				179,885 *	*					179,885	-493.7919
2010 due 2040	11/15/40	5.125%		285,000,000		14,606,250		121,429 *				-		14,727,679	5.168
Debt discount on FMB	11/15/40	5.125%		(2,605,405)		,,		105,275 *						105,275	-4.0419
2013 due 2043	11/15/43	4.650%		250,000,000		11,625,000		92,928 *						11,717,928	4.6879
Debt discount on FMB	11/15/43	4.650%		(1,692,390)		11,020,000		61,106 *	*					61,106	-3.6119
Regulatory Liability - Swap Hedging FMB	11/15/43	1.00070		(1,002,000)		(1,461,200)		01,100						(1,461,200)	-3.3969
Revolving Credit Facility	07/28/19							569,955	2	58,219		625,000	-	1,253,175	
Total External Debt			\$	1,354,969,776	\$	37,362,426	\$	2,392,939	\$	1,189,794	\$	1,079,478	\$	42,024,638	3.102
Interest Rate Swaps:															
JP Morgan Chase Bank 5.495% - Trimble Co. 2000 Series A	11/01/20	1			\$	4,258,084	\$	-	\$	-	\$	-		4,258,084	
Morgan Stanley Capital Services 3.657% - Louisville Metro 2003 Series A	10/01/33	1				1,052,574		-		-				1,052,574	
Morgan Stanley Capital Services 3.645% - Louisville Metro 2003 Series A	10/01/33	1				1,048,990		-		-		-		1,048,990	
Bank of America - Louisville Metro 2003 Series A Interest Rate Swaps External Debt	10/01/33	1			\$	1,063,923 7,423,571	\$		\$	-	\$		\$	1,063,923 7,423,571	0.548
Notes Payable to PPL			\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	
Total Internal Debt			\$	<u> </u>	\$		\$		\$		\$		\$		0.000
i otai internal Debt															
		Total	\$	1,354,969,776	\$	44,785,997	\$	2,392,939	\$	1,189,794	\$	1,079,478	\$	49,448,209	3.649

			SHO	RT-TE	RM DEBT						
							Annua	lized Cost			E a b a d d a d
	Maturity	Rate	Principal		Interest	Expense		Loss	Premium	Total	Embedded Cost
Notes Payable to Associated Company Revolving Credit Facility Payable	NA	0.500%	\$ -	\$	-	\$ -	\$	-	\$ -	\$ -	0.000% 0.000%
Commercial Paper Program	Varies	0.413%	 282,182,026		1,165,666	 -		-	 -	 1,165,666	0.413%
		Total	\$ 282,182,026	\$	1,165,666	\$ -	\$		\$ 	\$ 1,165,666	0.413%
Embedded Cost of Total Debt			\$ 1,637,151,801	\$	45,951,663	\$ 2,392,939	\$	1,189,794	\$ 1,079,478	\$ 50,613,875	3.092%
** Debt discount shown on separate line.											

1 Additional interest due to Swap Agreements:

greements:			Expiration of	Fixed	Fixed	Variable
			Swap	LG&E Swap	LG&E Swap	Counterparty
	Underlying Debt Being Hedged	Notional Amount	Agreement	Position	Position	Swap Position
	Series Z - PCB	83,335,000	11/01/20	5.495%	5.495%	BMA Index
	Series CC, DD & EE - PCB	32,000,000	10/01/33	3.657%	3.657%	68% of 1 mo LIBOR
	Series CC, DD & EE - PCB	32,000,000	10/01/33	3.645%	3.645%	68% of 1 mo LIBOR
	Series CC, DD & EE - PCB	32,000,000	10/01/33	3.695%	3.695%	68% of 1 mo LIBO
		179.335.000				

2 Includes setup fees for Wells Fargo and Bank of America amended July 28, 2014 with a five year term. (Royal Bank of Scotland written off July 2015.)

a - Remarketing fee = 10 basis points b - Remarketing fee = 25 basis points c - Revolving Credit Facility fee = 12.5 basis points

#### ECR - Gross-up Revenue Factor & Composite Income Tax Calculation 2015

	2015 State	
	Production Credit	
	W/ 6% 2015 State	
	Tax Rate Included	
Assume pre-tax income of	\$ 100.0000	
State income tax (see below)	5.6400	(40)
Taxable income for Federal income tax		
before production credit	94.3600	(1)-(3)
a. Production Rate	0%	
b. Allocation to Production Income	100%	
c. Allocated Production Rate (a x b)	0.00%	
Less: Production tax credit		(6)*(9)
Taxable income for Federal income tax	94.3600	(6)-(11)
Federal income tax	33.0260	(13)*35%
Total State and Federal income taxes	\$ 38.6660 \$ 61.3340	(3)+(15)
Gross-up Revenue Factor	\$ 61.3340	100-(18)
Therefore, the composite rate is:		
Federal	33.0260%	(15)/100
State	5.6400%	(3)/100
Total	38.6660%	(23)+(24)
State Income Tax Calculation		
Assume pre-tax income of	\$ 100.0000	
1		
Less: Production tax credit @ 6%	6.0000	
Taxable income for State income tax	94.0000	(32)-(34)
State Tax Rate	6.0000%	

#### Response to Commission Staff's First Request for Information To Appendix B of Commission's Order Dated December 21, 2015 and Amended Order Dated January 7, 2016

#### Case No. 2015-00412

#### CORRECTED ATTACHMENT

#### **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 being provided in Excel format.

The actual average residential customer's usage for the 12-months ending November 30, 2015 is 976 kWh per month. Actual average monthly usage for residential customers will vary from month to month depending upon the time period of the year.

Based upon distributing the over-recovered position of \$1,702,207 over three months (\$567,402 per month for two months and \$567,403 for one month), the ECR billing factor will be lower by approximately 0.67% per month. For a residential customer using 976 kWh per month, the impact of the adjusted ECR billing factor would be a decrease of approximately \$0.62 per month for three months, using rates and adjustment clause factors in effect for the November 2015 billing month.

#### LG&E ECR 6-Month Review Case No. 2015-00021

		INPUTS:	Residential Bill Impact Calculations		
	Expense Month for calculations	s Nov-	Adjusted Net Juris E(M) as filed Adjustment for (Over)/Under Collection	\$ 8,200,454 (567,402)	
ECR Monthly Filing -	Expense Month for calculations		Adjusted Net Juris E(M) as adjusted for (Over)/Under Collection		
Form 1.10 - Line 13	Adjusted Net Juris E(M) as filed	\$ 8,200,45			
Form 1.10 - Line 14	Group 1 Rev as % 12-mo Total Rev	41.80	Group 1 Rev as % 12-mo Total Rev	41.80%	
Form 1.10 - Line 15	Group 1 E(m)	\$ 3,427,79	Group 1 E(m) as filed	\$ 3,427,790	
Form 1.10 - Line 16	Group 1 12-month avg revenue	\$ 35,214,04	Group 1 E(m) as adjusted		
Form 1.10 - Line 17	Billing Factor filed	9.73			
	5		Group 1 12-month revenue	\$ 35,214,049	
Financial Reports - Y	ear Ended Current Month	Nov-	Billing Factor as filed	9.73%	
Page 30	Residential Sales (kWh)	4,136,956,15	Billing Factor as adjusted	9.06%	
Page 18	Residential Avg Customers Year Ended	353,17	Impact to billing factor	-0.67%	
	times 12 for 12-month number	4,238,05			Average Resident
			Bill Impact, Average Residential Customer		976
Response to DR Q2	Adjustment for (Over)/Under Collection	(1,702,20	Basic Service Charge	10.75 \$	10.75
	Number of Months to collect/distribute		Base Rate	0.08082	78.88
	Monthly Adj for (Over)/Under Collection	(567,40	FAC for Nov-15	(0.00022)	(0.21)
	Position for Review Period Collection	OVER	DSM	0.00356	3.47
Billing Factors				\$	92.89
Tariff	Basic Service Charge	10.7			
Tariff	Base Rate	0.0808	ECR (as billed)	9.73% \$	9.04
Monthly Filing	FAC for Nov-15	(0.0002	ECR (as adjusted)	9.06% \$	8.42
Tariff	DSM	0.0035	Change in ECR	-0.67% \$	(0.62)
			ſ	negative number =	over collection = distribution
			4	ositive number = ı	under collection = recovery

CORRECTED Attachment to Response to Question No. 6
Page 1 of 1
Rahn

Average Residential Usage 976 kWh