

Dr. Talina R. Mathews Executive Director Kentucky Public Service Commission 211 Sower Boulevard Frankfort, Kentucky 40602-0615



DEC 1 6 2016

PUBLIC SERVICE COMMISSION

Louisville Gas and Electric Company State Regulation and Rates 220 West Main Street PO Box 32010 Louisville, Kentucky 40232 www.lge-ku.com

Derek A. Rahn Manager Revenue Requirement T 502-627-4127 F 502-217-4002 Derek.rahn@lge-ku.com

December 16, 2016

RE: Revised Gas Line Tracker Filing of Louisville Gas and Electric Company Case No. 2016-00383

Dear Dr. Mathews:

Enclosed please find an original and ten copies of the Response of Louisville Gas and Electric Company to the Attorney General's Initial Request for Information dated December 2, 2016, in the above-referenced docket.

Please contact me if you have any questions concerning this filing.

Sincerely,

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Derek A. Rahn

COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION RECEIVED

DEC 1 6 2016

PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF LOUISVILLE GAS AND)	
ELECTRIC COMPANY FOR APPROVAL OF)	
REVISED RATES TO BE RECOVERED)	CASE NO.
THROUGH ITS GAS LINE TRACKER)	2016-00383
BEGINNING WITH THE FIRST BILLING)	
CYCLE FOR JANUARY, 2017)	

RESPONSE OF LOUISVILLE GAS AND ELECTRIC COMPANY TO ATTORNEY GENERAL'S INITIAL REQUEST FOR INFORMATION DATED DECEMBER 2, 2016

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FILED: DECEMBER 16, 2016

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 <u>1544</u> day of <u>ecember</u> 2016.

Schoole (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, Lonnie E. Bellar, being duly sworn, deposes and says that he is Vice President, Gas Distribution for Louisville Gas and Electric Company and an employee of 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.

onnie E. Bellar

Subscribed and sworn to before me, a Notary Public in and before said County

and State, this 16th day of Prembe 2016.

ublic (SEAL)

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

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 1

- Q-1. Reference the application, p. 2. Provide a complete explanation for the 30.5% proposed increase in the gas line tracker (GLT) rate for residential gas service as compared with the same rate approved in 2015.
- A-1. The increase in the GLT rate is due to an increase in the GLT revenue requirement between periods. Specifically, the 2017 revenue requirement is projected to increase approximately \$6.2 million over the 2016 amount driven by a \$33 million increase in rate base and \$2.8 million increase in operating expenses including depreciation. Both the rate base and operating expense increases are driven primarily by the increased GLT capital investment. It is important to note that the proposed GLT rate of \$6.33 for the 2017 forecast is lower than the \$6.76 rate for 2017 provided in the original application requesting approval of the GLT mechanism in Case No. 2012-00222.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 2

- Q-2. Confirm that LG&E over-collected \$0.26 for residential gas service on the GLT during 2015.
- A-2. In Case No. 2016-00108¹, which the Company filed pursuant to its tariff to true-up the 2015 program year, the Company demonstrated an *undercollection* for 2015. The resulting addition to the existing factor for residential gas service customers was \$0.26 per month.

¹ Application of Louisville Gas and Electric Company for Approval of Revised Rates to be Recovered Through its Gas Line Tracker Beginning with the First Billing Cycle for May 2016, Order dated March 31, 2016.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 3

- Q-3. Confirm that LG&E over-collected \$1.38 for commercial gas service on the GLT during 2015.
- A-3. In Case No. 2016-00108, which the Company filed pursuant to its tariff to true-up the 2015 program year, the Company demonstrated an *undercollection* for 2015. The resulting addition to the existing factor for commercial gas service customers was \$1.38 per month.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 4

- Q-4. If the company's proposed increase is approved, confirm that this would represent a 150.2% increase in the GLT rate over the rate approved in 2014.
- A-4. Yes, for residential gas service. As expected, the 2017 rate is higher than the 2014 rate as a result of the GLT investments made. Furthermore, it is important to note that this increase is relatively consistent with the 102% increase for the same time periods provided in the original application requesting approval of the GLT mechanism in Case No. 2012-00222.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 5

- Q-5. Confirm that in the present case, LG&E seeks a 10% return on equity (ROE).
- A-5. LG&E is using a 10% return on equity (ROE) in this case as approved by the Commission in Case No. 2014-00372² and agreed to by the parties to the Settlement in that case. The GLT tariff specifies the rate of return on the net rate base is the overall rate of return on capital authorized in the Company's latest base gas rate case, grossed up for federal and state income taxes.

² Application of Louisville Gas and Electric Company for an Adjustment of its Electric and Gas Rates, Order dated June 30, 2015.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 6

- Q-6. Confirm that in Case Nos. 2016-00026³ and 2016-00027,⁴ the Commission in its final orders dated August 8, 2016 issued in these two respective cases approved an ROE of 9.8%.
- A-6. Yes, the Company confirms that in Case Nos. 2016-00026 and 2016-00027, the Commission approved an ROE of 9.8% for the 2016 ECR Plan Projects.

³ Application of Kentucky Utilities Company For Certificates Of Public Convenience And Necessity And Approval Of Its 2016 Compliance Plan For Recovery By Environmental Surcharge.

⁴ Application of Louisville Gas And Electric Company For Certificates Of Public Convenience And Necessity And Approval Of Its 2016 Compliance Plan For Recovery By Environmental Surcharge.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 7

Witness: Lonnie E. Bellar

- Q-7. Provide an estimated date at which LG&E expects to complete its: (a) gas line program; and (b) leak mitigation program, which includes a mains replacement component.
- A-7. (a) See the response to PSC 1-5.

(b) See the response to PSC 1-5.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 8

- Q-8. Reference the direct testimony of Chris Hermann in Case No. 2012-00222, p. 18. Confirm that the GLT includes both costs for the gas line program (service lines and risers); and (b) the leak mitigation program (mains).
- A-8. Confirmed.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 9

- Q-9. Confirm that at the time testimony was filed in Case No. 2012-00222, LG&E had identified 141 miles of distribution mains yet to be replaced. Provide an update regarding:
 - a. the miles of distribution mains yet to be replaced;
 - b. the miles of any other mains, whether distribution or transportation, yet to be replaced; and
 - c. the scheduled completion date of the leak mitigation program.
 - d. any additional miles of distribution mains added to this program since that estimate.
- A-9. In Case No. 2012-00222, LG&E identified 141 miles of large scale distribution main installation that would be required to complete that portion of the program. These installations are necessary in order to complete the replacement of the targeted materials.
 - a. As of 30 November 2016, less than 1 mile remains to be installed to complete the replacement of distribution mains targeted by the leak mitigation program.
 - b. There are no other mains yet to be installed by the leak mitigation program.
 - c. See the response to PSC 1-5.
 - d. No additional miles have been added to the program since our estimate in 2012. See the response to Question No. 11.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 10

- Q-10. With regard to the company's response to question number 8, above, has the company added any additional mileage of any and all types of mains to the leak mitigation program since the project's inception date? If so, provide a complete explanation and the number of miles.
- A-10. No additional mileage has been added to the program. See also the response to Question No. 11.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 11

- Q-11. Does the leak mitigation program's criteria call for replacement of all mains, including those mains to be replaced in the normal course of business, or only such mains that are known to be leaking?
 - a. Provide copies of all materials setting forth the criteria for identifying mains to be included within the leak mitigation program.
- A-11. LG&E's leak mitigation program calls for the replacement of all unprotected metallic mains and associated services, not just those known to be leaking.
 - a. The leak mitigation program targets the replacement of unprotected gas system infrastructure with new medium density polyethylene or protected steel pipe. The unprotected infrastructure consists primarily of mains constructed of bare steel, cast iron and wrought iron material. These materials are susceptible to leaks caused by earth movement (primarily cast and wrought iron) and corrosion. Some protected main will be replaced as part of this program mainly to facilitate an increase in operating pressure of the newly installed system. This criteria has been consistently applied during the recovery of the leak mitigation program costs through the GLT mechanism and is replicated in numerous company materials. Considering the relative simplicity and the consistency of the application of this criteria the company has provided an Investment Proposal as an example.

Investment Proposal for Investment Committee Meeting on: December 19, 2012

Project Name: <u>LEAK MITIGATION - 2013</u>

Total Expenditures: <u>\$23,469K</u>

Project Number: LSMR414, PMR414, RRCS419G, DLSMR414, LEAK419G (O&M)

Business Unit/Line of Business: Energy Delivery / Gas Distribution Operations

Prepared/Presented By: Kevin Murphy/John Wolfe

Executive Summary

This proposal seeks approval for investment of \$23,469 Capital and \$1,394K O&M for management of unprotected gas system infrastructure and authorization for investment relating to the Gas Leak Mitigation effort for 2013. This is a continuation and extension of the multi-year plan originally proposed in 2003 (starting construction in 2004). A total of \$101,322K is included in the 2013-2016 MTP for capital and \$5,886K for operating expenses.

Three other alternatives were considered for this proposal:

- 1. Eliminate unprotected pipe, maintain current leak backlog (current unprotected leak backlog is minimal, however the expense in maintaining backlog on unprotected pipe which will be replaced makes this alternative less attractive)
- 2. Eliminate unprotected pipe, maintain regulatory obligations (allow the leak backlog to grow not a viable option for a leak mitigation program)

The recommended program alternative has an NPV of \$2,476K. This plan will result in the replacement of remaining unprotected gas mains and services, while maintaining all regulatory obligations on the unprotected system, and maintaining the current leak backlog on the protected system. The annual cash flow for the entire program is outlined below (\$000's):

	Capital Funding Levels (Rev 11 09 2012)					O&M
Year	Large Scale Program	Priority Main Replacement	Downtown Rehabilitation	Service Line Replacement	Total	Funding Levels
2004-2012	\$107,720	\$15,226	\$6,241	\$23,673	\$157,039	\$11,235
2013	\$11,435	\$4,517	\$5,420	\$2,097	\$23,469	\$1,394
2014	\$11,768	\$4,743	\$5,884	\$2,145	\$24,540	\$1,461
2015	\$12,721	\$4,980	\$6,017	\$2,204	\$25,922	\$1,497
2016	\$0	\$0	\$25,127	\$2,264	\$27,391	\$1,534

Note: The 2012 costs included above are forecasted costs.

The costs in this program are proposed to be recovered through the Gas Line Tracker, upon Kentucky Public Service Commission approval.

Attachment to the Response to Question No. 11 Page 2 of 6 Bellar

Background

Approximately 140 miles of gas mains remain targeted for replacement. The condition of unprotected pipe in the system will continue to deteriorate and result in gas leaks that must be repaired to maintain compliance with governmental regulations and to ensure public safety. Due to the constant deterioration of bare steel, cast iron and other unprotected facilities, LG&E will eventually replace all unprotected gas main inventory. The Office of Pipeline Safety required operators to develop and implement an integrity management program that mitigates risk on distribution pipelines.

Since 1996, LG&E has been replacing the antiquated low pressure bare steel, wrought iron, and cast iron distribution systems with new medium pressure polyethylene systems. Advantages associated with the integrity of the new polyethylene medium pressure system include safer operation, elimination of corrosion leaks, and reduced likelihood of water intrusion.

Project Description

• Project Scope and Timeline

Construction occurs through the year, starting January 1st, and completing on December 31st. This allows a steady base workforce through the year, with a summer peak to address work best performed in the warm summer months.

The scope of each project is as follows:

<u>Large Scale Main Replacement</u> – install and uprate/convert approximately 24.5 miles of gas pipeline and the associated company and customer service lines.

<u>Priority Main Replacement</u> – install approximately 6.7 miles of gas pipeline and associated company service lines.

<u>Downtown Main Replacement</u> – install approximately 4.1 miles of gas pipeline and associated services.

Service Replacement - replace approximately 1,080 company service lines.

<u>O&M Leak Repair</u> – repair leaking gas facilities utilizing repair clamps, sealing cast iron joints, wrapping pipe and other methods that leave the existing pipeline infrastructure in place.

• Project Cost

The total cost of this project for 2013 is \$23,469K of capital and \$1,394K of O&M. See the Executive Summary section for a detailed project by project breakdown through 2016.

As stated in the Capital Blanket Policy, the Gas Leak Mitigation Projects will be considered blanket projects and, as such, they are not closed each year but are re-budgeted every year and will be unitized on an "as-spent" basis. They will be included each month under a separate category on the blanket list provided to Financial Planning and Property Accounting. AIP's are not required on these projects and the Investment Committee approval of this Investment Proposal will serve as the necessary approval.

Economic Analysis and Risks

• Bid Summary

The Large Scale and Priority Main Replacement work is being performed under an existing contract with Miller Pipeline (contract no. 812643). This contract was bid and awarded in 2010 and is set to expire in 2015.

The Downtown Large Scale Main Replacement work is being executed under contract 853684 which was approved in April 2012 and set to expire at the end of 2016.

Assumptions

- Current bare steel, cast iron and wrought iron mains and service lines will continue to develop leaks at an accelerated rate.
- Downtown Rehabilitation unit costs are assumed to be comparable by region to costs experienced during the Gas Manhole Project and other downtown pilot initiatives undertaken in 2010 and 2011.
- o Metro Louisville will maintain existing resurfacing policies.
- Metro Louisville will restrict hours and dates available for construction work.
- No significant changes in scope of project to occur within next 12 months.
- o Cost of Capital remains constant at 6.68% throughout term of project.
- o Future labor rates will remain consistent with the current Miller Pipeline contract.
- o Materials will represent 17% of total annual project costs.

• Financial Summary

Discount Rate:	6.55%	
Capital Breakdown:		
Labor:	\$ 2,347	
Contract Labor:	\$ 13,589	
Materials:	\$ 3,990	
Local Engineering:	\$ 1,196	
Contingency:	\$ 2,347	
Reimbursements:	\$0	
Net Capital Expenditure:	\$ 23,469	
NPVRR:	\$ 127,906	
NPV:	\$2,476	
IRR:	6.9%	

The capital breakdown above is for 2013 only to be consistent with the capital dollars that approval is asked for in this proposal. The NPVRR, NPV and IRR above are for the full Gas Leak Mitigation project costs from 2013-2016.

Attachment to the Response to Question No. 11 Page 4 of 6

Bellar	

					Bellar
Financial Detail by Year (\$000s)	2013	2014	2015	Post 2015	Total
1. Capital Investment Proposed	22,480	23,504	24,957	26,961	. 97,902
2. Cost of Removal Proposed	989	1,036	965	430	3,420
3. Total Capital and Removal Proposed (1+2)	23,469	24,540	25,922	27,391	101,322
4. Capital Investment 2013 MTP	22,480	23,504	24,957	26,961	97,902
5. Cost of Removal 2013 MTP	989	1,036	965	430	3,420
6. Total Capital and Removal 2012 MTP (4+5)	23,469	24,540	25,922	27,391	101,322
7. Capital Investment variance to MTP (4-1)	,	± _		-	-
8. Cost of Removal variance to MTP (5-2)	-	: _ '	÷	· _	-
9. Total Capital and Removal variance to MTP (6-3)		·	- -	-	· -
10. Project O&M Proposed	1,394	1,461	1,497	1,534	5,886
11. Total Project Proposed (3+10)	24,863	26,001	27,419	28,925	107,208
12. Net Income	\$637	\$1,942	\$3,312	\$10,959	\$16,850

• Sensitivities

Sensitivities	Cl	Change in NPV		
	2013	2014	2015	Total
Project Costs (Capital +/- 10%)	+/-4126	+/-383	+/-654	+/-248
Project Costs (O&M +/-10%)	-/+139	- /+111	-/+10	-/+40

• Risks

Regulatory:

There is a regulatory obligation to repair leaks based on the severity of the leak. Failure to repair these leaks is a violation of Federal DOT regulations (49 CFR 192).

New federal pipeline safety regulations required natural gas pipeline operators to implement a Distribution Integrity Management Program (DIMP) in August 2011. The Program must evaluate risks and take actions to mitigate them as appropriate. PHMSA has urged owners and operators to conduct a comprehensive review of cast iron distribution pipeline systems and replacement programs and to accelerate pipeline repair, rehabilitation, and replacement of aging and high-risk pipe.

Bare steel, wrought iron and cast iron pipes are some of the highest relative risk pipes in our distribution system. Eliminating these facilities under the main replacement program is the

primary action the Company uses to satisfy the requirement to take Distribution Integrity mitigative actions.

State regulatory agencies monitor gas incidents and some states have mandated the replacement of unprotected gas mains within a specific time period (specifically: Atlanta Gas Light Company - 15-year program, complete by 2013, Washington Gas Light - 10-year program for large diameter cast iron, completed in 2004). The mandated infrastructure programs most often result from a series of gas incidents in which aging infrastructure was a direct cause or significant contributing factor.

Safety:

Cast iron main was the material of choice for distribution piping during the 19th century and the first half of the 20th century due to its excellent corrosion resistance and low cost. However, cast iron is more brittle than modern plastic or steel distribution pipe, making it prone to breaks when subjected to bending forces typically caused by nearby construction, or other stresses. Cast iron pipes are especially susceptible to damage from stresses produced by earthquakes. Cast iron is also subject to leaks at the "bell joints". It is also often located in highly congested, paved areas limiting the ability of the gas to escape to atmosphere, and promoting gas migration.

Much of the bare steel and wrought iron gas mains were installed in the 1940s and 1950s. Due to the lack of cathodic protection on these systems, these systems are subject to high corrosion leak incident rates.

Operational:

Due to the condition of the aging pipelines often times leaks cannot be effectively repaired. The only effective solution to such leaks is to entirely replace the pipeline.

Due to the low operating pressure, leaks on low pressure gas mains and services can allow ground water to get into the main. These situations are difficult to pinpoint, and can cause multiple customer interruptions before the root problem can be identified and repaired.

• Other Alternatives Considered

Financial analysis performed focuses on determining the optimal investment alternative for gas main and service line replacement, and gas leak repair (including protected main), taking into consideration overall program cost, timeline, cash flow, operational impact, and risk management. The following scenarios were analyzed:

- Alternative 1: Eliminate unprotected pipe, maintain current leak backlog.
- Alternative 2: Eliminate unprotected pipe, maintain regulatory obligations.

This alternative will allow the leak backlog to grow on a regular basis, and is not considered a viable option, as reducing and maintaining a minimal backlog is one of the objectives of this program.

• Alternative 3: Eliminate unprotected pipe, maintain regulatory obligations on unprotected pipe leak backlog, maintain current leak backlog on protected pipe leak backlog.

Alternative 3 is recommended and is consistent with this proposal.

Conclusions and Recommendation

It is recommended that the Investment Committee approve the Gas Leak Mitigation project for \$23,469K to address the safety, regulatory and operational risks associated with leaking gas infrastructure and unprotected metallic gas pipeline inventories.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 12

Witness: Lonnie E. Bellar

- Q-12. Provide an update on the numbers of: (a) service lines; and (b) risers yet to be replaced under the gas line replacement program, together with any update to the scheduled date of the program's completion.
- A-12. (a) See the response to PSC 1-5.

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(b) See the response to PSC 1-5.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 13

Witness: Lonnie E. Bellar

- Q-13. Explain why Incremental O&M expense is expected to vary so drastically from month-tomonth in 2017, as presented on Exhibit B.
- A-13. The variance is attributed to the baseline adjustment. In Case No. 2012-00222, a baseline level of expenses for the period April 2011 through March 2012 (2012 rate case test year) was established to prevent the Company from double recovering expenses for amounts already included in base rates. To the extent GLT O&M expenses exceed or fall below the baseline amounts in a month, an adjustment is made.

For the months of February and April 2017, the amount of O&M expenses included in the baseline are higher which results in a reduction in the recoverable O&M expenses for that month.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 14

- Q-14. Explain why Cost of Removal is expected to increase every month in 2017 as presented in Exhibit B, and provide the date in which the Company expects Cost of Removal to level out. If the company is unable to provide a date, explain why.
- A-14. The amount shown on Exhibit B represents the accumulated Cost of Removal balance, therefore this will increase each month as removal expenditures are incurred.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 15

- Q-15. Explain why Riser Retirements and Reserve Retirements, as presented in Exhibit D, occur in November.
- A-15. Retirements of risers are forecasted to occur in November which is consistent with the timing of actual retirements that have occurred in either October or November in previous years. Retirements of risers are processed annually due to the numerous quantity of risers replaced.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 16

- Q-16. Explain why Services-Risers are retired but Mains and Services-Lines are not.
- A-16. Main and service line retirements are not included in the forecast filing because detailed vintage information is not readily available to accurately forecast the retirements. However, actual main and service line retirements are included in the annual true-up calculation.

Response to Attorney General's Initial Request for Information Dated December 2, 2016

Case No. 2016-00383

Question No. 17

Witness: Christopher M. Garrett

Q-17. Provide the case number in which the depreciation rates used in Exhibit E were approved.

A-17. The depreciation rates used in Exhibit E were approved in Case No. 2012-00222⁵.

⁵ Application of Louisville Gas and Electric Company for an Adjustment of its Electric and Gas Rates, A Certificate of Public convenience and Necessity, Approval of Ownership of Gas Service Lines and Risers, and a Gas Line Surcharge, Order dated December 20, 2012.