

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF)	
LOUISVILLE GAS AND ELECTRIC)	
COMPANY FOR APPROVAL OF)	CASE NO. 2020-00032
REVISED RATES TO BE RECOVERED)	
THROUGH ITS GAS LINE TRACKER)	

RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION
DATED APRIL 7, 2020

FILED: APRIL 17, 2020

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's First Request for Information

Dated April 7, 2020

Case No. 2020-00032

Question No. 1

Witness: Andrea M. Fackler

- Q-1. Refer to the application, Exhibits 2, 3, and 4. Provide an electronic version of these spreadsheets in Excel spreadsheet format with all formulas intact and unprotected and with all columns and rows accessible. Include any corrections and modifications that may occur as a result of the responses to the below questions. Be sure to note all corrections made with a detailed explanation as to why the correction or modification was necessary.
- A-1. See attachment being provided in Excel format. The response below uses line number references per the revised file, which may not be the same as the original file.

Below is a summary of corrections made to the Excel spreadsheet. The corrections are highlighted in red font in the attached Excel spreadsheet.

- Revised Exhibit 4, Page 4 of 18 or Cap&OpEx 2020 tab of Excel spreadsheet
 - Line 8 – In October 2020 included \$2,729,692 forecasted retirement of plant in service recovered in base rates; this was inadvertently omitted from the original filing
 - Line 11 – Added new line for Customer Service Retirements and adjusted line numbering and sum formulas in Line 12 accordingly; included \$95,827 in forecasted retirements of plant in service recovered in base rates for all months in 2020; these amounts were inadvertently omitted from the original filing
 - Line 18 – To properly reflect the forecasted costs of removal, added new line for Customer Service Cost of Removal and adjusted line numbering and sum formulas in Line 19 accordingly
- Revised Exhibit 4, Pages 5-16 of 18 or 202001 Bk Depr through 202012 Bk Depr tabs of Excel spreadsheet
 - Line 8 – Added new line for Mains - Transmission Retirements and adjusted line numbering and sum formulas in Line 12 accordingly; included \$2,729,692 forecasted retirement of plant in service recovered in base rates for October 2020; this was inadvertently omitted from the original filing
 - Line 11 – Added new line for Services-Customer Lines Retirements and adjusted line numbering and sum formulas in Line 12 accordingly; included \$95,827 in forecasted retirements of plant in service recovered in base rates

- for all months in 2020; these amounts were inadvertently omitted from the original filing
- Line 15 – Added new line for Mains - Transmission Cost of Removal and adjusted line numbering and sum formulas in Line 19 accordingly; included forecasted cost of removals for March through December 2020; these amounts were inadvertently omitted from the original filing

Below is a summary of modifications made to the Excel spreadsheet to enhance how the data flows through the filing in an attempt to make review of the file more transparent. The modifications are highlighted in blue font in the attached Excel spreadsheet.

- Revised Exhibit 4, Page 4 of 18 or Cap&OpEx 2020 tab of Excel spreadsheet
 - Line 16 and 18 – Forecasted costs related to replacing steel service lines inadvertently included in Line 16 were moved to Line 18; this update has no impact on the filing results
 - Line 17 and 18 – Forecasted costs related to replacing customer service lines inadvertently included in Line 17 were moved to Line 18; this update has no impact on the filing results
- Revised Exhibit 4, Pages 5-16 of 18 or 202001 Bk Depr through 202012 Bk Depr tabs of Excel spreadsheet
 - Line 18 – Forecasted costs related to replacing customer service lines for certain projects inadvertently included in Line 16 and 17 were moved to new Line 18 for Services-Customer Lines Cost of Removal; line numbering and sum formulas in Line 19 updated accordingly; this update has no impact on the filing results
- Revised Exhibit 4, Pages 17-18 of 18 or Tax Depr 2020-Dist and Tax Depr 2020-Trans tabs of Excel spreadsheet
 - To aid in understanding the calculations, added new column “Applied to In Service Year #” – represents the Year number for asset additions that the MACRS tax rate is applied to (e.g., 2019 asset additions are multiplied by the 0.072190 MACRS tax rate since the assets have now been in service for two years – 2019 and 2020)
 - To aid in understanding the calculations, moved the MACRS Tax Depr Rates column heading down to be above Line 4 and removed the references to Year # in the column headings
 - To aid in understanding the calculations, added footnote references to the applicable Asset Additions columns (e.g., footnote (c) applies to the 2019 asset additions); also updated footnotes (a) through (c) to remove reference to “plus repairs” which is only applicable for current year additions
 - The second page of these tabs were inadvertently left out of the electronically filed PDF version filed with the Commission; the data is available for Commission review in the attached Excel spreadsheet.

The Attachment to the
Response to Question
No.1 is being
provided in a separate
file in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's First Request for Information

Dated April 7, 2020

Case No. 2020-00032

Question No. 2

Witness: Andrea M. Fackler

Q-2. Refer to the application Exhibit 4, pages 4–16 of 18. Page 4 of 18 is a summary of forecasted monthly capital and operating costs for 2020. On pages 5–16 of 18, column 6 contains monthly additions of plant. The Mains-Transmission Capex information listed on line 2 does not match the information contained in the monthly forecasts in column 6 on pages 5–14 of 18.

- a. Provide an explanation, reconciliation, and updated Exhibit 4 with the correct information.
- b. Provide the details and support for the proposed MainsTransmission figure listed on line 2, column 6, pages 5–16 of 18.
- c. Refer to pages 5–16 of 18. Provide an analysis of the Retirements, Total Plant, and Cost of Removal for each month.

A-2.

- a. The Mains-Transmission Capex information listed on line 2 should not match the information contained in the monthly forecasts in column 6 on pages 5–16 of 18. In application Exhibit 4, page 4 of 18, the forecasted amounts shown for the Main-Transmission Capex on line 2 are the monthly forecasted capital expenditures in construction work in progress for all approved projects. The forecasted amounts shown on Exhibit 4, pages 5-16 of 18, column 6 include only plant put into service since these schedules are used to determine book depreciation expense. For example, on page 9 of 18, the \$26,319,566 shown in column 6 for Mains – Transmission is only for the Transmission Modernization Program's Penile Gate Station to Preston Gate Station project. The amount is derived by summing the December 2019 construction work in progress balance and the forecasted capital expenditures for January through May 2020 when the assets are expected to be put into service. Once the assets are placed in service, any additional capital expenditures on the project in subsequent months are immediately placed in service as well. See also the response to part b.
- b. See attached. As discussed in the response to part a, the plant in service amounts are based on capital expenditures for the underlying approved projects through the end of the month when the assets are expected to be put into service.

- c. In preparing the response to this question, LG&E identified retirements of assets currently included in base rates that are forecasted to occur in 2020 and were inadvertently not included in the filing. See the attachment to the response to Question No. 1 for the updated forecast data. All actual retirements are reflected in the true-up calculation in the subsequent year's GLT filing.

For Total Plant and Cost of Removal, see page 1 of the attachment to the response to Question No. 2(b), which provides the construction work in progress balances by internal project code and the attached, which provides the monthly forecasted capital expenditures and cost of removal by internal project code. Note that the land projects will not be reported on Exhibit 4, Pages 5-16 of 18 since these pages are used to calculate book depreciation. All of the distribution projects are in-service, so the monthly capital expenditures are immediately put into service when incurred; whereas, the transmission projects are not expected to be put into service until later in 2020. See also the response to part a.

**Louisville Gas and Electric Company
Gas Line Tracker Report
Plant, CWIP & Depreciation Expense
As of December, 2019**

Project	Eligible Plant In Service	Eligible Accumulated Depreciation	CWIP	Eligible Net Plant In Service	Plant Account	Depr. Rate	Monthly Depreciation Expense
TLR414			-		236700	2.05%	
TMPPENBLN			3,363,969.17		236700	2.05%	
TMPPENBLN-ROMANIA LAND*	28,379.70			28,379.70	237413	0.00%	
TMPPENPRS			20,154,687.29		236700	2.05%	
TMPPROP1*	256,925.22	-		256,925.22	237413	0.00%	-
TMPPROP2*	295,187.87		-	295,187.87	237413	0.00%	
TMPPRSPIC			19,903,590.64		236700	2.05%	
	\$ 580,492.79	\$ -	\$ 43,422,247.10	\$ 44,002,739.89			\$ -

**Gas Line Tracker
Capital by Month**

account	project	bud_description	year	01_Jan	02_Feb	03_Mar	04_Apr	05_May	06_Jun	07_Jul	08_Aug	09_Sep	10_Oct	11_Nov	12_Dec	Sum of total	In-service	
PPLBCW: TOTAL CONSTRUCTION WORK IN PROGRESS																		
	TMP	PENILE-BLANTON LN	2020	18,475	40,000	914,943	2,109,317	2,114,189	2,190,744	2,126,967	2,141,439	2,128,988	2,111,160	2,003,349	458,231	18,357,803	XM	Oct-20
	TMP	PENILE-PRESTON	2020	1,308,517	2,400,000	2,196,921	123,920	135,520	137,495	137,495	131,495	118,320	118,320	112,720	114,695	7,035,418	XM	May-20
	TMP	PRESTON-PICCADILLY	2020	1,321,308	1,200,000	1,598,334	988,323	2,261,994	2,214,019	1,888,344	1,885,425	1,886,066	1,877,313	1,628,004	309,912	19,059,041	XM	Oct-20
PPLBRS: TOTAL REMOVAL SPEND																		
	TMP	PENILE-BLANTON LN	2020	0	0	56,000	56,000	56,000	56,000	56,000	56,000	56,000	56,000	56,000	56,000	560,000	XM	
	TMP	PENILE-PRESTON	2020	0	0	0	0	0	0	0	36,000	36,000	36,000	36,000	0	144,000	XM	
	TMP	PRESTON-PICCADILLY	2020	0	0	0	0	0	0	0	0	15,232	30,464	33,510	0	79,206	XM	

Gas Line Tracker
Capital by Month

account	project	bud_description	year	01_Jan	02_Feb	03_Mar	04_Apr	05_May	06_Jun	07_Jul	08_Aug	09_Sep	10_Oct	11_Nov	12_Dec	Sum of total	In-service	
PPLBCW: TOTAL CONSTRUCTION WORK IN PROGRESS																		
380	107001	CCSO419	REPL EXIST CUST SRV W RISER	2020	272,956	197,504	204,106	203,611	195,747	206,674	218,170	225,352	209,956	224,704	218,690	197,401	2,574,870	Cust Serv
380		CCSO421	REPL EXIST CS WITH RISER-MUL	2020	9,639	7,848	7,318	5,758	1,680	1,680	1,680	1,680	280	(1,282)	(782)	180	35,680	Cust Serv
380		CCSO4485	REPL EXIST CS & RISER-4485	2020	1,602	2,419	8,821	0	10,410	28,000	8,960	15,541	0	4,021	5,760	8,970	94,505	Cust Serv
380		CNBCS419	NB CUST SRV LINE & GAS RISER	2020	400,545	353,879	376,743	379,997	356,833	377,388	402,077	427,652	394,614	434,810	404,389	403,426	4,712,353	Cust Serv
380		CNBCS421	NB INST CUST SERV LINE & RSR	2020	12,065	(8,772)	1,680	1,680	2,240	1,680	1,680	1,680	2,715	1,680	1,680	1,680	21,687	Cust Serv
380		CNBCS4485	INST CUST SRV - MAGNOLIA	2020	405	6,405	0	0	16,341	0	0	2,240	0	0	0	0	25,391	Cust Serv
380		CRSS414	REPLACE STEEL SERVICE LINES	2020												0	0	Cust Serv
380		RRCS419G	REP CO GAS SERV 419	2020	272,854	126,983	192,024	197,037	181,698	194,602	203,362	221,773	203,775	231,705	213,876	220,457	2,460,144	Serv-Lns
380		RRCS421	Serv Line Repl-Muldraugh	2020	0	89,484	39,237	38,758	4,573	(1,680)	(1,680)	(1,680)	(1,680)	(1,680)	(1,680)	(1,680)	160,292	Serv-Lns
		TMPENBLN	TMP PENILE-BLANTON LN	2020	18,475	40,000	914,943	2,109,317	2,114,189	2,190,744	2,126,967	2,141,439	2,128,988	2,111,160	2,003,349	458,231	18,357,803	XM
		TMPENPRS	TMP PENILE-PRESTON	2020	1,308,517	2,400,000	2,196,921	123,920	135,520	137,495	131,495	118,320	118,320	112,720	114,695	112,720	7,035,418	XM
		TMPRSPIC	TMP PRESTON-PICCADILLY	2020	1,321,308	1,200,000	1,598,334	988,323	2,261,994	2,214,019	1,888,344	1,885,425	1,886,066	1,877,313	1,628,004	309,912	19,059,041	XM
380		414000002	REPLACE STEEL SERVICES 2020	2020	591,645	621,620	590,527	656,209	647,901	656,310	715,801	650,149	671,715	573,694	539,276	536,560	7,451,407	Cust Serv
		414000001	REPLACE STEEL SERVICES 2019	2020	71,862	(62,274)	0	0	0	0	0	0	0	0	0	0	9,588	Cust Serv
		DLSMR414	DWNTWN LRG SCALE MAIN	2020	15,172	(15,172)	0	0	0	0	0	0	0	0	0	0	0	Mains-Dist
		TMPPROP1	TMP PROPERTY PENILE-PRESTON	2020	4,019	0	0	0	0	0	0	0	0	0	0	0	4,019	XM
PPLBCW: TOTAL CONSTRUCTION WORK IN PROGRESS Total					4,301,063	4,959,923	6,130,653	4,704,611	5,929,127	6,006,912	5,702,855	5,702,746	5,614,749	5,574,444	5,125,284	2,249,831	62,002,198	
PPLBRS: TOTAL REMOVAL SPEND																		
108799		CCSO421	REPL EXIST CS WITH RISER-MUL	2020	0	0	1,680	1,680	0	0	0	0	0	1,680	1,120	0	6,160	Cust Serv
		CCSO4485	REPL EXIST CS & RISER-4485	2020	0	0	0	0	0	5,600	2,240	1,120	0	0	0	0	8,960	Cust Serv
		CNBCS421	NB INST CUST SERV LINE & RSR	2020	0	1,120	0	0	0	1,120	0	0	0	1,120	0	0	3,360	Cust Serv
		RRCS419G	REP CO GAS SERV 419	2020	(11,004)	70,558	28,948	29,552	27,586	28,794	30,001	33,035	30,477	34,297	31,633	32,872	366,749	Serv-Lns
		RRCS421	Serv Line Repl-Muldraugh	2020	53,159	(52,942)	0	0	0	0	0	0	0	0	0	0	217	Serv-Lns
		TMPENBLN	TMP PENILE-BLANTON LN	2020	0	0	56,000	56,000	56,000	56,000	56,000	56,000	56,000	56,000	56,000	56,000	560,000	XM
		TMPENPRS	TMP PENILE-PRESTON	2020	0	0	0	0	0	0	0	36,000	36,000	36,000	36,000	0	144,000	XM
		TMPRSPIC	TMP PRESTON-PICCADILLY	2020	0	0	0	0	0	0	0	15,232	30,464	33,510	0	0	79,206	XM
		414000002	REPLACE STEEL SERVICES 2020	2020	296,262	205,380	250,821	250,821	250,821	250,821	250,821	250,821	250,821	250,821	250,821	272,821	3,031,852	Cust Serv
		414000001	REPLACE STEEL SERVICES 2019	2020	31,753	(28,726)	0	0	0	0	0	0	0	0	0	0	3,027	Cust Serv
108901		RRCS421	Serv Line Repl-Muldraugh	2020	0	3,360	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	20,160	Serv-Lns
PPLBRS: TOTAL REMOVAL SPEND Total					370,170	198,749	339,129	339,733	336,087	344,015	340,742	378,656	390,210	412,062	410,764	363,372	4,223,691	
Grand Total					4,671,233	5,158,672	6,469,782	5,044,345	6,265,214	6,350,926	6,043,598	6,081,402	6,004,959	5,986,506	5,536,048	2,613,204	66,225,889	

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated April 7, 2020**

Case No. 2020-00032

Question No. 3

Witness: Andrea M. Fackler

- Q-3. Refer to Exhibit 4, page 17. Reconcile the columns 2017 Year 1 additions, 2018 Year 2 additions, and 2019 Year 3 additions with Exhibit 4, page 17, from Case No. 2019-00043¹.
- A-3. The amounts shown on Exhibit 4, page 17 of the application in this proceeding represent the 2020 tax basis depreciation expense. The asset balances in plant in service in Line 1 do not change after the year has been trued-up with actuals in a GLT filing. However, each year the tax basis depreciation rate applied to the asset balances does change. To better illustrate this concept, we have added the footnote references to the applicable columns in the Excel attachment to the response to Question No. 1.

¹ Case No. 2019-00043, Electronic Application of Louisville Gas And Electric Company for Gas Line Tracker (filed. Feb 28, 2019).

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated April 7, 2020**

Case No. 2020-00032

Question No. 4

Witness: Andrea M. Fackler

- Q-4. Refer to Exhibit 4, page 18, line 1, column 4, the 2020 Year 4 additions. The amount listed is \$44,456,281. Provide the source for this number. Also, provide the source for the adjacent cell of \$62,002,198, tax depreciation.
- A-4. See the attachment to the response to Question No. 2(b), page 2 of 2 for the source of the \$44,456,281 and the attachment to the response to Question No. 2(c) for the source of the \$62,002,198. The \$62,002,198 was inadvertently not deleted from the file. It does not impact the filing results. See the updated Excel attachment to the response to Question No. 1.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated April 7, 2020**

Case No. 2020-00032

Question No. 5

Witness: Tom C. Rieth

- Q-5. Identify generally the locations of the major main replacements that were made in 2019, the miles of line replaced, and describe how those specific locations and projects were selected and prioritized.
- A-5. For the Company's distribution Main Replacement program approved in Case No. 2012-00222 the only work during 2019 was to complete hard surface restoration. This work was completed for the program in 2019. No pipe was installed or retired in 2019, as all pipe replacements were completed in 2017.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated April 7, 2020**

Case No. 2020-00032

Question No. 6

Witness: Tom C. Rieth

- Q-6. Identify generally the locations of the major main replacements that are going to be made in 2020, provide the proposed miles of line to be replaced, and describe how those specific locations and projects will be prioritized.
- A-6. All work for the distribution Main Replacement program approved in Case No. 2012-00222 was completed prior to 2020. See the response to Question No. 5.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated April 7, 2020**

Case No. 2020-00032

Question No. 7

Witness: Tom C. Rieth

- Q-7. State how many gas risers LG&E has replaced to date, and state how many riser replacements LG&E estimates remain. Explain the \$18,480 Cost of Removal shown for Risers in Exhibit 4.
- A-7. From January 1, 2013 (when the riser replacement project was approved for recovery through the GLT) to date, LG&E has replaced approximately 193,600 gas risers. This project was completed in 2017, and there are no additional gas risers to replace as part of the gas riser replacement program approved in Case No. 2012-00222. The \$18,480 Cost of Removal shown for Risers in Exhibit 4 is actually related to the Customer Service Line ownership and is now shown for the Customer Service Line Costs of Removal in the revised Exhibit 4 included in response to Question No. 1.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's First Request for Information

Dated April 7, 2020

Case No. 2020-00032

Question No. 8

Witness: Tom C. Rieth

Q-8. Provide how many miles of main replacements, service line replacements, and customer service replacements LG&E projects there will be left to replace through the Gas Line Tracker (GLT) by the end of 2020.

A-8. **Main Related projects**

For the distribution main replacement program approved in Case No. 2012-00222, no additional gas mains are left to be replaced through the GLT at the end of 2020. See the responses to Question Nos. 5 and 6.

In Case No. 2015-00360, LG&E proposed and the Commission approved the inclusion in the GLT of pro-active replacement of Aldyl-A plastic mains and associated service lines. This project is complete and no additional mains or services are left to be replaced through the GLT at the end of 2020.

For the Transmission Modernization Program ("TMP") project approved in Case No. 2016-00371, the Company projects that there will be approximately 2.94 miles of main to install and 8.10 miles of main to place into service remaining under the TMP at the end of 2020.

Service Related Projects

The Service Line Replacement project replaces company services. This is reactive work to replace company services (primarily steel) when leaking or pro-actively (primarily when other work is being done involving the service line).

The Customer Service Line projects are associated with LG&E taking responsibility for the Customer Service Line beginning in 2013 as approved in Case No. 2012-00222. In Case No. 2012-00222 LG&E did not project a targeted number of services or timeframe for this project as it is a reactive project. As explained in the testimony of Mr. Bellar in that proceeding, LG&E will not assume ownership of or responsibility for a customer's service line until LG&E has repaired or replaced the line or LG&E installs a new service.

As of April 16, 2020, the Company has over approximately 260,000 customer services remaining that have not been replaced since January 1, 2013.

For the Gas Service Riser Replacement program approved in Case No. 2012-00222, no additional gas service risers are left to be replaced as part of that program. All were replaced by the end of 2017 as indicated in the response to Question No. 7.

For the Customer Steel Service Replacement program approved in Case No. 2016-00371, LG&E estimates about 36,000 steel customer services will remain to be replaced at the end of 2020 over the life of the program (note that between 800-1,000 steel customer service lines are replaced reactively each year).

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated April 7, 2020**

Case No. 2020-00032

Question No. 9

Witness: Tom C. Rieth

Q-9. Provide an analysis as to whether LG&E projects it will complete its main replacements, service line replacements, and customer service replacements according to the original schedule as may have been approved in Case No. 2016-00371² and subsequently updated in Case No. 2018-00295³, and compare its current projections of the total cost of its GLT program as originally approved and amended.

A-9. **Main Related projects**

In Case No. 2012-00222 LG&E estimated an investment of \$101.3 million for the main replacement program (distribution targeting cast iron, wrought iron and bare steel) between 2012 and ending in 2016 with actual investment during that time of \$103.4 million. In Case No. 2016-00383, the estimate to complete the main replacement project was updated to an investment of \$130.7 million with the increase largely driven by increased final restoration costs from what was originally anticipated. LG&E completed the replacement or retirement of the targeted distribution mains in 2017 and surface restoration in 2019 with an investment of \$118.0 million between 2012 and 2019. The lower actual investment versus the estimate in Case No. 2016-00383 was due to lower actual restoration costs. There are no additional targeted mains in this program to be replaced.

In Case No. 2015-00360 LG&E estimated an investment of \$7.6 million for pro-active replacement of the Aldyl-A plastic mains and associated service lines in 2016 and 2017. This project was substantially completed in 2017 (minor surface restoration in 2018) for \$5.0 million. There are no additional Aldyl-A mains left to be replaced in this program at the end of 2020.

In Case No. 2016-00371 LG&E projected the TMP project would be completed between 2017-2019 with an estimated investment of \$60.0 million. The estimate was updated to \$82.1 million in Case No. 2018-00057 and anticipated construction would be substantially

² Case No. 2016-00371, Electronic Application of Louisville Gas and Electric Company for an Adjustment of Its Electric And Gas Rates and for Certificates of Public Convenience and Necessity, (Ky. PSC. June 22, 2017).

³ Case No. 2018-00295, Electronic Application of Louisville Gas and Electric Company for an Adjustment of Its Electric And Gas Rates, (Ky. PSC Apr. 30, 2019).

complete by the end of 2019 except for cleanup activities in 2020. The Company's current estimate for the TMP project is \$102.1 million. Through 2019, the Company has invested \$44.0 million and projects spending \$58.0 million in 2020 and 2021 as some work anticipated to be complete in 2019 has moved into 2020 and 2021. Based on actual construction costs to date it is likely final project costs will be higher than the current estimate. One contributing factor is higher than expected amounts of rock (especially in the eastern section of the project) that increase construction costs and slow production. The start of construction activities was delayed compared to schedules presented in previous cases due to delays in engineering and ROW acquisition.

Service Related projects

In Case No. 2012-00222 LG&E estimated an investment of \$8.4 million for Service Line Replacements (see response to Question No. 8 for project description) from 2012 - 2016. LG&E's actual investment between 2012 and 2016 was \$8.1 million during this time period. In Case No. 2016-0371 LG&E estimated an investment of \$6.4 million for Service Line Replacements between 2017 - 2019, with an actual investment of \$8.0 million.

In Case No. 2012-00222 LG&E estimated an investment of \$34.0 million for Customer Service Line Replacements (see response to Question No. 8 for project description) from 2013 - 2017. LG&E's actual investment between 2013 and 2017 was \$29.3 million. In Case No. 2016-00371 LG&E estimated an investment of \$13.3 million for Customer Service Line Replacements between 2018 and 2019, with an actual investment of \$15.1 million with higher than expected investment for replacing and installing customer services during this time period.

In Case No. 2012-00222 LG&E estimated an investment of \$112.8 million for the Gas Service Riser replacement program between 2013 and ending in 2017 with overall expenditures of \$112.8 million replacing an estimated 213,000 gas service risers. In Case No. 2016-00371 LG&E reported that approximately 155,000 gas service risers had been replaced as of August 31, 2016 and anticipated replacing up to 55,000 remaining gas service risers. LG&E completed the program in 2017 and has replaced approximately 193,600 gas risers with expenditures of \$102.3 million. There are no known targeted gas service risers left to replace.

In Case No. 2016-00371 LG&E projected the Steel Service Replacement program would be completed over fifteen years with the removal of all steel curbed services and county loops in the first three years of the program, at an estimated cost of \$101 million. The Company estimated an investment of \$39.0 million through the first 5 years of the program (through 2022) with actuals estimated to be \$45.5 million. Higher actual costs for the curbed services versus those estimated in Case No. 2016-00371 are the primary reason for the higher projected investment in the first 5 years of the program. The curbed services are projected to be complete by 2022. The actual costs for replacing the services are close to or slightly lower than those estimated in Case No. 2016-00371. Based on service costs

to date, project costs are not anticipated to be significantly different from those estimated in Case No. 2016-0371 for the balance of the project after completing the curbed services.

Incremental Operating Costs

In Case No. 2012-00222 LG&E estimated incremental operating expenses of approximately \$11.1 million from 2013 - 2017. Actual expenditures from 2013-2017 were \$6.5 million during this period, or \$4.6 million lower than estimated. In Case No. 2012-00222 LG&E estimated \$2.7 million to cover the Company cost associated with customers opting to have their Gas Riser replaced on an accelerated basis prior to program replacement; however, there were a negligible number of customers requesting accelerated replacement. The bulk of the remaining difference of \$1.9 million (\$4.6 million - \$2.7 million) is primarily explained by lower incremental leak survey costs of \$1.3 million. All planned leak survey activity was completed but at a lower cost than anticipated. In Case No. 2016-00371 LG&E estimated incremental operating expenses of approximately \$4.2 million for 2018 – 2019. Actual costs during this time was \$1.5 million.