COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF	**)**	
LOUISVILLE GAS AND ELECTRIC	**)**	**CASE NO. 2019-00301**
COMPANY FOR AN AMENDED	**)**	
GAS LINE TRACKER	**)**	

RESPONSE OF LOUISVILLE GAS AND ELECTRIC COMPANY TO COMMISSION STAFF'S INITIAL REQUEST FOR INFORMATION DATED OCTOBER 16, 2019

FILED: NOVEMBER 1, 2019

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Robert M. Conroy**, being duly sworn, deposes and says that he is Vice President, State Regulation and Rates, 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.

Robert M. Conroy

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 31st day of October 2019.

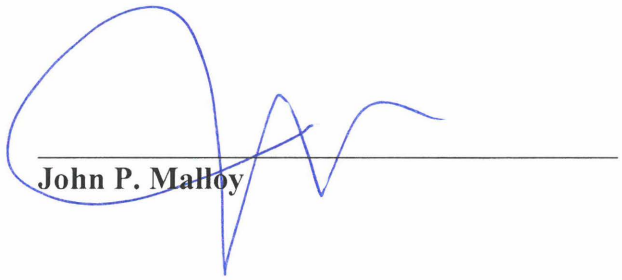
Notary Public

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

VERIFICATION

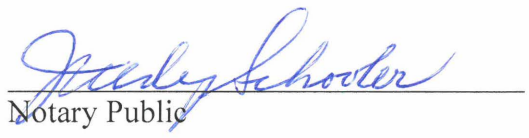
COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **John P. Malloy**, 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.



John P. Malloy

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 31st day of October 2019.



Notary Public

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

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Peter Clyde**, being duly sworn, deposes and says that he is Manager Transmission Integrity and Compliance for Louisville Gas and Electric 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.

Peter Clyde

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 31st day of October 2019.

Notary Public (SEAL)

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

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 1

Witness: Robert M. Conroy

Q-1. Refer to the Direct Testimony of Robert M. Conroy (Conroy Testimony), page 6, lines 6-8. Explain how the allocation of the revenue requirement for the proposed projects was derived.

A-1. Allocations for each of the relevant rate schedules were derived using forecasted revenue based on the final Order from LG&E's latest rate case (Case No. 2018-00295). See Exhibit RMC-1, Page 1 of 10, for the calculation of the allocation percentages.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 2

Witness: Robert M. Conroy

Q-2. Refer to the Conroy Testimony, Exhibit RMC-1.

a. Provide an electronic copy of Exhibit RMC-1 in Excel spreadsheet format with all formulas intact.

b. Refer to page 9. For the most recent historical 13 months available, provide the capital structure and the cost of short-term and long-term debt.

c. Provide the weighted average cost of capital using the information requested in item b. above and a 9.725 percent return on equity.

A-2. a. See attached provided in Excel format.

b. The information is provided in the following table for the period of September 2018 to September 30, 2019

Line No.	Capital Structure	Ratio	Cost	Weighted Cost	Tax Gross-up @ 24.95%	Rate of Return Adjusted for Income Taxes
1	Short Term Debt	3.87%	2.476%	0.10%		0.10%
2	Long Term Debt	42.89%	4.240%	1.82%		1.82%
3	Common Equity	53.24%	9.725%	5.18%	1.72%	6.90%
4	Total	100.00%		7.09%	1.72%	8.81%

c. See the response to part b above.

The attachment is provided in a separate file in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 3

Witness: John P. Malloy / Peter J. Clyde

Q-3. Refer to the Direct Testimony of John P. Malloy (Malloy Testimony), page 4, regarding the issue of speed excursions.

a. On average, within the last five years, provide how often instances of speed excursions have occurred during an inline pipeline inspection for the Western Kentucky A and B pipelines.

b. Explain whether issues relating to speed excursions increase the cost of inspection.

c. Explain whether LG&E has quantified the reduction in the risk of speed excursions (and associated reduction in inspection expenses, if any) resulting from making the Western Kentucky A and 8 pipelines dual-diameter. If so, provide a copy of the quantification.

A-3. a. One geometry and one MFL-A tool were run through the full length of the Western Kentucky A pipeline in 2019. In addition, one geometry and one MFL-A tool were run through a portion of the Western Kentucky A pipeline in 2019. Five speed excursions in total occurred during those four tool runs. No other smart tool runs were conducted within the the last five years in the Western Kentucky A or Western Kentucky B pipelines.

b. Speed excursions can cause collected data to not be usable for its intended purpose. In those cases, a tool rerun may be required at an additional cost thus increasing the overall cost of the inspection. The speed excursion may not be identified immediately. This can cause a delay in scheduling reruns thus impacting both schedule and cost.

c. No. Because LG&E is not aware of a reliable means to accurately quantify the reduction in risk, it has not done so. However, LG&E's experience has shown that speed excuursions are more likely to occur at locations of a line diameter change. Thus, targeted reduction of line diameter changes along with developing multi-diameter tools will reduce the risk of speed excurions. This solution is much more cost-effective than wholesale replacement of the entire length of a line.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 4

Witness: John P. Malloy / Peter J. Clyde

Q-4. Refer to the Malloy Testimony, pages 4-5, regarding the development of a multi-diameter tool.

a. Explain why the new multi-diameter tool will not be able to handle a transition to a 22-inch pipe

b. Explain whether in line inspection tool vendors other than Rosen USA were considered by LG&E to develop a multi-diameter tool and further explain why Rosen USA was chosen as the vendor.

A-4. a. Rosen was asked to submit a proposal to build MFL-C and EMAT ILI tools capable of collecting data on 16-inch, 20-inch, and 22-inch pipe within a single pipeline. They indicated it was not feasible to do so. However, they indicated they could build MFL-C and EMAT tools capable of collecting data on 16-inch and 20-inch pipe within a single pipeline. The infeasibility of being able to also inspect 22-inch pipe with the same tools was due to four primary reasons: (1) the mechanical integrity of the tool would be compromised; (2) magnetization in the largest diameter pipe would be insufficient; (3) there would be less reliability of being able to maintain contact between the sensors and the pipe wall on all diameters due to differences in pipe curvature; and (4) the tool length would have to be extended which would negatively impact run behavior.

b. The initial request for proposal (RFP) to inspect the pipelines was sent to three in line inspection vendors. None of the vendors had an MFL-C tool or EMAT tool capable of gathering data on the multiple diameters (16-inch and 20-inch or 16-inch, 20-inch and 22-inch) in a single pipeline. One vendor only bid on inspecting one pipeline, out of eight pipelines included in the RFP, and was not interested in most of the projects. Rosen and one other vendor responded to the RFP more broadly. Those two vendors were asked to submit proposals to develop the new tools since neither vendor currently possessed the tools. Rosen submitted a proposal. The other vendor declined to submit a proposal.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 5

Witness: John P. Malloy / Peter J. Clyde

Q-5. Refer to the Malloy Testimony, page 6, lines 19-21, regarding the description of the Western Kentucky A Line. Explain why the Western Kentucky A Line consists of 18 pipeline segments that have three different diameters.

A-5. The original Western Kentucky pipeline consisted of a single 8-inch pipeline constructed in the late 1800s and was used to deliver natural gas from Meade County gas field to Louisville for gas distribution. In the 1920s Muldraugh Storage Field, located near Muldraugh, Kentucky, was developed and in the 1940s Doe Run Storage Field, located near Brandenburg, Kentucky, was developed. As gas storage capacity was developed and enhanced, the original Western Kentucky pipeline was replaced with larger diameter parallel pipes to enable transporting larger volumes of gas supply from Muldraugh and Doe Run Storage Fields to the Louisville gas distribution system during peak winter load periods. Pipe availability to LG&E and cost-effectiveness were also considerations. Today's in-line inspection technologies did not exist during this time period; therefore building single diameter pipelines was not a design consideration. Also, modern pipeline boring technology did not exist; and oversize pipe was often installed under roads to enable future replacement of pipeline segments by insertion of smaller diameter pipes in the oversize pipe segments to prevent future expensive road cuts and traffic disruptions.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 6

Witness: John P. Malloy / Peter J. Clyde

Q-6. Refer to the Malloy Testimony, page 7, lines 4-9, regarding the replacement of 16-inch pipe segments with 20-inch pipe segments at the Blevins Gap Road railroad crossing associated with the Western Kentucky A Line project. Explain in further detail why the crossing needs to be exclusively 20-inch segments in order to reduce speed excursion risks.

A-6. Speed excursions are always a possibility during inline inspections. Pipeline fittings such as reducers are a common cause of speed excursions. (See Malloy Testimony, pp. 3-4). Although the risk of speed excursions cannot be completely eliminated, that risk should be minimized whenever it is economically appropriate. The 16-inch sections being replaced on the Western Kentucky A pipeline (segments 9 & 13 in Exhibit JPM-2) are very short having a combined length of 0.14 miles. It is therefore prudent to eliminate the diameter changes and assoiated pipeline reducers to reduce the risk of speed excursions.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 7

Witness: John P. Malloy / Peter J. Clyde

Q-7. Refer to the Malloy Testimony page 7, lines 12- 14, regarding the possibility of needing additional temporary and permanent easements associated with the Western Kentucky A Line project. State when LG&E will know definitively whether temporary or permanent easements will be needed to complete this project and identify the potential property owners that will need to provide such easements.

A-7. Temporary and permanent easement needs will be determined through the engineering and design process for the project. It is anticipated that the majority of easement needs will be determined by 2Q 2020 subject to change from final construction plans and permitting.

See attached provided in Excel format. Survey notification letters will be sent to the list of property owners in the attachment to this response. The list of property owners was generated using Jefferson County PVA data (except for the line segment near the Muldraugh Compressor Station, which is in Meade County) and corrections may be required through the surveying and engineering process. Temporary and permanent easements will not be required from all property owners on the list, but the list is inclusive of the property owners where temporary or permanent easements would be anticipated at this time.

The attachment is provided in a separate file in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 8

Witness: John P. Malloy / Peter J. Clyde

Q-8. Refer to the Malloy Testimony, page 8, lines 9-12, regarding the description of the Western Kentucky B Line. Explain why the Western Kentucky B Line consists of 15 pipeline segments that have three different diameters.

A-8. See the response to Question No. 5.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 9

Witness: John P. Malloy / Peter J. Clyde

Q-9. Refer to the Malloy Testimony, page 8, lines 20-23, regarding the possibility of needing additional temporary and permanent easements. State when LG&E will know definitively whether temporary or permanent easements will be needed to complete the Western Kentucky B Line project and identify the property owners that will need to provide such easements.

A-9. See the response to Question No. 7.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 10

Witness: John P. Malloy / Peter J. Clyde

Q-10. Refer to the Malloy Testimony, page 9, lines 14-23, regarding the description of the Magnolia Lines.

a. Explain why there are two different diameter pipelines that run from Magnolia Compressor Station in LaRue County to Hardin County.

b. Explain the existence of the eight oversized crossings.

A-10. a. The Magnolia Compressor Station supports storage injection/withdrawals from Magnolia Upper and Deep Storage Fields, located near Magnolia, KY and Center Gas Storage Field, located near Center, Kentucky. The Magnolia Gas Transmission Pipeline system transports natural gas to/from the Magnolia Compressor Station to the Louisville gas distribution system. The Magnolia Upper Storage Field was developed first in the mid-1950s and a 16-inch pipeline was built from Magnolia Compressor Station to Hardin County to transport gas supplies to/from Magnolia Upper Storage Field. In the late 1950s the Magnolia Deep Storage Field was developed and in the 1960s Center Storage Field was developed. As storage capacity increased additional pipeline capacity was needed to deliver a larger amount of gas supply from the Magnolia and Center Storage Fields to the Louisville gas distribution during peak winter load periods. In the early 1970s a 20-inch pipeline was built from Magnolia Compressor Station to Hardin County to loop a section of the 16-inch pipeline which increased pipeline capacity to deliver gas supply from underground gas storage.

b. Modern pipeline boring technology did not exist during this time period and oversize pipe was often installed under roads to enable future replacement of pipeline segments by insertion of smaller diameter pipes in the oversize pipe segments to prevent future expensive road cuts and traffic disruptions.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 11

Witness: John P. Malloy / Peter J. Clyde

Q-11. For each project in which LG&E proposes to remove a section of pipe, identify the year that the pipeline was installed, the original cost, operation and maintenance expense, and the accumulated depreciation associated with each section.

A-11. Year of installation for the segments replaced are provided in the tables below. Note that some segments are made up of multiple installations of the same diameter and therefore have multiple installation dates. These assets are considered mass property and therefore original costs are not individually tracked. Operation and maintenance expense is not tracked or recorded on individual sections of pipe. LG&E utilizes group depreciation and therefore cannot provide depreciation information for individual assets by vintage. Under group depreciation, assets are recovered over the life of the assets within the group.

1. Western Kentucky A pipeline

Segment	Size	Year Installed	Footage
3	22	1955	1908
		1976	27
		2011	6
		2012	3
		2016	2
		TOTAL	**1946**
5	22	1955	9733
		2011	4
		2012	21
		2016	3
		TOTAL	**9761**
7	22	1955	198
		1965	905
		2011	1
		2012	19
		TOTAL	**1123**
9	16	1952	25
		1988	240
		2012	5
		TOTAL	**270**
13	16	1973	420

2. Western Kentucky B pipeline

Segment	Size	Year Installed	Footage
3	16	1976	45
5	16	1968	239
		1980	560
		1989	690
		1990	70
		TOTAL	**1559**
7	22	1955	262
9	16	1981	100
		2011	31
		TOTAL	**131**
15	16	1950	796
		2007	120
		2011	43
		2013	18
		TOTAL	**977**

3. Magnolia 16-inch and 20-inch pipeline

	Crossing/segment	Size	Year Installed	Footage
Magnolia 16-inch line	Lincoln Pkwy south of Roundtop Rd	20	1981	281
	Lincoln Pkwy north of Harvest Dr	20	1981	322
	New Glendale Rd vicinity 1	20	1971	85
	New Glendale Rd vicinity 2	20	1971	260
	New Glendale Rd vicinity 3	20	1971	130
	Old Mill Rd (Hwy 1638)	20	1988	156
	Removal of 90 deg elbow near New Glendale Rd (note - This work will be done in conjuction with the New Glendale crossing 2. Approximately 365-feet of pipe will replace both sections.)	16	1971	356
Magnolia 20-inch line	Lincoln Pkwy south of Roundtop Rd	24	1981	277
	Lincoln Pkwy north of Harvest Dr	24	1981	318
	Removal of 90 deg elbow near New Glendale Rd (note - Approximately 375-feet will be used to replace this section.)	20	1972	630

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Initial Request for Information
Dated October 16, 2019

Case No. 2019-00301

Question No. 12

Witness: John P. Malloy / Peter J. Clyde

Q-12. Provide a copy of the full study, including calculations and assumptions shown in Exhibit JPM-1.

A-12. Exhibit JPM-1 provides the following assumptions for the Western Kentucky A, Western Kentucky B and Magnolia Line Crossings:

1. The physical description of capital investments for each case considered.
2. Cost allocation of the dual diameter tool under development and inline inspection timing for each case considered.

Additional assumptions include:

1. Capital Investment estimates for the recommended options were taken from the 2020 Business Plan (estimates for 2019 were from current forecast projections for 2019) and based on the following:
    a. For the Western Kentucky A and B pipeline projects:
        i. Estimate assumed cost of approximately $6M per mile of pipe installed by open trench construction (based on costs seen for phase 1 of the Transmission Modernization Program, TMP). This applies to the approximate 2.6 miles on Western Kentucky A pipeline and 0.5 miles on the Western Kentucky B pipeline.
        ii. Estimate on the Western Kentucky B line also assumed costs for Horizontal Directional Drilling (HDD) will be similar to those seen on the initial phase of TMP for crossing under the Gene Snyder Freeway.
        iii. Twenty percent contingency is included in the estimates since the engineering and design work has not been started.
    b. For the Magnolia pipelines crossing project:
        i. Estimate assumes cost of approximately $600k per crossing.
        ii. Twenty percent contingency is included in the estimate.
2. See attached provided in Excel format. Capital Investment estimates for Alternative 1 of the Western Kentucky A and Western Kentucky B are included in the spreadsheet entitled, "CONFIDENTIAL PSC DR1 Attach 1 to Q12 – Proposed Projects" on worksheets, "Alt 1 WKA Replacements" and "Alt 1 WKB Replacement" respectively.

3. Capital Investments for Alternative 2 of the Western Kentucky A and Western Kentucky B pipelines taken from the 2019 Business Plan.
4. Development costs for the dual diameter tool are based off a vendor proposal.
5. Inline Inspection costs for the Western Kentucky A and Western Kentucky B pipelines were estimated based on vendor bids and previous experience for non vendor costs. Estimates for the recommended option, Alternative 1, and Alternative 2 are included in the "CONFIDENTIAL PSC DR1 Attach 1 to Q12– Proposed Projects" spreadsheet in the following worksheets:
    a. Recommended option - "Rec – WK A ILI" and "Rec – WK B ILI" worksheets.
    b. Alternatives 1 - "Alt 1 – Single Diameter ILI" worksheet.
    c. Alternative 2 – "Alt 2 – WK A ILI" and "Alt 2 – WK B ILI"
6. Inline Inspection costs for the Magnolia Crossings project were estimated using the following assumptions:
    a. Recommended option
        i. Magnolia 16-inch pipeline
            1. The cost for the ILI run shown in 2019 matches costs in an estimate developed in early 2019 based on entering into a contract with the current ILI vendor (note that the tool can traverse the 20-inch crossings, but will not gather data).
            2. Inline inspection tools will be run again in 2026 with single diameter tool and every 7 years afterwards. Costs based on the 2019 ILI run with with 2% annual inflation.
            3. Assume a 2% annual inflation cost for the ILI runs from base year 2019.
        ii. Magnolia 20-inch pipeline
            1. The ILI run in 2021 assumes the crossings have been replaced. The costs for 2021 match those used in the 2020 Business Plan.
            2. Inline inspection tools will be run again in 2028 and every 7 years afterwards.
            3. Assume a 2% annual inflation cost for the ILI runs from base year 2021.

    b. Alternative 1
        i. Convert 2019 capital expenditures for replacement project to O&M. This would occur in the year the project was cancelled, assumed 2020.
        ii. Magnolia 16-inch pipeline
            1.
            2. The cost for the ILI run shown in 2019 matches costs in an estimate developed in early 2019 based on entering into a contract with the current ILI vendor (note that the tool can traverse the 20-inch crossings, but will not gather data).
            3. Run multidiameter 16-inch x 20-inch EMAT and MFL-C tool in 2021 to collect data on the 20-inch sections. Costs assumed to be the same as those for used for the Western Kentucky B line recommended option (see the "CONFIDENTIAL PSC

DR1 Attach 1 to Q12 – Proposed Projects" attachment in the "Summary Inputs Alternate" worksheet) in 2022.

4. Run multidiameter 16-inch x 20-inch ILI tools currently under development in 2026 and every seven years following. Costs assumed similar to estimates for 16-inch x 20-inch ILI on Western Kentucky A line recommended option (see the "CONFIDENTIAL PSC DR1 Attach 1 to Q12 – Proposed Projects" attachment in the "Summary Inputs Alternate" worksheet)with inflation of 2% per year (base year 2026).

iii. Magnolia 20-inch pipeline
   1. Run scheduled ILI inspection as planned in 2021. Costs to match 2020 BP business plan.
   2. Run tethered ILI tools in 2021 (these tools have steel cable attached to the tool. The line inspected has to be isolated and separated for this type of inspection) in the (2) 24-inch section to collect EMAT and MFL-C data. Tethered inspections estimated to cost ½ of full line run (with the line requiring two tethered inspections) plus $425k in costs to separate and reconnect the pipelines for the tethered inspection.
   3. Run similar inspection in the future every 7 years assuming 2% inflation annually.

c. Alternative 2
   i. Convert 2019 capital expenditures for replacement project to O&M. This would occur in the year the project was cancelled, assumed 2020.
   ii. Magnolia 16-inch pipeline
      1. The cost for the ILI run shown in 2019 matches costs in an estimate developed in early 2019 based on entering into a contract with the current ILI vendor (note that the tool can traverse the 20-inch crossings, but will not gather data).
      2. Run multidiameter 16-inch x 20-inch EMAT and MFL-C tool in 2021 to collect data on the 20-inch sections. Costs assumed to be the same as those for used for the Western Kentucky B line recommended option (see the "CONFIDENTIAL PSC DR1 Attach 1 to Q12 – Proposed Projects" attachment in the "Summary Inputs Alternate" worksheet) in 2022.
      3. Run multidiameter 16-inch x 20-inch ILI tools currently under development in 2026 and every seven years following. Costs assumed similar to estimates for 16-inch x 20-inch ILI on Western Kentucky A line recommended option (see the "CONFIDENTIAL PSC DR1 Attach 1 to Q12 – Proposed Projects" attachment in the "Summary Inputs Alternate" worksheet) with cost inflation of 2% per year.
   iii. Magnolia 20-inch pipeline

1. Develop 20-inch x 24-inch EMAT and MFL-C tools. Total cost assumed to be similar to cost to develop 16-inch x 20-inch tools. Costs spread over 2020 and 2021
2. Run ILI inspection in 2021 utilizing 20-inch X 24-inch tools with additional inspections following every seven years afterwards. Costs estimates assumed similar to 16-inch x 20"-inch ILI on Western Kentucky A line recommended option (see the "CONFIDENTIAL PSC DR1 Attach 1 to Q12 – Proposed Projects" attachment in the "Summary Inputs Alternate" worksheet) with inflation of 2% per year (base year 2026).

Supporting Attachments:

- "CONFIDENTIAL PSC DR1 Attach 1 to Q12 – Proposed Projects" provided in Excel format details costs information for the Western Kentucky A and Western Kentucky B pipeline projects.[1]
- "CONFIDENTIAL PSC DR1 Attach 2 to Q12 – CEM Support Data" provided in Excel format details cost information for the Magnolia pipelines Crossing project.[1]
- "PSC DR1 Attach 3 to Q12 – 2019 CEM NPVRR August 2019- through 2072 WKA" provided in Excel format details NPVRR information for the Western Kentucky A recommended option and alternatives.
- "PSC DR1 Attach 4 to Q12 – 2019 CEM NPVRR August 2019 through 2072 WKB" provided in Excel format details NPVRR information for the Western Kentucky B recommended option and alternatives.
- "PSC DR1 Attach 5 to Q12 – 2019 CEM NPVRR August 2019 through 2072 Magnolia" provided in Excel format details NPVRR information for the Magnolia recommended option and alternatives.

[1] For the same reasons set forth in LG&E's September 27, 2019 Petition for Confidential Treatment, the pricing information in this Excel file is confidential, and, therefore, LG&E seeks confidential protection of it. Additionally, because the Confidential Information is identified in the Excel file and much of the remainder of the Excel file is dependent on the Confidential Information due to embedded formulas, "redacting" part of the Excel file would affect other information in the file. Therefore, LG&E submits the Excel file in its entirety under seal with all formulas intact.

The attachment is Confidential and provided separately under seal.

The attachment is Confidential and provided separately under seal.

The attachment is provided in a separate file in Excel format.

The attachment is provided in a separate file in Excel format.

The attachment is provided in a separate file in Excel format.