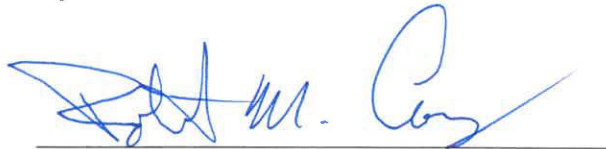


VERIFICATION

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 Kentucky Utilities Company and 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 2nd day of January 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, **Elizabeth J. McFarland**, being duly sworn, deposes and says that she is Vice President, Customer Services for Louisville Gas and Electric Company and Kentucky Utilities Company and an employee of LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge and belief.



Elizabeth J. McFarland

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 2nd day of January 2019.



Notary Public

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

Commission Expires 7/11/2022

LOUISVILLE GAS AND ELECTRIC COMPANY

**January 2, 2019 Corrected Response to Attorney General's
Initial Data Requests for Information
Dated November 13, 2018**

Case No. 2018-00295

Question No. 55

Responding Witness: Lonnie E. Bellar / Robert M. Conroy

- Q-55. Refer to the direct testimony of Lonnie E. Bellar, pages 59-60, wherein he described the \$91.2 million transmission line replacement/upgrade.
- a. Provide the Company's analyses which evidences that the portion of the project wherein the Company "will replace segments of predominately 16-inch pipeline with 20-inch diameter pipeline, to achieve the uniform diameter," is a cost-beneficial investment.
 - b. Cite to the Company's application for a CPCN for this 13.2 mile transmission line upgrade.
 - c. Explain what portion of the \$91.2 million price tag that the 13.2 mile transmission line replacement represents.
 - d. Explain the need for the 1.45 mile replacement of the pipeline connecting the Western Kentucky and Magnolia pipelines. Any response should explain the condition of the current pipeline, including why it is no longer adequate for service.

A-55. ORIGINAL RESPONSE:

- a. While a formal analysis has not been completed, replacing the 13.2 miles is cost beneficial based on the following assessment:
 - The replacements will enable each enhanced inline inspection tool to be run from one end of the pipeline to the other end in each of the WK A and WK B pipelines.
 - Some multi-diameter enhanced inline inspection tools are not currently offered. As a result, the alternative to replacing the 13.2 miles of pipeline to achieve uniform diameter would be to complete a separate set of inline inspection tool runs for each change in pipeline diameter. To accomplish this, over 20 segments would be inspected separately in total between the WK A and WK B pipelines. The cost for an enhanced inline inspection assessment of a single-

diameter pipeline is projected to be \$2.5 million. Inline inspections are repeated every seven years.

- The WKA and WKB pipelines are equipped with above ground facilities at each end to launch and receive tools. Separate tool runs in the middle of the pipeline would require separating the pipelines and installing temporary tool launching and receiving equipment, then removing the temporary equipment after the tool to reconnect the pipelines. This would require isolating at least a portion of the pipeline each time.
 - Replacing the 13.2 miles to get a uniform diameter for both lines facilitates coordination with tool vendors for inspecting the WKA and WKB pipelines as only one set of single-diameter tools would be needed to inspect each line versus coordination of multiple sets of single-diameter tool runs to accommodate each segment with different pipeline diameters.
 - 20-inch diameter pipeline makes up approximately 70% of the current pipeline for the WKA and WKB pipelines and greater than 50% for each pipeline. Replacements allowing conformity to 20-inch diameter pipe required the least amount of replacement to get to a single diameter. The 20-inch diameter is also adequate from a system planning perspective.
- b. LG&E has not requested a CPCN for the transmission line upgrades. As explained in Mr. Bellar's testimony, this project involves the replacement of existing transmission line segments, and is in the ordinary course of business. The upgrades pertain to ten separate segments in two transmission lines and were described cumulatively.
- c. Approximately \$77.4 million has been included for the 13.2 miles. Of this amount, \$9.6 million is included in the forecasted test period.
- d. The pipeline is being replaced because its short length makes running enhanced ILI tools cost prohibitive for the length of pipe inspected.

January 2, 2019 Corrected Response for Question No. 55(b):

LG&E has not requested a CPCN for the transmission line upgrades. As explained in Mr. Bellar's testimony, this project involves the replacement of existing transmission line segments, and is in the ordinary course of business. The upgrades pertain to seventeen separate segments in two transmission lines and were described cumulatively.

LOUISVILLE GAS AND ELECTRIC COMPANY

**January 2, 2019 Corrected Response to Attorney General's
Initial Data Requests for Information
Dated November 13, 2018**

Case No. 2018-00295

Question No. 76

Responding Witness: Elizabeth J. McFarland

- Q-76. Refer to the direct testimony of Lonnie E. Bellar, page 30, wherein he states, “the Companies project operating expenses related to meter readers and field service contracts to significantly increase over current spending on these services.” Further reference Schedule C-2.1 Page 4 of 12 and Page 10 of 12.
- a. Other than the slight change in jurisdictional percentage, explain and provide support for the increase in METER READING EXPENSES located on line No. 106 on both referenced pages of Schedule C-2.1.

A-76. Original Response:

- a. Meter Reading and Field Service contracts will expire on May 31, 2019. Staffing issues signaled changing market conditions and likely increases in costs for these services. An RFI was issued in May 2018 for both meter reading and field service pricing and six responses were received. An RFP was issued in July 2018. RFP responses have been received and the Company is in the process of evaluating the bidders. See attached. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

January 2, 2019 Corrected Response:

See the Original Response. In one spreadsheet provided confidentially as part of the Original Response, the new budgeted rates for meter reading for LG&E and KU were misstated. The two numbers at issue are the two entries in the “Meter Reading” column in the row labeled, “2019 Business Plan - cost per read (assumed new rates).” A corrected version of the spreadsheet is being provided subject to the petition for confidential protection the Company filed on November 28, 2018, regarding the Original Response and other responses.

Note that the incorrect rates were not used or referenced in any response to any other data request. Also, the corrected rates were used to support details provided in the Company’s response to AG 2-40. Finally, the correct rates were used in the Company’s

calculations supporting its requested base rates in this proceeding; the error occurred only in the spreadsheet provided confidentially as part of the Original Response.

Attachment page
provided under
confidential seal has
been removed

LOUISVILLE GAS AND ELECTRIC COMPANY

**January 2, 2019 Corrected Response to Attorney General's
Initial Data Requests for Information
Dated November 13, 2018**

Case No. 2018-00295

Question No. 196

Responding Witness: Lonnie E. Bellar

Q-196. Reference the Bellar testimony, pp. 35-45, wherein he discusses the Companies' transmission system. With regard to the Companies' Transmission System Improvement Plan ("TSIP"), provide copies of any and all cost benefit analyses the Companies may have conducted regarding alternatives to the projects and methods the Companies intend to pursue.

A-196. **Original Response:**

See attached for the Alternatives Considered section of the TSIP project Investment Proposals. Consistent with the Companies' Accounting Policy 650 – Capital – Additions and Retirements Policy, an Investment Proposal is required for all capital projects greater than \$750k. Accounting Policy 650 – Capital – Additions and Retirements Policy and Procedures was provided as an attachment to the response to PSC 1-8. Some of the information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

January 2, 2019 Corrected Response:

Louisville Gas and Electric Company erroneously included a draft version of the Investment Proposal for Project 147334 London-Sweet Hollow Pole Replacement (See Attachment Pages 134-138). Attached are corrected pages 134-138 associated with the final version of the previously mentioned investment proposal.

Investment Proposal Project 147334 London-Sweet Hollow Pole Replacement

Investment Proposal for Investment Committee Meeting on: April 27, 2016

Project Name: London-Sweet Hollow Pole Replacement

Total Expenditures: \$3,987k
Total Contingency: \$345k (9%)

Project Number(s): 147334

Business Unit/Line of Business: Transmission Lines

Prepared/Presented By: Nick Poston/Adam Smith

Executive Summary

The proposed project is to replace sixty-five (65) wood structures on the London-Sweet Hollow 69kV line with steel based on the results of a routine line inspection. As such, this proposal is to proactively replace them over the course of the next year, prior to failure, to ensure the integrity and reliability of this line and to prevent outages resulting from such failures.

The alternative of replacing poles upon failure will result in much higher long term replacement costs due to mobilization of crews back to the site each time one fails and the probable overtime work involved in replacing each during an emergency situation. This alternative would also have a negative impact on network reliability.

This project is included in the 2016 BP for \$2,720k. The original scope of work included the replacement of sixty-five (65) structures with wood and steel during a scheduled outage. Through coordination with distribution, we have worked out a solution for the distribution underbuild to attach to the steel poles. As a result, the decision was made to replace all sixty five (65) structures with steel. Also, due to the difficulty of obtaining an extended outage, the cost to complete the project energized was added. The current total project cost is \$3,987k and was approved by the RAC in the 3+9 forecast.

Background

Above ground pole inspections are performed by the company at defined intervals in order to discover problems that may impact the integrity and reliability of the Transmission System. During a routine climbing inspection of the London-Sweet Hollow 69kV line in 2012, sixty-five (65) structures were identified as priority poles and determined to be in need of replacement in order to ensure the integrity and reliability of this line. There are 106 total structures along this 11.21 mile line.

• **Alternatives Considered (1 –Recommendation, 2 –Do nothing, 3 –Next Best Alt)**

1. Recommendation: NPVRR: (\$000s) \$5,426k
 The recommendation is to replace the structures energized due to the difficulty in obtaining an extended outage. If the opportunity to complete the project de-energized would occur, we would pursue this option and it would reduce the total project cost by \$757k, and the NPVRR by \$1,031k.
2. Do Nothing: NPVRR: (\$000s) \$7,811k
 The alternative of do nothing would result in replacing poles upon failure, which would result in a much higher long term replacement cost due to contract crew mobilization and overtime costs. This cost was derived by an estimated percentage of failure over the next four years. The failure rate and costs may vary depending on environmental factors. This option would also have a negative impact on reliability.
3. Next Best Alternative(s): NPVRR: (\$000s) \$6,150k
 The next best alternative would be to replace all 65 poles with wood structures. The manufacturer’s recommended life span of a wood pole is 30-35 years, whereas steel poles have a recommended life span of 90 years. This option assumes replacement of wood structures in 30 years and an escalation factor of 4% which is in line with market cost increases over the last 15 years.

Project Description

• **Project Scope and Timeline**

The scope of work will consist of installing fifty-eight (58) standard steel H-frame structures, one (1) custom steel H-frame structure, one (1) steel custom switch and platform structure, four (4) custom steel running corners, one (1) standard steel z-frame structure, and associated hardware and material, and the removal of (65) wood structures, and associated hardware and material. The line construction will be based on continuing contracts from our line contractors. B&B, Elliot, Groves and Pike are the four contractors awarded the T&D Overhead Construction and Maintenance contract from the October 2011 Investment Committee meeting. The contract extension was re-approved by the IC in July of 2014. Construction is scheduled to begin in June of 2016 and to be completed in July of 2016.

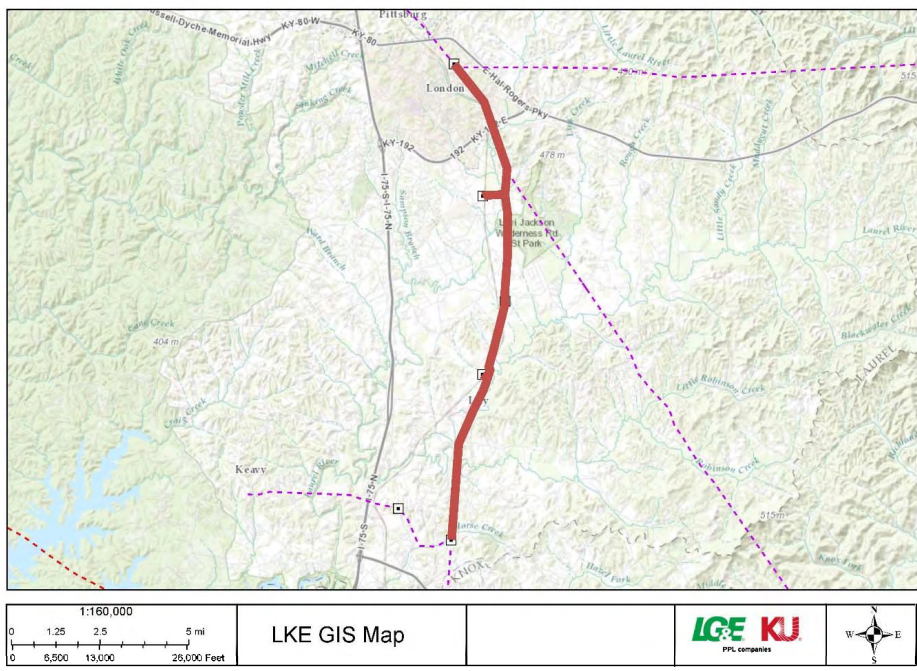
The construction milestones for this project are provided below:

Construction Milestones	
April 2016	Engineering and Design
April 2016	Steel Poles Ordered
June 2016	Steel Poles Received
June 2016	Line Construction Begins

July 2016	Line Construction Completed
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A facility map of the London-Sweet Hollow 69kV line is shown below:

Line length: 11.21 miles



• **Project Cost**

This project is included in the 2016 BP for \$2,720k. The current total project cost is \$3,987k and was approved by the RAC in the 3-9 forecast. Historical and existing contract labor and purchasing agreements were used to estimate the cost of the material and contract labor. This project includes 9% contingency to cover unexpected increases in cost due to weather, rocky soil, outage delays, reclamation, etc. 10% contingency is a standard assumption used across all of our projects and is calculated as a percentage of total burdened costs. The 9% contingency on this project resulted from late estimate changes.

Economic Analysis and Risks

• **Bid Summary**

Based on preliminary engineering, Transmission Lines has estimated the material packages for construction of this project to be \$1,131k. This project will utilize standard and custom steel structures. Hardware will be purchased through Brownstown Electrical Supply. The line construction will be based on continuing contracts with our line contractors. Davis H.

Elliot, Pike Electric, B&B Electric and William E. Groves are the four main contractors which have been awarded the T&D Overhead Construction and Maintenance contracts.

Transmission Lines Material Cost Breakdown	
Material	Cost
Steel Poles	\$1,096k
Hardware	\$35k
Total	\$1,131k

• **Budget Comparison and Financial Summary**

Financial Detail by Year - Capital (\$000s)	2016	2017	2018	Post 2018	Total
1. Capital Investment Proposed	3,794	-	-	-	3,794
2. Cost of Removal Proposed	193	-	-	-	193
3. Total Capital and Removal Proposed (1+2)	3,987	-	-	-	3,987
4. Capital Investment 2016 BP	2,289	-	-	-	2,289
5. Cost of Removal 2016 BP	431	-	-	-	431
6. Total Capital and Removal 2016 BP (4+5)	2,720	-	-	-	2,720
7. Capital Investment variance to BP (4-1)	(1,505)	-	-	-	(1,505)
8. Cost of Removal variance to BP (5-2)	238	-	-	-	238
9. Total Capital and Removal variance to BP (6-3)	(1,267)	-	-	-	(1,267)

Financial Detail by Year - O&M (\$000s)	2016	2017	2018	Post 2018	Total
1. Project O&M Proposed	-	-	-	-	-
2. Project O&M 2016 BP	-	-	-	-	-
3. Total Project O&M variance to BP (2-1)	-	-	-	-	-

Financial Summary (\$000s):

Discount Rate:	6.49%
Capital Breakdown:	
Labor:	\$123k
Contract Labor:	\$1,811k
Materials:	\$1,131k
Local Engineering:	\$265k
Burdens:	\$312k
Contingency:	\$345k
Reimbursements:	(\$0)
Net Capital Expenditure:	\$3,987k

Financial Analysis - Project Summary (\$000)	2016	2017	2018	2019	2020	Life of Project
Project Net Income	\$136	\$149	\$186	\$177	\$169	\$3,803
Project ROE	13.2%	7.4%	9.8%	9.8%	9.8%	9.7%

- **Assumptions**

Recommendation – The cost of this alternative assumes that the line outage will not be available and the structures will need to be replaced with the 69kV line energized. This alternative also assumes that all required permitting will be received timely.

Do nothing alternative – The cost of this alternative would be approximately 60% higher due to overtime labor charges and the cost to mobilize and demobilize the construction crews. These poles would fail and require replacement within the next four years.

Next best alternative - The cost of this alternative assumes the cost of the wood poles is 20% of the cost of the steel poles, and that the wood poles would be replaced again in 30 years.

- **Environmental**

There are no known environmental issues regarding air, water, lead, asbestos, etc., associated with this project.

- **Risks**

Without the proposed replacement of the priority poles on the London-Sweet Hollow 69kV line, the company risks unplanned outages and increased cost of repairs in emergency situations. Inclement weather which affects site access and working conditions could increase the project cost and cause schedule delays. Schedule delays may also occur if the required permitting is not received, or the requested outage is not obtained to complete the scheduled work.

Conclusions and Recommendation

It is recommended that the Investment Committee approve the London-Sweet Hollow pole replacement project for \$3,987k to maintain system integrity, reliability, and to prevent failures and unplanned outages.