COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF	**)**	
LOUISVILLE GAS AND ELECTRIC	**)**	**CASE NO. 2018-00295**
COMPANY FOR AN ADJUSTMENT OF ITS	**)**	
ELECTRIC AND GAS RATES	**)**	

RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
SUPPLEMENTAL REQUEST FOR INFORMATION OF THE
U. S. DEPARTMENT OF DEFENSE
DATED DECEMBER 13, 2018

FILED: JANUARY 2, 2019

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Daniel K. Arbough**, being duly sworn, deposes and says that he is Treasurer 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.

Daniel K. Arbough

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 28th day of December 2018.

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, **Lonnie E. Bellar**, being duly sworn, deposes and says that he is Chief Operating Officer for Louisville Gas and Electric Company and Kentucky Utilities 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.

Lonnie E. Bellar

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 28th day of December 2018.

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, **Kent W. Blake**, being duly sworn, deposes and says that he is Chief Financial Officer 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.

K t W Blake

Kent W. Blake

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 20th day of December 2018.

Judy Schooler

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, **Christopher M. Garrett**, being duly sworn, deposes and says that he is Controller 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.

Christopher M. Garrett

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 28th day of December 2018.

Notary Public

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

VERIFICATION

COMMONWEALTH OF PENNSYLVANIA)
) **SS:**
COUNTY OF CUMBERLAND)

The undersigned, **John J. Spanos**, being duly sworn, deposes and says that he is the Senior Vice President for Gannett Fleming Valuation and Rate Consultants, LLC, 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 J. Spanos

John J. Spanos

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 21st day of December 2018.

Cheryl Ann Rutter (SEAL)

Notary Public

My Commission Expires:

February 20, 2019

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Cheryl Ann Rutter, Notary Public
East Pennsboro Twp., Cumberland County
My Commission Expires Feb. 20, 2019
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 1

Responding Witness: Lonnie E. Bellar

Q-1. Please refer to LG&E's response to KIUC Data Request Set 1, Question No. 29. Please provide the exact citation to Mr. Bellar's testimony that provides support and testimony for the probable retirement dates used for each of the Company's generating units.

A-1. The response to KIUC 1-29 did not state that the probable retirement dates were specifically stated in Mr. Bellar's testimony. Thus, there is no exact citation to provide. The request contained in KIUC 1-29 asked for a Company witness who "can testify as to the probable retirement dates." Mr. Bellar was identified as the Company witness who can testify to the probable retirement dates.

Methodology:

As referenced in LG&E's response to KIUC Data Request Set 1, Question No. 30 (KU's response to KIUC Data Request Set 1, Question No. 33), the depreciation study utilizes a 'more detailed engineering analysis' to evaluate each unit.

The steps utilized in the evaluation process are as follows:

1. Define a starting point for the life of the unit. In this case, the starting point is the year that each unit started commercial operation.
2. Define an estimated life span (and estimated retirement year) for each unit based on industry best practices. In this case the range of estimated life for each unit is based on industry data for coal unit age at retirement or announced retirement. This data is presented in Figure 1 on page 9 of the 2018 IRP Long-Term Resource Planning Analysis (submitted to PSC under Case No. 2018-00394, LGE_KU_2018_IRP-Volume III, page 71 of 93).
3. Periodically evaluate the life span for each unit, looking for anything that would present a risk to the estimated life. Aspects considered in these evaluations are:
    - Equipment age
    - Physical assessments/inspections
    - Operational factors (ie – number of startups/shutdowns)
    - Operating conditions (temperatures, pressures, voltages, etc)
    - Maintenance and repair history
    - Component replacement history
4. Identify from these evaluations any indication of an End of Life event. End of Life event is defined as a catastrophic failure that would be consideration for retirement.
    - Based on industry best practices, and recommendations from the Electric Power Research Institute (EPRI), the components identified that would fail to such extent are the steam drum (major boiler component) and the turbine/generator set.
    - The steam drum is considered due to the large influence of thermal cycling and subsequent risk of developing a critical flaw
    - The turbine/generator set is considered as a single system whose failure could lead to significant repair or replacement costs
5. Shorten the estimated retirement year and estimated life span appropriately based on any indications of a possible End of Life event

When analyzing the units and these specific components, the following assumptions are made regarding factors outside the direct technical evaluation:

- All necessary environmental permits and licenses will be maintained

- Future compliance with environmental regulations is a consideration for unit retirement
- Units will continue to operate in a manner that is consistent with recent operating practices, with a similar number of annual starts and stops, and annual generation
- Units will continue to be operated/maintained in accordance with good industry practices with required renewals and replacements made in a timely manner

The analysis is approached with the understanding that any deviation from these assumptions may shorten the estimated life of any unit.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 2

Responding Witness: Lonnie E. Bellar / John J. Spanos

Q-2. Please refer to LG&E's response to KIUC Data Request Set 1, Question No. 30, where it states, "The depreciation study in Mr. Spanos's direct testimony contains a more detailed engineering analysis of each unit, as opposed to the general age assumption applied in Attachment H. For each unit, the depreciation study resulted in the retirement date occurring at the lower end of the industry life span range for coal units. This higher level of detail is the reason that the dates shown in the depreciation study occur sooner than the assumed age in Attachment H."

a. Please provide the "more detailed engineering analysis for each unit" in their complete electronic format.

b. Please provide a detailed narrative explaining the methodology utilized for the detailed engineering analysis for each unit that was conducted to determine the probable retirement date.

c. Please provide the citation to Gannet Fleming's contract (provided in response to Attachment 1 to Response to US DOD-1 Question No. 7) with LG&E that describes the scope of this detailed engineering analysis.

d. Please identify who conducted this analysis.

A-2.

a. See the attachment provided in response to US DOD 1-10(a).

b. See the attached for a discussion on the methodology.

c. The analysis was an internal review performed by LG&E and KU personnel, and is not cited in Gannet Fleming’s contract.

d. The analysis was conducted by LG&E and KU personnel.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 3

Responding Witness: Christopher M. Garrett / John J. Spanos /

Q-3. Please refer to LG&E's response to KIUC Data Request Set 1, Question No. 29.b. Please explain why LG&E's customers should pay accelerated depreciation expense on the ash ponds due to a mistake on LG&E's part in a previous settlement, which set depreciation rates at 0%.

A-3. LG&E customers are not paying accelerated depreciation on the ash ponds due to a mistake on LG&E's part in a previous settlement. Based on group depreciation, assets are recovered over the life of the assets within the group. Thus, not every asset is individually depreciated. Additionally, rates are established in rate cases after assets have been placed in service; thus, the entire group of assets are recovered over the life of the group. The life of the ash ponds were previously presented in the last depreciation study.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 4

Responding Witness: Counsel

Q-4. Please provide Attachment 1 to Response to US DOD-1 Question No. 2, which appears to be a Microsoft Word document, in its native format.

A-4. LG&E provided a PDF version of Attachment 1 to US DOD 1-2, which is available via the Commission's website. The US DOD can use readily available software to convert the provided PDF file to Microsoft Word format. Counsel for LG&E discussed this procedure with counsel for US DOD. US DOD has agreed to convert the PDF file to Microsoft Word format.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 5

Responding Witness: Counsel

Q-5. Please provide Attachment 1 to Response to US DOD-1 Question No. 3, which appears to be a Microsoft Word document, in its native format.

A-5. LG&E provided a PDF version of Attachment 1 to US DOD 1-3, which is available via the Commission's website. The US DOD can use readily available software to convert the provided PDF file to Microsoft Word format. Counsel for LG&E discussed this procedure with counsel for US DOD. US DOD has agreed to convert the PDF file to Microsoft Word format.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 6

Responding Witness: Counsel

Q-6. Please provide Attachment 1 to Response to US DOD-1 Question No. 5, which appears to be a Microsoft Word document, in its native format.

A-6. LG&E provided a PDF version of Attachment 1 to US DOD 1-5, which is available via the Commission's website. The US DOD can use readily available software to convert the provided PDF file to Microsoft Word format. Counsel for LG&E discussed this procedure with counsel for US DOD. US DOD has agreed to convert the PDF file to Microsoft Word format.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 7

Responding Witness: Christopher M. Garrett / John J. Spanos / Counsel

Q-7. Please provide the files, which were provided as Attachment 1 to Response to US DOD-1 Question No. 7, which appear to be a variety of Microsoft Word documents, Microsoft Office emails, Microsoft Excel spreadsheets, etc., in their complete native formats.

A-7. See attachments being provided in Excel format.

LG&E provided a PDF version of Attachment 1 to US DOD 1-7, which is available via the Commission's website. The US DOD can use readily available software to convert the provided PDF file to Microsoft Word or Microsoft Office email format. Counsel for LG&E discussed this procedure with counsel for US DOD. US DOD has agreed to convert the PDF file to Microsoft Word format.

The attachments are being provided in separate files in Excel format.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 8

Responding Witness: Daniel K. Arbough / John J. Spanos

Q-8. Please refer to page 799 of Attachment 1 to Response to US DOD-1 Question No. 7.

a. Please explain why the Company did not extend the lifespan of Mill Creek 1 and 2, Brown 3, and Ghent 1 and 2 by three years as Mr. Spanos had intended.

b. Please explain why Mr. Spanos thought the lives of these units should be extended by three years.

c. Please provide the impact on depreciation rates and test year depreciation expense for these units by extending the lives by three years.

d. Please provide the remaining life for each FERC account for each unit if the life was extended by three years such that Table 1 of the depreciation study (Exhibit JJS-LG&E-1) can be updated.

e. Please provide the interim retirements for each plant FERC account for each plant if the life was extended by three years such that Table 2 of the Depreciation Study (Exhibit JJS-LG&E-1) can be updated.

A-8.

a. The request misstates the email referenced therein. The email (page 799 of Attachment 1) discussion relates to a possible alternative to some of the steam units. Based on discussions with Company personnel it was determined this alternative was not consistent with the outlook of the units.

b. Mr. Spanos did not think the lives of these units should be extended by three years. Page 799 was an email discussing the possible alternative of extending the currently approved life span by three years.

c. See attached which sets forth the results for extending the designated units by three years. This calculation reduces depreciation expense for steam plant by $2,478,836 as compared to the depreciation study filed.

d. See attached for remaining lives by unit and account with the changed probable retirement dates for some units.

e. See attached for interim retirements for each account and unit for the facilities with a changed probable retirement date of three years.

	Filed	Rates Using 3 plus Years	Variance
Depreciation Expense	221,495,054.46	219,016,218.39	(2,478,836.07)

DESCRIPTION	Filed	Rates Using 3 plus Years	Variance
LGE-131100-Cane Run Unit 1 Structur	0.00%	0.00%	0.00%
LGE-131100-Cane Run Unit 2 Structur	0.00%	0.00%	0.00%
LGE-131100-Cane Run Unit 3 Structur	0.00%	0.00%	0.00%
LGE-131100-Cane Run Unit 4 SO2-Stru	0.00%	0.00%	0.00%
LGE-131100-Cane Run Unit 4 Structur	0.00%	0.00%	0.00%
LGE-131100-Cane Run Unit 5 SO2-Stru	0.00%	0.00%	0.00%
LGE-131100-Cane Run Unit 5 Structur	0.00%	0.00%	0.00%
LGE-131100-Cane Run Unit 6 SO2-Stru	0.00%	0.00%	0.00%
LGE-131100-CR Unit 6 Struc	0.00%	0.00%	0.00%
LGE-131100-CR Unit 6 Struc ECR 2005	0.00%	0.00%	0.00%
LGE-131100-Distribution Dr ECR 2011	2.66%	2.66%	0.00%
LGE-131100-Distribution Drive	2.66%	2.66%	0.00%
LGE-131100-MC Unit 1 Struc ECR 2011	1.76%	1.52%	-0.24%
LGE-131100-MC Unit 2 SO2 ECR 2011	5.61%	4.80%	-0.81%
LGE-131100-MC Unit 2 Struc ECR 2011	2.31%	2.02%	-0.29%
LGE-131100-MC Unit 4 Struc	2.21%	2.25%	0.04%
LGE-131100-MC Unit 4 Struc ECR 2005	2.21%	2.25%	0.04%
LGE-131100-MC Unit 4 Struc ECR 2011	2.21%	2.25%	0.04%
LGE-131100-Mill Creek 3 ECR 2011	1.83%	1.88%	0.05%
LGE-131100-Mill Creek Unit 1 SO2-St	0.00%	0.00%	0.00%
LGE-131100-Mill Creek Unit 1 Struct	1.76%	1.52%	-0.24%
LGE-131100-Mill Creek Unit 2 SO2-St	5.61%	4.80%	-0.81%
LGE-131100-Mill Creek Unit 2 Struct	2.31%	2.02%	-0.29%
LGE-131100-Mill Creek Unit 3 SO2-St	5.26%	5.31%	0.05%
LGE-131100-Mill Creek Unit 3 Struct	1.83%	1.88%	0.05%
LGE-131100-Mill Creek Unit 4 SO2-St	2.80%	2.84%	0.04%
LGE-131100-Mill Creek3 SO2 ECR 2011	5.26%	5.31%	0.05%
LGE-131100-Mill Creek4 SO2 ECR 2011	2.80%	2.84%	0.04%
LGE-131100-TC 1 Future Use - 105	1.77%	0.00%	-1.77%
LGE-131100-TC Unit 1 Struc	1.68%	1.68%	0.00%
LGE-131100-TC Unit 1 Struc ECR 2006	1.68%	1.68%	0.00%
LGE-131100-TC Unit 2 Struc	2.16%	2.16%	0.00%
LGE-131100-TC Unit 2 Struc ECR 2006	2.16%	2.16%	0.00%
LGE-131100-TC Unit 2 Struc ECR 2009	2.16%	2.16%	0.00%

LGE-131100-Trimble Unit 1 SO2-Struc	3.57%	3.57%	0.00%
LGE-131100-Trimble Unit 2 FGD-Struc	2.25%	2.25%	0.00%
LGE-131101-AROP CR 1 Struct & Impr	0.00%	0.00%	0.00%
LGE-131101-AROP CR 6 Struc ECR 2005	0.00%	0.00%	0.00%
LGE-131101-AROP CR 6 Struct & Impr	0.00%	0.00%	0.00%
LGE-131101-AROP MC 1 Struct & Impr	0.00%	0.00%	0.00%
LGE-131101-AROP MC 3 Struct & Impr	0.00%	0.00%	0.00%
LGE-131101-AROP MC 4 Struct & Impr	0.00%	0.00%	0.00%
LGE-131101-AROP TC 1 Struct & Impr	0.00%	0.00%	0.00%
LGE-131101-AROP TC 2 Struc ECR 2009	0.00%	0.00%	0.00%
LGE-131110-CR 6 Capital Leased Equi	6.99%	0.00%	-6.99%
LGE-131110-MC 4 Capital Leased Equi	1.65%	0.00%	-1.65%
LGE-131200-Cane Run Rail Cars - Boi	0.00%	0.00%	0.00%
LGE-131200-Cane Run Unit 1 Boiler P	0.00%	0.00%	0.00%
LGE-131200-Cane Run Unit 2 Boiler P	0.00%	0.00%	0.00%
LGE-131200-Cane Run Unit 3 Boiler P	0.00%	0.00%	0.00%
LGE-131200-Cane Run Unit 4 SO2 Boil	0.00%	0.00%	0.00%
LGE-131200-Cane Run Unit 5 SO2 Boil	0.00%	0.00%	0.00%
LGE-131200-CR Unit 4 Boil	0.00%	0.00%	0.00%
LGE-131200-CR Unit 4 Boil ECR 2006	0.00%	0.00%	0.00%
LGE-131200-CR Unit 5 Boil	0.00%	0.00%	0.00%
LGE-131200-CR Unit 5 Boil ECR 2006	0.00%	0.00%	0.00%
LGE-131200-CR Unit 6 Boil	0.00%	0.00%	0.00%
LGE-131200-CR Unit 6 Boil ECR 2006	0.00%	0.00%	0.00%
LGE-131200-CR6 SO2 Boil	0.00%	0.00%	0.00%
LGE-131200-CR6 SO2 Boil ECR 2005	0.00%	0.00%	0.00%
LGE-131200-MC Offsite Rail Cars	0.36%	0.00%	-0.36%
LGE-131200-MC Unit 1 Boil	6.15%	5.21%	-0.94%
LGE-131200-MC Unit 1 Boil ECR 2006	6.15%	5.21%	-0.94%
LGE-131200-MC Unit 1 Boil ECR 2011	6.15%	5.21%	-0.94%
LGE-131200-MC Unit 1 Boil-Ash Pond	10.94%	10.94%	0.00%
LGE-131200-MC Unit 2 Boil	6.27%	5.41%	-0.86%
LGE-131200-MC Unit 2 Boil ECR 2006	6.27%	5.41%	-0.86%
LGE-131200-MC Unit 2 Boil ECR 2011	6.27%	5.41%	-0.86%
LGE-131200-MC Unit 2 SO2 ECR 2011	6.27%	5.84%	-0.43%
LGE-131200-MC Unit 2 SO2 ECR 2016	6.27%	5.84%	-0.43%
LGE-131200-MC Unit 3 Boil	4.47%	4.52%	0.05%
LGE-131200-MC Unit 3 Boil ECR 2006	4.47%	4.52%	0.05%
LGE-131200-MC Unit 3 Boil ECR 2011	4.47%	4.52%	0.05%
LGE-131200-MC Unit 3 Boil-Ash Pond	21.94%	21.94%	0.00%
LGE-131200-MC Unit 3 SO2 ECR 2011	4.47%	5.59%	1.12%

LGE-131200-MC Unit 3 SO2 ECR 2016	4.47%	5.59%	1.12%
LGE-131200-MC Unit 4 Boil	3.61%	3.66%	0.05%
LGE-131200-MC Unit 4 Boil ECR 2005	3.61%	3.66%	0.05%
LGE-131200-MC Unit 4 Boil ECR 2006	3.61%	3.66%	0.05%
LGE-131200-MC Unit 4 Boil ECR 2011	3.61%	3.66%	0.05%
LGE-131200-MC Unit 4 Boil ECR 2016	3.61%	3.66%	0.05%
LGE-131200-MC4 SO2 Boil	4.47%	4.51%	0.04%
LGE-131200-MC4 SO2 Boil ECR 2005	4.47%	4.51%	0.04%
LGE-131200-MC4 SO2 Boil ECR 2009	4.47%	4.51%	0.04%
LGE-131200-MC4 SO2 Boil ECR 2011	4.47%	4.51%	0.04%
LGE-131200-MC4 SO2 Boil ECR 2016	4.47%	4.51%	0.04%
LGE-131200-Mill Creek Rail Cars Boi	0.36%	0.00%	-0.36%
LGE-131200-Mill Creek Unit 1 SO2 Bo	3.67%	3.14%	-0.53%
LGE-131200-Mill Creek Unit 2 SO2 Bo	6.78%	5.84%	-0.94%
LGE-131200-Mill Creek Unit 3 SO2 Bo	5.54%	5.59%	0.05%
LGE-131200-TC 1 Future Use - 105	2.83%	0.00%	-2.83%
LGE-131200-TC 2 FGD Boil	2.33%	2.33%	0.00%
LGE-131200-TC 2 FGD Boil ECR 2006	2.33%	2.33%	0.00%
LGE-131200-TC Unit 1 Boil	3.02%	3.02%	0.00%
LGE-131200-TC Unit 1 Boil ECR 2006	3.02%	3.02%	0.00%
LGE-131200-TC Unit 1 Boil ECR 2009	3.02%	3.02%	0.00%
LGE-131200-TC Unit 1 Boil ECR 2011	3.02%	3.02%	0.00%
LGE-131200-TC Unit 1 Boil-Ash Pond	10.30%	10.30%	0.00%
LGE-131200-TC Unit 2 Boil	2.39%	2.39%	0.00%
LGE-131200-TC Unit 2 Boil ECR 2006	2.39%	2.39%	0.00%
LGE-131200-TC Unit 2 Boil ECR 2009	2.39%	2.39%	0.00%
LGE-131200-TC Unit 2 Boil ECR 2016	2.39%	2.39%	0.00%
LGE-131200-TC1 SO2 Boil	2.31%	2.31%	0.00%
LGE-131200-TC1 SO2 Boil ECR 2005	2.31%	2.31%	0.00%
LGE-131200-TC1 SO2 Boil ECR 2016	2.31%	2.31%	0.00%
LGE-131200-TC2 Boil ECR 2009-Ash Po	21.96%	21.96%	0.00%
LGE-131201-AROP MC3 Boiler Plt Equp	0.00%	0.00%	0.00%
LGE-131201-AROP MC4 SO2 Boiler Plt	0.00%	0.00%	0.00%
LGE-131400-Cane Run Unit 1 Turbogen	0.00%	0.00%	0.00%
LGE-131400-Cane Run Unit 2 Turbogen	0.00%	0.00%	0.00%
LGE-131400-Cane Run Unit 3 Turbogen	0.00%	0.00%	0.00%
LGE-131400-Cane Run Unit 4 Turbogen	0.00%	0.00%	0.00%
LGE-131400-Cane Run Unit 5 SO2 Turb	0.00%	0.00%	0.00%
LGE-131400-Cane Run Unit 5 Turbogen	0.00%	0.00%	0.00%
LGE-131400-Cane Run Unit 6 SO2 Turb	0.00%	0.00%	0.00%
LGE-131400-Cane Run Unit 6 Turbogen	0.00%	0.00%	0.00%

LGE-131400-Mill Creek Unit 1Turboge	4.76%	4.04%	-0.72%
LGE-131400-Mill Creek Unit 2 Turbog	4.22%	3.66%	-0.56%
LGE-131400-Mill Creek Unit 3 Turbog	2.63%	2.68%	0.05%
LGE-131400-Mill Creek Unit 4 Turbog	2.88%	2.92%	0.04%
LGE-131400-TC 1 Future Use - 105	2.43%	0.00%	-2.43%
LGE-131400-Trimble Unit 1 Turbogene	2.17%	2.17%	0.00%
LGE-131400-Trimble Unit 2 Turbogene	2.21%	2.21%	0.00%
LGE-131500-Cane Run Unit 1 Accessor	0.00%	0.00%	0.00%
LGE-131500-Cane Run Unit 2 Accessor	0.00%	0.00%	0.00%
LGE-131500-Cane Run Unit 3 Acessory	0.00%	0.00%	0.00%
LGE-131500-Cane Run Unit 4 Accessor	0.00%	0.00%	0.00%
LGE-131500-Cane Run Unit 4 SO2 Acce	0.00%	0.00%	0.00%
LGE-131500-Cane Run Unit 5 Acccesso	0.00%	0.00%	0.00%
LGE-131500-Cane Run Unit 5 SO2 Acce	0.00%	0.00%	0.00%
LGE-131500-Cane Run Unit 6 Accessor	0.00%	0.00%	0.00%
LGE-131500-Cane Run Unit 6 SO2 Acce	0.00%	0.00%	0.00%
LGE-131500-MC Unit 1 Acc ECR 2011	3.31%	2.82%	-0.49%
LGE-131500-MC Unit 2 Acc ECR 2011	3.77%	3.26%	-0.51%
LGE-131500-MC Unit 2 SO2 ECR 2011	4.97%	4.27%	-0.70%
LGE-131500-MC Unit 3 Acc ECR 2011	2.89%	2.95%	0.06%
LGE-131500-Mill Creek 4 ECR 2011	2.16%	2.20%	0.04%
LGE-131500-Mill Creek Unit 1 Access	3.31%	2.82%	-0.49%
LGE-131500-Mill Creek Unit 1 SO2 Ac	0.07%	0.12%	0.05%
LGE-131500-Mill Creek Unit 2 Access	3.77%	3.26%	-0.51%
LGE-131500-Mill Creek Unit 2 SO2 Ac	4.97%	4.27%	-0.70%
LGE-131500-Mill Creek Unit 3 Access	2.89%	2.95%	0.06%
LGE-131500-Mill Creek Unit 3 SO2 Ac	4.75%	4.80%	0.05%
LGE-131500-Mill Creek Unit 4 Access	2.16%	2.20%	0.04%
LGE-131500-Mill Creek Unit 4 SO2 Ac	3.15%	3.19%	0.04%
LGE-131500-Mill Crk #3 SO2 ECR 2011	4.75%	4.80%	0.05%
LGE-131500-Mill Crk #4 SO2 ECR 2011	3.15%	3.19%	0.04%
LGE-131500-TC 1 Future Use - 105	2.55%	0.00%	-2.55%
LGE-131500-TC Unit 2 Acce	2.21%	2.21%	0.00%
LGE-131500-TC Unit 2 Acce ECR 2006	2.21%	2.21%	0.00%
LGE-131500-TC Unit 2 Acce ECR 2009	2.21%	2.21%	0.00%
LGE-131500-Trimble 1 Acc ECR 2011	2.26%	2.26%	0.00%
LGE-131500-Trimble Unit 1 Accessory	2.26%	2.26%	0.00%
LGE-131500-Trimble Unit 1 SO2 Acces	0.92%	0.92%	0.00%
LGE-131500-Trimble Unit 2 FGD Acces	0.00%	0.00%	0.00%
LGE-131501-AROP Cane Run 4 Acc	0.00%	0.00%	0.00%
LGE-131501-AROP Cane Run 5 Acc	0.00%	0.00%	0.00%

LGE-131501-AROP Cane Run 6 Acc	0.00%	0.00%	0.00%
LGE-131501-AROP Mill Creek 1 Acc	0.00%	0.00%	0.00%
LGE-131501-AROP Mill Creek 2 Acc	0.00%	0.00%	0.00%
LGE-131501-AROP Mill Creek 3 Acc	0.00%	0.00%	0.00%
LGE-131501-AROP Mill Creek 4 Acc	0.00%	0.00%	0.00%
LGE-131501-AROP Trimble Unit 1 Acc	0.00%	0.00%	0.00%
LGE-131600-Cane Run Unit 1 Misc. Po	0.00%	0.00%	0.00%
LGE-131600-Cane Run Unit 3 Misc. Po	0.00%	0.00%	0.00%
LGE-131600-Cane Run Unit 4 Misc. Po	0.00%	0.00%	0.00%
LGE-131600-Cane Run Unit 4 SO2 Misc	0.00%	0.00%	0.00%
LGE-131600-Cane Run Unit 5 Misc. Po	0.00%	0.00%	0.00%
LGE-131600-Cane Run Unit 5 SO2 Misc	0.00%	0.00%	0.00%
LGE-131600-Cane Run Unit 6 Misc. Po	0.00%	0.00%	0.00%
LGE-131600-Cane Run Unit 6 SO2 Misc	0.00%	0.00%	0.00%
LGE-131600-Distribution Dr ECR 2011	2.42%	2.42%	0.00%
LGE-131600-Distribution Drive	2.42%	2.42%	0.00%
LGE-131600-MC Unit 1 Misc ECR 2011	4.23%	3.64%	-0.59%
LGE-131600-MC Unit 2 Misc ECR 2011	3.18%	2.82%	-0.36%
LGE-131600-Mill Creek #4 ECR 2011	3.47%	3.52%	0.05%
LGE-131600-Mill Creek Unit 1 Misc P	4.23%	3.64%	-0.59%
LGE-131600-Mill Creek Unit 2 Misc.	3.18%	2.82%	-0.36%
LGE-131600-Mill Creek Unit 3 Misc.	0.77%	0.84%	0.07%
LGE-131600-Mill Creek Unit 4 Misc.	3.47%	3.52%	0.05%
LGE-131600-Mill Creek Unit 4 SO2 Mi	0.04%	0.09%	0.05%
LGE-131600-Trimble Unit 1 Misc. Pow	2.59%	2.59%	0.00%
LGE-131600-Trimble Unit 2 Misc. Pow	2.69%	2.69%	0.00%

LOUISVILLE GAS AND ELECTRIC

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES AS OF DECEMBER 31, 2017

	ACCOUNT	SURVIVOR CURVE		NET SALVAGE PERCENT	ORIGINAL COST	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
	DEPRECIABLE PLANT									
	STEAM PRODUCTION PLANT									
311.00	STRUCTURES AND IMPROVEMENTS									
	RIVERPORT DISTRIBUTION CENTER	95-R2.5	*	(25)	5,310,284.64	406,568	6,231,288	141,508	2.66	44.0
	MILL CREEK UNIT 1	95-R2.5	*	(11)	21,232,083.22	18,030,458	5,537,154	322,838	1.52	17.2
	MILL CREEK UNIT 2	95-R2.5	*	(11)	14,161,012.84	10,257,954	5,460,770	285,504	2.02	19.1
	MILL CREEK UNIT 2 SCRUBBER	95-R2.5	*	(11)	4,970,628.17	908,754	4,608,643	238,781	4.80	19.3
	MILL CREEK UNIT 3	95-R2.5	*	(11)	29,123,290.17	21,313,461	11,013,391	547,256	1.88	20.1
	MILL CREEK UNIT 3 SCRUBBER	95-R2.5	*	(11)	5,494,516.28	173,524	5,925,389	291,596	5.31	20.3
	MILL CREEK UNIT 4	95-R2.5	*	(11)	73,280,911.39	41,957,732	39,384,080	1,651,403	2.25	23.8
	MILL CREEK UNIT 4 SCRUBBER	95-R2.5	*	(11)	5,792,375.79	2,461,633	3,967,904	164,718	2.84	24.1
	TRIMBLE COUNTY UNIT 1	95-R2.5	*	(14)	107,482,423.29	66,335,130	56,194,833	1,810,718	1.68	31.0
	TRIMBLE COUNTY UNIT 1 SCRUBBER	95-R2.5	*	(14)	889,015.22	6,671	1,006,806	31,696	3.57	31.8
	TRIMBLE COUNTY UNIT 2	95-R2.5	*	(14)	17,403,381.00	2,319,428	17,520,426	375,655	2.16	46.6
	TRIMBLE COUNTY UNIT 2 SCRUBBER	95-R2.5	*	(14)	84,599.93	7,610	88,834	1,903	2.25	46.7
	TOTAL ACCOUNT 311 - STRUCTURES AND IMPROVEMENTS				285,224,521.94	164,178,923	156,939,518	5,863,576	2.06	26.8
311.20	STRUCTURES AND IMPROVEMENTS - RETIRED PLANT									
	CANE RUN UNIT 1	95-R2.5	*	(10)	1,786,178.29	1,964,796	0	0	-	-
	CANE RUN UNIT 2	95-R2.5	*	(10)	1,228,338.33	1,351,172	0	0	-	-
	CANE RUN UNIT 3	95-R2.5	*	(10)	2,035,561.33	2,239,117	0	0	-	-
	CANE RUN UNIT 4	95-R2.5	*	(10)	3,131,855.49	3,445,041	0	0	-	-
	CANE RUN UNIT 4 SCRUBBER	95-R2.5	*	(10)	17,565.79	19,322	0	0	-	-
	CANE RUN UNIT 5	95-R2.5	*	(10)	3,145,664.22	3,460,231	0	0	-	-
	CANE RUN UNIT 5 SCRUBBER	95-R2.5	*	(10)	10,193.27	11,213	0	0	-	-
	CANE RUN UNIT 6	95-R2.5	*	(10)	13,104,413.12	14,414,854	0	0	-	-
	CANE RUN UNIT 6 SCRUBBER	95-R2.5	*	(10)	85,926.95	94,520	0	0	-	-
	TOTAL ACCOUNT 311.2 - STRUCTURES AND IMPROVEMENTS - RETIRED PLANT				24,545,696.79	27,000,266	0	0	-	-
312.00	BOILER PLANT EQUIPMENT									
	MILL CREEK UNIT 1	60-R1	*	(11)	182,136,143.11	44,904,210	157,266,909	9,490,164	5.21	16.6
	MILL CREEK UNIT 1 SCRUBBER	60-R1	*	(11)	16,929,429.83	10,096,169	8,695,498	532,168	3.14	16.3
	MILL CREEK UNIT 2	60-R1	*	(11)	198,502,284.71	23,329,610	197,007,926	10,741,517	5.41	18.3
	MILL CREEK UNIT 2 SCRUBBER	60-R1	*	(11)	114,821,991.46	3,293,371	124,159,040	6,707,735	5.84	18.5
	MILL CREEK UNIT 3	60-R1	*	(11)	277,512,948.88	68,045,505	239,993,868	12,540,400	4.52	19.1
	MILL CREEK UNIT 3 SCRUBBER	60-R1	*	(11)	150,336,700.73	3,777,361	163,096,377	8,405,284	5.59	19.4
	MILL CREEK UNIT 4	60-R1	*	(11)	471,456,638.57	135,726,909	387,589,960	17,243,238	3.66	22.5
	MILL CREEK UNIT 4 SCRUBBER	60-R1	*	(11)	206,349,248.58	17,667,770	211,379,896	9,308,876	4.51	22.7
	TRIMBLE COUNTY UNIT 1	60-R1	*	(14)	322,917,528.20	90,641,330	277,484,652	9,742,924	3.02	28.5
	TRIMBLE COUNTY UNIT 1 SCRUBBER	60-R1	*	(14)	66,837,564.03	33,565,110	42,629,713	1,543,467	2.31	27.6
	TRIMBLE COUNTY UNIT 2	60-R1	*	(14)	146,448,004.91	25,449,556	141,501,170	3,498,812	2.39	40.4
	TRIMBLE COUNTY UNIT 2 SCRUBBER	60-R1	*	(14)	15,152,263.48	3,036,129	14,237,451	352,682	2.33	40.4
	TOTAL ACCOUNT 312 - BOILER PLANT EQUIPMENT				2,169,400,746.49	459,533,030	1,965,042,460	90,107,267	4.15	21.8

LOUISVILLE GAS AND ELECTRIC

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES AS OF DECEMBER 31, 2017

	ACCOUNT	SURVIVOR CURVE		NET SALVAGE PERCENT	ORIGINAL COST	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
312.10	BOILER PLANT EQUIPMENT - ASH PONDS									
	MILL CREEK UNIT 1 ASH POND	100-S4	*	0	411,750.29	231,546	180,204	45,051	10.94	4.0
	MILL CREEK UNIT 3 ASH POND	100-S4	*	0	947,826.39	635,948	311,878	207,919	21.94	1.5
	TRIMBLE COUNTY UNIT 1 ASH POND	100-S4	*	0	4,867,827.96	1,858,074	3,009,754	501,626	10.30	6.0
	TRIMBLE COUNTY UNIT 2 ASH POND	100-S4	*	0	5,057,242.50	614,262	4,442,980	1,110,745	21.96	4.0
	TOTAL ACCOUNT 312.1 - BOILER PLANT EQUIPMENT - ASH PONDS				11,284,647.14	3,339,830	7,944,816	1,865,341	16.53	4.3
314.00	TURBOGENERATOR UNITS									
	MILL CREEK UNIT 1	60-R2.5	*	(11)	25,971,344.84	11,394,423	17,433,770	1,049,965	4.04	16.6
	MILL CREEK UNIT 2	60-R2.5	*	(11)	28,261,136.61	12,265,240	19,104,622	1,034,236	3.66	18.5
	MILL CREEK UNIT 3	60-R2.5	*	(11)	34,874,136.89	20,843,142	17,867,150	935,800	2.68	19.1
	MILL CREEK UNIT 4	60-R2.5	*	(11)	55,058,036.33	24,696,491	36,417,929	1,608,101	2.92	22.6
	TRIMBLE COUNTY UNIT 1	60-R2.5	*	(14)	59,537,576.82	30,778,475	37,094,363	1,294,397	2.17	28.7
	TRIMBLE COUNTY UNIT 2	60-R2.5	*	(14)	21,967,018.06	4,789,217	20,253,184	485,677	2.21	41.7
	TOTAL ACCOUNT 314 - TURBOGENERATOR UNITS				225,669,249.55	104,766,988	148,171,018	6,408,176	2.84	23.1
315.00	ACCESSORY ELECTRIC EQUIPMENT									
	MILL CREEK UNIT 1	65-R3	*	(11)	18,582,082.97	11,727,023	8,899,089	524,347	2.82	17.0
	MILL CREEK UNIT 1 SCRUBBER	65-R3	*	(11)	202,167.22	220,362	4,044	248	0.12	16.3
	MILL CREEK UNIT 2	65-R3	*	(11)	13,147,191.98	6,468,006	8,125,377	428,984	3.26	18.9
	MILL CREEK UNIT 2 SCRUBBER	65-R3	*	(11)	2,694,916.35	765,601	2,225,756	114,967	4.27	19.4
	MILL CREEK UNIT 3	65-R3	*	(11)	26,791,012.14	13,984,708	15,753,315	789,175	2.95	20.0
	MILL CREEK UNIT 3 SCRUBBER	65-R3	*	(11)	9,792,181.78	1,349,963	9,519,359	469,685	4.80	20.3
	MILL CREEK UNIT 4	65-R3	*	(11)	31,002,634.31	18,728,455	15,684,469	683,556	2.20	22.9
	MILL CREEK UNIT 4 SCRUBBER	65-R3	*	(11)	1,667,316.69	564,201	1,286,521	53,168	3.19	24.2
	TRIMBLE COUNTY UNIT 1	65-R3	*	(14)	65,098,801.60	30,167,182	44,045,452	1,473,149	2.26	29.9
	TRIMBLE COUNTY UNIT 1 SCRUBBER	65-R3	*	(14)	2,736,920.21	2,395,614	724,475	25,313	0.92	28.6
	TRIMBLE COUNTY UNIT 2	65-R3	*	(14)	10,679,138.16	1,552,448	10,621,770	235,871	2.21	45.0
	TOTAL ACCOUNT 315 - ACCESSORY ELECTRIC EQUIPMENT				182,394,363.41	87,923,563	116,889,627	4,798,463	2.63	24.4
316.00	MISCELLANEOUS PLANT EQUIPMENT									
	RIVERPORT DISTRIBUTION CENTER	45-R2.5	*	(2)	582,917.96	63,737	530,839	14,119	2.42	37.6
	MILL CREEK UNIT 1	45-R2.5	*	(11)	1,036,757.76	560,951	589,850	37,736	3.64	15.6
	MILL CREEK UNIT 2	45-R2.5	*	(11)	141,316.22	90,413	66,448	3,982	2.82	16.7
	MILL CREEK UNIT 3	45-R2.5	*	(11)	347,546.48	334,551	51,226	2,930	0.84	17.5
	MILL CREEK UNIT 4	45-R2.5	*	(11)	10,935,346.35	3,654,057	8,484,177	384,552	3.52	22.1
	MILL CREEK UNIT 4 SCRUBBER	45-R2.5	*	(11)	43,211.57	47,101	864	38	0.09	22.7
	TRIMBLE COUNTY UNIT 1	45-R2.5	*	(14)	3,093,853.20	1,635,209	1,891,784	80,052	2.59	23.6
	TRIMBLE COUNTY UNIT 2	45-R2.5	*	(14)	3,528,603.03	384,869	3,637,738	94,925	2.69	38.3
	TOTAL ACCOUNT 316 - MISCELLANEOUS PLANT EQUIPMENT				19,709,552.57	6,770,888	15,252,926	618,334	3.14	24.7
	TOTAL STEAM PRODUCTION PLANT				**2,918,228,777.89**	**853,513,488**	**2,410,240,365**	**109,661,157**		

* LIFE SPAN PROCEDURE IS USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE

LOUISVILLE GAS AND ELECTRIC

TABLE 2. CALCULATION OF WEIGHTED NET SALVAGE PERCENT FOR GENERATION PLANT AS OF DECEMBER 31, 2015

Account		Terminal Retirements Retirements ($)	Terminal Retirements Net Salvage ($)	Terminal Retirements Net Salvage (%)	Interim Retirements Retirements ($)	Interim Retirements Net Salvage (%)	Interim Retirements Net Salvage ($)	Total Net Salvage ($)	Total Retirements	Estimated Net Salvage (%)
(1)		(2)	(3)	(4)=(3)/(2)	(5)	(6)	(7)=(5)x(6)	(8)=(3)+(7)	(9)=(2)+(5)	(10)=(8)/(9)
STEAM PRODUCTION PLANT										
CANE RUN GENERATING STATION										
311	STRUCTURES AND IMPROVEMENTS	16,811,037	(1,681,104)	(10)	-	(25)	-	(1,681,103.73)	16,811,037	(10)
312	BOILER PLANT EQUIPMENT	5,944,973	(594,497)	(10)	-	(25)	-	(594,497)	5,944,973	(10)
314	TURBOGENERATOR UNITS	1,180,444	(118,044)	(10)	-	(15)	-	(118,044)	1,180,444	(10)
315	ACCESSORY ELECTRIC EQUIPMENT	1,121	(112)	(10)	-	(15)	-	(112)	1,121	(10)
316	MISCELLANEOUS POWER PLANT EQUIPMENT	608,122	(60,812)	(10)	-	(2)	-	(60,812)	608,122	(10)
TOTAL CANE RUN GENERATING STATION		*24,545,697*	*(2,454,570)*		-		-	*(2,454,570)*	*24,545,697*	*(10)*
MILL CREEK GENERATING STATION										
311	STRUCTURES AND IMPROVEMENTS	124,467,927	(11,202,113)	(9)	29,586,891	(25)	(7,396,723)	(18,598,836)	154,054,818	(11)
312	BOILER PLANT EQUIPMENT	1,365,643,392	(122,907,905)	(9)	252,401,993	(25)	(63,100,498)	(186,008,404)	1,618,045,386	(11)
314	TURBOGENERATOR UNITS	116,197,216	(10,457,749)	(9)	27,967,438	(15)	(4,195,116)	(14,652,865)	144,164,655	(11)
315	ACCESSORY ELECTRIC EQUIPMENT	85,177,960	(7,666,016)	(9)	18,701,544	(15)	(2,805,232)	(10,471,247.93)	103,879,503	(11)
316	MISCELLANEOUS POWER PLANT EQUIPMENT	9,674,322	(870,689)	(9)	2,829,857	(2)	(56,597)	(927,286)	12,504,178	(11)
TOTAL MILL CREEK GENERATING STATION		*1,701,160,817*	*(153,104,474)*		*331,487,723*		*(77,554,166)*	*(230,658,639)*	*2,032,648,540*	*(11)*
TRIMBLE COUNTY GENERATING STATION										
311	STRUCTURES AND IMPROVEMENTS	112,342,178	(10,110,796)	(9)	13,517,241	(25)	(3,379,310)	(13,490,106)	125,859,419	(14)
312	BOILER PLANT EQUIPMENT	340,306,097	(30,627,549)	(9)	211,049,263	(25)	(52,762,316)	(83,389,865)	551,355,361	(14)
314	TURBOGENERATOR UNITS	52,942,160	(4,764,794)	(9)	28,562,435	(15)	(4,284,365)	(9,049,160)	81,504,595	(14)
315	ACCESSORY ELECTRIC EQUIPMENT	52,876,881	(4,758,919)	(9)	25,637,979	(15)	(3,845,697)	(8,604,616)	78,514,860	(14)
316	MISCELLANEOUS POWER PLANT EQUIPMENT	3,151,292	(283,616)	(9)	3,471,164	(2)	(69,423)	(353,040)	6,622,456	(14)
TOTAL TRIMBLE COUNTY GENERATING STATION		*561,618,609*	*(50,545,675)*		*282,238,082*		*(64,341,112)*	*(114,886,786)*	*843,856,691*	*(14)*
TOTAL STEAM PRODUCTION PLANT		**2,287,325,122**	**(206,104,718)**		**613,725,806**		**(141,895,277)**	**(347,999,995)**	**2,901,050,928**	

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 9

Responding Witness: John J. Spanos

Q-9. Please refer to page 801 of Attachment 1 to Response to US DOD-1 Question No. 7.

a. Please provide the native excel version of the files that were attached to this email.

b. Please explain which of these two scenarios have been proposed in the filed depreciation study (Exhibit JJS-LG&E-1).

A-9.

a. See attachments 18-21 in the response to Question No. 7.

b. See attached. The schedule listed as LGE – 2017 – Electric-Steam-retired plant separate.xls on page 801 of Attachment 1 presents the reclassification of the remaining terminal net salvage of the retired plants to the existing plants. These costs are recovered over the remaining life of these facilities. This calculation has been proposed in the filed Depreciation Study (Exhibit JJS-LGE_1).

LOUISVILLE GAS AND ELECTRIC

DECOMMISSIONING COSTS RELATED TO GENERATING UNITS

UNIT	ESTIMATED RETIREMENT YEAR	MW	ESTIMATED DECOMMISSIONING COSTS ($/KW)	TOTAL DECOMMISSIONING COSTS (CURRENT $)	TOTAL DECOMMISSIONING COSTS (FUTURE $)	ESTIMATED TERMINAL RETIREMENTS	TERMINAL NET SALVAGE (%)
(1)	(2)	(3)	(4)	(5)=(3)*(4)	(6)	(7)	(8)=(6)/(7)
STEAM							
MILL CREEK 1	2032	303	40	12,120,000	17,553,374		
MILL CREEK 2	2034	301	40	12,040,000	18,320,284		
MILL CREEK 3	2038	391	40	15,640,000	26,268,660		
MILL CREEK 4	2042	477	40	19,080,000	35,373,253		
CANE RUN DECOMMISSIONING					36,945,431		
PADDY'S RUN DECOMMISSIONING					13,165,523		
TOTAL MILL CREEK				58,880,000	147,626,525	(1,737,394,677)	(8)
TRIMBLE COUNTY 1	2050	383	40	15,320,000	34,605,595		
TRIMBLE COUNTY 2	2066	102	40	4,080,000	13,681,369		
TOTAL TRIMBLE COUNTY				19,400,000	48,286,964	(561,618,609)	(9)
TOTAL STEAM				**78,280,000**	**195,913,489**	**(2,299,013,286)**	

Case No. 2018-00295
Attachment to Response to US DOD-2 Question No. 9(b)

Spanos

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 10

Responding Witness: Christopher M. Garrett

Q-10. Please provide the native excel version of the spreadsheets provided as pages 836-841 of Attachment 1 to Response to US DOD-1 Question No. 7.

A-10. See attachments 22-23 in the response to Question No. 7.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 11

Responding Witness: Kent W. Blake / John J. Spanos

Q-11. Page 848 of Attachment 1 to Response to US DOD-1 Question No. 7 indicates that Mr. Spanos and Kent Blake had a meeting at 3PM on July 17th.

a. Please explain what "issues" were discussed during this call.

b. Please provide a detailed narrative explaining the subject matter of this meeting

c. Please explain what changes were made to any of Mr. Spanos' preliminary depreciation study results as a result of this meeting.

d. Please provide any notes taken by either LG&E or Gannett Fleming during this call.

A-11.

a. There was a brief conference call that included Mr. Spanos, Mr. Blake and other Company employees. While there may have been a brief status update on the depreciation study, since that was ongoing at the time of the call, the deprecation study was not the subject of the meeting nor was there any substantive discussion of the depreciation study. Mr. Blake simply wanted to inquire of Mr. Spanos as to whether any utilities were doing anything different than the Companies with respect to two challenges in fully recovering plant in service via depreciation rates. Mr. Spanos indicated there was not. The two “issues” to which Mr. Blake inquired were as follows:

1. Since a depreciation study sets depreciation rates for a plant as of a certain date based, in part, on the remaining life of the plant at that point in time, capital additions to that plant in subsequent years may not be fully recovered unless that life of the plant is extended.

2. When utilities are investing capital at the rate of annual depreciation expense and thus keeping rate base and capitalization flat, they will often still incur regulatory lag as annual depreciation expense will continue to

grow since both Plant in Service and Accumulated Depreciation balances are growing and the approved depreciation rates are applied to the Plant in Service balance.

b. See the response to part a.

c. None.

d. Neither Mr. Spanos nor Mr. Blake did not take any notes during the meeting.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 12

Responding Witness: Lonnie E. Bellar

Q-12. Please refer to Attachment 2 to Response to US DOD-1 Question No. 7 at page 1 of 16. The retirement dates for the steam units are provided that appear to match the retirement dates that Mr. Spanos utilized in the depreciation study. Please explain who conducted the analysis to determine these retirement dates, what methodology was utilized, and provide all documents, studies, analyses, etc. in their complete native format, that support these retirement dates.

A-12. The analysis that produced these dates was conducted internally by LG&E and KU personnel.

See the attachment provided in response to Question No 2(b) and the attachment provided in response to US DOD 1-10(a) for the supporting study.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 13

Responding Witness: Lonnie E. Bellar

Q-13. Please provide in its entirety, the 2015 study, mentioned on the bottom of page 2 of Attachment to Response to DOD-1 Question No. 10(a).

A-13. See attached.

Generation Services Engineering 2015 Depreciation Study Evaluation

3/4/16

Methodology

Many factors influence the end of life for a generating station. To complete this analysis the following assumptions were made regarding factors outside the direct technical evaluation:

- All necessary environmental permits and licenses will be maintained
- Units will continue to operate in a manner that is consistent with recent operating practices, with a similar number of annual starts and stops, and annual generation
- Units will continue to be operated in accordance with good industry practices with required renewals and replacements made in a timely manner

The generating stations were reviewed at a high level and although many individual components could fail it was decided that those would not constitute an "end of life" event and could be mitigated. The boiler drum and turbine/generator were the two components/systems identified where catastrophic failure would be consideration for retirement.

Although the boiler is a complex system with many elements, the boiler drum is a large single component with approximately 240k hours of defined life and is significantly influenced by thermal cycling. Electric Power Research Institute (EPRI) studies indicate that after approximately 1,700 normal start/stop cycles the risk of a critical flaw developing is greatly increased.

The turbine/generator is a single system, whose failure could lead to significant downtime and repair/replacement costs. Several key factors are taken into consideration when evaluating the generator such as insulation type, winding age, recent inspection findings, and test results. Wear, cracking, and blade condition are key considerations for the turbine.

Review

The depreciation review process conducted by Generation Engineering consisted of evaluating key parameters (i.e. pressures, temperatures, voltages etc..) with equipment condition (i.e. inspection data, EPRI, IEEE, etc..) to provide a risk based assessment regarding the likelihood of equipment failure as compared to industry norms.

Boiler
EPRI states:

- A critical flaw size crack appears on average at around 30 years of service (240,000 hours).
- The average number of cycles of a coal drum unit is expected to be 1,700 normal starts/stops to drive a critical flaw to failure.
- Natural Circulation boilers are more susceptible to ligament cracking than are Forced Circulation boilers.

The boiler review included previous inspection reports and a review of design vs typical operating temperatures and pressures.

Generator
Generators are regularly inspected and electrically tested. Those results were reviewed along with any other known issues. In most cases where the generator winding was beyond design life, no known issues have been observed and no concerns exist regarding condition. However, assessments of Brown 1 and Brown 2 have identified discounts on their expected end of life due to generator condition.

Brown 1 has asphalt insulation and an observed shorted turn in the field winding. Electrical test results have been within normal expectations, however the armature winding is 59 years old with a design life of 30.

Brown 2 inspection and electrical test results have been as expected, however the armature winding has been in service for 52 years with an expected life of 30.

Turbine
Turbines are inspected on a routine basis with periodic repairs/overhauls to bring the unit to as designed operation. To-date, no issues have been observed which did not allow a return to as designed operation.

Summary
Based on EPRI's research and the Generation Services Engineering review of units comparing their data, the boiler drum should not reduce the retirement year of each unit. While the EPRI “average end of drum life” for MC3 & MC4 are just short of the previous end of life depreciation study, the difference is not significant when considering these are typical and average numbers used from the analysis.

The end of life for Brown Unit 1 has been reduced 5 years from 2028 to 2023. The end of life for Brown Unit 2 has been reduced 5 years from 2034 to 2029.

There are no concerns regarding Turbine condition impacting unit end of life.

Station	Unit	Current Retirement	Revised Retirement	
MC	1	2032	2032	
MC	2	2034	2034	
MC	3	2038	2038	
MC	4	2042	2042	12-14-18 updated file to correct that MC4 was identified as MC2.
TC	1	2050	2050	
TC	2	2066	2066	
TC	5	2032	2032	
TC	6	2032	2032	
TC	7	2034	2034	
TC	8	2034	2034	
TC	9	2034	2034	
TC	10	2034	2034	
CR	7		no change	
CR	11	2018	2018	
BR	1	2028	2023	
BR	2	2034	2029	
BR	3	2035	2035	
BR	5	2031	2031	
BR	6	2029	2029	
BR	7	2029	2029	
BR	8	2025	2025	
BR	9	2031	2031	
BR	10	2031	2031	
BR	11	2026	2026	
GH	1	2034	2034	
GH	2	2034	2034	
GH	3	2037	2037	
GH	4	2038	2038	
PR	11	2018	2018	
PR	12	2018	2018	
PR	13	2031	2031	
OF	ALL	2045	2045	
HA	ALL	2020	2020	
DIX	ALL	2041	2041	

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 14

Responding Witness: Lonnie E. Bellar / Christopher M. Garrett

Q-14. Please refer to Attachment to Response to US DOD-1 Question No. 10(b).

a. Please explain how these coal ash ponds can retire earlier than the associated generating units.

b. Please provide all studies or analyses conducted that support these proposed retirement dates for the ash ponds.

c. Please provide a detailed narrative explaining why the change to the retirement dates for the ash ponds in necessary at this time.

A-14.

a. Louisville Gas and Electric Company received approval in 2016 to close the coal ash ponds in Case No. 2016-00027, *The Application of Louisville Gas and Electric Company's for Certificates of Public Convenience and Necessity and Approval of its 2016 Compliance Plan for Recovery by Environmental Surcharge*. The requirement to close the coal ash ponds prior to the retirement of the associated generating facility is the result of the issuance of the Coal Combustion Residuals Rule (CCR Rule) published by the Environmental Protection Agency as well as applicable state regulations. One goal of LG&E's CCR Rule compliance program is to meet the requirements set forth in the CCR Rule while having minimal to no impact to power generation. To achieve this goal it was determined that modifications to existing stations' wet CCR storage and handling processes were required, including the conversion of CCR storage and handling systems to dry or closed loop, installation of Process Water Systems to treat CCR process waters, and construction of new non-CCR process water ponds to handle and treat the stations' process waters. These process modifications essentially take the coal ash ponds out of each station's operational processes, thus allowing them to be closed while the stations remain in operation. As a result of the steps taken above, LG&E is able to comply with the CCR Rule (retire coal ash ponds) earlier than the associated generating units.

b. The CCR Rule 40 CFR Part 257 establishes the minimum requirements that must be met for a coal ash pond to remain in operation. If these minimum requirements cannot be achieved, the coal ash pond must be closed per the timeline established in the CCR Rule. Please reference Exhibits JNV-3 and JNV-4, in *The Application of Louisville Gas and Electric Company's for Certificates of Public Convenience and Necessity and Approval of its 2016 Compliance Plan for Recovery by Environmental Surcharge* in Case No. 2016-00027, for additional detail regarding LG&E's CCR Rule compliance program, including the planned retirements.

c. A change in the retirement dates was required to comply with the timelines established in the CCR Rule. Since the issuance of the last depreciation study for the year ended 2015, the Company has issued numerous contracts establishing updated timelines for the closure of the coal ash ponds. The dates provided in response to US DOD 1-10(b) reflect these updated dates.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 15

Responding Witness: Christopher M. Garrett / John J. Spanos

Q-15. Please refer to 2018_US_DOD_DR1_LGE_Attach_to_Q12_-_Table_2.xlsx.

a. Please provide the capacity in MW for each plant assumed to determine terminal net salvage.

b. Please provide the nameplate capacity for each power plant.

c. Please confirm that terminal net salvage was calculated assuming $40/kW.

d. Please provide the currently approved interim net salvage rates.

A-15.

a. See attached which sets forth MWs utilized in the terminal net salvage calculation for the Depreciation Study versus the nameplate capacity listed for each generating facility.

b. See attachment to response in part a).

c. It is confirmed that the terminal net salvage component was calculated using a $40/kW.

d. The list below sets forth the currently approved interim net salvage percent by account:

Account 311 = (30)

Account 312 = (25)

Account 314 = (10)

Account 315 = (15)

Account 316 = (5)

LOUISVILLE GAS AND ELECTRIC
LGE_DoD_2-15

UNIT NAME	USED IN DEPRECIATION STUDY (MW)	NAME PLATE (MW)
MILL CREEK UNIT 1	303	356
MILL CREEK UNIT 2	301	356
MILL CREEK UNIT 3	391	463
MILL CREEK UNIT 4	477	544
TRIMBLE COUNTY UNIT 1	383	425
TRIMBLE COUNTY UNIT 2	102	119

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 16

Responding Witness: John J. Spanos

Q-16. Please refer to 2018_US_DOD_DR1_LGE_Attach_to_Q13b_-_Reserve_ Adjustments.xlsx. Please provide a detailed explanation of the reasons why the GF reserve adjustments shown in column 4 are necessary and accurate.

A-16. The reserve adjustments shown in column 4 of the referenced attachment were reclassifications to more appropriately align the reserve to the plant in service by account and generating unit as of December 31, 2017 based on the theoretical recovery of each unit.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 17

Responding Witness: John J. Spanos

Q-17. Please refer to LG&E's response to DOD-1 question No. 14.

a. Please provide an answer to the question in part b., which requested a narrative explaining how these alleged comparable facilities are comparable to LG&E's. Repeating the answer to part a. is not an acceptable answer to this question.

b. Please identify each generating plant in each of the states listed that are comparable to LG&E's facilities, as was requested in part a.

A-17.

a. As stated in the original response, the facilities are similar based on size, type of assets at the site and the process anticipated to be utilized to decommission. The $40/kW is expected to be a conservative figure because it is based on the experience with demolition of Cane Run units which were not supported by additional environmental controls such as bag houses and other equipment located at KU and LG&E's remaining generation units.

b. The specific identification of generating plant and state is considered to be proprietary and cannot be presented for decommissioning costs; however, a listing of the utilities represented by the states set forth in response to US DOD 1-14 is attached.

COMPANY
DUKE ENERGY PROGRESS
PACIFICORP
DUKE ENERGY CAROLINAS
DUKE ENERGY KENTUCKY
PORTLAND GENERAL ELECTRIC CO
OKLAHOMA GAS & ELECTRIC
INDIANAPOLIS POWER & LIGHT
PUBLIC SERVICE COMPANY OF OKLAHOMA
KANSAS CITY POWER & LIGHT CO - GREATER MISSOURI OPERATIONS
AMEREN CORPORATION - UNION ELECTRIC COMPANY (MO)
NEVADA POWER COMPANY
SIERRA PACIFIC POWER COMPANY
FLORIDA POWER AND LIGHT
OMAHA PUBLIC POWER DISTRICT
KANSAS CITY POWER & LIGHT CO
DUKE ENERGY INDIANA
DOMINION VIRGINIA POWER COMPANY
BLACK HILLS POWER
ALLIANT ENERGY
IDAHO POWER COMPANY
NORTHERN INDIANA PUBLIC SERVICE COMPANY
MIDAMERICAN ENERGY
PUGET SOUND ENERGY

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 18

Responding Witness: Lonnie E. Bellar

Q-18. Please provide a detailed narrative explaining why LG&E has not conducted (in-house or through a third party) a detailed decommissioning cost estimate for its steam production facilities.

A-18. LG&E has not conducted detailed decommissioning cost estimates for its steam production facilities that remain operational after 2019 due to the expense of doing such. Decommissioning costs do not include demolition costs, i.e., the removal of the facility structure. As listed in Mr. Spanos' direct testimony in Exhibit JJS-LG&E-1, the steam production facilities that remain operational after 2019 do not retire until 2032 at the earliest. The use of industry data to estimate the decommissioning cost is reasonable given the length of time before retirement of these facilities, especially when considering the cost to perform a study and prepare a report could approach $250,000 or more per facility, while not avoiding the need to re-perform the study and prepare an estimate closer to 2032 to ensure any market or facility changes that occurred over the decade before were accounted for.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Supplemental Request for Information of the U. S. Department of Defense
Dated December 13, 2018

Case No. 2018-00295

Question No. 19

Responding Witness: Daniel K. Arbough

Q-19. Please refer to Att_LGE_PSC_l-65_Depreciation_Exp_Wkpr_Electric.xlsx at cell BL423, which shows a total depreciation expense for the year ending April 2020 of $221,495,054.46.

a. Please confirm that this is the total level of depreciation expense LG&E is requesting to be recovered through tariff rates associated with the revenue requirement in this proceeding. If this is incorrect, please provide the exact level of depreciation expense and a citation to the company's filing that supports the level of depreciation expense to be recovered through tariff rates associated with the revenue requirement in this proceeding.

b. Please confirm that if the currently approved depreciation rates were effective for the year ending April 2020, the total depreciation expense would be $176,407,007.76. If this is incorrect, please provide the correct value.

c. Please confirm that LG&E's proposal to alter the depreciation rates for its steam production plants will increase depreciation expense by $45,088,046.70 for the year ending April 2020. If this is incorrect, please provide the correct value.

A-19.

a. Not confirmed. The $221,495,055 amount is the LG&E-Electric Unadjusted Total Company depreciation and amortization expense as reflected on Schedule C-2.1, Page 12 of 12. The amount of LG&E-Electric depreciation and amortization expense to be recovered in the revenue requirement in this proceeding is $155,800,380 as reflected on Schedule C-1, Page 1 of 1.

b. Not confirmed. The $176,407,008 is the LG&E-Electric Unadjusted Total Company depreciation and amortization expense if the current rates were to remain in effect. The amount of LG&E-Electric depreciation and amortization expense to be recovered in the revenue requirement if the current rates were to remain in effect is $137,541,679.

c. Not confirmed. The $45,088,047 increase is the LGE-Electric Unadjusted Total Company depreciation and amortization expense increase due to the proposed steam production rates. The additional amount of LGE-Electric depreciation and amortization expense to be recovered in the revenue requirement due to the proposed steam rates is $18,258,702.