

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

<b>ELECTRONIC JOINT APPLICATION OF</b>	)	
<b>KENTUCKY UTILITIES COMPANY AND</b>	)	
<b>LOUISVILLE GAS AND ELECTRIC</b>	)	
<b>COMPANY FOR CERTIFICATES OF</b>	)	<b>CASE NO. 2022-00402</b>
<b>PUBLIC CONVENIENCE AND NECESSITY</b>	)	
<b>AND APPROVAL OF A DEMAND SIDE</b>	)	
<b>MANAGEMENT PLAN</b>	)	

**RESPONSE OF**  
**KENTUCKY UTILITIES COMPANY**  
**AND**  
**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**TO**  
**THE KENTUCKY COAL ASSOCIATION'S**  
**FIRST REQUEST FOR INFORMATION**  
**DATED FEBRUARY 17, 2023**

**FILED: MARCH 10, 2023**

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, 220 West Main Street, Louisville, KY 40202, 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*  
\_\_\_\_\_  
**Lonnie E. Bellar**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this *8th* day of *March* 2023.

*Judy Schoote*  
\_\_\_\_\_  
Notary Public

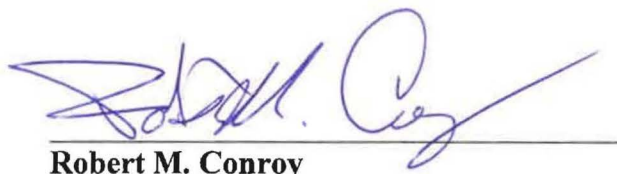
Notary Public ID No. *KYNP53381*

My Commission Expires:  
*July 11, 2026*  
\_\_\_\_\_

**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, 220 West Main Street, Louisville, KY 40202, 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 8th day of March 2023.

  
\_\_\_\_\_

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027



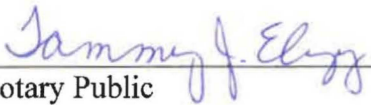
VERIFICATION

COMMONWEALTH OF KENTUCKY )  
 )  
COUNTY OF JEFFERSON )

The undersigned, **Christopher M. Garrett**, being duly sworn, deposes and says that he is Vice President, Finance and Accounting, for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, 220 West Main Street, Louisville, KY 40202, 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 10<sup>th</sup> day of March 2023.

  
\_\_\_\_\_  
Notary Public

Notary Public ID No. KYNP61560

My Commission Expires:

November 9, 2026




**VERIFICATION**

**COMMONWEALTH OF KENTUCKY )**

)

**COUNTY OF JEFFERSON )**

The undersigned, **Philip A. Imber**, being duly sworn, deposes and says that he is Director – Environmental and Federal Regulatory Compliance for LG&E and KU Services Company, 220 West Main Street, Louisville, KY 40202, 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.

  
Philip A. Imber

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 8 day of March 2023.

  
Notary Public

Notary Public ID No. KYNP53381

My Commission Expires:

July 11, 2026

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY** )  
)  
**COUNTY OF JEFFERSON** )

The undersigned, **Charles R. Schram**, being duly sworn, deposes and says that he is Director – Power Supply for LG&E and KU Services Company, 220 West Main Street, Louisville, KY 40202, 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.

  
\_\_\_\_\_  
**Charles R. Schram**

Subscribed and sworn to before me, a Notary Public in and before said County and State this 8<sup>th</sup> day of March 2023.

  
\_\_\_\_\_  
Notary Public

Notary Public ID No. KYNP53381

My Commission Expires:

July 11, 2026

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY** )  
 )  
**COUNTY OF JEFFERSON** )

The undersigned, **David S. Sinclair**, being duly sworn, deposes and says that he is Vice President, Energy Supply and Analysis for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, 220 West Main Street, Louisville, KY 40202, 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.

  
\_\_\_\_\_  
**David S. Sinclair**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 8<sup>th</sup> day of March 2023.

  
\_\_\_\_\_  
Notary Public

Notary Public ID No. KYNP53381

My Commission Expires:


July 14, 2026



**VERIFICATION**

**COMMONWEALTH OF KENTUCKY )**  
**)**  
**COUNTY OF JEFFERSON )**

The undersigned, **Stuart A. Wilson**, being duly sworn, deposes and says that he is Director, Energy Planning, Analysis & Forecasting for LG&E and KU Services Company, 220 West Main Street, Louisville, KY 40202, 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.

  
\_\_\_\_\_  
**Stuart A. Wilson**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 8<sup>th</sup> day of March 2023.

  
\_\_\_\_\_  
Notary Public

Notary Public ID No. KYNP53381

My Commission Expires:

July 11, 2026

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-1**

**Responding Witness: Stuart A. Wilson**

- Q.1-1. Please provide all supporting workpapers, in excel format where available, used to develop all modeling results from the 2022 Resource Assessment in a readable form with assumptions clearly laid out. (See, SAW testimony, exhibit-1).
- A.1-1. See Exhibit SAW-2.

**KENTUCKY UTILITIES COMPANY  
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LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-2**

**Responding Witness: Lonnie E. Bellar**

- Q.1-2. Please provide draft pipeline agreements for Firm Transportation (See, Mr. Bellar Direct Testimony, pages 5-7).
- A.1-2. Mr. Bellar does not state that there are any “draft pipeline agreements for Firm Transportation.” The Companies have had discussions regarding potential service but those discussions have not advanced to the point that agreements have been drafted.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-3**

**Responding Witness: Charles R. Schram**

- Q.1-3. Please provide the agreements for Marion County Solar facility referenced in Mr. Bellar's direct testimony, page 18.
- A.1-3. See attached. Certain information requested is confidential and proprietary and is being provided under a seal pursuant to a petition for confidential protection.

The attachment is being  
provided in a separate  
file.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-4**

**Responding Witness: Lonnie E. Bellar**

- Q.1-4. Please refer to Crockett Direct Testimony, pages 8 and 9, please provide the application to the Department of Energy for conducting a Front-End Engineering Design for carbon capture at Cane Run #7 and related status reports.
- A.1-4. The Prime Performer and applicant for United States Department of Energy, National Energy Technology Laboratory Agreement FE0032223, entitled "CO2 Capture at Louisville Gas & Electric Cane Run Natural Gas Combined Cycle Power Plant" is the Electric Power Research Institute ("EPRI"). The Companies do not have a copy of, and do not own the rights to, this application, which includes confidential and proprietary technological information.

See the response to JI 1.3(a).

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-5**

**Responding Witness: David S. Sinclair**

- Q.1-5. Please provide all work papers and documents, in excel format where available, developed in response to the City of Louisville's 100 Percent Clean Energy Resolution, including but not limited to, the 2019 Highlands Study, the October 31, 2019 Presentation by Mr. David Sinclair to the Louisville Metro Council, and all work papers and analyses documenting the "technology and economic" challenges ahead for the City of Louisville.
- A.1-5. See attached.

The attachments are  
being provided in  
separate files.



**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-6**

**Responding Witness: Lonnie E. Bellar**

Q.1-6. Please provide the work papers and documents produced by the Companies and others, regarding the construction and operating costs, test results and evaluations of the operational performance from Electric Power Research Institute (EPRI's) utility scale storage systems, namely the 1 MW lithium ion battery, the 1 MW smart power inverter and the advanced control system, located at EW Brown.

A.1-6. Dozens of academic papers and reports based on data collected at the E.W. Brown 1-megawatt, 2-megawatt-hour lithium-ion battery have been published by numerous parties in multiple international journals, including IEEE (Institute of Electrical and Electronics Engineers), or EPRI. Since the Companies share the data collected with the public, universities, EPRI, and numerous national laboratories, the Companies have no way of knowing about all papers or documents produced by others about the project. Links to many, but not all, example publications are provided below and on the Company's public website.

(2022). Energy Storage Degradation Models: Planning and Operational Projects. Electric Power Research Institute.

<https://www.epri.com/research/products/000000003002024651>

(2021). Energy Storage Performance and Reliability Data Initiative Phase I Final Report. Electric Power Research Institute.

<https://www.epri.com/research/products/000000003002021991>

(2021). Lithium-Ion Battery Advancements for Electric Vehicle and Stationary Storage Applications. Electric Power Research Institute.

<https://www.epri.com/research/products/000000003002023259>

(2020). Parameter Identification for Cells, Modules, Racks, and Battery for Utility-Scale Energy Storage Systems. Institute of Electrical and Electronics Engineers.

<https://ieeexplore.ieee.org/document/9262921>

(2020). The Design and Analysis of Large Solar PV Farm Configurations With DC-Connected Battery Systems. Institute of Electrical and Electronics Engineers.

<https://ieeexplore.ieee.org/document/8968398>

(2019). Energy Storage and Performance Reliability Data Initiative: Year 1 Annual Report: Operational Assessment Report for Louisville Gas & Electric and Kentucky Utilities. Electric Power Research Institute.

<https://www.epri.com/research/products/000000003002014934>

(2019). Measurement and Estimation of the Equivalent Circuit Parameters for Multi-MW Battery Systems. Institute of Electrical and Electronics Engineers.

<https://ieeexplore.ieee.org/document/8912233>

(2019). Modeling and Simulation of a Utility-Scale Battery Energy Storage System. Institute of Electrical and Electronics Engineers.

<https://ieeexplore.ieee.org/document/8974042>

(2019). On the Control of a Solid State Transformer for Multi-MW Utility-Scale PV-Battery Systems. Institute of Electrical and Electronics Engineers.

<https://ieeexplore.ieee.org/document/8912477>

(2018). Case Studies of Distribution-Level Energy Storage Deployments: 2017. Electric Power Research Institute.

<https://www.epri.com/research/products/000000003002010899>

(2018). Improving the Capacity Factor and Stability of Multi-MW Grid Connected PV Systems with Results from a 1MW/2MWh Battery Demonstrator. Institute of Electrical and Electronics Engineers.

<https://ieeexplore.ieee.org/document/8558253>

(2018). Incorporating Battery Energy Storage Systems Into Multi-MW Grid Connected PV Systems. Institute of Electrical and Electronics Engineers.

<https://ieeexplore.ieee.org/document/8432119>

(2018). Power Utility Tests for Multi-MW High Energy Batteries. Institute of Electrical and Electronics Engineers.

<https://ieeexplore.ieee.org/document/8566920>

(2018). Prioritization of Energy Storage Applications and Attributes for the Southeast Region: Task 2. Electric Power Research Institute.

<https://www.epri.com/research/products/000000003002014263>

(2018). Proposed Energy Storage Research Center Design for the Southeast Region: Task 4. Electric Power Research Institute.

<https://www.epri.com/research/products/000000003002014265>

(2018). Strategic Intelligence Update: Energy Storage & Distributed Generation, July 2018. Electric Power Research Institute.

<https://www.epri.com/research/products/000000003002013504>

(2017). Energy Storage and Solar Photovoltaic Demonstration Projects: Case Studies of Selected Projects. Electric Power Research Institute.

<https://www.epri.com/research/products/000000003002003271>

(2017). Strategic Intelligence Update: Energy Storage & Distributed Generation, March 2017. Electric Power Research Institute.

<https://www.epri.com/research/products/000000003002010957>

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-7**

**Responding Witness: Philip A. Imber**

- Q.1-7. Please provide all comments to the EPA by the Companies and by the Midwest Ozone Group (MOG) on behalf of the Companies on the good neighbor rule (GNR) including, but not limited to, the proposed rule published December 30, 2019 at 84 FR 71854 and the October 30, 2020 Notice of Proposed Rulemaking for the Revised CSAPR Update at 85 FR 68964, 68981.
- A.1-7. See the Companies' comments to the GNP provided in the response to PSC 1-10.

**KENTUCKY UTILITIES COMPANY  
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LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-8**

**Responding Witness: Philip A. Imber**

- Q.1-8. Please provide any documents/notes from meetings of the Companies, the Utility Information Exchange of Kentucky, and MOG with the Kentucky Energy and Environment Cabinet during development of the January 11, 2019 Kentucky State Implementation (SIP) submittal to EPA Addressing Regional Ozone Transport for the 2015 Ozone National Ambient Air Quality Standard.
- A.1-8. The Companies, UIEK, nor MOG had meetings with the KEEC for the development of the January 11, 2019 SIP.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-9**

**Responding Witness: Counsel**

- Q.1-9. Please refer to page 8 of the Joint Application and reconcile why the certificate of public need and necessity (CPCN) Application states that the Good Neighbor Rule was promulgated when it has not been.
- A.1-9. The Application at page 8 should state the Good Neighbor Rule was “proposed.”

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-10**

**Responding Witness: Robert M. Conroy**

Q.1-10. Please indicate whether the Companies have previously filed CPCN requests for compliance with EPA regulations that have not yet been promulgated. If yes, please provide such filings or case numbers.

A.1-10. Yes, the Companies have previously filed CPCN requests for compliance with EPA regulations that have not yet been promulgated in the following cases:

2004 Environmental Compliance Plans

Case No. 2004-00421 – The Application of Kentucky Utilities Company for Certificates of Public Convenience and Necessity and Approval of its 2004 Compliance Plan for Recovery by Environmental Surcharge

<https://psc.ky.gov/Case/ViewCaseFilings/2004-00421>

Case No. 2004-00426 – The Application of Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Approval of its 2004 Compliance Plan for Recovery by Environmental Surcharge

<https://psc.ky.gov/Case/ViewCaseFilings/2004-00426>

2011 Environmental Compliance Plans

Case No. 2011-00161 – The Application of Kentucky Utilities Company for Certificates of Public Convenience and Necessity and Approval of its 2011 Compliance Plan for Recovery by Environmental Surcharge

<https://psc.ky.gov/Case/ViewCaseFilings/2011-00161>

Case No. 2011-00162 – The Application of Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Approval of its 2011 Compliance Plan for Recovery by Environmental Surcharge

<https://psc.ky.gov/Case/ViewCaseFilings/2011-00162>

Additionally, in the Companies' 2020 Compliance Plan filings a CPCN was not originally requested in the application but was later granted upon the Commission's final orders. The 2020 Environmental Compliance Plans were filed in advance of final rules regarding compliance with EPA regulations.

Case No. 2020-00060 – Electronic Application of Kentucky Utilities Company for Approval of its 2020 Compliance Plan for Recovery by Environmental Surcharge

<https://psc.ky.gov/Case/ViewCaseFilings/2020-00060>

Case No. 2020-00061 – Electronic Application of Louisville Gas and Electric Company for Approval of its 2020 Compliance Plan for Recovery by Environmental Surcharge

<https://psc.ky.gov/Case/ViewCaseFilings/2020-00061>



**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-11**

**Responding Witness: Philip A. Imber**

Q.1-11. Please provide the Title V construction permit applications as filed with the Louisville Metro Air Pollution Control District for the Mill Creek NGCC and with the Kentucky Division for Air Quality for the EW Brown NGCC. (See, Mr. Imber Exhibits' PAI-1 and PAI-2).

A.1-11. See the response to JI 1.19.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-12**

**Responding Witness: Philip A. Imber**

- Q.1-12. Please provide the KPDES permit renewal application to add the discharge of process wastewater from the Mill Creek NGCC. (See, Mr. Imber Exhibit PAI-1).
- A.1-12. This document does not exist. The current KPDES permit and most recent KPDES renewal permit application are attached in the response to JI 1.101. Companies have not submitted a KPDES permit application to incorporate discharge(s) from the proposed NGCC.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-13**

**Responding Witness: Philip A. Imber**

- Q.1-13. Please provide the Cumulative Environment Assessment filings to the Kentucky Energy and Environment Cabinet for both the Mill Creek NGCC and the EW Brown NGCC. (See, Mr. Imber Exhibits' PAI-1 and PAI-2).
- A.1-13. The combined Site Assessment and Cumulative Environmental Assessment for the planned E.W. Brown and Mill Creek NGCC are attached as Attachment 1 and Attachment 2 to this response.

The attachments are  
being provided in  
separate files.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-14**

**Responding Witness: Philip A. Imber**

- Q.1-14. Please confirm that the comments the Companies provided to EPA on the GNP state that the Companies could not comply with proposed rule unless it retrofit Selective Catalytic Reduction (SCR) on Mill Creek 2 and Ghent 2 or idled these units during the ozone season? (Please refer to Mr. Imber Direct Testimony, Page 5, Lines 1-7).
- A.1-14. Confirmed. See the Companies' comments to the GNP provided in the response to PSC 1-10.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-15**

**Responding Witness: David S. Sinclair / Stuart A. Wilson**

- Q.1-15. With respect to the Companies' response to the previous question please identify how the Companies' will provide replacement capacity and energy related to the idling of the Mill Creek 2 and Ghent 2 during the 2026 and 2027 ozone seasons.
- A.1-15. See section 4.1.1 of Exhibit SAW-1 at page 18. The Companies are assuming the EPA will relax the various compliance mechanisms or extend the compliance deadline in the event that retiring and replacing a resource is lower cost than physical compliance with SCR. Thus, Mill Creek 2 and Ghent 2 are assumed to operate until replacement generation is secured. See the response to PSC 1-56.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-16**

**Responding Witness: David S. Sinclair**

- Q.1-16. Please identify and provide any documents, workpapers or plans prepared if the Companies' proposal is not approved and/or there are delays in implementing the replacement strategy?
- A.1-16. The Companies have no such documents. The need for any such plans and their scope will be factually dependent on any orders in this case and the cause of any delays, should they occur.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-17**

**Responding Witness: Robert M. Conroy**

- Q.1-17. Please refer to the previous question and please indicate whether the Companies expect to recover costs related to such delays and cost overruns or will they be borne by the Companies' shareholders.
- A.1-17. As stated in the response to Question No. 1-16, the facts and circumstances of the scenario described will dictate. The Companies would expect to recover in rates all costs that are prudently and reasonably incurred to provide safe and reliable energy for customers. See the response to Question No. 1-55.



**KENTUCKY UTILITIES COMPANY  
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**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-18**

**Responding Witness: Stuart A. Wilson**

Q.1-18. Please confirm that while the Companies' integrated resource plan (IRP) only considered "large frame single cycle combustion turbine (SCCTs) without carbon capture and sequestration (CCS), natural gas combined cycle with CCS, four- and eight- hour batteries, and utility scale solar and wind located in Kentucky"<sup>1</sup>, the subsequent Resource Assessment, however, did not consider NGCC with CCS. If confirmed, please explain why it did not consider NGCC with CCS. If not confirmed, please provide such analyses, work papers and documents addressing NGCC and CCS.

A.1-18. Confirmed. See the response to PSC 1-92(a).

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<sup>1</sup> Commission Order in Case No. 2021-00393, page 25 (September 16, 2022).

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-19**

**Responding Witness: Stuart A. Wilson**

- Q.1-19. Please confirm that the 2022 Resource Assessment did not consider the cost of a scenario in which Mill Creek 2 and Ghent 2 were not operated during the 2026 and 2027 ozone seasons but remained online. If that is not the case, please provide that analysis.
- A.1-19. Not confirmed. See Portfolios 6 and 7 and analysis summary in section 4.5 of Exhibit SAW-1 beginning on page 27. The Companies evaluated the operation of Mill Creek 2 and Ghent 2 as specified through 2050. See the response to AG 1-9(b).

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-20**

**Responding Witness: Lonnie E. Bellar**

- Q.1-20. Please provide a complete explanation related to the EW Brown 3 overhaul including whether this was previously scheduled and a routine major maintenance outage. Please provide when the Companies initially scheduled the dates for this overhaul to occur.
- A.1-20. See the response to PSC 1-44(a). This overhaul is a routine major maintenance outage that typically occurs on an eight-year cycle. The 2027 outage date was initially scheduled in the fall of 2019 after the turbine overhaul that occurred then was completed.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
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Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-21**

**Responding Witness: Lonnie E. Bellar / David S. Sinclair / Stuart A. Wilson**

- Q.1-21. If the work discussed in Mr. Sinclair's Direct Testimony page 4 on EW Brown 3 is performed, how long could EW Brown 3 continue to operate? If not beyond 2028, please provide the reasons for that in detail and what investments and correlating costs would allow for continued operation.
- A.1-21. If the 2027 Brown 3 overhaul is completed, the length of time the unit could continue to operate is unclear given the unit's age and the uncertainty regarding future environmental regulations. The Companies would expect the unit to operate beyond 2028. See PSC 1-48(c) for results of the most recent book depreciation study. The costs of continuing to operate Brown 3 (i.e., Brown 3's stay-open costs) are provided in Table 31 of Exhibit SAW-1 on page 52.

**KENTUCKY UTILITIES COMPANY  
AND  
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Kentucky Coal Association's  
First Request for Information  
Dated February 17, 2023**

**Case No. 2022-00402**

**Question No. 1-22**

**Responding Witness: Philip A. Imber**

- Q.1-22. Please identify the status of Effluent Limitation Guideline compliance at EW Brown, Ghent and Mill Creek.
- A.1-22. The Companies provide a quarterly report to the KPSC on the safety, construction, and financial status of each project.<sup>2</sup> Compliance dates to the revised 2020 ELG identified in the KPDES are as follows:

Mill Creek FGD Waste Water – January 1, 2025  
EW Brown Bottom Ash Transport Water and FGD Waste Water – July 1, 2023  
Ghent Bottom Ash Transport Water – July 1, 2024  
Ghent FGD Waste Water April 1, 2025

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<sup>2</sup> <https://psc.ky.gov/Case/ViewCaseFilings/2020-00060/Post>  
<https://psc.ky.gov/Case/ViewCaseFilings/2020-00061/Post>

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**Question No. 1-23**

**Responding Witness: Christopher M. Garrett**

- Q.1-23. Please confirm that the amortization period for Cane Run 7 is 50 years as appears to be the case in the Companies November 2022 Analysis of Avenues for Reducing Undepreciated Fossil-Fuel Generation Assets at Retirement.<sup>3</sup> If not the case, please provide the amortization period.
- A.1-23. Not confirmed. In the referenced analysis that was filed in November 2021, Table 1 shows the end of book life for Cane Run 7 as 2055. The unit was placed in service in 2015. The depreciation period for Cane Run 7 is 40 years as established in the depreciation studies filed in Case Nos. 2020-00349 and Case No. 2020-00350.

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<sup>3</sup> [https://psc.ky.gov/pscecf/2020-00349/rick.lovekamp%40lge-ku.com/11302021040019/2-LGE\\_KU\\_Future\\_Fossil\\_Fuel\\_Gen\\_Analysis.pdf](https://psc.ky.gov/pscecf/2020-00349/rick.lovekamp%40lge-ku.com/11302021040019/2-LGE_KU_Future_Fossil_Fuel_Gen_Analysis.pdf)

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**Question No. 1-24**

**Responding Witness: Lonnie E. Bellar**

- Q.1-24. Please explain that while the Companies state that PPL Corporation has a net-zero emissions target by 2050, this was not a driving force behind the CPCN filing?
- A.1-24. The Companies did not consider the PPL Corporation net zero emission goal as part of the decision criteria used to develop the CPCN recommended resource plan. See also the response to LFUCG/Louisville Metro 1-1.

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**Question No. 1-25**

**Responding Witness: Lonnie E. Bellar**

- Q.1-25. Please list all facilities in the PPL generation portfolio along with their carbon emissions in 2022.
- A.1-25. The Companies' 2022 unit specific data will be available in the second quarter of 2023. Historical data can be found on the EPA's Facility Level Greenhouse Gases Tool (FLIGHT): [\*\*EPA Facility Level GHG Emissions Data.\*\*](#)



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**Question No. 1-26**

**Responding Witness: Stuart A. Wilson**

- Q.1-26. Please provide the amortization period assumed in the 2022 Resource Assessment for the new NGCCs.
- A.1-26. See the response to PSC 1-96. The Companies assumed an amortization period of forty years for new NGCC facilities in the 2022 Resource Assessment consistent with the depreciation period established for Cane Run 7. See the response to Question No. 23.

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**Question No. 1-27**

**Responding Witness: Lonnie E. Bellar**

- Q.1-27. Refer to Question 1-24, is it the Companies' position that the depreciation period does not need to reflect the 2050 net zero target? If not, please explain.
- A.1-27. The Companies do not consider the PPL 2050 net zero target in developing generating unit depreciation rates. See also the response to LFUCG/Louisville Metro 1-1.

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**Question No. 1-28**

**Responding Witness: Christopher M. Garrett**

Q.1-28. Please provide the undepreciated capital for Mill Creek 2, Ghent 2, and EW Brown 3 at their respective retirement dates proposed in the CPCN. Please separate the investment in the plant and environmental upgrades to the plant. In addition, please provide the undepreciated capital for all the air, water, and waste projects, approved by the Commission under the Environmental Cost Recovery mechanism for these units.

A.1-28. The Companies are only able to provide the requested environmental upgrade information for the amounts remaining in the ECR mechanism. ECR projects that have been transferred to base rates are included in Investment amounts below:

Mill Creek 2:

- Investment: \$160.4m
- ECR: \$0.0m

Ghent 2

- Investment: \$109.9m
- ECR: \$1.0m

Brown 3

- Investment: \$317.1m
- ECR: \$23.0m

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**Question No. 1-29**

**Responding Witness: Robert M. Conroy / Christopher M. Garrett**

- Q.1-29. Please provide by scenario, the Companies' forecasted earnings on all undepreciated capital assuming none of the assets are securitized.
- A.1-29. See attached. This assumes the net book value of each asset is transferred to the Retired Asset Recovery Rider at retirement with recovery levelized over 10 years using the weighted average cost of capital approved in the most recent base rate case. This forecast does not include amounts for other associated retirement costs including decommissioning costs.

The attachment is being  
provided in a separate  
file.

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**Question No. 1-30**

**Responding Witness: Lonnie E. Bellar**

Q.1-30. Please provide the application and any workpapers to the Department of Energy (DOE) for conducting a Front-End Engineering Design (FEED) for carbon capture at the Cane Run #7 which is referenced in Crockett Direct Testimony, pages 8 and 9.

A.1-30. See the response to Question No. 1-4.

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**Question No. 1-31**

**Responding Witness: Lonnie E. Bellar**

Q.1-31. Please provide the status and timing of this effort as well as any status reports on the FEED study.

A.1-31. See the response to Question No. 1-4.

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**Question No. 1-32**

**Responding Witness: Robert M. Conroy / David S. Sinclair**

- Q.1-32. Please explain the Companies role in the DOE grant effort including the amount of the Companies' financial contribution. Please indicate whether the Companies are looking to recover these costs from customers?
- A.1-32. See the response to Question No. 1-4. The Companies' role is the host-site for study and one of the funders. The Companies' financial contribution is included in the Companies' Research & Development budget. Expenditures on R&D benefit customers and are thus included in base rates.



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**Question No. 1-33**

**Responding Witness: Philip A. Imber / David S. Sinclair**

- Q.1-33. Please confirm that the Companies believe there are limited sequestration options for captured CO<sub>2</sub> near Cane Run 7 based upon a 2013 study performed by the Kentucky Geological Survey that is referenced in a report produced by the Companies in November 2021 entitled Analysis of Reducing Undepreciated Fossil-Fuel Generation Assets at Retirement. Please provide any subsequent work papers prepared or performed by the Companies or third parties that either support or dispute this finding.
- A.1-33. Confirmed. A 2013 study conducted by the Kentucky Geological Survey ("KGS") estimated the CO<sub>2</sub> storage potential beneath LG&E and KU power plants. However, their study did not directly evaluate the Cane Run property in the 2013 report. See the KGS report entitled Evaluation of Geologic CO<sub>2</sub> Storage Potential at LG&E and Kentucky Utilities Power Plant Locations on the University of Kentucky's website at: [https://kgs.uky.edu/kgsweb/olops/pub/kgs/CNR1\\_12.pdf](https://kgs.uky.edu/kgsweb/olops/pub/kgs/CNR1_12.pdf)

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**Question No. 1-34**

**Responding Witness: Philip A. Imber / David S. Sinclair**

Q.1-34. With respect to the previous question, please confirm that the same limited sequestration options would exist at Mill Creek?

A.1-34. Confirmed. See the response to Question No. 1-33.

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**Question No. 1-35**

**Responding Witness: David S. Sinclair**

- Q.1-35. Please confirm that the Companies understand absent “discovery” of additional sequestration options, the Companies would be required to develop markets for the captured CO<sub>2</sub> in order to rely upon the Cane Run 7 plant as a fully dispatchable plant. If not the case, please explain?
- A.1-35. Sequestration at any plant, not just Cane Run 7, will only occur to the extent it is the least-cost means to comply with whatever law, regulations, or commercial opportunity is creating the need to capture and sequester CO<sub>2</sub>. Therefore, Cane Run 7's continued operation and its operational profile must, by definition, be economical in whatever that future world looks like or it will not operate.

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**Question No. 1-36**

**Responding Witness: Philip A. Imber / David S. Sinclair**

- Q.1-36. Please confirm that the Companies are aware that there are approximately 5,000 miles of operating super critical CO<sub>2</sub> pipelines in the U.S. today and that it may be feasible from the Companies' facilities to transport CO<sub>2</sub> to suitable storage. If confirmed, please provide the analyses, work papers and documents prepared by the Companies or third parties on their behalf regarding CO<sub>2</sub> pipelines as an option in deciding that carbon capture technology was not viable for their coal plants.
- A.1-36. The Companies are aware of commercial transport and utilization of super critical CO<sub>2</sub> for specific regional applications. The Companies are not aware of significant local transport or utilization opportunities. The Companies have not generated work documents related to this subject.

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**Question No. 1-37**

**Responding Witness: Lonnie E. Bellar**

Q.1-37. Please confirm the Companies position that CO2 markets could justify investment in carbon capture. If confirmed, please provide supporting studies, documents and workpapers that the Companies or third parties have prepared on their behalf.

A.1-37. Not confirmed.

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**Question No. 1-38**

**Responding Witness: Lonnie E. Bellar**

- Q.1-38. Please indicate whether the Companies are interested in investing in industries/companies that utilize CO<sub>2</sub>. If yes, please provide a description of efforts to date.
- A.1-38. The Companies are regulated utilities and are not seeking investments in unregulated industries of any type.

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**Question No. 1-39**

**Responding Witness: Lonnie E. Bellar / David S. Sinclair**

Q.1-39. Please confirm that the Companies understand carbon capture on a coal plant would produce significantly more CO<sub>2</sub> than carbon capture on a natural gas plant.

A.1-39. Confirmed.

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**Question No. 1-40**

**Responding Witness: Lonnie E. Bellar**

- Q.1-40. Please provide the analyses performed by the Companies or third parties on the Companies' behalf that reflect the timing, term, and size of the current § 45Q tax credits for utilization included in the Inflation Reduction Act (IRA).
- A.1-40. The Companies filed a report with the Commission on November 30, 2021.<sup>4</sup>

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<sup>4</sup> [https://psc.ky.gov/pscecf/2020-00349/rick.lovekamp%40lge-ku.com/11302021040019/2-LGE\\_KU\\_Future\\_Fossil\\_Fuel\\_Gen\\_Analysis.pdf](https://psc.ky.gov/pscecf/2020-00349/rick.lovekamp%40lge-ku.com/11302021040019/2-LGE_KU_Future_Fossil_Fuel_Gen_Analysis.pdf) and [https://psc.ky.gov/pscecf/2020-00350/rick.lovekamp%40lge-ku.com/11302021040023/2-LGE\\_KU\\_Future\\_Fossil\\_Fuel\\_Gen\\_Analysis.pdf](https://psc.ky.gov/pscecf/2020-00350/rick.lovekamp%40lge-ku.com/11302021040023/2-LGE_KU_Future_Fossil_Fuel_Gen_Analysis.pdf)



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**Question No. 1-41**

**Responding Witness: Lonnie E. Bellar**

- Q.1-41. Please provide whether the Companies' position assumes a further extension of the § 45Q tax credits or whether the CO<sub>2</sub> market would be sufficiently lucrative without tax credits to pursue.
- A.1-41. The Companies have no position on § 45Q tax credits and their relationship to a hypothetical "CO<sub>2</sub> market."

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**Question No. 1-42**

**Responding Witness: John R. Crockett III**

Q.1-42. Please confirm in the discussion of hydrogen in Mr. Crockett's Direct Testimony, page 8, that it references "green" hydrogen. If that is not the case, please explain why conversion to anything but green hydrogen would achieve target carbon emissions without carbon capture.

A.1-42. Yes, it references "green" hydrogen produced from renewable energy.

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**Question No. 1-43**

**Responding Witness: Lonnie E. Bellar / David S. Sinclair**

- Q.1-43. Please explain the timing associated with the comments about hydrogen and carbon capture in the Crockett Direct Testimony (see, page 8). Specifically, when do the Companies believe green hydrogen and carbon capture will be available as commercial options for the proposed Mill Creek NGCC and EW Brown NGCC.
- A.1-43. The Companies' current involvement with hydrogen and carbon capture technologies is for research and development purposes only and is focused on improving the efficiency and reducing the costs of these technologies. It is unknown whether or when such technologies might become commercially viable. Therefore, the Companies do not currently have an expectation regarding when green hydrogen and carbon capture might be available as commercial options for the proposed Mill Creek NGCC and Brown NGCC.

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**Question No. 1-44**

**Responding Witness: Lonnie E. Bellar / David S. Sinclair**

- Q.1-44. Please provide the documents, studies and work papers that the Companies are assuming and relying upon as to the cost and availability of green hydrogen.
- A.1-44. The Companies do not assume or rely upon figures for the cost or availability of green hydrogen in the Joint Application.

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**Question No. 1-45**

**Responding Witness: Lonnie E. Bellar**

Q.1-45. Please provide statements from the referenced original equipment manufacturers (OEMs) that the NGCC plants being proposed for Mill Creek and EW Brown will be “designed to combust hydrogen in the future” (See, Mr. Bellar Direct Testimony, Page 11, Lines 21-23).

A.1-45. See attached.

The attachments are  
being provided in  
separate files.

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**Question No. 1-46**

**Responding Witness: Lonnie E. Bellar / Stuart A. Wilson**

- Q.1-46. Please provide the costs associated with the conversion of these NGCC plants in the 2022 Resource Assessment.
- A.1-46. Costs associated with burning hydrogen were not evaluated in the 2022 Resource Assessment. Any such costs would be evaluated when necessary.

See the response to PSC 1-5.

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**Question No. 1-47**

**Responding Witness: Lonnie E. Bellar**

Q.1-47. Please confirm and document that this conversion referenced in Q 1-46 would be to 100 percent hydrogen. If not confirmed, please provide the maximum hydrogen that could be burned according to the OEMs.

A.1-47. See the response to Question No. 1-46.



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**Question No. 1-48**

**Responding Witness: Lonnie E. Bellar**

- Q.1-48. Please refer to the previous question and provide the OEM cost estimates for 100% conversion.
- A.1-48. This information is not known at this time. See the response to Question No. 1-46.

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**Question No. 1-49**

**Responding Witness: Lonnie E. Bellar**

- Q.1-49. Please refer to the previous question and please provide the OEM expected derates with partial or full conversion.
- A.1-49. The OEMs currently state their units can combust up to 50% hydrogen by volume with no derates.

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**Question No. 1-50**

**Responding Witness: Stuart A. Wilson**

Q.1-50. Please provide the date by which the Companies assume green hydrogen availability in the Resource Assessment. Please provide the forecast cost at that time.

A.1-50. The Resource Assessment does not include this assumption.

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**Question No. 1-51**

**Responding Witness: Stuart A. Wilson**

- Q.1-51. Please provide the Firm Transportation (FT) costs assumed in the Companies' analyses indicating annual/monthly costs and term.
- A.1-51. See attached. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. Firm gas transportation is assumed for the life of the unit.

The attachment is being  
provided in a separate  
file.

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**Question No. 1-52**

**Responding Witness: David S. Sinclair**

- Q.1-52. Please indicate whether pipeline capacity additions would be needed to support the addition of either of the two NGCC's.
- A.1-52. See the response to Question No. 1-60. Also, as described in Mr. Bellar's testimony, the Companies will be building and owning new pipelines from those interconnection points to the NGCCs.

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**Question No. 1-53**

**Responding Witness: David S. Sinclair**

- Q.1-53. Please disclose whether the costs are based upon a contract that includes a “no-cost” early termination right in the FT Agreements in the event of a conversion to hydrogen or closure. If yes, please provide the expected terms. If no, please confirm that the Companies would be subject to such costs through the entire term regardless of whether the plant is operating.
- A.1-53. The modeled costs are not based on an assumption for early termination rights in gas transportation agreements. While the final gas transportation contracts may include certain provisions for renewal, based on existing firm gas contracts that support the generation fleet, they would not likely be for such a long term that covers the life of the plant. However, they would, as do our current contracts, contain rollover rights that will enable the Companies to extend them through time.

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**Question No. 1-54**

**Responding Witness: Lonnie E. Bellar**

Q.1-54. Please explain how the Companies will meet their corporate carbon targets absent carbon capture or green hydrogen. If the answer includes early retirement of all the NGCC capacity, please indicate what the replacement generation and retirement date would be.

A.1-54. PPL's 2021 Climate Assessment Report states:

“We view our path to net-zero emissions on a continuum, with a primary focus on eliminating our gross emissions, leveraging technology to remove emissions where they cannot be eliminated due to cost or reliability constraints, and finally, considering carbon offsets for any remaining emissions as the least-preferred option.”



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**Question No. 1-55**

**Responding Witness: Robert M. Conroy**

- Q.1-55. Please indicate whether the Companies will seek recovery of costs if the capital costs for the NGCC exceed the costs represented in the CPCN.
- A.1-55. As with any significant project, including for which a utility seeks a certificate of public convenience and necessity ("CPCN") from the Commission, the utility makes its best estimate of the project costs. If a CPCN is granted, when the time comes for the costs of that project to be included in rates, there is a presumption that the costs incurred, whether higher or lower than those used in the CPCN estimates, are reasonable and prudent if they are aligned with the estimate provided in the CPCN case. And if the costs have exceeded the estimated amounts, the Company would expect the Commission to consider why the exceedances occurred along with market conditions beyond the Companies' control and whether the utility had any ability to control the cost increases.

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**Question No. 1-56**

**Responding Witness: Stuart A. Wilson**

Q.1-56. Please provide the monthly and annual gas price forecasts in excel spreadsheet format if available considered in each scenario considered in the Companies' Resource Assessment?

A.1-56. See Exhibit SAW-2 at  
\06\_ModelInputs\CommodityPriceForecasts\CONFIDENTIAL\_Natural\_Gas\_Forecast.xlsx, "2023BP Annual, Monthly" worksheet.

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**Question No. 1-57**

**Responding Witness: Stuart A. Wilson**

- Q.1-57. Please provide the basis for using a Coal-To-Gas (CTG) factor to determine coal prices in the 2022 Resource Assessment.
- A.1-57. See sections 4.1.2 and 7.7.1 in Exhibit SAW-1 as well as section 2.2 in Appendix E of Exhibit SAW-1.

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**Question No. 1-58**

**Responding Witness: Stuart A. Wilson**

- Q.1-58. Please provide examples of other parties using a CTG methodology for determining coal prices.
- A.1-58. Other than the actual historical pricing determined by sellers in the actual fuel markets, which the Companies used as the basis for the CTG methodology, the Companies have not researched whether other entities have used a CTG methodology. However, all reasonable forecasts of commodity prices should reflect the linkage (or lack thereof) to a common set of economic conditions, supply and demand, and degree of substitution between competing commodities. Therefore, the CTG methodology, which is based on historical experiences reflecting all of these factors, is a straightforward method of developing forecasts that reflects these linkages.

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**Question No. 1-59**

**Responding Witness: Stuart A. Wilson**

- Q.1-59. Please explain how volatility in gas prices is addressed in the 2022 Resource Assessment.
- A.1-59. Three natural gas price scenarios (low, mid, and high) were developed to address the uncertainty of future gas prices and included monthly variability around the annual average prices to reflect seasonal price fluctuations. See sections 4.1.2 and 7.7.1 in Exhibit SAW-1 as well as Appendix E of Exhibit SAW-1, including Section 2.1.2 regarding monthly gas prices.

**KENTUCKY UTILITIES COMPANY  
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**Case No. 2022-00402**

**Question No. 1-60**

**Responding Witness: Charles R. Schram / David S. Sinclair**

- Q.1-60. Please provide any analyses, including workpapers and documents, conducted by the Companies or relied upon by the Companies that support the availability of natural gas through the referenced pipelines during the term of the transportation agreements.
- A.1-60. In discussions with the Companies, Texas Gas Transmission indicated that there is adequate transmission capacity on its system to serve the Mill Creek NGCC under firm transport tariffs without the need for significant infrastructure upgrades. The same situation applies to the Tennessee Gas Pipeline serving the E.W. Brown NGCC. The Brown NGCC can also be served by the Texas Eastern Transmission ("TETCO"), though firm transport capacity on TETCO is only available through marketers holding that capacity. The Companies do not have workpapers or documents associated with the interstate gas pipelines' availability discussions.

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**Case No. 2022-00402**

**Question No. 1-61**

**Responding Witness: Charles R. Schram / David S. Sinclair**

- Q.1-61. Please confirm that the Companies believe that locating the NGCC plants at different locations reduces supply risk. If confirmed, please provide the analysis and work papers supporting this position.
- A.1-61. Risk reduction for gas transportation would be inherent in the use of two geographically diverse pipelines. There is no analysis or work papers to support that position. The Companies have no evidence that gas supply risk, defined as the ability to purchase gas for flow on either of the pipelines, is materially different for either pipeline.

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**Question No. 1-62**

**Responding Witness: David S. Sinclair / Stuart A. Wilson**

- Q.1-62. Please indicate whether the Companies considered gas storage options for one or both of the proposed NGCCs. If considered, please provide the analysis and work papers that was performed to proceed without storage.
- A.1-62. Storage is a potential component of a suite of interstate pipeline firm transportation services that assists in managing imbalances. Furthermore, storage at various sites along a pipeline can support pipeline reliability by supplying molecules at points other than the primary injection points closer to gas producers. Gas storage options, owned by the Companies, were not considered for the proposed NGCCs.



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**Question No. 1-63**

**Responding Witness: Stuart A. Wilson**

- Q.1-63. Please confirm that the costs of the FT agreements are not included in the capital cost assumptions for the proposed NGCCs.
- A.1-63. Confirmed. The costs of firm gas transportation were included in operating costs of the proposed NGCCs, not capital costs.

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**Question No. 1-64**

**Responding Witness: David S. Sinclair**

- Q.1-64. Please provide the results of the gas hedging plan instituted for Cane Run Unit 7 over the last two years including the monthly average prices in excel spreadsheet format.
- A.1-64. See attachment being provided in Excel format.

The attachment is being  
provided in a separate  
file.

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**Question No. 1-65**

**Responding Witness: Stuart A. Wilson**

- Q.1-65. In the 2022 Resource Assessment modelling, please provide how the undepreciated costs for the proposed retirements are modelled.
- A.1-65. The Companies did not attempt to model the way undepreciated costs for retired units will be recovered. The Companies' analysis effectively assumes the retirements will have no impact on the present value of revenue requirements associated with past investments in these units.

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**Question No. 1-66**

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

- Q.1-66. Please indicate whether the Companies would be willing to cap the costs of the battery energy storage system (BESS) and other replacement assets represented in the CPCN filing, thereby requiring shareholders to assume cost over-runs.
- A.1-66. See the response to Question No. 1-55.

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**Question No. 1-67**

**Responding Witness: David S. Sinclair**

- Q.1-67. Please explain why the BESS is needed if there is coal capacity or NGCC capacity which can provide backup to the solar generation.
- A.1-67. See Mr. Sinclair's testimony, Section 6 – *The Value of the Brown BESS*, pp 24-26. Also, the BESS is not being installed to backup solar generation. In fact, it is most likely to be charged with coal and natural gas energy during off-peak periods rather than during periods when solar is generating.

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**Question No. 1-68**

**Responding Witness: Robert M. Conroy**

- Q.1-68. Please confirm that the Companies did not perform an actual Residential Rate analysis including a cost of service study for each of the scenarios evaluated.
- A.1-68. The Companies have not performed a cost of service study or residential rate analysis in this proceeding. The Companies are not seeking cost recovery at this time for the proposed supply-side investments. Such cost recovery would be through a future application for a change in base rates that will include other changes in the cost of providing safe and reliable energy to customers. The appropriate analysis in this proceeding is to determine the least reasonable cost portfolio for meeting future customer's needs based on present value revenue requirements. The Companies have performed a rate impact for the 2024-2030 Demand-Side Management and Energy Efficiency Program Plan filed for approval pursuant to KRS 278.285 and for specific cost recovery through the Demand-Side Management Cost Recovery Mechanism. Such rate impact is contained in paragraphs 26 through 28 of the Application.

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**Question No. 1-69**

**Responding Witness: Robert M. Conroy**

Q.1-69. Please confirm the Companies' willingness to perform a Residential Rate analysis to be included in this proceeding.

A.1-69. See the response to Question No. 1-68.



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**Question No. 1-70**

**Responding Witness: Counsel**

- Q.1-70. Please provide for each scenario considered, the estimated earnings on undepreciated capital for the Companies assuming no securitization.
- A.1-70. The requested information for the scenarios does not exist, requires original work to create, and otherwise is not relevant to the issues in this proceeding. The Companies' portfolio is the least cost option from the customers' perspective.

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**Question No. 1-71**

**Responding Witness: David S. Sinclair**

Q.1-71. Please confirm that analyses associated with the impact of the CPCN on the economy of the state of Kentucky including the impact of higher rates, the impact on the industries that utilize fly ash for cement production and gypsum for wallboard manufacturing from the affected power plants, the loss of employment, the loss of tax revenues, etc. have not been performed. If not confirmed, please provide all associated analyses. If confirmed, please indicate whether the Companies would be willing to conduct such analyses.

A.1-71. Confirmed. The Companies' objective is to provide reliable service at the lowest reasonable cost, and the Companies' analysis is focused only on utility revenue requirements. The Companies have not evaluated potential impacts on industries that utilize coal combustion residuals, but the Companies' analysis does consider the impact of the proposed retirements on net CCR revenues, which are returned to customers.

Also, the narrow analysis suggested by the question would not be appropriate. Any macroeconomic analysis of the Companies' proposed generation fleet must include all impacts, especially including the benefits of lower electricity costs for all customers that the Companies' proposed plan would produce relative to other alternatives considered, particularly if future CO<sub>2</sub> laws and regulations are promulgated.

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**Question No. 1-72**

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

- Q.1-72. Please provide the Companies budget for its public advertising campaign related to the current CPCN. Please indicate whether the Companies expect to recover these costs from ratepayers.
- A.1-72. The Companies believe it's important to be transparent with our customers about the future of their energy. The cost (approximately \$331K) of providing that information on a broad spectrum is being paid for by shareholders, not by LG&E and KU customers.