COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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

DIRECT TESTIMONY OF JOHN R. CROCKETT III PRESIDENT KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: December 15, 2022

INTRODUCTION

Q. Please state your name, position, and business address.

A. My name is John R. Crockett III. I am the President of Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively, "Companies") and an employee of LG&E and KU Services Company, which provides services to KU and LG&E. My business address is 220 West Main Street, Louisville, Kentucky 40202. A complete statement of my education and work experience is attached to this testimony as Appendix A.

Q. What is the purpose of your direct testimony?

A. I will provide an overview of the Companies' demand- and supply-side proposals in this proceeding, which the Companies have carefully analyzed and believe will result in ongoing safe, reliable, and low-cost service for customers across a wide range of possible future scenarios while also reducing carbon emissions (as well as reducing other emissions). Also, I affirm that our proposals are consistent with our corporate CO_2 reduction goals, but such goals were not considered as an objective function in the Companies' analysis. Finally, I discuss how the Companies plan to work with employees affected by the Companies' planned coal-unit retirements.

OVERVIEW OF THE COMPANIES' RESOURCE PLAN TO CONTINUE TO SERVE CUSTOMERS SAFELY, RELIABLY, AND COST-EFFECTIVELY

Q. Have the Companies filed a full suite of demand- and supply-side proposals at this time?

A. Yes. The Companies are entering a time of unprecedented change in how they serve customers with safe and reliable service at the lowest reasonable cost. As the testimony of Lonnie E. Bellar, David S. Sinclair, Stuart A. Wilson, and others for the Companies

demonstrates, the Companies anticipate retiring three coal-fired generating units with a combined summer capacity of about 1,200 MW by the end of 2028 exclusive of an additional 300 MWs to be retired in 2024 at Mill Creek Unit 1. This generation accounted for 4,578,214 megawatt hours or 14 percent of the energy the Companies delivered to all their customers in 2021. Although the units to be retired have served customers well for decades, it is time to retire E.W. Brown Unit 3, Mill Creek Unit 2 and Ghent Unit 2. E.W. Brown Unit 3 is nearing the end of its economic life and it is not cost-effective to invest in the major overhaul scheduled as part of the planned outage in 2027 to facilitate its reliable operation beyond 2028. Further, as described in Philip A. Imber's testimony, the Environmental Protection Agency's proposed Good Neighbor Plan regulation will require selective catalytic reduction systems to operate Mill Creek Unit 2 and Ghent Unit 2 during the ozone season (May through September) beginning in 2026. Mill Creek Unit 2 and Ghent Unit 2 are nearing the end of their economic lives, and as presented in Messrs. Bellar's and Wilson's testimony, the environmental compliance costs caused by the Good Neighbor Plan regulation now make retiring those units - rather than continuing to invest in them - in our customers' best economic interest.

We are also experiencing a time of change in the load the Companies serve. As shown in Figure 1 of the testimony of Tim Jones, since 2010, the Companies' annual energy requirements have been falling, leading to flat or decreasing load. But that is changing with the addition of the BlueOval SK Battery Park, and after accounting for reductions from increased levels of energy efficiency and distributed energy resources which are essentially offset by more customers and higher consumption due to

increasing penetrations of electric vehicles and electric space heating, the load forecast presented in Mr. Jones' testimony is approximately 6.5% higher than the load forecast in the 2021 integrated resource plan beginning in 2027. Summer and winter peak demand are approximately 4% and 6% higher, respectively.

Pointing toward a lower-carbon future, the Companies are looking forward to serving BlueOval SK Battery Park load in the next few years, and anticipate increasing amounts of electric heating and electric vehicle charging load, as Mr. Jones discusses in his testimony.

We also are experiencing record-breaking economic development through the leadership of the current Administration. For 2022, Site Selection magazine ranked Kentucky 6th in its annual Prosperity Cup rankings, which recognizes state-level economic success based on capital investments. It is imperative that the Companies have sufficient dispatchable resources that can provide reliable power at a reasonable price to support this economic growth and facilitate the addition of intermittent energy from renewable resources.

It is also a time of new and changing environmental regulations and a growing certainty that, although the precise timing and means by which it will occur remain unclear, the future of electric generation in the United States and the Commonwealth will likely be lower carbon emitting. This is discussed in further detail in Mr. Imber's testimony and Mr. Wilson's Resource Assessment which is Exhibit 1 to his testimony.

With all those factors in view, the fundamental challenge the Companies' proposals address in this proceeding is how to continue to provide safe and reliable service at the lowest reasonable cost when certain generation assets that have served

customers well in the past are reaching the end of their economic lives. I believe the Companies' demand- and supply-side proposals are the most cost-effective and robust means of meeting that challenge at this time.

Q. How did the Companies approach meeting the challenge you describe?

A. At my direction and under Mr. Bellar's supervision, the Companies took a comprehensive, holistic approach to researching and analyzing a wide variety of demand- and supply-side options for continuing to provide the safe, reliable service at the lowest reasonable cost that our customer rightfully expect. I am proud of our team's hard and thorough work that has brought to the Commission the comprehensive and cost-effective proposals included in the Companies' application in this proceeding. As the testimony of Messrs. Bellar and Wilson show, retiring about 1,200 MW of coal-fired capacity by the end of 2028 is cost-effective.[1] Retirement of this generation represents 22 percent of the Companies' current base load generation.[2]

On the supply side, as Charles R. Schram discusses in his testimony, the Companies issued a request for proposals ("RFP") in June 2022 that sought proposals for energy, capacity, or both from any size and kind of electric energy supply or storage technology. Twenty-two companies responded to the RFP with 39 different projects (including the Companies' self-build proposals), including new build proposals and power purchase agreements ("PPAs") from a broad spectrum of generation technologies. Many of the projects had multiple options, resulting in a total of 101

[1] Mill Creek Unit 2, Ghent Unit 2, and Brown Unit 3 will all retire by 2028.

[2] Base load generation consists of all coal-fired units, Cane Run Unit 7, and current Ohio Valley Electric Corporation Inter-Company Power Agreement allocation.

proposals which Generation Planning ultimately divided and analyzed as 110 specific proposals for purposes of evaluation in Mr. Wilson's Resource Assessment.

As discussed in the testimony of Messrs. Sinclair, Wilson, and Schram, the Companies analyzed the RFP responses and considered all available options, along with the impact of expected DSM-EE programs, while also considering the impacts of various load, fuel price, and regulatory scenarios, including the impacts of possible carbon emission regulations. The Companies' analysis aimed to create a generating portfolio that could reliably serve customers at the lowest reasonable cost when considering a wide range of possible future scenarios.

Further, as the testimony of John Bevington and Lana Isaacson show, the Companies, working with Cadmus, a reputable third-party consultant with nationwide experience, and collaborating with the LG&E-KU DSM-EE Advisory Group, considered nearly 40 possible DSM-EE programs to include in the revised and expanded DSM-EE Program Portfolio the Companies are proposing in this proceeding. As their testimony further shows, the proposed portfolio is cost-effective and puts the Companies solidly on track to reach the reasonably achievable DSM-EE potential shown in the Companies' various DSM-EE potential studies.

The Companies' comprehensive analysis yields a collection of supply-side proposals that optimally blends lower-carbon and zero-carbon technologies to diversify the Companies' generating portfolio to ensure ongoing reliable service provision, lowest reasonable cost, and reduced carbon emissions:

- two new 1-on-1 natural gas-fired combined cycle ("NGCC") generation units (621 MW summer-net each):

- one to be built and on-line by summer 2027 at the Mill Creek Generating Station ("Mill Creek NGCC"); and
- one to be built and on-line by summer 2028 at the E.W. Brown Generating Station, ("Brown NGCC");

- a 120 MWac solar photovoltaic facility to be built and on-line in 2026 in Mercer County ("Mercer County Solar Facility");
- a 125 MW/500 MWh lithium-ion battery storage facility to be built and on-line in 2026 at the E.W. Brown Generation Station, the Brown Battery Electric Storage System ("Brown BESS"); and
- the purchase of a 120 MWac solar photovoltaic facility to be built and on-line in 2027 by BrightNight, LLC, in Marion County ("Marion County Solar Facility").

The Companies are also pursuing four solar Purchase Power Agreements ("PPAs"), which they presently expect to have finalized and executed by the end of January 2023:

- a 138 MW 30-year PPA with ibV Energy Partners for a project to be built in Hopkins County and named Grays Branch;
- a 280 MW 30-year PPA with ibV Energy Partners for a project to be built in Hardin County and named Nacke Pike;
- a 104 MW 20-year PPA with Clearway Energy for a project to be built in Ballard County and named Song Sparrow; and
- a 115 MW 20-year PPA with BrightNight, LLC for a project to be built in Ballard County and named Gage Solar.

As presented in the Application and discussed in the testimony of Robert M. Conroy, the Companies are requesting a declaratory order that no approval of these PPAs from the Commission is required consistent with previous orders.

These supply-side resources, coupled with the Companies' proposed expansion of their DSM-EE Program Portfolio, are the most comprehensive and transformative set of demand- and supply-side resources the Companies have ever presented to the Commission in a single filing that facilitates a complete and efficient review. It is a robust plan for cost-effectively and reliably serving customers for decades to come in a highly dynamic economic and regulatory environment at this time.

Q When does the Commission need to act on these proposals?

A. As discussed in the testimony of Mr. Bellar and Mr. Imber, the proposed Good Neighbor Plan creates the need to act on the Companies' proposals sooner rather than later. The best-case outcome for the final Good Neighbor Plan would allow Mill Creek Unit 2 and Ghent Unit 2 to operate economically only until replacement generation is available. Therefore, advancing this process as soon as reasonably possible is necessary to ensure the Companies can continue to provide safe and reliable service at the lowest reasonable cost. While the Companies recognize the scope of the analysis presented herein and the burden on the Commission to process this case, an order by October 1, 2023 will allow the Companies the opportunity to prudently execute on their proposed plans.

THE COMPANIES' DEMAND- AND SUPPLY-SIDE PROPOSALS ARE CONSISTENT WITH PPL'S ENVIRONMENTAL COMMITMENTS

Q. Do the Companies' proposals comport with your environmental commitments?

A. Yes. In essence, our goal is to achieve net-zero greenhouse gas emissions by 2050, with interim targets of an 80% reduction by 2040 and 70% reduction by 2035 and a commitment not to burn unabated coal by 2050, meaning we will not burn coal beyond that date unless it can be mitigated with carbon dioxide removal technologies. As I noted above, the Companies' plan to economically retire nearly 1,200 MW of coal-fired generation by 2028, which is well in line with our plan to achieve net-zero emissions by 2050 and our interim CO2 reduction goals.

In addition to the zero-emitting items in the Companies' supply-side proposals (solar and battery storage), the Companies' proposed Natural Gas Combined Cycle ("NGCC") units also comport with our environmental commitments and goals. NGCC is among the most efficient gas-fired generating technology currently available, producing up to 65% percent less CO_2 per MWh than the coal-fired units the Companies will retire.

Further, we are taking a long-term view of the role of gas infrastructure in a net-zero carbon future through research and development into hydrogen and carbon capture. The Companies recently joined the Southeast Hydrogen Hub to pursue federal financial support for the regional hub. Hydrogen has the potential to accelerate decarbonization in the Southeast and across all sectors of the U.S. economy, including transportation, which generates the largest share of greenhouse gas emissions in the country. And, as a dispatchable energy source, hydrogen can enable more intermittent renewable resources to the energy system. Further, in partnership with the Electric Power Research Institute and the University of Kentucky, our Cane Run gas plant was recently selected by the Department of Energy for a full-scale carbon capture feasibility

study. And with our existing carbon capture site – where we also partnered with EPRI – our joint research and development team has simulated net negative emissions from natural gas by capturing carbon from both the flue gas and carbon from the ambient air.

In short, the Companies' supply-side proposals, as well as their DSM-EE proposals, are entirely consistent with our overall environmental commitments and goals. They will significantly reduce the Companies' carbon (and other) emissions while continuing to ensure reliable and economical service for our customers. Also, these proposals position the Companies and their customers well to benefit from possible future developments in hydrogen production and carbon capture utilization and storage should either or both of those technologies become available at scale and economically. We are committed to creating long-term, sustainable value for our customers, our shareowners, and the communities we serve. We understand the decisions we make today will help to shape our energy future for generations to come.

In sum, a lower-carbon future is both challenging and exciting, and the Companies' proposals in this proceeding are an important step in that direction. If approved, the Companies' proposals would reduce carbon emissions by over 6 million metric tons or nearly 25 percent annually compared to the Companies' carbon emissions in 2021.

THE COMPANIES WILL ADDRESS IMPACTS TO AFFECTED EMPLOYEES

Q. Will the Companies' proposed coal-unit retirements and supply-side proposals affect the personnel who currently work at generating stations with retiring coal units?

A. Yes. Locating the Companies' proposed NGCC units and their proposed battery facility at existing generating stations where coal units are retiring has several advantages. It allows the Companies to minimize transmission and natural gas infrastructure costs and also to continue to employ some of the personnel who currently work on and around the retiring coal units. The Companies anticipate that other affected personnel may either retire or backfill retirements at their current generating stations, or move to fill jobs at other generating stations or other positions within the Companies. But even considering those means of retaining current employees, the Companies do anticipate some reduction in the number of employees due to the smaller number of personnel required to operate and maintain NGCC, solar, and battery units compared to coal fired units. At the appropriate time, the Companies will work with affected employees and their unions to create a transition plan that optimizes job preservation and opportunities to the greatest reasonable extent.

CONCLUSION

Q. What is your recommendation for the Commission?

A. I recommend the Commission approve the entirety of the Companies' demand- and supply-side proposals in this proceeding. Each and every item the Companies have proposed will help ensure ongoing provision of safe, reliable, and low-cost energy for the Companies' customers across a broad range of possible future scenarios, and they will result in a lower-carbon, lower-emission future for us all. I fully endorse this plan, and I encourage the Commission to approve it as proposed.

Q. Does this conclude your testimony?

A. Yes.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **John R. Crockett III**, being duly sworn, deposes and says that he is President of 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 foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge, and belief.

John R. Crockett III

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 9th day of December 2022.

Notary Public

Notary Public ID No. KYNP46007

My Commission Expires:

03/26/2026

JULIE ANN QUINN
COMMISSION # KYNP46007
NOTARY
PUBLIC
EXP. 03/26/2026
STATE AT LARGE, KENTUCKY

APPENDIX A

John R. Crockett III
President
Kentucky Utilities Company
Louisville Gas and Electric Company
220 West Main Street
Louisville, Kentucky 40202
Telephone: (502) 627-2556

Previous Positions

LG&E and KU Energy LLC, Louisville, KY
General Counsel, Chief Compliance Officer and Corporate Secretary
January 2018 – October 2021

Frost Brown Todd LLC, Louisville, KY
Chairman 2009-2017
Member 1998-2017
Associate 1990-1997

Education

University of Kentucky - Juris Doctor, 1990
University of North Carolina - Bachelor of Arts: 1986

Civic Activities

Bingham Child Guidance Center, Past Board Member
Family and Children's Place, Past Board Member and Board Chair
Kentucky Chamber of Commerce, Board Member and Litigation Committee Chair
Greater Louisville Inc. (Chamber), Past Board Member and Board Chair
Greater Louisville Foundation, Board Member
Leadership Louisville Center, Past Board Member
Gheens Foundation, Trustee
Kentucky Bar Foundation, Past Board Member
Spalding University Advisory Council, Past Member
Jefferson Community and Technical College Foundation, Past Board Member
J.B. Speed Museum, Board Member
Baptist Hospital Foundation, Board Member