COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND SITE COMPATIBILITY CERTIFICATES	**)** **)** **)** **)** **)**	**CASE NO. 2025-00045**

DIRECT TESTIMONY OF LONNIE E. BELLAR SENIOR VICE PRESIDENT, ENGINEERING AND CONSTRUCTION ON BEHALF OF KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: February 28, 2025

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INTRODUCTION

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

A. My name is Lonnie E. Bellar. I am the Senior Vice President, Engineering and Construction for PPL Services Corporation, which provides services to Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively, the "Companies"). My business address is 2701 Eastpoint Parkway, Louisville, Kentucky 40223. A complete statement of my education and work experience is attached to this testimony as Appendix A.

Q. Have you previously testified before this Commission?

A. Yes, since at least 2007, I have testified before this Commission numerous times, including in the Companies' most recent certificate of public convenience and necessity ("CPCN") application proceeding ("2022 CPCN-DSM Case").[1]

Q. What is the purpose of your direct testimony?

A. My testimony provides an overview of the unprecedented levels of increased demand the Companies are anticipating and the Companies' proposals for meeting the needs of all customers, both existing and new.

More particularly, the Companies request CPCNs and site compatibility certificates to construct two natural gas combined cycle ("NGCC") units, one at the Brown Generating Station ("Brown 12") and the other at the Mill Creek Generating Station ("Mill Creek 6"), and a battery energy storage system ("BESS") at the Cane

[1] *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 and Approval of Fossil Fuel-Fired Generation Unit Retirements*, Case No. 2022-00402, Direct Testimony of Lonnie E. Bellar (Dec. 15, 2022); Case No. 2022-00402, Rebuttal Testimony of Lonnie E. Bellar (Aug. 9, 2023).

Run Generating Station. KU also seeks a CPCN to construct a selective catalytic reduction ("SCR") system at the Ghent Generating Station for Ghent 2.

The Companies are not seeking approval for the retirement of any generating facilities.

The Companies have carefully analyzed these proposals, which will result in ongoing safe, reliable, and low-cost service for customers across a wide range of possible future scenarios.

THE COMPANIES ARE FACING UNPRECEDENTED LEVELS OF LOAD GROWTH DUE TO KENTUCKY'S ECONOMIC DEVELOPMENT EFFORTS

Q. Please briefly describe the unprecedented levels of increased demand the Companies are anticipating.

A. As Tim A. Jones addresses in his testimony, the Companies are projecting very high levels of increased demand in the near term, including 1,750 MW of new high load factor demand from data centers by 2032. That is in addition to preparing to serve the full requirements of the Blue Oval SK ("BOSK") Battery Park (more than 250 MW for Phases One and Two) and a number of other manufacturing and other economic development loads from both existing and new customers. As Mr. Jones notes, even accounting for significant amounts of energy efficiency and other energy needs-reducing measures, annual energy requirements will climb sharply from 32,808 GWh in 2025 to 48,129 GWh in 2032—an increase of almost 47%. For the same reasons, both summer and winter seasonal system peak demands increase about 1,800 MW from 2025 to 2032. Such large and rapid load growth is truly unprecedented for the Companies.

Q. What is driving this anticipated increase in data center demand in the Companies' service territories?

A. As John Bevington explains in his testimony, this surge in data center demand in the Companies' service territories is not an accident: The General Assembly, in enacting legislation to encourage data center development, stated that "the inducement of the location of data center projects within the Commonwealth is of *paramount importance* to the economic well-being of the Commonwealth."[2] In that vein, Governor Beshear's administration, particularly Kentucky's Secretary for Economic Development, Jeff Noel, worked with the General Assembly to create tax incentives to induce data centers to locate in Jefferson County.[3]

As Mr. Bevington further notes, Kentucky's efforts are working, with the first hyperscale data center (402 MW) ever to be located in Kentucky announced just last month. That is only part of the more than 6,000 MW of potential data center projects and about 2,000 MW of other economic development projects in the Companies' current economic development queue.

[2] KRS 154.20-222(3) (emphasis added).

[3] Green, Marcus, "Developers unveil plans for large tech data center in Louisville, the 1st of its kind in Kentucky," WDRB (Jan. 16, 2025) ("Bringing data center projects to Kentucky is 'of paramount importance to the economic well-being of the Commonwealth,' according to the legislation passed by state lawmakers. … Kentucky Senate President Robert Stivers, R-Manchester, credited Jeff Noel, secretary of Gov. Andy Beshear's economic development cabinet, and Katie Smith, the agency's deputy secretary, with helping craft the legislation with lawmakers. He called the effort 'a really good example of how the system can work.'"), available at https://www.wdrb.com/in-depth/developers-unveil-plans-for-large-tech-data-center-in-louisville-the-1st-of-its-kind/article_e7adef68-c92f-11ef-b262-bf1780db36c6.html (accessed Jan. 16, 2025). "Stivers on Tax Incentive for Kentucky's First Data Center: Incentive will attract major business to Louisville" (Jan. 16, 2025) ("'I worked closely with Secretary Jeff Noel from the Kentucky Cabinet for Economic Development and top private sector leaders to craft and pass groundbreaking legislation that will spark job creation and expand the tax base, which creates more revenue,' Stivers said. 'This project is a game-changer, driving long-term economic growth in our major metropolitan center and boosting Kentucky as a regional business hub.'"), available at https://kysenaterepublicans.com/press-releases (accessed Jan. 16, 2025).

To be clear, the Companies are not saying economic development and other load growth will cease in 2032; indeed, there are good reasons to expect load growth of various kinds beyond what the 2025 CPCN Load Forecast presents, particularly beyond 2032, as Mr. Jones explains. But the Companies are focusing in this proceeding on near-term load growth and the associated resource decisions that must be made *now* to address it.

MEETING THE GROWING NEEDS OF ALL CUSTOMERS, BOTH EXISTING AND NEW, REQUIRES NEW SUPPLY-SIDE RESOURCES TO SUPPORT RELIABLE SERVICE AT THE LOWEST REASONABLE COST

Q. Will this historic load growth require additional resources beyond those the Commission approved in the Companies' 2022 CPCN proceeding (Case No. 2022-00402)?

A. Yes. As the testimony of Stuart A. Wilson shows, attempting to serve the greatly increased energy needs and demands in the 2025 CPCN Load Forecast with only existing and approved resources would require the Companies either (1) to refuse to serve new customers and expansions of existing customer loads or (2) to sacrifice reliable service. But as Robert M. Conroy explains in his testimony, the Companies have a clear obligation to adequately and reliably serve *all* customers, including these loads the Kentucky General Assembly encouraged to locate not just in the Commonwealth, but specifically in Jefferson County, which is in the Companies' service territory. Thus, the Companies must plan for that load now, and the Companies' proposals in this case are the most cost-effective and robust means of meeting customer needs in the future.

In addition, as Charles R. Schram testifies, the Companies recently experienced a winter peak hourly demand of 6,814 MW just after sunrise on the morning of January

22, 2025, during Winter Storm Enzo.[4] That peak was roughly equivalent to the Companies' 2014 Polar Vortex peak of 7,114 MW after adjusting for the departed KU municipal customers, and it was somewhat higher than the roughly 6,600 MW Winter Storm Elliott peak in December 2022 after accounting for the Companies' first-of-its-kind load shedding. Although all the Companies' units performed well within expectations during the January 22 peak demand, as Mr. Schram notes, losing even one large unit to a forced outage would have caused the Companies to be at risk of being unable to meet their contingency reserve obligation under their reserve sharing agreement with the Tennessee Valley Authority. Mr. Wilson shows this would also be true if a Winter Storm Enzo-like event occurred in 2028 with the resource portfolio approved in the 2022 CPCN-DSM Case and the addition of the announced 402 MW Camp Ground Road data center, BOSK Phase One (125 MW), and a 19.4 MW customer expansion anticipated to be in service in 2026, i.e., adding far less load than the Companies anticipate by 2032. Thus, adding any significant amount of load, particularly firm, high load-factor load, *will* require additional resources to ensure the Companies can continue to serve customers reliably.

There is therefore an immediate need to make supply-side resource addition decisions to allow the Companies to continue to serve all customers reliably and at the lowest reasonable cost.

Q. How did the Companies determine which resources for which to seek approval to meet this expected need?

[4] Peak load occurred during the 8:00 a.m. hour. Sunrise that day was 7:55 a.m.

A. As David L. Tummonds, Mr. Schram, and Mr. Wilson describe, the Companies gathered and developed cost estimates and capability information for a variety of different potential supply-side resources, including conducting a request for proposals for renewable energy. Mr. Wilson's team then performed sophisticated resource modeling, informed by input from Philip A. Imber concerning relevant environmental compliance requirements, to arrive at a resource portfolio that will allow the Companies to serve their customers' anticipated needs reliably and economically across a wide range of future fuel price and load scenarios. That analysis resulted in an optimal portfolio that included adding the Brown 12 and Mill Creek 6 NGCCs, the Cane Run BESS, and the Ghent 2 SCR. I further describe all of these resources below.

Importantly, as Mr. Wilson notes, this is not the last time the Companies will make resource decisions, just as the 2022 CPCN-DSM case was not. But the resources the Companies are proposing in this case are optimized across a reasonable array of possible future scenarios to address the resource decisions that must be made *now*.

Q. Are the Companies seeking approval to retire any generation units they have not already received Commission approval to retire?

A. No.

Q. Are the projects proposed in this case consistent with the Commission's decision in Case No. 2022-00402, and what is the status of the projects the Commission approved in that case?

A. Yes, the projects proposed in this case are consistent with the Commission's November 6, 2023 Order in Case No. 2022-00402. In fact, the Brown 12 proposal in this case follows precisely with the Commission's decision to defer Brown 12 in Case No. 2022-

00402, where the Commission stated, "[T]he Commission reiterates that the denial of the CPCN for Brown 12 is wholly based on the Commission's finding that the construction of Brown 12 should be deferred with the construction beginning on a date that provides for an in service date in 2030."[5]

The main projects the Commission approved in Case No. 2022-00402 were Mill Creek 5 NGCC, Brown BESS, Mercer County Solar, and Marion County Solar. The status of those four projects is:

- Mill Creek 5. This project remains on track for commercial operation in the summer of 2027. The current estimated completion cost is $913.4 million. With civil work near completion and foundation work in progress, most of the risk based on unknown site conditions is understood and accounted for in this estimate. Contractual risk around standard conditions such as force majeure and shipment delays associated with long lead electrical equipment continue to present cost risk not accounted for in the reported estimate.
- Brown BESS. This project will be commercially operational between July 2026 and March 2027 pending final determination of critical equipment availability and appropriate contracting. The current estimated completion cost is $270 million. This estimate is the last estimate evaluated in Case No. 2022-00402 and will likely have a substantive update when the appreciable majority of all general and project specific risks are captured through the Companies' execution of the material procurement and engineering, procurement, and construction ("EPC") installation contracts (received in

[5] Case No. 2022-00402, November 6, 2023 Order, p. 137.

January 2025 and expected in May 2025, respectively). The Companies continue to track general cost volatility associated with import tariff changes, raw materials, installation labor, and long lead electrical equipment, as well as specific cost volatility associated with lithium in the case of batteries. The Companies currently estimate that project costs may decrease from the noted estimate.

- Mercer County Solar. This project remains on track for commercial operation in the summer of 2026. The current estimated completion cost is $243.0 million. The Companies received and commenced analysis of the EPC bids on December 20, 2024, and they continue to clarify those bids with the bidders. The Companies continue to track the same general cost volatility noted above as well as the specific cost volatility associated with solar panel supply and currently estimate that project costs may increase from the noted estimate.
- Marion County Solar: The Companies executed a build-transfer agreement ("BTA") with FRON bn, LLC ("FRON bn") on August 19, 2024. The Companies continue to negotiate with FRON bn on the form of EPC agreement as required by the BTA after which FRON bn plans to issue an EPC RFP for this project. FRON bn continues to communicate that this project remains on track for commercial operation in the summer of 2027. Costs have increased approximately $35 million since the estimate evaluated in Case No. 2022-00402 due to greater than expected civil scope, increased costs for both the material and labor associated with balance of plant electrical

scope, and increased financing costs above original estimates provided by FRON bn.

We are pleased with the status and progress of these four critical projects and look forward to bringing them on-line as scheduled to serve our customers.

Q. Please discuss the projects proposed in this case.

A. As Mr. Wilson discusses in his testimony, the Companies' analysis shows that adding dispatchable baseload capacity and energy storage to the Companies' existing and approved resources is the least-cost solution for continuing to serve existing customers reliably while meeting the projected needs of new large, high load factor customers:

- Two new 1-on-1 NGCC generation units (approximately 645 MW summer-net each):
  - Brown 12, which will be built and in service by 2030; and
  - Mill Creek 6, which will be built and in service by 2031; and
- A new 400 MW, four-hour (1600 MWh) lithium-ion battery storage facility to be built at Cane Run, which will be built and in service in 2028.

Also, constructing an SCR for KU's Ghent 2,[6] which will be operational by 2028 for control of nitrogen oxides ("NOx") emissions, will help ensure compliance with the 2015 National Ambient Air Quality Standard for ozone ("2015 Ozone NAAQS"), as Mr. Imber discusses. As he explains, even though the Good Neighbor Plan concerning ozone now does not apply to Kentucky, the U.S. Environmental Protection Agency remains obligated to drive compliance with the 2015 Ozone NAAQS, and adding an SCR to Ghent 2 is an obvious target for such compliance

[6] As Mr. Conroy explains, pursuant to KRS 278.183, KU plans to file an environmental cost recovery application for the SCR at Ghent 2 by the end of April 2025.

efforts. Thus, adding a Ghent 2 SCR now will help ensure the ongoing year-round availability of Ghent 2, which is part of the least-cost resource plan presented by Mr. Wilson.

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

A. The Companies respectfully request that the Commission issue a decision in this case no later than the end of October 2025, which is consistent with the eight-month timeframe contemplated in KRS 278.019(1). This will position the Companies to have the requested projects in service in time to reliably serve customers while complying with applicable environmental requirements.

Q. Has the price of NGCC facilities risen since the Commission's decision in Case No. 2022-00402?

A. Yes. As stated above, the current estimated cost of completing Mill Creek 5 is approximately $913.4 million, which is based on the combustion turbine pricing the Companies were able to lock in shortly after the Commission reached its November 6, 2023 decision in that case. But as the Companies conveyed in that case, the market has gotten tighter for NGCC turbines since then due to increased demand for NGCC facilities. There are only three NGCC turbine manufacturers (GE, Siemens, and Mitsubishi), and they are facing significant and increasing United States and global demand for their product. This means that while the Companies could have constructed Brown 12 for a cost similar to Mill Creek 5 had Brown 12 been approved earlier, that pricing is no longer available and longer lead times are required. Instead, as Mr. Tummonds explains in his testimony, the current estimated cost for Brown 12 is $1.383 billion and for Mill Creek 6 is $1.415 billion. The Companies have no reason to believe

that costs will return to the Mill Creek 5 levels. Thus, this development illustrates the need to move forward with the proposed projects now so the Companies can continue to serve customers at the lowest reasonable cost.

Q. What steps have the Companies had to take to address the tightening of the market for NGCC turbines?

A. The Companies had to execute a Unit Reservation Agreement with GE to ensure timely delivery of the necessary equipment for Brown 12. Under this agreement, the Companies agreed to pay $25 million to GE to reserve a "manufacturing slot" in GE's manufacturing process so that the Brown 12 equipment will be manufactured and delivered in time for commercial operation in 2030 and to lock in firm pricing for the equipment. This requirement did not exist less than two years ago when the Companies originally proposed Brown 12. That it does now reflects the increased demand for NGCC equipment and resulting tightening of the market. It is possible that a similar requirement will be necessary for Mill Creek 6.

CONCLUSION

Q. What is your recommendation for the Commission?

A. I recommend the Commission approve the entirety of the Companies' proposals in this proceeding, which are needed to serve the anticipated data centers the Kentucky General Assembly has explicitly sought to induce to locate in the Companies' service territories, as well as other crucial expected customer loads, including BOSK and other customers' new and expanded facilities. Each and every item the Companies have proposed will help ensure ongoing provision of safe, reliable, and low-cost energy for the Companies' customers, both new and existing, across a broad range of possible

future scenarios. I fully endorse this plan, and I encourage the Commission to approve it as proposed.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Lonnie E. Bellar**, being duly sworn, deposes and says that he is Senior Vice President Engineering and Construction for PPL Services Corporation and he provides services to Louisville Gas and Electric Company and Kentucky Utilities 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.

Lonnie E. Bellar

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 18th day of February 2025.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

CAROLINE J. DAVISON
NOTARY PUBLIC
ID # KYNP63286
STATE AT LARGE, KENTUCKY
COMM EXPIRES 01/22/2027

APPENDIX A

Lonnie E. Bellar
Senior Vice President, Engineering and Construction
PPL Services Corporation
2701 Eastpoint Parkway
Louisville, Kentucky 40223

Education

Bachelors in Electrical Engineering; University of Kentucky, May 1987
Bachelors in Engineering Arts; Georgetown College, May 1987
E.ON Academy, Intercultural Effectiveness Program: 2002-2003
E.ON Finance, Harvard Business School: 2003
E.ON Executive Pool: 2003-2007
E.ON Executive Program, Harvard Business School: 2006
E.ON Academy, Personal Awareness and Impact: 2006
Tuck Executive Education Program, Dartmouth University: 2015

Professional Experience

PPL Services Corporation

Senior Vice President, Engineering and Construction	Mar. 2024 - Present

Louisville Gas and Electric Company
Kentucky Utilities Company

Chief Operating Officer	Mar. 2018 – Mar. 2024
Sr. Vice President – Operations	Jan. 2017 – Mar. 2018
Vice President, Gas Distribution	Feb. 2013 –Jan. 2017
Vice President, State Regulation and Rates	Nov. 2010 – Jan. 2013

E.ON U.S. LLC

Vice President, State Regulation and Rates	Aug. 2007 – Nov. 2010
Director, Transmission	Sept. 2006 – Aug. 2007
Director, Financial Planning and Controlling	April 2005 – Sept. 2006
General Manager, Cane Run, Ohio Falls and Combustion Turbines	Feb. 2003 – April 2005
Director, Generation Services	Feb. 2000 – Feb. 2003
Manager, Generation Systems Planning	Sept. 1998 – Feb. 2000
Group Leader, Generation Planning and Sales Support	May 1998 – Sept. 1998

Professional Experience (continued)

Kentucky Utilities Company

Manager, Generation Planning	Sept. 1995 – May 1998
Supervisor, Generation Planning	Jan. 1993 – Sept. 1995
Technical Engineer I, II and Senior, Generation System Planning	May 1987 – Jan. 1993

Professional Memberships

Institute of Electrical and Electronics Engineers

Civic Activities

Metro United Way Board of Directors – 2023 - Present
Trees Louisville Board of Directors – 2023 - Present
UK College of Engineering Advisory Board – 2009 – Present
Greater Louisville, Inc.
Board of Directors, Chair – 2020-2021
Board of Directors, Executive Committee – 2016–2024
LG&E and KU Power of One Chair - 2018
American Gas Association – Board of Directors – 2013 – 2024
Southern Gas Association – Board of Directors – 2013 – 2024
Kentucky Science Center – Board of Directors – 2008–2016
E.ON U.S. Power of One Co-Chair – 2007