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 APPROVAL OF A DEMAND SIDE MANAGEMENT PLAN	**)**	**CASE NO. 2022-00402**

MARCH 27, 2023 SUPPLEMENTAL RESPONSE OF KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY TO THE ATTORNEY GENERAL'S INITIAL REQUEST FOR INFORMATION DATED FEBRUARY 17, 2023

FILED: MARCH 27, 2023

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 27th day of March 2023.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

March 27, 2023 Supplemental Response to Attorney General's Initial Request for Information
Dated February 17, 2023

Case No. 2022-00402

Question No. 28(e)

Responding Witness: Stuart A. Wilson

Q-28. Reference the Bellar testimony beginning at 22:8, regarding the proposed Brown BESS.

e. Provide all rationale, analyses and studies justifying the assignment of 100% of the BESS costs to LG&E ratepayers, with 0% to KU ratepayers. Explain also how this is justified in light of the fact that the Companies' fleet is jointly dispatched.

A-28.

Original Response

e. See Exhibit SAW-1, Section 6.2.3.

March 27, 2023 Supplemental Response

e. See attached and Exhibit SAW-1, Section 6.2.3. See also Exhibit SAW-2: \CONFIDENTIAL_05_ResourceOwnership\20221128_2022RFPRAOwnership_0308_D04.xlsx. The Companies plan their system on a combined basis and then allocate ownership to account for their respective energy requirements and reserve margins in accordance with the Power Supply System Agreement. Notably, a 100% LG&E Brown BESS allocation results in summer reserve margins of 24.8% for KU but only 7% for LG&E considering fully dispatchable and battery storage resources.

The approach to balancing energy and reserve margin requirements shown in the above-referenced documents regarding the proposed allocation of the Brown BESS is the same approach that led to allocating 100% of the four-year, 165 MW Capacity Purchase and Tolling Agreement with Bluegrass Generation Company, LLC to LG&E in 2014. The Commission approved that agreement in Case No. 2014-00321, explicitly noting the 100% allocation to LG&E.[10]

[10] *Verified Application of Louisville Gas and Electric and Kentucky Utilities Company for a Declaratory Order and Approval Pursuant to KRS 278.300 for a Capacity Purchase and Tolling Agreement*, Case No. 2014-00321, Order at 3 (Ky. PSC Nov. 24, 2014) ("Pursuant to a detailed reserve margin analysis performed by the Companies, which is included in Exhibit 6 of the Application, 100 percent of the obligations under the Agreement will be allocated to LG&E."). *See also* Case No. 2014-00321, Application Exhibit 6 at 8 (Sept. 19, 2014); Case No. 2014-00321, Informal Conference Memorandum Attachment 2 at 2 and 6 (Oct. 14, 2014).

Ownership of Proposed 2022 RFP Resources

1. Proposed Ownership Allocations

	KU	LG&E
Solar Resources • 4 PPAs (637 MW) • Asset Purchase (120 MW) • Self-Build (120 MW)	63%	37%
NGCC Units (Self-Build) • Mill Creek (621 MW) • Brown (621 MW)	69%	31%
Battery Storage (Self-Build; 125 MW)	0%	100%

2. KU/LG&E's PSSA requires Operating Committee approval of ownership allocations.

- Ownership of joint units shall be allocated by the Operating Committee prior to the time the unit is authorized by the Board of Directors.
- Each Company shall own at least 25 MW of each joint unit unless otherwise agreed to by the Operating Committee.

3. Proposed allocations are based on methods similar to previously commissioned resources.

- **Solar –** similar to Brown Solar (61% KU / 39% LG&E)
  Allocated the solar resources' forecasted generation in each hour based on each company's forecasted share of native load energy requirements for the hour. Each company's proposed assignment equals its allocated share of the total solar energy generated between each resource's in-service date and 2050.

- **NGCC** – similar to TC2 (81/19), CR7 (78/22), GR5 (60/40)
  Each company's ownership share (69/31) matches its share of the anticipated energy benefits compared to an all-CT portfolio. This method is similar to the method used for TC2 and CR7 as well as the proposed/canceled Green River 5. These ownerships were aligned to each company's NPV of expected production cost savings from constructing the baseload unit compared to an "all-CT" portfolio. This aligns ownership with the energy benefits of building more expensive baseload capacity compared to the least expensive capacity approach of building only CTs**.**

- **Battery Storage** – similar to joint CTs (various) and Bluegrass CT tolling agreement (100% LG&E)
  100% allocation to LG&E brings slightly more balance between LG&E and KU's 2028 summer reserve margins (based on dispatchable and battery capacity)[1] after assigning the NGCC units' ownership allocation.

[1] Excludes intermittent resources and DSM.

4. Energy and capacity metrics remain somewhat balanced.

- **Energy is well balanced between load and generation by company.**
  - The Companies' total load forecast is split 64% KU / 36% LG&E, which closely approximates the proposed ownership of new solar (63/37) and is similar to the proposed NGCC ownership (69/31).
  - The proposed ownership allocations result in a forecasted generation split of 61/39, which is similar to the Companies' shares of energy load (64/36).

- **Capacity reserve margins are reasonably comparable by summer/winter average, despite seasonal imbalances.**

  LG&E is summer peaking while KU is winter/dual peaking, which is reflected in existing reserve margins with LG&E being shorter in the summer and KU being shorter in the winter. This is exacerbated with the planned retirements without replacement with LG&E's summer RM and KU's winter RM both becoming negative. The proposed allocation of replacement capacity does not resolve the RM imbalance by season but results in average summer/winter RMs that are reasonably comparable between the companies (21% for KU; 29% for LG&E).

Reserve Margin % (dispatchable & battery resources only; at coincident peak hour)

	2023	2028	
		With Retirements; No Replacements	With Allocated Replacements
Summer			
KU	32.8	2.2	24.8
LGE	9.3	(13.2)	7.0
CC	23.1	(3.9)	17.7
Winter			
KU	22.8	(4.3)	16.5
LGE	57.8	23.4	51.7
CC	33.7	4.1	27.1
Average Summer/Winter			
KU	27.8	(1.1)	20.6
LGE	33.6	5.1	29.3
CC	28.4	0.1	22.4