

**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) CASE NO. 2025-00045
CERTIFICATES OF PUBLIC CONVENIENCE)
AND NECESSITY AND SITE COMPATIBILITY)
CERTIFICATES)

**TESTIMONY OF
ELIZABETH A. STANTON, PHD**

**ON BEHALF OF JOINT INTERVENORS
KENTUCKIANS FOR THE COMMONWEALTH,
KENTUCKY SOLAR ENERGY SOCIETY,
METROPOLITAN HOUSING COALITION,
AND MOUNTAIN ASSOCIATION**

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Dated: June 16, 2025

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Case No. 2025-00045

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1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. Please state your full name and business address.**

3 A. My name is Elizabeth A. Stanton. My business address is 6 Liberty Sq., PMB 98162,
4 Boston, MA 02109.

5 **Q. By whom are you employed and in what position?**

6 A. I am the Executive Director and Principal Economist of the Applied Economics Clinic, a
7 non-profit consulting group specializing in the areas of energy, climate, environment, and
8 social equity.

9 **Q. On whose behalf are you submitting testimony in this proceeding?**

10 A. I am submitting testimony on behalf of Kentuckians for the Commonwealth, Kentucky
11 Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association
12 (collectively, “Joint Intervenors”).

13 **Q. Please describe your educational background.**

14 A. I earned my Ph.D. in economics at the University of Massachusetts-Amherst, and have
15 taught economics at Tufts University, the University of Massachusetts-Amherst, and the
16 College of New Rochelle, among others.

17 **Q. Please describe your professional experience.**

18 A. I am the founder and Executive Director of the Applied Economics Clinic. I have an
19 extensive publication record, including more than 180 reports, journal articles, books and
20 book chapters, as well as more than 60 expert comments and oral and written testimony
21 in public proceedings on topics related to energy, the economy, the environment, and

1 equity. My work includes testimony and comments in Integrated Resource Plan,
2 Certificate of Public Convenience and Necessity, and general rate cases.

3 Since 2014, I have worked on numerous reports and testimonies focused on key
4 energy topics in Southeastern and Southern states. Examples include: utility planning and
5 fuel procurement strategies, such as natural gas price hedging in Florida (2017); coal
6 plant economics in South Carolina (2020); several utility plans in Washington, D.C. and
7 Louisiana; and an East Kentucky Power Cooperative application for a Certificate of
8 Public Convenience and Necessity (“CPCN”) in 2024-2025 (Case No. 2024-00370). In
9 addition, I addressed electrification and renewable energy in several reports, including
10 assessments of electrification incentives in Washington, D.C. (2021) and renewable
11 energy transition plans for utilities in Louisiana (2020) and Florida (2022). Energy
12 infrastructure and carbon emissions were also key topics, including the impact of refinery
13 activities in Texas (2023) and carbon capture strategies in Louisiana’s power sector
14 (2023). My energy policy analysis covered issues such as net metering in Mississippi
15 (2014), TVA’s planning practices in Tennessee (2023), the Mountain Valley Pipeline in
16 West Virginia (2019), and analyses of the Clean Power Plan and Clean Air Act § 111(d)
17 targets, with reports completed in 2014, 2015, and 2016 in Alabama, Georgia, North
18 Carolina, and Virginia assessing compliance. In addition, I co-authored a report on
19 LG&E-KU’s 2024 Integrated Resource Plan (Case No. 2024-00326).

20 In my previous position as a Principal Economist at Synapse Energy Economics, I
21 led studies examining environmental regulation, cost-benefit analyses, and the economics
22 of energy efficiency and renewable energy. Prior to joining Synapse, I was a Senior
23 Economist with the Stockholm Environment Institute’s Climate Economics Group, where

1 I was responsible for leading the organization’s work on the Consumption-Based
2 Emissions Inventory (CBEI) model and on water issues and climate change in the
3 western United States.

4 My articles have been published in Ecological Economics, Renewable Climate
5 Change, Environmental and Resource Economics, Environmental Science & Technology,
6 and other journals. I have published books, including Climate Change and Global Equity
7 (Anthem Press, 2014) and Climate Economics: The State of the Art (Routledge, 2013),
8 which I co-wrote with my colleague at Synapse, Dr. Frank Ackerman. I also co-authored
9 Environment for the People (Political Economy Research Institute, 2005, with James K.
10 Boyce) and was a co-editor of Reclaiming Nature: Worldwide Strategies for Building
11 Natural Assets (Anthem Press, 2007, with Boyce and Sunita Narain). My curriculum
12 vitae is attached as Exhibit EAS-1.

13 **Q. Have you previously testified before this or any commission?**

14 A. Yes, I have previously testified before the Kentucky Public Service Commission’s
15 (“PSC” or the “Commission”) in Case No. 2024-00370. I have also submitted testimony
16 and/or comments to utility commissions and other related dockets in Alabama,
17 Connecticut, Illinois, Indiana, Louisiana, Massachusetts, Minnesota, New Hampshire,
18 North Carolina, Ohio, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, and
19 Vermont. As mentioned above, I also co-authored a report on LG&E-KU’s 2024
20 Integrated Resource Plan (Case No. 2024-00326).

1 **II. PURPOSE OF TESTIMONY**

2 **Q. What is the purpose of your testimony?**

3 A. The purpose of my testimony is to assess the load forecasting assumptions utilized in the
4 2025 request for approval for Certificates of Public Convenience and Necessity
5 (“CPCN”) filed by Louisville Gas and Electric Company (“LG&E) and Kentucky
6 Utilities Company (“KU”) (collectively “LG&E-KU” or the “Companies”) in Kentucky
7 PSC Case No. 2025-00045. Specifically, I review the Companies’ 2025 CPCN Load
8 Forecast and assess the methodology, assumptions, and findings of their economic
9 development growth forecast.

10 **Q. Please summarize your recommendations for the Kentucky Public Service**
11 **Commission.**

12 A. My recommendations to the Commission are as follows:

13 (1) For use in LG&E-KU’s CPCN forecasting, I recommend that the Companies employ a short-
14 term forecast of new data center and other large customer load based on concrete evidence
15 that there is a high likelihood that such load will actually come online, while discounting or
16 excluding possible large customer load that is merely speculative or has a low likelihood of
17 materializing.

18 (2) I recommend that the Commission require the Companies to affirmatively demonstrate that
19 back-up generation, back-up storage, energy efficient equipment, and demand response
20 functionality have been offered and/or explored with prospective data center customers, and
21 are either represented in projects plans, are infeasible, or the customers are unwilling to enter
22 such contracts.

1 (3) I recommend that the Commission require the Companies to review and revise current
2 demand response programs to adapt them to the use of data centers and other large load
3 customers.

4 (4) I recommend that the Commission require the Companies to use the following principles in
5 evaluating data center inquiry probabilities and estimating expected additions to load:

6 a. Develop probability weights based on evidence, data, and analysis, and submit
7 together with material evidence demonstrating the data center inquiries' status
8 by criteria when used as evidence of "need" in a CPCN.

9 b. Assign probability weights based on the specific details of each particular data
10 center inquiry.

11 c. Provide a transparent methodology with transparent assumptions made
12 available to the Commission and stakeholders.

13 d. Account for the difference in project likelihood between inquiries from real
14 estate developers and inquiries from data center operators.

15 (5) Finally, as an illustrative example, I provide an alternative probability weighting framework
16 that relies on real-world examples and recommendations to identify 25 criteria that can add to
17 (or take away from) data center operation likelihood.

18 **Q. Are you sponsoring any exhibits to your testimony?**

19 A. Yes. I have prepared the following exhibits:

20 4. Exhibit EAS-1 – a copy of my CV.

21 5. Exhibit EAS-2 – Camp Ground Road Mar. 24, 2025 Development Plan Letter of
22 Explanation

1 6. Exhibit EAS-3 – Camp Ground Road Oct. 04, 2023 Development Plan Extension
2 Request
3

4 **III. OVERVIEW OF LG&E-KU'S CPCN APPLICATION**

5 ***A. Summary of LG&E-KU's CPCN Application***

6 **Q. Please summarize LG&E-KU's requests to the Kentucky Public Service Commission**
7 **in this CPCN application.**

8 A. On February 28, 2025, LG&E-KU jointly filed a CPCN application in PSC Case No.
9 2025-00045. In this case, LG&E-KU requests CPCNs for the following:

- 10 • Two 645-megawatt (MW) natural gas combined cycle combustion turbine (NGCC)
11 facilities at KU's E.W. Brown Generating Station (i.e. Brown 12) and LG&E's Mill
12 Creek Generating Station (i.e., Mill Creek 6), along with natural gas and electric
13 transmission construction for the facilities;
- 14 • A 400-MW, 4-hour battery energy storage system (BESS) facility at LG&E's Cane
15 Run Generation Station (i.e., Cane Run BESS); and
- 16 • A selective catalytic reduction (SCR) facility at KU's Ghent Generating Station for
17 Ghent 2.

18 LG&E-KU also requests site compatibility certificates for the NGCC facilities at Brown
19 12 and Mill Creek 6, as well as the Cane Run BESS facility, and accrual of allowance for
20 funds used during construction ("AFUDC").

21 The Companies' projected capital costs for the facilities are \$1.383 billion for
22 Brown 12; \$1.415 billion for Mill Creek 6; \$775 million for the Cane Run BESS; and

1 \$152 million for the Ghent 2 SCR system. The Companies expect Brown 12 to be in
2 service by 2030; Mill Creek 6 to be in service by 2031; the Cane Run BESS to be in
3 service in 2028; and the Ghent 2 SCR system to be operational by 2028.

4 ***B. Kentucky PSC CPCN Requirements***

5 **Q. What criteria does the PSC use to evaluate Certificate of Public Convenience and**
6 **Necessity applications?**

7 A. By statute, regulated utilities cannot construct or acquire any facility to be used in
8 providing utility service to the public until it has obtained a CPCN from this
9 Commission.¹ In order to obtain a CPCN, a utility must demonstrate to the Commission
10 that there is a need for the proposed project and an absence of wasteful duplication.²

11 Demonstrating “need” requires:

12 [A] showing of a substantial inadequacy of existing service, involving a
13 consumer market sufficiently large to make it economically feasible for
14 the new system or facility to be constructed or operated.

15 [T]he inadequacy must be due either to a substantial deficiency of service
16 facilities, beyond what could be supplied by normal improvements in the
17 ordinary course of business; or to indifference, poor management or
18 disregard of the rights of consumers, persisting over such a period of time
19 as to establish an inability or unwillingness to render adequate service.³

20 Wasteful duplication refers to “an excess of capacity over need, an excessive investment
21 in relation to productivity or efficiency, or an unnecessary multiplicity of physical
22 properties.”⁴ Demonstrating an absence of wasteful duplication requires a utility to show

¹ KRS 278.020(1).

² Ky. Utils. Co. v. Pub. Serv. Comm’n, 252 S.W.2d 885, 890 (Ky. 1952).

³ *Id.*

⁴ *Id.*

1 “that a thorough review of all alternatives has been performed,” and “[a]ll relevant factors
2 have been balanced.”⁵

3 ***C. LG&E-KU’s System***

4 **Q. Who do LG&E-KU serve?**

5 A. LG&E-KU serve approximately 1 million electric customers in Kentucky and parts of
6 Virginia—roughly 80 percent of which are residential customers.⁶ The Companies’ 2024
7 IRP reports 2023 annual energy requirements of 30.4 terawatts-hours (“TWh”) and 2024
8 Summer Peak Demand of 6,061 megawatts (“MW”).⁷

9 **Q. Do LG&E-KU expect growth in customer demand over time?**

10 A. Yes, LG&E-KU expect growth in customer demand; however, this growth is primarily
11 driven by the Companies’ anticipated new load from data centers. Below in my
12 testimony, I call into question LG&E-KU’s load forecasts (both annual energy
13 requirements and peak demand), indicating that the Companies are overestimating their
14 forecasts resulting in their setting the wrong targets when assessing their need for new
15 supply resources. Specifically, my testimony includes:

- 16 1. a description of the Companies’ 2025 CPCN Load Forecast;
- 17 2. a review of state-level efforts to attract data centers to Kentucky along with
18 comparisons to other states’ methods;
- 19 3. detailed information regarding LG&E-KU’s more substantive data center inquiries;

⁵ Final Order, *In re the Application of Big Rivers Electric Corporation for Approval of its 2012 Environmental Compliance Plan*, Case No. 2012-00063, at 14-15 (Oct. 1, 2012) (citations omitted).

⁶ *In the Matter of Electronic 2024 Joint Integrated Resource Plan of Kentucky Utilities Company and Louisville Gas and Electric Company*, Case No. 2024-00326, Vol. I. at p. 5-1 (Oct. 18, 2024) (hereinafter “2024 IRP”).

⁷ 2024 IRP at Vol. I., Figs. 5-6, 5-7, at p. 5-15.

- 1 4. a primer on the Companies’ methods of probability-weighting in load forecasting;
- 2 5. a discussion of the Companies’ CPCN economic development forecast in the light of
- 3 these methods;
- 4 6. recommendations regarding requirements for data center developers to invest in
- 5 demand-side measures; and
- 6 7. an illustrative alternative framework for assessing data center probabilities and
- 7 applying them to utility forecasts.

8 **IV. LG&E-KU’S ANNUAL AND PEAK DEMAND FORECASTS**

9 **Q. Please describe the load forecast used in the Companies’ 2025 CPCN Application.**

- 10 A. The Companies utilize the 2024 IRP Mid load forecast as a basis for their 2025 CPCN
- 11 Load Forecast, extending it out to 2054 and adjusting it to include the economic
- 12 development component of the 2024 IRP High load forecast (a change that nearly
- 13 doubles the expected rate of peak demand growth, as I discuss below). Witness Tim
- 14 Jones describes the 2025 CPCN Load Forecast in his testimony as follows:

15 Simply stated, the 2025 CPCN Load Forecast *is* the 2024 IRP Mid load

16 forecast extended to 2054 and adjusted to include the 2024 IRP High load

17 forecast’s economic development load, i.e., the 2025 CPCN Load Forecast

18 includes 1,750 MW of data center load by 2032 and the 120 MW BOSK

19 Phase Two load, whereas the 2024 Mid Load Forecast includes only 1,050

20 MW of data center load and excludes BOSK Phase Two.⁸

⁸ Direct Testimony of Tim A. Jones, Senior Manager, Sales Analysis and Forecasting on Behalf of Kentucky Utilities Company and Louisville Gas and Electric Company, Case No. 2025-00045, at 8:5-10 (Feb. 28, 2025) (“Jones Direct”). “BOSK” is the BlueOval SK Battery Park.

1 **Q. Have you reviewed the Companies' 2024 IRP load forecasts?**

2 A. Yes, I co-authored a March 2025 report on LG&E-KU's 2024 IRP (Case No. 2024-
3 00326).⁹ This report sets out best practices for IRP modeling and reporting, and assesses
4 the Companies' 2024 IRP against criteria for the following categories: (A) Demand-Side
5 Analysis; (B) Supply-Side Analysis; (C) Modeling Structure; (D) Selection of
6 Recommended Plan; and (E) Stakeholder Input. The Companies' 2024 IRP annual energy
7 and peak demand forecasts were reviewed and assessed within the Demand-Side
8 Analysis portion of our report.

9 **Q. Based on your review, do you have any critiques for the Companies on the**
10 **methodology and/or assumptions used to develop their 2024 IRP annual energy and**
11 **peak demand forecasts?**

12 A. Yes. While our report calls for a more complete justification of the Companies'
13 assumptions regarding residential demand growth, our main demand-side critiques are
14 related to the assumption of unprecedented, rapid growth of data centers and other new
15 large commercial or industrial customers.

16 **Q. What is the primary driver of annual energy and peak demand growth in the**
17 **Companies' 2025 CPCN Load Forecast?**

18 A. The Companies' 2025 CPCN Load Forecast¹⁰ anticipates that "Economic development"
19 will be the primary driver of its annual energy and peak demand growth with a majority

⁹ Case No. 2024-00326, Attach. JI-1 to Initial Joint Intervenor Comments, *AEC White Paper, LG&E-KU's 2024 Integrated Resource Plan: An Assessment* (Mar. 7, 2025).

¹⁰ See Jones Direct at 9:1-10:2 (Figures 1 through 3) for summary; full workpapers at Exhibit TAJ-2: 2025 CPCN Load Forecast Workpapers.

1 of anticipated new load coming from potential data centers (1,750 MW by 2032) and
 2 Phase Two of the BlueOval SK Battery Park (“BOSK”) (120 MW in mid-2028).¹¹

3 This added “high economic development” load nearly doubles the rate of LG&E-
 4 KU’s projected annual peak demand growth from 2.2 to 4.3 percent in the 5-year period
 5 from 2025 to 2030 (see Table 1).

6 **Table 1. Comparison of LG&E-KU’s Peak Demand Forecasts¹²**

	Peak Demand (MW)		
	2024 IRP Mid Load <i>(No Econ Dev)</i>	2024 IRP Mid Load <i>(Mid Econ Dev)</i>	2025 CPCN Mid Load <i>(High Econ Dev)</i>
2025	6,208	6,228	6,230
2026	6,222	6,242	6,242
2027	6,205	6,365	6,434
2028	6,174	6,474	6,795
2029	6,176	6,686	7,304
2030	6,141	6,931	7,677
CAGR	-0.2%	2.2%	4.3%

7
 8 **Q. With regard to data centers, how does the Companies’ hoped-for addition to peak**
 9 **demand of 1,750 MW in its 2025 CPCN Load Forecast compare to their 2024 IRP Mid**
 10 **load forecast?**

11 A. The Companies’ 2024 IRP Mid load forecast included 1,050 MW of new data center load
 12 compared to the 1,750 MW expected in their 2025 CPCN Load Forecast based on the
 13 2024 IRP High load forecast, an increase of 67 percent. The Companies attribute this
 14 expansion of assumed load growth since their October 2024 IRP’s filing to claimed

¹¹ Jones Direct at 4, 8:7-8; LG&E-KU Resp. to SC 1-7.

¹² 2024 IRP, Public Workpapers: (1) “EconDev_ColumnChart_20241008.xlsx.”; (2) “IRP_Peak_Scenario_Comparisons_20240913.xlsx.”; (3) 2025 CPCN: Exhibit TAJ-2 and CPCN Workpapers. “AWJ_JDL_Charts.xlsx.”

1 increased certainty regarding data center development in their territories, as stated in
2 response to data requests:

3 Since Case No. 2024-00326 was filed, two large data centers have
4 announced plans to locate in the Companies' service territories. The first
5 is a 402 MW data center in Louisville on Camp Ground Road and the
6 second is a recently publicized 600 MW data center in Oldham County
7 (Project Lincoln: OC Data Center). These announcements have added
8 more certainty to a significant portion of the economic development load
9 forecast. In addition, the Companies continue to have conversations with
10 additional potential new customers as well as existing customers who are
11 considering expanding their operations. Based on these announcements
12 and conversations, the level of economic development load in the 2025
13 CPCN Load Forecast is reasonable.¹³

14 **Q. What expectations for “economic development” load have the Companies used in past
15 load forecasts?**

16 A. LG&E-KU's 2024 IRP compares its expectations for load growth to those of their 2021
17 IRP: “energy requirements in the 2024 IRP are 31.7% higher by 2032 due to the addition
18 of new economic development loads, which include data centers and the first phase of
19 BOSK. Compared to the 2022 CPCN, energy requirements in the 2024 IRP period are
20 slightly lower through 2027 due to the delay of the second phase of BOSK but
21 significantly higher thereafter.”¹⁴

22 **Q. What justifications do the Companies provide to support their claim that the projected
23 economic development load included in their 2025 CPCN Load Forecast is reasonable?**

24 A. The Companies rely on the following justifications to support the unprecedented load
25 growth due to data centers as part of their projected economic development load: (1)

¹³ Response of Kentucky Utilities Company and Louisville Gas and Electric Company to the Commission Staff's Second Request for Information Dated March 27, 2025, Case No. 2025-00045, Question 1(b) (Apr. 17, 2025) (“LG&E-KU Resp. to Staff 1-1(b)”).

¹⁴ 2024 IRP Vol. I at 6-1.

1 descriptions of state-level efforts to attract data centers to Kentucky;¹⁵ (2) recent
2 announcements to locate two data centers in LG&E-KU's service territories;¹⁶ and (3) a
3 claimed more than 8,000 MW of potential economic development load from prospective
4 customers, more than 6,000 MW of which is said to be related to data centers.¹⁷ Below in
5 this testimony, I examine each justification in turn, asking whether the proffered
6 justification provides concrete evidence of a likelihood that such load will actually come
7 online that is high enough to warrant the multi-billion dollars of spending proposed here.

8 **Q. Why is it important that the CPCN load forecast be based only on load for which there**
9 **is concrete evidence of a high likelihood that such load will actually come online?**

10 A. It is important that CPCNs only be granted to meet forecasted load for which there is a
11 high likelihood that it will actually come online, because the generation needed to meet
12 such load represents substantial costs that will show up on customers' bills for decades to
13 come. If the forecasted load does not materialize, then there is a significant risk that
14 customers will end up paying large sums of money for generation that was not needed.
15 Such a risk is especially heightened in KG&E-KU's current CPCN Application where:
16 (1) data center load growth forecasts are especially uncertain, (2) most or all of the data
17 center inquiries upon which the forecast is based are not for actual data centers, but rather
18 for facilities that real estate developers hope will attract data centers, and (3) the
19 Companies do not have in place data center tariffs and other cost allocation provisions

¹⁵ Direct Testimony of John Bevington, Senior Director, Business and Economic Development on Behalf of Kentucky Utilities Company and Louisville Gas and Electric Company, Case No. 2025-00045, at 6:5-7:5 (Feb. 28, 2025) ("Bevington Direct").

¹⁶ Bevington Direct at 7:6-8:4; LG&E-KU Resp. to Staff 1-1(b).

¹⁷ Jones Direct at 14:6-16:20.

1 that would protect customers from the significant cost and risk of stranded assets if the
2 hoped-for load does not materialize.

3 *A. Descriptions of state-level efforts to attract data centers to Kentucky*

4 **Q. Please describe the state-level efforts aimed at attracting data centers to Kentucky that**
5 **LG&E-KU use to justify the unprecedented load growth due to data centers.**

6 A. LG&E-KU Witness Jones refers to the Companies' load forecasts as "unprecedented"¹⁸,
7 and Witness Bevington describes Kentucky legislation (KRS 154.20-222, adopted in
8 24RS HB 8) enacted in 2024 prioritizing data center development by offering tax
9 incentives, particularly targeting Jefferson County, to attract hyperscaler facilities and
10 boost economic growth, and points to a Poe Companies and PowerHouse Data Centers
11 Camp Ground Road 525 MW data center project in Louisville announced in early 2025.¹⁹
12 Bevington makes the claim that Kentucky's reliable and affordable power, abundant
13 water, low land costs, and proximity to other data hubs are benefits to data centers
14 locating in the state.²⁰

¹⁸ Jones Direct at 4:6-10, 11:2-4, and 20:6-7; *see also* Direct Testimony of Lonnie E. Bellar Senior Vice President, Engineering and Construction on Behalf of Kentucky Utilities Company and Louisville Gas and Electric Company, Case No. 2025-00045, at 2:8-4:6 (Feb. 28, 2025) ("Bellar Direct").

¹⁹ Bevington Direct at 6:5-7:5.

²⁰ Bevington Direct at 8:12-21.

1 **Q. Do state-level efforts to attract data centers to Kentucky provide a reasonable basis for**
2 **and expectation of unprecedented load growth and consequent cost increases to**
3 **LG&E-KU ratepayers for new capacity investments?**

4 A. No. State-level efforts to attract new loads are not specific to LG&E-KU’s territory and
5 do not represent evidence of firm loads sufficient to risk ratepayer funds for new capacity
6 investments.

7 **Q. Have other states enacted similar tax policies or other benefits to attempt to draw data**
8 **centers?**

9 A. Yes. In 2024, the NAIOP Commercial Real Estate Development Association found that
10 36 states have enacted some kind of tax incentive for new data center development.²¹ A
11 2024 50-state survey by the law firm Husch Blackwell shows that almost all states offer
12 the same sort of sales and use tax incentives as Kentucky.²² Several states offer additional
13 benefits such as property or income tax waivers or reductions for eligible projects.²³ At
14 least 10 states currently have given more than \$100 million per year each in tax subsidies
15 for data centers.²⁴ Further, many incentives are given at the local level.²⁵

²¹ Jake Remington and Rod Carter, *An Overview of State Data Center-related Tax Incentives*, Development Magazine (Winter 2024/2025), available at <https://www.naiop.org/research-and-publications/magazine/2024/Winter-2024-2025/development-ownership/an-overview-of-state-data-center-related-tax-incentives/>

²² Husch Blackwell, *Tax Incentives for Data Centers 50 State Survey*, (2024), available at <https://hbfiles.blob.core.windows.net/webfiles/TaxIncentivesforDataCenters50StateSurvey.pdf>.

²³ *Id.*

²⁴ Kasia Tarczynska and Greg LeRoy, *Cloudy with a Loss of Spending Control: How Data Centers Are Endangering State Budgets* at 4 (Apr. 2025), available at <https://goodjobsfirst.org/cloudy-with-a-loss-of-spending-control-how-data-centers-are-endangering-state-budgets/>.

²⁵ *Id.*; see also Commonwealth Economics, *Oldham County Data Center Campus: Local Economic & Fiscal Impact Analysis* at 4 (Apr. 2025), available at https://static1.squarespace.com/static/67ed6dd718fe192480547cac/t/6811188fda1b7f2235c785a8/1745950866183/D ata+Center_600MW_Economic+Impact+Analysis_4.29.25_Final.pdf (noting that “nearly all jurisdictions that have successfully attracted data centers have provided property tax abatements or exemptions.”) (“Oldham County Economic Development Report”).

1 **Q. Do LG&E or KU stand to gain all the development targeted by Kentucky’s incentives?**

2 A. No. In 2025, after the adoption of HB 8 described in Mr. Bevington’s testimony, the
3 Kentucky Legislature amended the definition of “qualified data center project” in KRS
4 154.20-220 to provide that tax incentives for data centers would apply throughout the
5 state.²⁶ Data center developers may reap the same benefits by locating in any Kentucky
6 county or utility territory. These tax breaks are designed to attract data centers to locate in
7 Kentucky; they do not offer a particular advantage for data centers to locate in LG&E or
8 KU territories.

9 Kentucky’s new definition allows for tax breaks even for smaller levels of investment in
10 counties across the Commonwealth, defining a “qualified data center project” as one with
11 specific thresholds for minimum capital investments.²⁷

12 **Q. Is there any evidence that developers of “hyperscaler” data centers intend to locate in**
13 **Kentucky?**

14 A. No, none that I could identify through my research or in the materials provided by the
15 Companies. While many major “hyperscalers” (e.g. Amazon Web Services, Microsoft
16 Azure, and Google Cloud Platform) have announced significant plans to build out data
17 center capacity in particular “data center cluster” areas in a few locations around the
18 United States, to my knowledge, Kentucky has not been mentioned as a potential site for
19 expansion by such major hyperscalers.

²⁶ 2025 KY Acts Chapter 98 (HB 775), available at <https://apps.legislature.ky.gov/record/25rs/hb775.html>.

²⁷ KRS 154.20-220 (Effective June 27, 2025).

1 **Q. Are any of the known data center inquiries in the Companies’ Economic Development**
2 **queue from “hyperscalers”?**

3 A. No, not to my knowledge. Known prospective data center inquiries in the queue are
4 “colocator” facilities. A collocator is a facility built by a real estate developer or so-called
5 “colocation company” to lease space to data center operating companies. Local
6 colocation companies typically develop smaller facilities for retail leasing and major
7 (typically not local) colocation companies develop larger facilities that offer both retail
8 and wholesale leasing. In contrast, a “hyperscaler” is a large-scale data center built by the
9 company that will use it to deploy internet services and platforms. Colocation facilities
10 are built to try to attract data center customers, and not to serve specific or already-
11 contracted data center operators.

12 **Q. Can “colocator” real estate developers be assumed to have firm customers and load?**

13 A. No. Typically, collocators are attempting to build a data center-appropriate landing spot,
14 speculatively, in hopes that having built it, they will come.

15 ***B. Recent announcements to locate two data centers in LG&E-KU’s service territories***

16 **Q. Please describe the recent steps towards locating data centers in LG&E-KU’s service**
17 **territories that the Companies use to justify their hoped-for unprecedented load**
18 **growth.**

19 A. LG&E-KU points out that two large data center projects (amounting to a total of 1,125
20 MW) have recently made public their plans to further explore siting in the Companies’

1 service territories.²⁸ (One of these proposed projects has since announced that it will be
2 downsized; see discussion below.)

3 **Q. Do early stages of inquiry regarding potential electric service or other planning stages**
4 **for data centers provide a reasonable basis for and expectation of unprecedented load**
5 **growth and consequent cost increases to LG&E-KU ratepayers for new capacity**
6 **investments?**

7 A. No. As LG&E-KU Witness Bevington explains in his response to JI 1.5(f): “It is common
8 for economic development projects to evaluate multiple communities and states as they
9 work to find the most suitable location for operations. As projects move closer to
10 deciding to operate in the Companies’ service territories, the economic development team
11 modifies the project stage as referenced in PSC 1-18 (c). As the project moves through
12 the various stages, the probability that the project will locate in the Companies’ service
13 territory increases.”

14 **Q. What are “announced” data centers?**

15 A. While LG&E-KU’s responses to discovery requests (see Staff 1.1(b) and elsewhere) refer
16 to “announced plans to locate” new data centers, this “announced” classification is
17 referring only to announcement by a property owner or prospective data center developer
18 of an intention to move forward through the stages of development on a particular site.²⁹
19 The Companies’ own system for classifying the certainty of contacts, leads, and other
20 stages of exploration for potential new large loads includes a final “announced” tier or
21 stage of project development. Notably, no data center projects have reached the

²⁸ LG&E-KU Resp. to Staff 1-1(b).

²⁹ LG&E-KU Resp. to Staff 2-18(c).

1 “announced” stage in LG&E-KU’s economic development pipeline.³⁰ That is, neither of
2 the two projects that have made a formal public decision to locate in the Companies’
3 service territory has also signed a contract for electric service.³¹ Almost all data centers
4 classified in the Companies’ queue have not yet gained local permission for siting much
5 less submitted transmission service requests (TSRs) or contracted for electric service. See
6 Table 3, below, for collected information on projects in the queue, and the discussion
7 below of the two “announced” projects and local siting permission.

8 **Q. What is LG&E-KU’s system for categorizing economic development inquiry stages?**

9 A. The Companies use a five-tier system for categorizing economic development inquiries.
10 Only the fifth stage—“announced”—involves “a formal public decision to locate in the
11 Companies’ service territory”. None of LG&E-KU’s current data center inquiries have
12 reached the Companies’ “announced” stage:

13 “Inquiry” indicates a request for high-level information, may involve a few
14 meetings, and is generally in the early stages of evaluation...

15 “Suspect” indicates that there is a likelihood of, or evidence of, continued
16 follow up. The project is likely engaged in continued information
17 exchange and is on the verge of more formal processes and information
18 exchange...

19 “Prospect” indicates very regular exchange of information, more detailed
20 evaluation of a site and site characteristics that likely include detailed
21 evaluation of infrastructure capabilities and capacities, costs of doing
22 business, in-person site visits, and incentive negotiation...

23 An “imminent” project likely has all the information necessary from the
24 Companies and the state and local communities to make a decision and

³⁰ The Companies have five economic development project stages: (1) Inquiry, (2) Suspect, (3) Prospect; (4) Imminent; and (5) Announced. LG&E-KU Resp. to Staff 1-18(c). Witness Bevington explained that the “Announced” stage is distinct from a customer’s announcement of a project and is the only stage in which a customer is “absolutely 100%” committed to the project. Hearing Video Transcript, Case No. 2024-00326 Hearing on May 13, 2025, at 2:05 - 2:09 p.m. (describing the five categories of economic development project stages) (“HVT Case No. 2024-00326, May 13 2:05-2:09 p.m.”). This is confirmed in LG&E-KU Resp. to Staff 2-18(c).

³¹ LG&E-KU Resp. to Staff 1-18(c), 2-18(b), 2-18(c).

1 may only be finalizing its own business plan or internal processes before
2 proceeding...

3 “Announced” means projects have made a formal public decision to locate
4 in the Companies’ service territory and have signed a contract for electric
5 service. There are currently no projects in this phase.³²

6 **Q. What inquiries related to electric service for data centers has LG&E-KU received?**

7 A. Witness Jones testimony describes “over 8,000 MW of total economic development load
8 potential based upon the current list of prospective customers, over 6,000 MW of which
9 is related to data centers.”³³ In response to discovery questions, however, Witness
10 Bevington describes just two data centers with “announced plans” to locate in LG&E-KU
11 territory: Camp Ground Road (525 MW) and Project Lincoln (600 MW; as of June 2025
12 it is widely reported that Project Lincoln will be proposed as a smaller MW-size
13 facility).³⁴ Neither project, however, has moved to the “announced” development stage of
14 the Companies’ queue.³⁵ Project Lincoln has not even reached the “imminent” stage of
15 the economic development pipeline: Since Project Lincoln has not executed an
16 Engineering, Procurement and Construction Agreement (EPC), it remains a mere
17 “prospect.”³⁶ Camp Ground Road is the only project to have signed an EPC.³⁷

18 **Q. Please describe the Camp Ground Rd. Project.**

19 A. Camp Ground Rd. is a collocator project, proposed by two real estate developers—Poe
20 Companies and PowerHouse Data Centers—who are marketing the project as “fast-

³² LG&E-KU Resp. to Staff 2-18(c).

³³ Jones Direct at 16:4-6.

³⁴ LG&E-KU Resp. to Staff 1-1(b); LG&E-KU Resp. to AG-KIUC 2-22(a); Matthew Glowicki, *After community pushback, new location proposed for Oldham County data center. What to know*, Courier-Journal (Jun. 02, 2025), available at <https://www.courier-journal.com/story/news/local/2025/06/02/new-location-proposed-for-6-billion-data-center-in-oldham-county/83997706007/>.

³⁵ LG&E-KU Resp. to Staff 2-18(b).

³⁶ LG&E-KU Resp. to Staff 2-18(d).

³⁷ LG&E-KU Resp. to JI 1-7(a).

1 tracked operations for new hyperscale tenants.”³⁸ Camp Ground Rd, therefore, appears to
2 be essentially a plan by a real estate developer to construct a series of warehouses as a
3 “qualified data center project” in order to secure tenants and gain tax benefits as a project
4 organizer under KRS 154.20-220 to 290.

5 Currently the Camp Ground Rd. project does not have any tenants, and as of May,
6 the Companies were unaware of who the customers for the Camp Ground Rd. project
7 would be.³⁹ In addition, further permitting steps are required to be approved by Louisville
8 Metro Government. According to documents obtained from Louisville Metro
9 Government, the developer has decided to self-develop this project due to prior
10 “obstacles in marketing the property to potential leasers”.⁴⁰ The developer also has noted
11 that “Because the proposed data center needs to be located near adequate electrical
12 utilities, there are few locations in the community that can physically be developed as
13 data centers.”⁴¹

14 **Q. Please describe the Oldham County project (“Project Lincoln”).**

15 A. Project Lincoln (or “Meridian 2”) in Oldham County was originally a proposal from
16 Western Hospitality Partners to construct a collocator data center campus north of
17 LaGrange, Kentucky, on several hundred acres of land. According to preliminary figures,

³⁸ PowerHouse Data Centers, *PowerHouse Data Centers and Poe Companies Partner to Develop Kentucky's First Hyperscale Data Center Campus*, (Jan. 16, 2025), <https://www.powerhousedata.com/news/powerhouse-data-centers-and-poe-companies-partner-to-develop-kentuckys-first-hyperscale-data-center-campus>.

³⁹ Case No. 2024-00326, May 13, 2025 at 1:55:45 to 1:56:15 p.m.; See also Response of Louisville Gas and Electric Company and Kentucky Utilities Company to the Mountain Association, Kentuckians for the Commonwealth, Kentucky Solar Energy Society and Metropolitan Housing Coalition’s Supplemental Requests for Information Dated January 22, 2024, Case No. 2024-00326, Question 2-25(a) (Feb. 11, 2025) (“Case No. 2024-00326, LG&E-KU Resp. to JI 2-25(a)”).

⁴⁰ Letter from Anne E. Richard, RLA, to Case Manager, Louisville Metro Planning and Design Services (Oct. 04, 2023), attached as Exhibit EAS-3, Camp Ground Road Oct. 04, 2023 Development Plan Extension Request

⁴¹ Letter from Clifford H. Ashburner, to Customer Service, Planning and Design Services (Mar. 24, 2025), attached as EAS-2, Camp Ground Road Mar. 24, 2025 Development Plan Letter of Explanation.

1 building costs were estimated to be approximately \$1.92 billion, with cooling, electrical,
2 and computing/hardware equipment making up an additional \$4 billion.⁴² On June 2,
3 2025, it was announced that the project would not be constructed as planned due to local
4 opposition, and instead would relocate closer to central LaGrange and be downsized
5 significantly.⁴³ Initial reports on Western Hospitality Partners' new plans indicate a
6 reduction in size from eight buildings to two.⁴⁴ Information from the Companies indicate
7 this smaller project had already been submitted into the TSR queue at the same time as
8 Meridian 2 (or just prior), and is planned to be 100 MW, rather than the 600 MW
9 assumed in support of the Companies' load forecast.⁴⁵

10 **Q. Is Project Lincoln fully approved by local authorities?**

11 A. No. The facility requested a Conditional Use Permit ("CUP") from Oldham County
12 Planning and Development Services, but had not received approval yet prior to being
13 withdrawn.⁴⁶ A hearing was held by Oldham County Planning and Development
14 Services' Technical Review Committee on May 21, 2025, and significant public
15 comments were made by nearby residents⁴⁷ prior to the developer withdrawing its

⁴² Oldham County Economic Development Report, *supra* note 26 at 6.

⁴³ Matthew Glowicki, *After community pushback, new location proposed for Oldham County data center. What to know*, Louisville Courier-Journal (Jun. 02, 2025), available at <https://www.courier-journal.com/story/news/local/2025/06/02/new-location-proposed-for-6-billion-data-center-in-oldham-county/83997706007/>.

⁴⁴ *Id.*

⁴⁵ Response of Louisville Gas and Electric Company and Kentucky Utilities Company to the Commission Staff's Post Hearing Request for Information Dated May 19, 2025, Case No. 2024-00326, Question 1, Attachment at 2 (June 06, 2025) ("Case No. 2024-00326 LG&E-KU Resp. to Staff 3-1, Att. at 2").

⁴⁶ Glowicki, *supra* note 43.

⁴⁷ Marcus Green, WDRB, *Opponents pack meeting about \$6 billion Oldham County data center plan*, (May 21, 2025), available at https://www.wdrb.com/in-depth/opponents-pack-meeting-about-6-billion-oldham-county-data-center-plan/article_cabe30e6-bd8a-4795-b03a-daffb331ce38.html.

1 application and submitting new, smaller plans after community pushback.⁴⁸ The new
2 plans will require review by local authorities.⁴⁹

3 **Q. Do recent statements from the Lincoln Project developer raise questions about the**
4 **claimed need for LG&E-KU to construct additional capacity to serve that project?**

5 A. Yes, on at least two counts. First, according to the economic development report from the
6 developer, “Kentucky Utilities has confirmed that it has sufficient capacity to meet the
7 Project’s energy demands without issue.”⁵⁰ (The Companies’ contention in response to
8 Staff 3-10 that they would need additional capacity to serve the Camp Ground Road
9 project would appear to contradict the developer’s stated understanding.) The
10 Companies—by the developers’ account—have apparently made assurances to the
11 developer that LG&E-KU already possess sufficient capacity to serve the Lincoln
12 Project, which at least casts doubt about the asserted need for the CPCNs in this case.
13 Second, the Oldham County Economic Development report also states that “the Project
14 will utilize significant onsite battery storage, providing additional redundancy and
15 resilience.”⁵¹

16 The June 2025 announcement of the change in location and size similarly mentions onsite
17 backup power.⁵² As more fully explained below, this sort of backup power onsite creates
18 the possibility for significant flexibility in development of data centers, and creates the
19 possibility of turning them into a grid asset, rather than purely passive load.

⁴⁸ Glowicki, *supra* note 43.

⁴⁹ The new application and related materials are available at: <https://www.oldhamcountky.gov/projectlincoln>.

⁵⁰ Oldham County Economic Development Report, *supra* note 25 at 11.

⁵¹ *Id.*

⁵² *OC Data Center Selects New Oldham County Location*, <https://www.oldhamcountydatacenter.com/resources>.

1 **C. Estimating the likelihood of data center load materializing**

2 *1. Probabilistic accounting*

3 **Q. How has LG&E-KU determined its expected addition of data center load as used in**
4 **this CPCN application?**

5 A. In their response to AG 1-35, Witnesses Bevington and Jones state that:

6 The separate attachment provided in response to part (a) shows the
7 Companies' analysis of data centers in the economic development pipeline
8 and BOSK Phase 2 as of early January 2025...The projects were given
9 probability ranges based upon the classification Mr. Bevington's team
10 assigned to them, which classifications are described in the response to
11 PSC 1-18(c). The projects were also denoted as having filed a TSR or not.
12 Using projected ramp schedules the Companies obtained from prospective
13 customers and estimating those the Companies did not have, the
14 Companies calculated a probability-weighted monthly load ramp for the
15 data centers in the economic development pipeline.⁵³

16 The Companies assign probability weights to each of five stages of project development
17 from inquiry to "contract in place" (a term which appears to replace the "announced" tier;
18 see Table 2).

19 **Table 2. LG&E-KU data center AG-KIUC 1-35 Attachment "Project Map" probabilities⁵⁴**

	Low Probability	Mid Probability	High Probability
Contract in Place	100%	100%	100%
Imminent	60%	80%	100%
Prospect	30%	50%	70%
Suspect	5%	20%	35%
Inquiry	0%	10%	20%

20
21
22 The Companies have assigned a current status to each of 18 to 22 (depending on the
23 source) inquiries regarding electric service for data centers—most recently provided to

⁵³ LG&E-KU Resp. to AG-KIUC 1-35(b); LG&E-KU Resp. To SC 2-9.

⁵⁴ LG&E-KU Response to AG-KIUC 1-35 Attachment.

1 intervenors on June 11 in Case No. 2024-00326 (see Table 3). As of June 11, 2025, no
 2 projects were “contract in place” (or “announced”) and one project was “imminent”.

3 **Table 3. LG&E-KU data center inquiry phases, land control status, TSRs, and EPCs**

Opportunity ID	Load (MW)	Sales Phase	Land Control Status	TSRs ^a	EPC
2868	350	Prospect	Owner Marketed	2030 ^b	N
Camp Ground 1/2	402	Imminent	Owned	2026 / 2028	Y
Camp Ground 3	123	Unknown	Owned	2029	N
Project Lincoln 1 ^d	100	Prospect	Optioned	2028	N
3326 ^c	100	Prospect	Owner Marketed	2031 ^b	N
3603	220	Suspect	Owner Marketed	N	N
3645	500	Suspect	LOI/Contract Pending	N	N
Project Lincoln 2 ^d	600	Canceled ^d	Optioned	2030	N
3657	200	Prospect	Owned	N	N
3671	400	Inquiry	Owned	N	N
3686	30	Inquiry	Owned	N	N
3741	400	Prospect	Owned	N	N
3774	500	Suspect	Owned	N	N
3775	65	Suspect	Owner Marketed	N	N
3782	450	Suspect	Optioned	N	N
3941	550	Prospect	Owner Marketed	N	N
4004	300	Inquiry	Owner Marketed	N	N
4084	400	Inquiry	Owned	N	N
4094	500	Suspect ^e	Owner Marketed	N	N
4304	50	Suspect	Owned	N	N
4371 ^c	65	Prospect	Owner Marketed	N	N
4372 ^c	0	Inquiry	Owned	N	N
<i>JI 3-18</i>				<i>Case No.2024-00326 PSC-PH 1</i>	<i>JI 1-7</i>

4 Source: Data from LG&E-KU Resp. to JI 3-18,⁵⁵ Case No. 2024-00326 LG&E-KU Resp. to
 5 Staff 3-1, Att.;⁵⁶ and LG&E-KU Resp. to JI 1-7; see also LG&-KU Resp. to SC 3-9,⁵⁷ AG-KIUC
 6 2-22(a), and JI 3-18.

7 Notes:

8 (a) TSR dates are "Energized Dates" per Case No. 2024-00326 LG&E-KU Resp. to Staff 3-1,
 9 Att.

10 (b) Tentatively identified based on Case No. 2024-00326 LG&E-KU Resp. to Staff 3-1, Att..

⁵⁵ LG&E-KU Resp. to JI 3-18.

⁵⁶ Case No. 2024-00326 LG&E-KU Resp. to Staff 3-1, Att. at 2

⁵⁷ LG&E-KU Resp. to SC 2-9.

- 1 (c) New potential project included in LG&E-KU Resp. To JI 3-18 but not AG-KIUC 1-33(a).
- 2 (d) Project Lincoln (called Meridian 1 and 2) announced downsizing from 600 MW in June
- 3 2025. In this table I tentatively identified Opportunity ID 3140 as Project Lincoln (Meridian) 1
- 4 based on the TSRs submitted in Confidential attachments to LG&E-KU Resp. to JI 1-6. Case No.
- 5 2024-00326 LG&E-KU Resp. to Staff 3-1, Att. states; “Project Meridian 2 has been publicly
- 6 announced as Project Lincoln: OC Data Center. The developer has recently announced it does
- 7 not plan to proceed with its project at the Meridian 2 site and instead intends to proceed with a
- 8 smaller project at the Meridian 1 site.”
- 9 (e) Status changed from LG&E-KU Resp. To AG-KIUC 1-33(a) to JI 3-18.

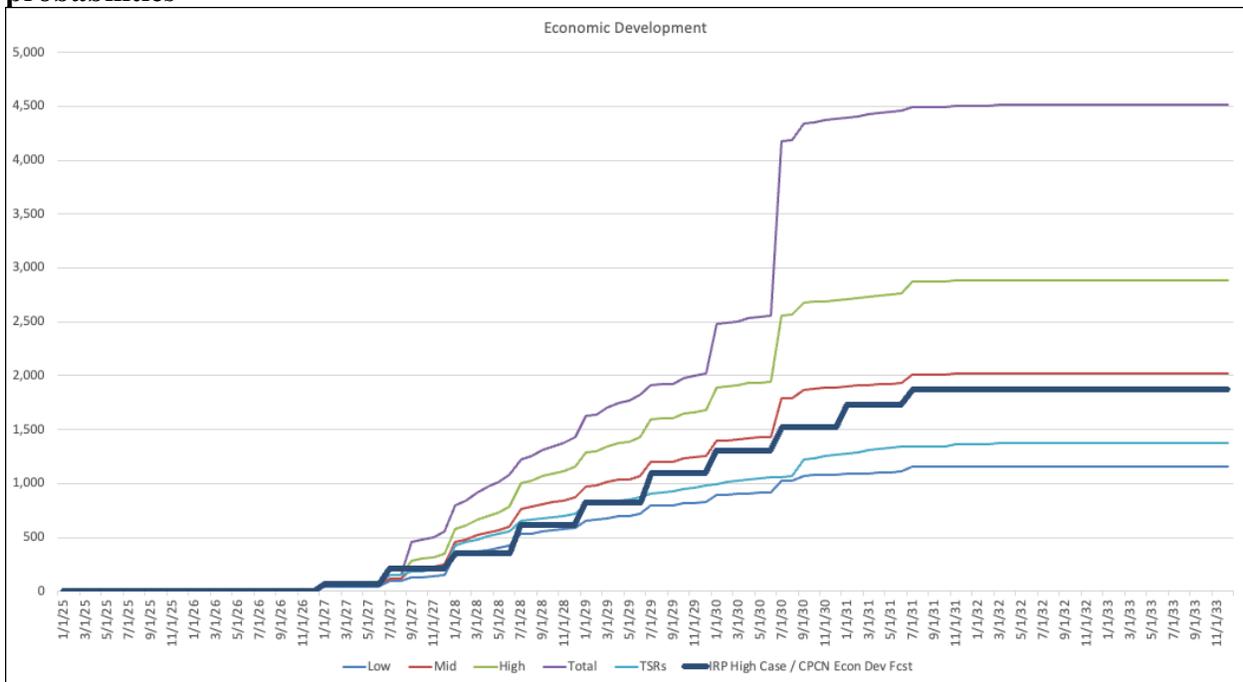
10 The Companies then multiply each data center inquiries’ expected load in MW (see Table

11 3 above) with its probability score (see Table 2 above) to arrive at a “probability-

12 weighted monthly load ramp” per Bevington and Jones (see Figure 1).

13 **Figure 1. LG&E-KU economic development AG-KIUC 1-35 Attachment “Charts”**

14 **probabilities**



15 Source: Reproduced from LG&E-KU Resp. to AG-KIUC 1-35 Attachment; my emphasis (bold)

16 added to “IRP High Case / CPCN Econ Dev Forecast” for clarity.

17 Note: LG&E-KU’s calculations used to create this graph appear to contain several errors,

18 omitting some data center inquiries from some forecasts.

19

20

21 **Q. Have the Companies provided an explanation of the basis for the probabilities set forth**

22 **in Table 2 above that are assigned to each stage of project development?**

1 A. No. When asked in discovery to explain how the probability percentages were determined
2 and to “provide any analysis or other document supporting such percentages,”⁵⁸ the
3 Companies pointed to another response,⁵⁹ itself referring to other responses, none of which
4 indicate any explanation of *how* the percentages were developed.⁶⁰ Instead, those responses
5 only repeat the percentages, and state that “probability ranges were developed based upon
6 each project’s assigned stage.” In response to a follow up request in the third round of
7 discovery, the Companies offered only that: “The probabilities assigned to each stage were
8 determined by and agreed upon by the economic development team and its collective
9 experience.”⁶¹

10 Notably, Staff have included in their recently filed fourth round of data requests that the
11 Companies “Explain the basis of the weightings and probabilities used to determine the
12 economic development queue. As part of the response, include any scoring templates,
13 rubrics, or other related material utilized in determining the economic development
14 queue.”⁶² The response to that request is not due until after this testimony is filed.

15 **Q. Are these LG&E-KU-assigned probabilities the basis for the Companies’ 2025 CPCN**
16 **economic development load forecast?**

17 A. Only in part. These probability-weighted forecasts are used as a reference point for
18 comparison to the Companies’ final method, which was to take the Camp Ground Rd.
19 and Project Lincoln expected loads (estimated as 1,000 MW together) and add to it

⁵⁸ LG&E-KU Resp. to JI 2-10(c).

⁵⁹ LG&E-KU Resp. to SC 2-9.

⁶⁰ LG&E-KU Resp. to AG-KIUC 1-33(a) and Staff 2-17(g).

⁶¹ LG&E-KU Resp. to SC 3-17.

⁶² Commission Staff’s Fourth Request for Information to Kentucky Utilities Company and Louisville Gas and Electric Company, Case No. 2025-00045 (Jun. 10, 2025) (“Staff Request 4-1”).

1 double the average load size of the Suspect, Prospect, and Imminent projects in its
2 inquiry pipeline (350 MW doubled) for a total of 1,700 MW.

3 The Companies arrived at their 1,750 MW data center load projection in
4 two ways. First, the Companies created an expected value calculation by
5 weighting project sizes and probabilities in the economic development
6 queue, as shared in the attachment to the response to AG-KIUC 1-35(a)
7 and detailed further in the response to SC 2-9. The 1,750 MW of projected
8 data center load falls below the mid-probability expected value of 1,905
9 MW but above the low-probability expected value of 1,040 MW after
10 removing the 120 MW of BOSK phase 2 load that is included in these
11 calculations.

12 Second, the Companies observed that the average size of projects in the
13 Suspect, Prospect, and Imminent phases of the economic development
14 queue was 350 MW. Assuming the roughly 1,000 MW of Camp Ground
15 and Project Lincoln data center load came to fruition, only two additional
16 350 MW data centers (one in LG&E's service territory and the other in
17 KU's service territory) would amount to a total demand of about 1,700
18 MW. Adding two such data centers was and is reasonable given the queue
19 of more than 5,000 MW of data center potential after removing the Camp
20 Ground and Project Lincoln data centers.

21 The assumed data center load ramp is consistent with that assumed in the
22 IRP High scenario as it aligns closely with the mid-probability expected
23 value ramp calculation.⁶³

24 As shown in the attachment to AG-KIUC 1-35 (and in Figure 1 above), the specific amount of
25 load projected in the CPCN economic development forecast is not the direct result of the
26 probability exercise described by LG&E-KU Witnesses Bevington and Jones. Rather, it
27 is based on the Companies' best judgement and falls somewhere in between its mid
28 probability forecast and a forecast showing only inquiries with associated TSRs.

29 **Q. What are the combined values of the Companies probability-weighted data center load**
30 **forecasts?**

⁶³ LG&E-KU Resp. to Staff 2-14(a)

1 A. Based on the Companies’ Response to AG-KIUC 1-35 (1/31/2025) and Case No. 2024-
 2 00326 PSC-PH 1 (6/9/2025) forecasts, its probability-weighted low, mid, and high data
 3 center load forecasts are 885 MW, 1,774 MW, and 2,663 MW, respectively (see Table 4;
 4 note that these aggregate values do not correspond to AG-KIUC 1-35 Attachment
 5 because this list includes four additional data center inquiries). For comparison, LG&E-
 6 KU’s 2025 CPCN Load Forecast for economic development in 2032 is 1,870 MW, of
 7 which 1,750 MW corresponds with data centers.

8 **Table 4. LG&E-KU aggregate probability-weighted data center load forecasts**

Opportunity ID	Load (MW)	Sales Phase	Probability Weight			Weighted Load (MW)		
			Low	Mid	High	Low	Mid	High
AGGREGATE	6,305					885	1,774	2,663
2868	350	Prospect	30%	50%	70%	105	175	245
Camp Ground 1/2	402	Imminent	60%	80%	100%	241	322	402
Camp Ground 3	123	Unknown	0%	0%	0%	0	0	0
Project Lincoln 1	100	Prospect	30%	50%	70%	30	50	70
3326	100	Prospect	30%	50%	70%	30	50	70
3603	220	Suspect	5%	20%	35%	11	44	77
3645	500	Suspect	5%	20%	35%	25	100	175
Project Lincoln 2	600	Canceled	0%	0%	0%	0	0	0
3657	200	Prospect	30%	50%	70%	60	100	140
3671	400	Inquiry	0%	10%	20%	0	40	80
3686	30	Inquiry	0%	10%	20%	0	3	6
3741	400	Prospect	30%	50%	70%	120	200	280
3774	500	Suspect	5%	20%	35%	25	100	175
3775	65	Suspect	5%	20%	35%	3	13	23
3782	450	Suspect	5%	20%	35%	23	90	158
3941	550	Prospect	30%	50%	70%	165	275	385
4004	300	Inquiry	0%	10%	20%	0	30	60
4084	400	Inquiry	0%	10%	20%	0	40	80
4094	500	Suspect	5%	20%	35%	25	100	175
4304	50	Suspect	5%	20%	35%	3	10	18
4371	65	Prospect	30%	50%	70%	20	33	46
4372	0	Inquiry	0%	10%	20%	0	0	0

9
 10 Source: Data from LG&E-KU Resp. to AG-KIUC 1-35 and Case No. 2024-00326 LG&E-KU
 11 Resp. to Staff 3-1, Att.
 12

13 **Q. Have the Companies’ reports of the number of data center projects and amount of**
 14 **aggregated peak load remained consistent in the January to June 2025 period?**

1 A. No, see Table 5 and Table 6. LG&E-KU data center queue (or pipeline) appears to
 2 change rapidly, including the withdrawal of Project Lincoln 2 classified as “Suspect” in
 3 LG&E-KU Responses to AG-KIUC 1-33 and AG-KIUC 1-35 provided in March 2025
 4 and JI 3-18 provided June 6, 2025. Per media announcements in early June and the
 5 Companies’ Response to Staff 3-1 in Case No. 2024-00326 on June 9, the developer of
 6 the Project Lincoln (also called Meridian 2) site “has recently announced it does not plan
 7 to proceed with its project at the Meridian 2 site and instead intends to proceed with a
 8 smaller project at the Meridian 1 site.” (See also LG&E-KU Resp. to SC 3-11: “As
 9 recently reported, the OC Data Center is no longer pursuing the Project Meridian 2 site
 10 and intends to return to pursuing the Project Meridian 1 site.”)

11 **Table 5. LGE-KU projects in data center queue**

	Date Information Released	# Queue (All Econ Dev)	# Queue (Data Centers)	# Inquiry Stage	# Suspect Stage	# Prospect Stage	# Imminent Stage	# Announced Stage	# Owner Marketed	# Owned	# Optioned	# LOI/ Contract Pending	# With TSRs	# With Signed EPCs
AG-KIUC 1-35 Attachment	1/31/25		17	4	5	7	1	0					5	
2025 Load Forecast	2/28/25													
Jones Direct	2/28/25													
Bevington Direct	2/28/25													
AG-KIUC 1-33 Attachment	3/31/25	61	18	5	6	6	1	0						
PSC Staff 1-17	4/17/25		18											
PSC Staff 1-18	4/17/25		18	5 (No TSRs)	6 (No TSRs)	6 (2 w/ TSRs; 3 TSRs total)	1 (1 w/ TSR; 2 TSRs total)	0					3 w/ TSRs; 5 TSRs total	
JI 1-7	4/17/25													1
JI 3-18	6/6/25		21	5	7	8	1	0	8	9	3	1		
Case 2024-00326 PSC-PH 1	6/10/25			4	8	3							7	

12

1 **Table 6. LGE-KU aggregated peak load in data center queue**

		(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	
		2032 Forecast (Data Centers)	Queue (All Econ Dev)	Queue (Data Centers)	Inquiry Stage	Suspect Stage	Prospect Stage	Imminent Stage	Announced Stage	Owner Marketed	Owned	Optioned	LOI/ Contract Pending	With TSRs	With Signed EPCs
2024 IRP	Low Load	0													
	Mid Load	1,050													
	High Load	1,750													
AG-KIUC 1-35 Attachment			5,427	790	1,735	2,500	402							1,252	
2025 Load Forecast		1,750													
Jones Direct		1,750	>8,000	>6,000											
Bevington Direct			>8,000	>6,000											
AG-KIUC 1-33 Attachment			8,344	6,017	1,630	1,785	2,200	402	0						
PSC Staff 1-17				>6,000											
PSC Staff 1-18				6,017	1,630	1,785	2,200	402	0					1,252	
JI 1-7															402
JI 3-18				6,182	1,130	2,285	2,365	402	0	2,150	2,382	1,150	500		
Case 2024-00326 PSC-PH 1				6,400	1,030	2,680	965							1,725	

2
3

4 **Q. What is your recommendation for an appropriate methodology for LG&E-KU to use**
 5 **in estimating its expected growth in data center load?**

6 A. For use in LG&E-KU’s CPCN forecasting, I recommend that the Companies employ a
 7 short-term forecast of new data center and other large customer load based on concrete
 8 evidence that there is a high likelihood that such load will actually come online, while
 9 discounting or excluding possible large customer load that is merely speculative or has a
 10 low likelihood of materializing. See Section V.B. in this testimony for a more detailed
 11 recommendation of how to estimate and apply data center probabilities.

12 **Q. Is LG&E-KU’s probability-weighting methodology for estimating expected aggregated**
 13 **data center load reasonable?**

14 A. While the methodology of weighting future loads by estimated probabilities is reasonable
 15 and expected, LG&E-KU’s selected probability weights are not. As a result, the
 16 Companies’ low, mid, and high data center forecasts in AG-KIUC 1-35 are not
 17 reasonable.

1 **Q. Do LG&E-KU’s probability-weighting methodology and assumptions for estimating**
2 **expected aggregated data center load lead to an overestimate or underestimate of**
3 **economic development load?**

4 A. LG&E-KU’s probability-weighting methodology (and assumptions) lead to an
5 overestimate of economic development load for several reasons:

6 (1) The Companies’ low, mid, and high probabilities for each development stage appear
7 to have no basis in data or analysis.

8 (2) The assignment of probabilities is largely generic, attributed to each of the five
9 identified stages of development rather than to specific details of particular data center
10 inquiries.

11 (3) The methodology is unnecessarily opaque. A more transparent methodology would be
12 more useful in the Commission’s decision making.

13 (4) LG&E-KU’s assumptions regarding probabilities have been made without knowledge
14 of the specific type of data center customer. To date, the Companies are primarily
15 fielding inquiries from real estate developers—not data center operators.

16 Below in this testimony I present an alternative methodology for estimating these
17 probability weights.

18 **Q. What are the consequences of overestimating load in a CPCN proceeding?**

19 A. Any overestimation of peak or annual load in a CPCN proceeding may lead to unnecessary
20 investments in new generation and needless costs borne by utility ratepayers.

1 2. *Potential for economic development load*

2 **Q. Does LG&E-KU have a “current list of prospective customers” amounting to 6,000**
3 **MW?**

4 A. In testimony, Witness Jones describes “over 8,000 MW of total economic development load
5 potential based upon the current list of prospective customers, over 6,000 MW of which is
6 related to data centers” (or 5,547 based on AG-KIUC 1-35 Attachment, dated January
7 2025).⁶⁴ This number includes just 402 MW of “high probability”⁶⁵ (that is, “imminent” or
8 “announced”) projects; the remaining 5,145 MW have requested information from the
9 Companies, may have had more than one information exchange with the Companies, or (at
10 most) have had more regular conversations with the Companies that may include some
11 discussion of site selection or costs.⁶⁶

12 **Q. Should LG&E-KU’s queue of 402 MW of high probability projects be interpreted as**
13 **402 MW of load expected for the purposes of this CPCN proceeding?**

14 A. No. The Companies themselves explain the appropriate weighting process for estimating
15 expected load. As shown above in Table 2 and Table 3, the Companies “mid”
16 probabilities method leads to a weighted estimate of 1,774 MW of data center load by
17 2033, assigning a 80 percent probability to one “Imminent” project: the 402 MW Camp
18 Ground Rd. 1 and 2. Eighty percent of 402 MW is 322 MW, or 18 percent of the total
19 forecast (see Table 4 above).

⁶⁴ Jones Direct at 16:4-6.

⁶⁵ LG&E-KU Resp. to Staff 1-18

⁶⁶ LG&E-KU Resp. to Staff 1-18

1 The remaining 1,453 MW of the mid probability forecast using the Companies’
2 methodology comes from projects at the Inquiry, Suspect, and Prospect stages, which are
3 given probability weights of 10 percent, 20 percent, and 50 percent, respectively.

4 **Q. Do you find the Companies’ practice of estimating 82 percent of its data center load**
5 **forecast used in this CPCN proceeding on probability-weighted loads from “inquiry”,**
6 **“suspect”, and “prospect” conversations with potential future customers reasonable?**

7 **A.** No. LG&E-KU expects 1,453 MW out of 1,774 MW (82 percent) in its 2025 CPCN
8 economic development forecast on the basis of meetings, information exchange, and more
9 regular “exchange of information”. I do not find that to be reasonable.

10 **Q. What about the data center projects for which TSRs have been submitted?**

11 **A.** While TSRs have been submitted for a couple of the data centers in the “Prospect” stage, no
12 TSRs have been submitted for the majority of the projects in the Prospect stage or for any
13 projects in the earlier stages.⁶⁷ Regardless, while TSRs might provide a modest suggestion
14 that the project could end up advancing further, even the Companies acknowledge that TSRs
15 do not provide the type of firmer commitments represented by steps like signing an EPC or
16 service contract.⁶⁸

17 **Q. Is your argument that only announced economic development projects or those under**
18 **contract should be included in IRP or CPCN load forecasting?**

19 **A.** No. My objection is to the use of generic, unsupported probability weights to transform
20 5,145 MW of meetings, information exchange, and more regular “exchange of

⁶⁷ LG&E-KU Resp. to Staff 2-18(c).

⁶⁸ AG-KIUC 2-21(e).

1 information” into 1,453 MW of “mid probability” data center growth.

2 LG&E-KU should base their short-term forecast of new data center and other large
3 customer load on concrete evidence that there is a high likelihood that such load will
4 actually come online, while discounting or excluding possible large customer load that is
5 merely speculative or has a low likelihood of materializing. As I discuss in detail below
6 in this testimony, such concrete evidence includes whether the potential new large
7 customer has submitted permit applications, acquired necessary real estate, initiated
8 construction, and entered into contracts for electric service.

9 In the recent White Paper that I co-authored assessing LG&E-KU’s 2024 IRP, we
10 conclude that the Companies “should provide documentation and a clear rationale
11 supporting its high expectations for data centers locating in the territory over the next five
12 years”; that same determination is also my assessment of necessary standards for
13 submitting a load forecast in a CPCN case. Indeed, in a CPCN case, a utilities’ best
14 efforts in forecasting load are essential to demonstrate a need for actual investment in the
15 short run. LG&E-KU’s March 2025 response to intervenor comments extrapolates from
16 our conclusion to reply:

17 To the extent AEC is arguing the Companies should include in their load
18 forecast only announced economic development projects or those under
19 contract, only the Companies’ Low IRP load forecast (zero economic
20 development load) would have been reasonable because, for example, the
21 Camp Ground Road data center project was not announced when the IRP
22 was filed. But an IRP load forecast with zero economic development load
23 would clearly have been too low. But on the other hand, planning for all
24 possible data center projects in the economic development queue (more

1 than 6,000 MW) would almost certainly result in overbuilding
2 generation.⁶⁹

3 To be clear my 2024 IRP assessment did not make a specific recommendation to include
4 only “announced economic development projects or those under contract”. I would also
5 note that while new data center inquiries may be confirmed, so too may “high
6 probability” inquiries be cancelled or significantly reduced in size—Project Lincoln 2 is
7 one example.

8 *3. Industry confidence in U.S. data center load growth*

9 **Q. How confident are U.S. power sector stakeholders in current forecasts of high and**
10 **rapid data center load growth?**

11 A. Black & Veatch’s *2024 Electric Report* summarizes a survey of 700 U.S. power sector
12 stakeholders. When asked how confident the utility is in forecasting data center electric
13 load, 45 percent of respondents answered with “no confidence” or “not very confident,”
14 which Black & Veatch concludes might be “due to the large amount of uncertainty that
15 can come with data center power requests and expectations.”⁷⁰

16 **Q. Is Kentucky part of any “cluster” of data center development?**

17 A. No. The May 2024 EPRI white paper referenced in LG&E-KU Witness Jones’s
18 testimony⁷¹ finds that U.S. data center growth is focused in seven leading geographic
19 areas of development. “Data center development is heavily clustered in a few

⁶⁹ Response of Louisville Gas and Electric Company and Kentucky Utilities Company to Intervenors’ Comments, Case No. 2024-00326, Appendix, Responses to Comments of the Joint Intervenors (Joint Intervenors Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association) at 6 (Mar. 28, 2025).

⁷⁰ Black & Veatch. *2024 Electric Report* at 18 (2024), available at ⁷¹ Jones Direct at 18:1-2, note 24.

⁷¹ Jones Direct at 18:1-2, note 24.

1 counties/cities across the country rather than evenly spread within states, exacerbating
2 power delivery challenges.”⁷² Northern Virginia outpaces all other U.S. clusters in both
3 its current inventory of data centers and its under-construction queue. Kentucky is not
4 among the current or expected clusters highlighted by EPRI. (CBRE⁷³ and Cushman &
5 Wakefield⁷⁴ present similar findings, also without mention of Kentucky as established or
6 emerging area of data center development. See also a recent analysis by Quanta
7 Technology and 2024 survey conducted by EPRI.⁷⁵)

8 **Q. Is there doubt among industry experts that many inquiries into data center locations**
9 **or even proposed data centers may not materialize?**

10 A. Yes. My review of industry reports, regulatory testimony, and expert-driven news
11 analysis revealed numerous specific concerns regarding the likelihood of data center
12 inquiries maturing into operational data centers:

- 13 1. **Power infrastructure bottlenecks:** Limited capacity to access the power grid is a
14 critical barrier as data centers require massive, reliable electricity supply.⁷⁶
- 15 2. **Interconnection delays:** Delays in connecting to the grid or securing transmission
16 capacity can halt or slow projects.⁷⁷

⁷² EPRI, *Powering Intelligence: Analyzing Artificial Intelligence and Data Center Energy Consumption*, at 27 (May 28, 2024), available at <https://www.epri.com/research/products/3002028905> (“EPRI Powering Intelligence Report”).

⁷³ CBRE, *Global Data Center Trends 2024* (Jun. 24, 2024), available at <https://www.cbre.com/insights/reports/global-data-center-trends-2024>

⁷⁴ Cushman & Wakefield, *2025 Global Data Center Market Comparison* (May, 2025), available at <https://cushwake.cld.bz/globaldatacentermarketcomparison-05-2025-global-central-en-content/>.

⁷⁵ Quanta Technology, *Forecasting Data Center Loads*, <https://quanta-technology.com/project-examples/data-center-projects/forecasting-data-center-loads/>; EPRI, *Utility Experiences and Trends Regarding Data Centers: 2024 Survey*, available at <https://www.epri.com/research/products/000000003002030643>.

⁷⁶ Matt Vincent, “New IEA Report Contrasts Energy Bottlenecks with Opportunities for AI and Data Center Growth,” *Data Center Frontier* (April 23, 2025), <https://www.datacenterfrontier.com/machine-learning/article/55285268/new-iea-report-contrasts-energy-bottlenecks-with-opportunities-for-ai-and-data-center-growth>; Vivian Lee, et al., “Breaking Barriers to Data Center Growth,” *Boston Consulting Group* (Jan. 20, 2025), <https://www.bcg.com/publications/2025/breaking-barriers-data-center-growth>; Jones Lang LaSalle (JLL), *2025 Data Center Outlook*, <https://www.jll.com/en-us/insights/data-center-outlook>.

⁷⁷ Matt Vincent, “New IEA Report Contrasts Energy Bottlenecks with Opportunities for AI and Data Center Growth,” *Data Center Frontier* (April 23, 2025), <https://www.datacenterfrontier.com/machine->

- 1 3. **Supply chain constraints:** Shortages or delays in critical equipment can delay
2 construction and increase costs.⁷⁸
- 3 4. **Rising construction costs:** Increased costs for materials, labor and financing may
4 delay or derail projects.⁷⁹
- 5 5. **Capital market volatility:** Uncertainty or tightening in financial markets can reduce
6 available funding and increase project risk.⁸⁰
- 7 6. **Regulatory uncertainty:** Changing or unclear regulations at local, state, or federal
8 levels create uncertainty and can delay approvals.⁸¹
- 9 7. **Utility forecast flaws:** Inaccurate load forecasts can lead to misaligned infrastructure
10 and project delays.⁸²
- 11 8. **Changing large load rules:** New or revised state utility regulations specifically
12 targeting large energy users such as data centers can introduce uncertainty.⁸³
- 13 9. **Community concerns over resource use:** Local opposition to increased water, land,
14 or energy use can slow or block projects.⁸⁴
- 15 10. **Concern about environmental impacts:** Public and regulatory scrutiny over
16 emissions, water use, and other environmental effects can lead to stringent
17 requirements or denial of projects.⁸⁵
- 18 11. **Land use conflicts:** Zoning disputes or competition with other land uses can prevent
19 development or delay site selection.⁸⁶
- 20 12. **Stranded cost risk:** Concerns that infrastructure investments may become obsolete
21 or underutilized can deter investment.⁸⁷
- 22 13. **Reliability and ratepayer concerns:** Public and regulatory pushbacks over potential
23 reliability issues or cost impacts on ratepayers can slow or halt projects.⁸⁸

[learning/article/55285268/new-ica-report-contrasts-energy-bottlenecks-with-opportunities-for-ai-and-data-center-growth](https://www.ftidelta.com/insights/perspectives/current-power-trends-and-implications-for-the-data-center-industry); Chris Post, et al., “Current Power Trends and Implications for the Data Center Industry,” *FTI Delta* (June 27, 2024), <https://www.ftidelta.com/insights/perspectives/current-power-trends-and-implications-for-the-data-center-industry>

⁷⁸ Matt Vincent, “New IEA Report Contrasts Energy Bottlenecks with Opportunities for AI and Data Center Growth,” *Data Center Frontier* (April 23, 2025); Juan Pedro Tomas, “Top AI Data Center Power Trends,” *RCR Wireless* (March 28, 2025), <https://www.rcrwireless.com/20250328/fundamentals/top-ai-datacenter-power>.

⁷⁹ Vivian Lee, et al., “Breaking Barriers to Data Center Growth,” *Boston Consulting Group* (Jan. 20, 2025), <https://www.bcg.com/publications/2025/breaking-barriers-data-center-growth>; McKinsey Quarterly, “The Cost of Compute: A \$7 Trillion Race to Scale Data Centers,” *McKinsey & Company* (April 28, 2025), <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-cost-of-compute-a-7-trillion-dollar-race-to-scale-data-centers>.

⁸⁰ McKinsey Quarterly, “The Cost of Compute: A \$7 Trillion Race to Scale Data Centers,” *McKinsey & Company* (April 28, 2025); Jones Lang LaSalle (JLL), 2025 Data Center Outlook.

⁸¹ Vivian Lee, et al., “Breaking Barriers to Data Center Growth,” *Boston Consulting Group* (Jan. 20, 2025); Chris Post, et al., “Current Power Trends and Implications for the Data Center Industry,” *FTI Delta* (June 27, 2024).

⁸² *Id.*

⁸³ *Id.*

⁸⁴ Vivian Lee, et al., “Breaking Barriers to Data Center Growth,” *Boston Consulting Group* (Jan. 20, 2025).

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ McKinsey Quarterly, “The Cost of Compute: A \$7 Trillion Race to Scale Data Centers,” *McKinsey & Company* (April 28, 2025).

⁸⁸ Vivian Lee, et al., “Breaking Barriers to Data Center Growth,” *Boston Consulting Group* (Jan. 20, 2025).

- 1 14. **Insufficient renewable energy:** Lack of available or affordable renewable energy
2 options can block projects with sustainability commitments.⁸⁹
- 3 15. **Cooling and efficiency requirements:** Unmet or complex requirements increase
4 barriers; for instance, concerns regarding water availability.⁹⁰
- 5 16. **Public opposition to fossil fuels:** Community resistance to new fossil fuel plants that
6 may support data centers can delay or block projects.⁹¹
- 7 17. **Project cancellation or withdrawals:** Large load customers may be in conversations
8 with multiple utilities and cancel projects if better options arise elsewhere.⁹²
- 9 18. **Cost and delay in construction new gas-fired plants:** Utilities relying on new gas-
10 fired plants may face delays and cost increases—making them less attractive to large
11 customers, especially clean energy commitments.⁹³
- 12 19. **Uncertainty in AI demand and business models:** If AI investments do not yield
13 profits, demand for computing power could decrease.⁹⁴ In addition, increased
14 efficiency of servers and other equipment, as well as AI algorithms over time may
15 lead to lower load requirements over time.⁹⁵
- 16 20. **Economic downturn:** Worsening economic conditions can stifle new investments
17 and slow growth.⁹⁶
- 18 21. **Increases in tariff and electricity costs:** Rising costs for electricity and construction
19 can make projects less attractive.⁹⁷
- 20

⁸⁹ Vivian Lee, et al., “Breaking Barriers to Data Center Growth,” *Boston Consulting Group* (Jan. 20, 2025).

⁹⁰ Nicoletti, L., Ma, M., Bass, D. May 8, 2025. “AI Is Draining Water From Areas That Need It Most.” *Bloomberg*. Available at: <https://www.bloomberg.com/graphics/2025-ai-impacts-data-centers-water-data/>

⁹¹ Fisher, P. 2024. “As Internet Data Centers Multiply, Opposition to Them Grows.” *MIT Sloan School of Management*. Available at: <https://fisherp.mit.edu/wp-content/uploads/2024/05/As-internet-data-centers-multiply-opposition-to-them-grows-The-Boston-Globe.pdf>

⁹² Roumpani, M. 2025. *Direct Testimony of Maria Roumpani, PhD*. Testimony to Georgia Public Service Commission on behalf of Georgia Conservation Voters, Docket Nos. 56002, 56003. Available at: <https://psc.ga.gov/search/facts-document/?documentId=222501>

⁹³ Roumpani, M. 2025. *Direct Testimony of Maria Roumpani, PhD*. Testimony to Georgia Public Service Commission on behalf of Georgia Conservation Voters, Docket Nos. 56002, 56003. p.17.

⁹⁴ Roumpani, M. 2025. *Direct Testimony of Maria Roumpani, PhD*. Testimony to Georgia Public Service Commission on behalf of Georgia Conservation Voters, Docket Nos. 56002, 56003. p.17.

⁹⁵ Morgan, K., et al., *Potential impacts of DeepSeek on datacenters and energy demand*, S&P Global (Feb. 27, 2025), <https://www.spglobal.com/market-intelligence/en/news-insights/research/potential-impacts-of-deepseek-on-datacenters-and-energy-demand>. As noted by S&P, while the data center industry “is more flexible now, and can respond to overcapacity fairly quickly and stop building, although top builders may lose some money,” “[t]he same cannot be said for large-scale power plants, though, with their much longer time horizons.”

⁹⁶ Roumpani, M. 2025. *Direct Testimony of Maria Roumpani, PhD*. Testimony to Georgia Public Service Commission on behalf of Georgia Conservation Voters, Docket Nos. 56002, 56003. p.17.

⁹⁷ Roumpani, M. 2025. *Direct Testimony of Maria Roumpani, PhD*. Testimony to Georgia Public Service Commission on behalf of Georgia Conservation Voters, Docket Nos. 56002, 56003. p.17.

1 **Table 7 - Alternative data center likelihood criteria and scores**

Criteria for Likelihood of Data Center Operation	Maximum Score	LG&E-KU Data Center Inquiries																					
		2868	CG 1/2	CG 3	PL 1	3326	3603	3645	PL 2	3657	3671	3686	3741	3774	3775	3782	3941	4004	4084	4094	4304	4371	4372
TOTAL SCORE	100%	8%	16%	12%	8%	12%	4%	0%	8%	4%	4%	4%	4%	4%	4%	0%	4%						
1. Submitted Transmission Service Request	4%	4%	4%	4%	4%	4%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2. Signed Engineering Letter of Authorization ^a	4%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3. Signed a Contract for Electric Service ^b	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4. Signed Construction Letter of Authorization ^c	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
5. Signed commitment by the developer to build the facility ^d	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6. Signed commitment making the developer accountable for all monies spent if the project is canceled ^e	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7. Signed committed by the developer to a cost-recovery structure and revenue requirements irrespective of whether the customer takes service ^f	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
8. Signed commitment to construct on-site backup generating or storage facilities and allow the utility, after reasonable notice, to deploy the customer's on-site backup systems ^g	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
9. Signed financial commitments from the developer including engineering and infrastructure costs associated with connection to the system ^h	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10. Signed disclosure to the utility of whether the customer is pursuing a duplicate request for electric service, inside or outside this state, the approval of which would result in the customer materially changing or withdrawing the interconnection request ⁱ	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
11. Signed disclosure to the utility of developer's project-specific failure risk assessments, including outstanding zoning issues, lack of firm site plan from the customer, technical issues related to electric service, company maturity, customer commitments, and permits acquired ^j	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
12. Construction of the facility has begun ^k	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
13. Construction of associated infrastructure to serve the new facility has begun ^l	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
14. Demonstrate that land has been acquired ^m	4%	4%	4%	4%	0%	4%	4%	0%	0%	4%	4%	4%	4%	4%	4%	0%	4%	4%	4%	4%	4%	4%	4%
15. Demonstrate that project is adjacent to transmission ⁿ	4%	0%	4%	4%	4%	4%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
16. Demonstrate commercial viability ^o	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
17. Demonstrate that developer is a hyperscaler (seven largest or fastest growing companies) or at least not a collocator ^p	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
18. Demonstrate that project's description is based on market intelligence and customer-supplied information ^q	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
19. Demonstrate that project load based on customer provided forecasts together with an external review of forecasting accuracy ^r	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
20. Demonstrate that project has been assessed by a third-party expert as feasible ^s	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
21. Demonstrate high likelihood that facility will locate in-state ^t	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
22. Demonstrate high likelihood that facility will locate in LG&E-KU territory ^u	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
23. Demonstrate high likelihood that a cluster of future data center loads will likely develop near this facility ^v	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
24. Demonstrate high likelihood of facility reaching commercial operation ^w	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
25. Demonstrate high likelihood that there will be no delay in commercial operation date ^x	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

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1

2

V. STEPS TO PROTECT CURRENT RATEPAYERS

3

A. The Companies should work with data center developers to evaluate demand-side options

4

5 **Q. To what degree does LG&E-KU expect new data center load to be required at peak?**

6 A. The Companies assume for the new economic development load to have “very high load
7 factors” of 95 percent for data centers and 90 percent for BOSK.⁹⁸ As I discuss above in
8 Section IV.C, this and other assumptions have been made by the real estate developers
9 without knowledge of a specific (prospective) data center operator.

10 **Q. Are data centers able to reduce their energy consumption needs through energy
11 efficiency and/or demand response?**

12 A. Yes. Despite the reportedly high load factors, data centers are able to improve their
13 operational efficiency and flexibility by investing in energy efficiency and/or demand
14 response measures and programs. In its 2024 white paper, EPRI notes that energy
15 efficiency should be a key consideration at data centers as a method to reduce overall
16 electric consumption.⁹⁹ EPRI highlights the potential for data centers to adopt advanced
17 cooling technologies to reduce electric demand, noting that “traditional cooling methods
18 are energy-intensive, composing around 35% of data center electricity use.”¹⁰⁰

⁹⁸ Jones Direct at 4:8-10 and 12:5-7.

⁹⁹ EPRI Power Intelligence Report at 18-20.

¹⁰⁰ *Id.* at 19.

1 **Q. What efforts has LG&E-KU made to provide real estate developers and others making**
2 **inquiries regarding electric service for hypothetical data centers with options for peak**
3 **demand reductions?**

4 A. In testimony, Witness Bevington states that so-called “data center developers” are not
5 interested in demand-side savings programs or curtailable service offerings:

6 To the contrary, my experience with data center developers is that these
7 customers are seeking uninterrupted service. TSR applications that have
8 been submitted confirm industry reports and show an average load factor
9 in the 95% range.¹⁰¹

10 When asked in discovery what demand-side or curtailable service products and programs
11 were offered by the Companies to those inquiring about data center development, the
12 Companies responded that they “have not at this time had any requests from data center
13 projects about DSM-EE programs.”¹⁰² Asked “[w]hen a proposed data center or other
14 potential large load customer contacts LG&E-KU regarding new service, does LG&E-
15 KU present such prospective customers with information regarding DSM programs
16 and/or curtailable services?” the Companies explained that they do not discuss measures
17 to reduce or shift peak demand with prospective large load customers:

18 The Companies are working to provide the best service possible to data
19 centers and all prospects and projects as they consider locating in the
20 Companies’ service territories. The Companies do not discuss DSM,
21 curtailable service, or energy efficiency programs at a particular stage in
22 the economic development process. If information about DSM programs
23 is an important consideration of the project’s consideration, the Companies
24 will absolutely share information about DSM and other programs that are
25 available. In the Companies’ experience, data center projects are primarily

¹⁰¹ Bevington Direct at 14:15-19.

¹⁰² LG&E-KU Resp. to JI 1-130(b).

1 concerned with access to transmission and generation capacity and the
2 speed at which the Companies can assist with those considerations.¹⁰³

3
4 In fact, the Companies confirmed in response to discovery that they have not taken any
5 affirmative steps to recommend to potential data center customers curtailable or
6 interruptible service, standby on-site generation, behind the meter generation,
7 participation in energy efficiency programs, or any other approaches to offset needed
8 capacity in the absence of such customers proactively asking about or expressing interest
9 in such items.¹⁰⁴

10 **Q. Are data centers capable of participating in DSM-EE programs?**

11 A. Yes. Although LG&E-KU have claimed that those inquiring about data center
12 development are not interested in DSM-EE programs, data centers are seen as a
13 “promising area for demand response”—as identified in a 2025 report by Duke
14 University’s Nicholas Institute for Energy, Environment, and Sustainability.¹⁰⁵ Onsite
15 backup power, for example, creates the possibility for significant flexibility in
16 development of data centers including turning them into a grid asset, rather than purely
17 passive load. Despite this potential, the 2025 Duke report recognizes that data centers
18 have had low participation in demand response programs:

19 [D]ata centers have historically exhibited low participation rates in
20 demand response programs as a result of operational priorities and
21 economic incentives.¹⁰⁶

¹⁰³ LG&E-KU Resp. to JI 2-2.

¹⁰⁴ LG&E-KU Resp. to JI 3-21.

¹⁰⁵ Norris, T.H. et al. February 2025. *Rethinking Load Growth: Assessing the Potential for Integration of Large Flexible Loads in US Power Systems*. Nicholas Institute for Energy, Environment & Sustainability, Duke University. Available at: <https://nicholasinstitute.duke.edu/publications/rethinking-load-growth-p.9>.

¹⁰⁶ *Id.*

1 The 2025 Duke report goes on to highlight that current demand response programs were
2 not structured with data centers in mind:

3 Existing demand response program designs may inadvertently discourage
4 participation. Many programs were originally created with traditional
5 industrial consumers in mind, with different incentives and operational
6 specifications.¹⁰⁷

7

8 **Q. What should the Commission require of the Companies with respect to data center
9 commitments to investment in demand-side measures?**

10 A. I recommend that the Commission require the Companies to affirmatively demonstrate
11 that back-up generation, back-up storage, energy efficient equipment, and demand
12 response functionality have been offered and/or explored with prospective data center
13 customers, and are either represented in projects plans, are infeasible, or the customers
14 are unwilling to enter such contracts. Further, I recommend that the Commission require
15 the Companies to review and revise current demand response programs to adapt them to
16 the use of data centers and other large load customers.

17 ***B. The Companies should provide a more robust and better documented probability
18 assessment of prospective data center load***

19 **Q. What recommendations do you have regarding an improved framework for evaluating
20 data center inquiry probabilities and estimating expected additions to load?**

21 A. I recommend that the Commission require that the Companies use the following
22 principles in evaluating data center inquiry probabilities and estimating expected
23 additions to load:

¹⁰⁷ *Id.*

- 1 (1) Develop probability weights based on evidence, data, and analysis, and submit together
2 with material evidence demonstrating the data center inquiries' status by criteria when
3 used as evidence of "need" in a CPCN.
- 4 (2) Assign probability weights based on the specific details of each particular data center
5 inquiry.
- 6 (3) Provide a transparent methodology with transparent assumptions made available to the
7 Commission and stakeholders.
- 8 (4) Account for the difference in project likelihood between inquiries from real estate
9 developers and inquiries from data center operators.

10 **Q. Have you developed an illustrative alternative probability weighting framework of**
11 **LG&E-KU's expected data center load for use in this CPCN proceeding?**

12 A. Yes. My illustrative alternative probability weighting framework relies on real-world
13 examples and recommendations to identify 25 factors that can add to (or take away from)
14 data center operation likelihood. These sources consist of regulatory filings, utility
15 planning documents, and industry reports. Key examples include: docket materials from
16 the Virginia State Corporation Commission; the 2025 Georgia Power IRP; utility memos
17 from NOVEC and Dominion Energy; a K&L Gates summary of Texas Senate Bill 6;
18 forecasting research from EPRI; and proprietary assessment approaches based on work
19 by Quanta Technology. (Complete citations by criteria are listed in Stanton workpapers.)

20 **Q. What 25 criteria contribute to data center operation likelihood?**

21 A. The 25 criteria for data center likelihood, along with accompanying sources, are listed in
22 Table 7.

1 Each criterion is evidence-based, project-specific, and requires the submission of
2 background materials demonstrating whether the data center inquiry passes or fails the
3 criterion.

4 The 25 pass/fail criteria used in this alternative illustrative example framework are as
5 follows (full citations are provided in with Table 7):

- 6 1. Submitted Transmission Service Request
- 7 2. Signed Engineering Letter of Authorization
- 8 3. Signed a Contract for Electric Service
- 9 4. Signed Construction Letter of Authorization
- 10 5. Signed commitment by the developer to build the facility
- 11 6. Signed commitment making the developer accountable for all monies spent if the
12 project is canceled
- 13 7. Signed commitment by the developer to a cost-recovery structure and revenue
14 requirements irrespective of whether the customer takes service
- 15 8. Signed commitment to construct on-site backup generating or storage facilities and
16 allow the utility, after reasonable notice, to deploy the customer's on-site backup
17 systems
- 18 9. Signed financial commitments from the developer including engineering and
19 infrastructure costs associated with connection to the system
- 20 10. Signed disclosure to the utility of whether the customer is pursuing a duplicate
21 request for electric service, inside or outside this state, the approval of which would
22 result in the customer materially changing or withdrawing the interconnection request
- 23 11. Signed disclosure to the utility of developer's project-specific failure risk
24 assessments, including outstanding zoning issues, lack of firm site plan from the
25 customer, technical issues related to electric service, company maturity, customer
26 commitments, and permits acquired
- 27 12. Construction of the facility has begun
- 28 13. Construction of associated infrastructure to serve the new facility has begun
- 29 14. Demonstrate that land has been acquired
- 30 15. Demonstrate that project is adjacent to transmission
- 31 16. Demonstrate commercial viability
- 32 17. Demonstrate that developer is a hyperscaler (seven largest or fastest growing
33 companies) or at least not a collocator
- 34 18. Demonstrate that project's description is based on market intelligence and customer-
35 supplied information

- 1 19. Demonstrate that project load is based on customer provided forecasts together with
- 2 an external review of forecasting accuracy
- 3 20. Demonstrate that project has been assessed by a third-party expert as feasible
- 4 21. Demonstrate high likelihood that facility will locate in-state
- 5 22. Demonstrate high likelihood that facility will locate in LG&E-KU territory
- 6 23. Demonstrate high likelihood that a cluster of future data center loads will likely
- 7 develop near this facility
- 8 24. Demonstrate high likelihood of facility reaching commercial operation
- 9 25. Demonstrate high likelihood that there will be no delay in commercial operation date

10
11 **Q. How are scores assigned in this framework?**

- 12 A. Each criterion is pass/fail (yes or no). Evidence of a yes receives a 4 percentage point
- 13 score; lack of evidence receives a 0 percentage point score. Together, evidence of a yes
- 14 for every criteria adds up to a 100 percent probability weight to be applied to (i.e.
- 15 multiplied by) the data center inquiries' expected peak load to calculate an aggregate
- 16 probability-weighted load. While a more complex system of applying differing weights to
- 17 each criteria is possible, I do not recommend it. In the absence of a specific data-driven
- 18 rationale for weighting some criteria more heavily than others, the simplest approach—
- 19 equal weighting—is the more defensible, and more transparent, methodology.

20 **Q. What scores do each of LG&E-KU's 22 current data center inquiries receive under**

21 **this illustrative alternative weighting framework?**

- 22 A. Based on the limited information available to me in this docket I have tentatively
- 23 assigned probability weights to each of the Companies' 22 current data center inquiries as
- 24 shown above in **Table 7**. Two receive a 0 percent weight; the most common weight is 4
- 25 percent. Others receive an 8 to 12 percent weight, while Camp Ground Rd. 1 and 2
- 26 receive the highest weight: 16 percent. In all likelihood, probability weights for many
- 27 inquiries would increase somewhat with the inclusion of the

1 full set of information at LG&E-KU’s disposal. The interim step of showing probability-
 2 weighted loads for each project shown below, however, should not be mistaken for a
 3 derating of the projects’ load or a prediction of an individual project’s expected load in
 4 the future. Instead, probability weighting of loads (both in my illustrative alternative
 5 framework and in the system presented in AG-KIUC 1-35 Attachment) are only
 6 meaningful in the aggregate: They provide a forecast of combined loads, not of individual
 7 project loads.

8 **Q. What aggregate data center load forecast does this illustrative alternative weighting**
 9 **framework produce?**

10 A. From 6,305 MW of total inquiries, this illustrative alternative weighting framework
 11 (based on the limited information available to me in this docket) produces a probability-
 12 weighted data forecast of 322 MW from LG&E-KU’s 22 current inquiries (see Table 8).

13 **Table 8. Alternative probability-weighted data forecast**
 14

	LG&E-KU Data Center Inquiries											Aggregate Load (MW)
	2868	CG 1/2	CG 3	PL 1	3326	3603	3645	PL 2	3657	3671	3686	
Load (MW)	350	402	123	100	100	220	500	600	200	400	30	6,305
TOTAL SCORE	8%	16%	12%	8%	12%	4%	0%	8%	4%	4%	4%	
Probability Weighted Load (MW)	28	64	15	8	12	9	0	48	8	16	1	
	3741	3774	3775	3782	3941	4004	4084	4094	4304	4371	4372	
Load (MW)	400	500	65	450	550	300	400	500	50	65	0	6,305
TOTAL SCORE	4%	4%	4%	0%	4%	4%	4%	4%	4%	4%	4%	
Probability Weighted Load (MW)	16	20	3	0	22	12	16	20	2	3	0	322

1 **Q. Is this calculation of an aggregate 322 MW of probability-weighted data center load**
2 **presented as a substitute for the forecast used in LG&E-KU’s 2025 CPCN?**

3 A. No. My purpose is rather to present an alternative, more nuanced and more transparent,
4 but still simple to implement methodology for assigning probability weights to data
5 center inquiries. The illustrative estimate of 322 MW is naturally hampered by my
6 incomplete access to the Companies’ collection of materials documenting data center
7 inquiries evolution to firm sources of load. That being said, this value is suggestive of the
8 scale of LG&E-KU’s overestimation of near-future data center loads in its 2025 CPCN
9 Application.

10 **VI. RECOMMENDATIONS AND CONCLUSION**

11 **Q. Please summarize your findings for the Kentucky Public Service Commission.**

12 A. My central findings are as follows:

- 13 1. Kentucky’s efforts to attract new loads are not specific to LG&E-KU’s territory
14 and do not represent evidence of firm loads sufficient to risk ratepayer funds for
15 new capacity investments. Other states have enacted similar tax policies or other
16 benefits to attempt to draw data centers.
- 17 2. No developers of “hyperscaler” data centers appear to be focusing plans for
18 growth on Kentucky. LG&E-KU’s data center inquiries in the queue appear to be
19 primarily “colocator” facilities—data centers built by a real estate developer to
20 lease space to data center operating companies. Colocators are attempting to build
21 a data center-appropriate landing spot, speculatively, in hopes that having built it,
22 they will come.

- 1 3. No LG&E-KU data center inquiry has reached the ultimate “announced”
2 development stage of the Companies’ queue; only one prospective project (Camp
3 Ground Rd. 1 and 2) has reached the “imminent” stage. The Companies’ largest
4 data center inquiry (Project Lincoln 2) recently retracted its plans to build and
5 instead announced plans to move forward at different site and smaller scale.
- 6 4. Kentucky Utilities reportedly has privately stated to the developer that it has
7 sufficient capacity to meet the Project Lincoln’s energy demands without need for
8 additional capacity; and a related economic development reports states that
9 Project Lincoln will include investment in on-site battery storage, potentially
10 lowering its peak load requirements.
- 11 5. LG&E-KU-assigned probability weights for forecasting data center load are not
12 the direct basis for the Companies’ 2025 CPCN economic development load
13 forecast. Instead, that forecast appears to be based on the Companies’ best
14 judgement and falls somewhere in between its mid probability forecast and a
15 forecast showing only inquiries with associated TSRs.
- 16 6. LG&E-KU’s probability-weighting analysis for estimating expected aggregated
17 data center load is not reasonable. While the methodology of weighting future
18 loads by estimated probabilities is reasonable and expected, LG&E-KU’s selected
19 probability weights are not. As a result, the Companies’ low, mid, and high
20 probability data center forecasts in AG-KIUC 1-35 Attachment are not
21 reasonable.
- 22 7. LG&E-KU’s probability-weighting methodology (and assumptions) lead to an
23 overestimate of economic development load for several reasons:

- 1 • The Companies’ low, mid, and high probabilities for each
2 development stage appear to have no basis in data or analysis.
- 3 • The assignment of probabilities is largely generic, attributed to
4 each of the five identified stages of development rather than to
5 specific details of particular data center inquiries.
- 6 • The methodology is unnecessarily opaque. A more transparent
7 methodology would be more useful in the Commission’s decision
8 making.
- 9 • LG&E-KU’s assumptions regarding probabilities have been made
10 without knowledge of the specific type of data center customer. To
11 date, the Companies are fielding inquiries primarily from real
12 estate developers—not data center operators.
- 13 8. Any overestimation of peak or annual load in a CPCN proceeding may lead to the
14 Commission’s approval of unnecessary investments in new generation and
15 needless costs borne by utility ratepayers.
- 16 9. LG&E-KU’s current list of 5,547 MW of prospective customers (per AG-KIUC
17 1-35 Attachment) includes just 402 MW of so-called “high probability” projects;
18 the remaining 5,145 MW have requested information from the Companies, may
19 have had more than one information exchange with the Companies, or (at most)
20 have had more regular conversations with the Companies that may include some
21 discussion of site selection or costs.
- 22 10. LG&E-KU’s queue of 402 MW of high probability projects cannot be interpreted
23 as 402 MW of load expected for the purposes of this CPCN proceeding. The

1 Companies “mid” probabilities lead to a weighted estimate of 1,774 MW of data
2 center load by 2033, assigning an 80 percent probability to one “Imminent”
3 project: the 402 MW Camp Ground Rd. 1 and 2. The remaining 1,453 MW of the
4 Companies’ mid probability forecast comes from projects at the Inquiry, Suspect,
5 and Prospect stage, which are given probability weights of 10 percent, 20 percent,
6 and 50 percent, respectively.

7 11. The Companies’ approach of estimating 82 percent of its data center load forecast
8 used in this CPCN proceeding on probability-weighted loads from “inquiry”,
9 “suspect”, and “prospect” conversations with potential future customers is not
10 reasonable. LG&E-KU expects 1,453 MW out of 1,774 MW (82 percent) in its
11 2025 CPCN economic development forecast on the basis of meetings, information
12 exchange, and more regular “exchange of information”, and some limited number
13 of TSRs.

14 12. Expert market analysis finds that U.S. data center growth is focused in seven
15 leading geographic areas of development. Kentucky is not among the current or
16 expected clusters identified.

17 13. In a recent survey of U.S. power sector stakeholders, confidence in utility
18 forecasting of data center electric load was low: 45 percent of respondents
19 answered with “no confidence” or “not very confident”. Review of industry
20 reports, regulatory testimony, and expert-driven news analysis revealed numerous
21 specific concerns regarding the likelihood of data center inquiries maturing into
22 operational data centers.

1 14. LG&E-KU have claimed that those inquiring about data center developers are not
2 interested in demand-side programs. In response to additional information
3 requests, however, it appears that LG&E-KU does not initiate discussion of
4 demand-side measures with prospective real estate or data center developers.

5 **Q. Please summarize your recommendations for the Kentucky Public Service**
6 **Commission.**

7 A. My recommendations to the Commission are as follows:

8 (1) For use in LG&E-KU's CPCN forecasting, I recommend that the Companies employ a short-
9 term forecast of new data center and other large customer load based on concrete evidence
10 that there is a high likelihood that such load will actually come online, while discounting or
11 excluding possible large customer load that is merely speculative or has a low likelihood of
12 materializing.

13 (2) I recommend that the Commission require the Companies to affirmatively demonstrate that
14 back-up generation, back-up storage, energy efficient equipment, and demand response
15 functionality have been offered and/or explored with prospective data center customers, and
16 are either represented in projects plans, are infeasible, or the customers are unwilling to enter
17 such contracts.

18 (3) Further, I recommend that the Commission require the Companies to review and revise
19 current demand response programs to adapt them to the use of data centers and other large
20 load customers.

21 (4) I recommend that the Commission require the Companies to use the following principles in
22 evaluating data center inquiry probabilities and estimating expected additions to load:

- 1 a. Develop probability weights based on evidence, data, and analysis, and
2 submit together with material evidence demonstrating the data center
3 inquiries' status by criteria when used as evidence of "need" in a CPCN.
4 b. Assign probability weights based on the specific details of each particular data
5 center inquiry.
6 c. Provide a transparent methodology with transparent assumptions made
7 available to the Commission and stakeholders.
8 d. Account for the difference in project likelihood between inquiries from real
9 estate developers and inquiries from data center operators.

10 (5) Finally, I provide an illustrative alternative probability weighting framework that relies on
11 real-world examples and recommendations to identify 25 factors that can add to (or take
12 away from) data center operation likelihood.

13 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

14 A. Yes.

VERIFICATION

The undersigned, Elizabeth A. Stanton being first duly sworn, deposes and says that she has personal knowledge of the matters set forth in the foregoing testimony and that the information contained therein is true and correct to the best of her information, knowledge, and belief, after reasonable inquiry.

Elizabeth Stanton

Subscribed and sworn to before me by ELIZABETH STANTON this 13TH day of JUNE, 2025.

M^o
Notary Public

My commission expires: APRIL 22, 2026



EXHIBIT EAS-1

Elizabeth A. Stanton, PhD Résumé

Elizabeth A. Stanton, Ph.D., Executive Director and Principal Economist

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PROFESSIONAL EXPERIENCE

Applied Economics Clinic, Boston, MA. *Executive Director and Principal Economist*, February 2017 – Present.

The Applied Economics Clinic provides technical expertise to public service organizations working on topics related to the environment, consumer rights, the energy sector, and community equity. Dr. Stanton is the Founder and Director of the Clinic (www.aeclinic.org).

Liz Stanton Consulting, Arlington, MA. *Independent Consultant*, August 2016 – January 2017.

Providing consulting services on the economics of energy, environment and equity.

Synapse Energy Economics Inc., Cambridge, MA. *Principal Economist*, 2012 – 2016.

Consulted on issues of energy economics, environmental impacts, climate change policy, and environmental externalities valuation.

Stockholm Environment Institute - U.S. Center, Somerville, MA. *Senior Economist*, 2010–2012; *Economist*, 2008 – 2009.

Wrote extensively for academic, policy, and general audiences, and directed studies for a wide range of government agencies, international organizations, and nonprofit groups.

Global Development and Environment Institute, Tufts University, Medford, MA. *Researcher*, 2006– 2007.

Political Economy Research Institute, University of Massachusetts-Amherst, Amherst, MA. *Editor and Researcher – Natural Assets Project*, 2002 – 2005.

Center for Popular Economics, University of Massachusetts-Amherst, Amherst, MA. *Program Director*, 2001 – 2003.

EDUCATION

University of Massachusetts-Amherst, Amherst, MA

Doctor of Philosophy in Economics, 2007

New Mexico State University, Las Cruces, NM

Master of Arts in Economics, 2000

School for International Training, Brattleboro, VT

Bachelor of International Studies, 1994

AFFILIATIONS

Global Development and Environment Institute, Tufts University, Medford, MA.

Senior Fellow, Visiting Scholar, 2007 – 2020

PAPERS AND REPORTS

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the Earth. [\[Online\]](#)

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TEACHING EXPERIENCE

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Adjunct Professor, Department of Economics, 2003 – 2006, 2020

Tufts University, Medford, MA

Adjunct Professor, Department of Urban Environmental Policy and Planning, 2007, 2017, 2018

College of New Rochelle, New Rochelle, NY

Assistant Professor, Department of Social Sciences, 2007 – 2008

Fitchburg State College, Fitchburg, MA

Adjunct Professor, Social Sciences Department, 2006

Castleton State College and the Southeast Vermont Community Learning Collaborative, Dummerston, VT

Adjunct Professor, 2005

School for International Training, Brattleboro, VT

Adjunct Professor, *Program in Intercultural Management, Leadership, and Service*, 2004

CV dated April 2025

EXHIBIT EAS-2

**Camp Ground Road March 24, 2025
Development Plan Letter of Explanation**



Legal Counsel.

DINSMORE & SHOHL LLP
101 S. Fifth St., Suite 2500
Louisville, KY 40202
www.dinsmore.com

Clifford H. Ashburner
(502) 540-2382 (direct) · (502) 581-8111 (fax)
Clifford.Ashburner@DINSMORE.COM

March 24, 2025

Customer Service
Planning and Design Services
444 S. Fifth Street, Suite 300
Louisville, KY 40202

***Re: 5355, 5013, 5307 Campground Road
3803 Shanks Lane and additional contiguous unaddressed parcels***

Dear Planning Customer Service:

This letter of explanation accompanies a Category 3 Plan Review Application for property located at 5355, 5013, 5307 Campground Road, 3803 Shanks Lane and additional contiguous unaddressed parcels. Our client, Powerhouse Poe Louisville, LLC, proposes to develop the property as a data center. The subject property is zoned M-3 Industrial and EZ-1 Enterprise Zone, and is in the Suburban Workplace Form District. The subject property is approximately 149.5 acres in area. The proposed development is for a data center, defined in the Land Development Code as a “telecommunications hotel,” a permitted use in both the M-3 and EZ-1 zoning districts.

The proposed development includes 7 buildings, ranging in size from 300,000 square feet (150,000 square feet footprint) to 373,600 square feet (186,800 square feet footprint). The proposed development also includes a switch yard and substation necessary to power the proposed data center buildings. The applicant has designed the site in accordance with the requirements of the Land Development Code, and, as such, there are no waivers or variances required for the proposed development. Access to the site will be from Campground Road, where there are two controlled access points and one access to the proposed utility infrastructure.

Because the proposed data center needs to be located near adequate electrical utilities, there are few locations in the community that can physically be developed as data centers. The subject property is appropriately zoned and benefits from access to LG&E lines sufficient to power the proposed use. In keeping with the Land Development Code, the applicant’s proposed buildings will be designed to meet or exceed all design requirements. In addition, the proposed development will include a significant number of new trees and other landscaping within and surrounding the site.

Planning and Design Services
March 24, 2025
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Please have the attached materials reviewed at your earliest convenience and contact our office once that review is complete.

Sincerely,

A handwritten signature in blue ink, appearing to read "Clifford H. Ashburner", written over a light blue rectangular background.

Clifford H. Ashburner

Enclosures

EXHIBIT EAS-3

**Camp Ground Road October 04, 2023
Development Plan Extension Request**

LAND DESIGN & DEVELOPMENT, INC.
ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE
503 Washburn Avenue, Suite 101
Louisville, Kentucky 40222
(502) 426-9374 FAX (502)426-9375

October 4, 2023

Louisville Metro Planning and Design Services
444 South Fifth Street
Louisville, KY 40202

Re: 1st Extension of Expiration Date Request for 21-CAT3-0008
Site Address: 5301 Camp Ground Road

Dear Case Manager,

This is a request to extend the 21-CAT3-0008 expiration date of October 6, 2023.

The developer is making the request because of obstacles in marketing the property to potential leasers. They have been working with several different interested parties and the process is taking longer than anticipated. Civil construction plans have been submitted to the agencies for their review.

Thank you for considering this request.

Sincerely,



Ann E. Richard RLA

Cc: Hank Hillebrand