

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

IN THE MATTER OF:	:	
ELECTRONIC 2024 JOINT INTEGRATED RESOURCE PLAN OF LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY UTILITIES COMPANY.	:	CASE NO. 2024-00326
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**COMMENTS OF
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC**

Kentucky Industrial Utility Customers, Inc. (“KIUC”) submits these Comments. Before spending \$775 million for the 400 MW, 4-hour Cane Run battery energy storage system (“BESS”) and \$1.415 billion for the 645 MW Mill Creek 6 natural gas combined cycle (“NGCC”) (total cost \$2.19 billion) primarily to serve 1,750 MW of potential data center load in 2032, the Commission should require long-term contracts with strong minimum bill provisions to ensure that the potential data center load and revenue actually materializes. The long-term data center contracts should be signed *before* construction of the new generation or storage begins.

**Before Spending \$2.19 Billion On The Cane Run BESS and Mill Creek 6
NGCC To Serve 1,750 MW Of Potential Data Center Customers
Long-Term Contracts Should be Required**

Louisville Gas and Electric Company and Kentucky Utilities Company (“LG&E/KU” or “Companies”) over the last ten years have had peak demands of 6,500 MW in the summer and 7,100 MW in the winter.¹ In their Mid-Load scenario, the Companies project new data center load of 1,050 MW by 2032. In their High-Load scenario, 1,750 MW of new data center load is projected by 2032. This IRP is dominated by data center issues.

¹ 2024 IRP Executive Summary at 1.

When new data center load is served from existing generation, then all ratepayers benefit because the existing fixed costs are amortized over more billing units. That lowers rates for everyone. This appears to be the case with respect to LG&E's recently announced 402 MW data center customer PowerHouse/Poe. The PowerHouse/Poe data center will start at 130 MW in October 2026, and then ramp-up to its full 402 MW load.²

But there can be significant risks to existing customers if new generation has to be built to serve potential data center load that is not yet under contract. The cost of incremental new generation is very high. Since the 2021 LG&E/KU IRP, the capital cost of new NGCC generation has more than doubled from \$1,008 per kW to \$2,121 per kW.³ And each MW of forecasted data center load has to be supplied with 1.29 MW of new generation to satisfy the Companies' winter reserve margin of 29%.⁴ While the incremental capital cost of new generation is very high, rates are set using the average embedded cost of both new (expensive) generation and existing (lower cost) generation. Because of the declining rate base method of ratemaking, the capital cost of new generation is highest in the early years before it is depreciated. Because data centers typically take 3-4 years to ramp up to full usage (PowerHouse/Poe will start at 130 MW and then ramp-up to 402 MW), while generation additions go commercial all at once, other ratepayers will fund the majority of the cost of new generation during the load ramp period.

In scenarios where new generation is built and the data center load does not fully materialize, ratepayers could be worse off by hundreds of millions of dollars per year. Contrary to the economic development goals of the Companies (which KIUC supports), this would be a terrible drag on the economy. Excess capacity and unnecessarily high electric rates reduce the

² <https://lge-ku.com/newsroom/press-releases/2025/01/16/lge-announces-first-major-data-center-electric-customer>

³ IRP Table 6-4.

⁴ 2024 IRP Resource Adequacy Analysis at 4.

competitiveness of existing manufacturers and reduce the buying power of residential customers.

After construction, data centers typically do not provide a large number of direct jobs relative to their power consumption. And many of the direct jobs are for security and maintenance.

Data centers impose unique industry-specific risks. Data centers consistently seek to improve the energy efficiencies of their processes through updated chips and servers every few years. This means that the generation initially needed may not be needed a few years later. China's DeepSeek AI model is just one example of a new data center technology that may use much less energy.

Without proper regulation, utility ratepayers can end up subsidizing some of the wealthiest and most powerful companies in the world. This risk was highlighted in a March 2025 Report from the Environmental & Energy Law Program at the Harvard Law School, "*Extracting Profits from the Public: How Utility Ratepayers Are Paying for Big Tech's Power.*"⁵

Utilities across the country are taking measures to protect ratepayers from data center load risk.⁶ Kentucky Power has a pending application to implement a tariff for new loads over

⁵ "Some of the largest companies in the world – including Amazon, Google, Meta, and Microsoft – are looking to secure electricity for their energy-intensive operations. [footnote omitted]. Their quests for power to supply their growing "data centers" are super-charging a growing national market for electricity service that pits regional utilities against each other. In this paper, we investigate one aspect of this competition: how utilities can fund discounts to Big Tech by socializing their costs through electricity prices charged to the public. Hiding subsidies for trillion-dollar companies in power prices increases utility profits by raising costs for American consumers." <https://www.capitaliq.spglobal.com/web/client#news/docviewer?mid=237924439>

⁶ In the Matter of the Verified Petition of Indiana Michigan Power for Approval of Modifications to Its Industrial Power Tariff – Tariff IP, Cause No. 46097 (Ind. Util. Reg. Comm'n Nov. 22, 2024); Appalachian Power Company and Wheeling Power Company Application for Approval of Revisions to Schedules LCP and IP, Case No. 24-0611-E-TPW (W. Va. Pub. Svc. Comm'n Jul. 18, 2024); Virginia Electric Power Company's Integrated Resource Plan, Case No. 2024-00184.

150 MW.⁷ While that proposal applies to all new large loads, it is clearly intended to address data centers.

Entergy Louisiana appears to be a good example of how to develop a win-win rate structure. On December 5, 2024, Entergy Louisiana announced an agreement with Meta for the utility to construct 2,260 MW of new generation and associated transmission at a cost of \$10 billion to serve what will be Meta's largest AI data center. According to the Application, Meta was required to enter into a fifteen-year electric service agreement with a minimum monthly charge that will cover the full annual revenue requirement of the new generation.⁸ Meta will also pay its allocated share of additional rates, resulting in a projected benefit to other ratepayers of \$300 million.⁹ Meta's fifteen-year contractual commitment was made before construction began on the new generation.

KIUC's concerns have now met the real world. On February 28, 2025, the Companies filed a Certificate of Public Convenience and Necessity ("CPCN") Application for the 2030 Brown 12 \$1.383 billion 645 MW NGCC, the 2031 Mill Creek 6 \$1.415 billion 645 MW NGCC, the 2028 Cane Run \$775 million 400 MW, 4-hour BESS, and the 2028 \$152 million Ghent 2 selective catalytic reduction ("SCR") facility.¹⁰ The CPCN is based on the IRP Mid-Load forecast, adjusted to include 1,750 MW of potential data center load by 2032.

In these Comments, KIUC is not taking issue with the Brown 12 NGCC or Ghent 2 SCR. The Brown 12 NGCC was effectively pre-approved in 2023.¹¹ The case for preserving the 500

⁷ Case No 2024-00305.

⁸ Application of Entergy Louisiana, LLC for Approval of Generation and Transmission Resources Proposed in Connection with Service to a Significant Customer Project in North Louisiana, Including Proposed Rider, and Request for Timely Treatment (LPSC Docket No. U-37425).

⁹ <https://www.capitaliq.spglobal.com/web/client#news/docviewer?mid=233729554>

¹⁰ Case No. 2025-00045.

¹¹ "[T]he Commission reiterates that the denial of the CPCN for Brown 12 is wholly based on the Commission's finding that the construction of Brown 12 should be deferred with construction beginning on a date that provides for an in-service date in 2030." Case No. 2022-00402, November 6, 2023 Order at 137.

MW Ghent 2 base load coal unit for year-round operations in the face of likely future NOx regulations through the installation of an SCR is strong. Brown 12 and Ghent 2 are needed for organic load growth, including Blue Oval SK (“BOSK”), future economic development and system reliability. But we do take issue with the need for the Cane Run BESS and Mill Creek 6 NGCC.

KIUC has two primary recommendations. First, LG&E/KU should be required to seek Commission approval of a separate tariff for new data centers similar to Kentucky Power’s proposal. That new tariff should require long-term contracts with strong minimum bill provisions. The long-term contracts should be signed *before* construction of new generation or storage begins. Second, the Companies should expand their Curtailable Service Rider (“CSR”) programs and update the interruptible credits in their next rate cases.

The Incremental Capital Cost Of Serving New Data Center Load Will Very Likely Exceed The Incremental Demand Revenue, Causing Rate Increases To Other Ratepayers

In the IRP expansion plan studies, three load forecast sensitivities were evaluated. The Low-Load, Mid-Load, and High-Load cases included differences in Data Centers, Distributed Generation, and Energy Efficiency energy impacts as summarized in KU-LGE IRP, Volume 1, Table 5-2 and reproduced below:

**Table 1
Load Forecast Scenario Key Differences**

Load Scenario	Data Centers in 2032	Distributed Generation in 2032	Energy Efficiency, CVR, AMI, and Other Energy Reductions in 2032²¹
Low	0 MW	275 MW	2,150 GWh
Mid	1,050 MW	150 MW	1,500 GWh
High	1,750 MW	125 MW	700 GWh

In the Mid-Load case, in 2032 data center load growth of 1,050 MW represents 83% of the total system projected winter peak demand load growth. In the High-Load case, in 2032 data center load growth of 1,750 MW represents 77% of the total system projected winter peak demand load growth. This is shown in Table 2.

Table 2
2032 Projected Data Center Load As Percent Of Total Load Growth

03_ELG; Eo2, MGMR	Low-Load	Mid-Load	High-Load	Low-Load to Mid-Load	Low-Load to High-Load
Winter System MW Peak	5,876	7,135	8,142	1,259	2,265
Data Center MW				1,050	1,750
Data Center Percent of Winter Peak				83%	77%

The public version of IRP Table 9-1 shows total system annual revenue requirements for the mid energy requirements, mid gas, mid coal-to-gas ratio fuel price (mid fuel case). Annual revenue requirements include variable and fixed costs for both new and existing generating units and capital costs for new generation.

We have prepared an analysis similar to the public version of the Companies’ IRP Table 9-1. The workpapers supporting KIUC’s analysis will be provided on a confidential basis. The annual revenue requirement for the capital cost of new generation in 2032 is \$325 million in the Mid-Load scenario. In the High-Load scenario, the 2032 annual revenue requirement for the capital cost of new generation is \$705 million. The majority of the capital cost in both scenarios is driven by data centers. In the Mid-Load case, data centers caused 83%, or \$271 million. In the High-Load case, data centers caused 77%, or \$545 million.

Table 3
2032 Annual Capital Cost Revenue Requirement¹²
\$millions

03_ELG; E02, MGMR	Low-Load	Mid-Load	High-Load	Low-Load to Mid-Load	Low-Load to High-Load
Annual Capital Cost Revenue Requirement	\$1,127	\$1,451	\$1,832	\$325	\$705
Data Center Percent of Winter Peak Load Increase				83%	77%
Data Center Share of Annual Capital Cost Revenue Requirement				\$271	\$545

If the data center-driven new generation investment is made without implementing risk mitigation strategies, then there is a real possibility that the rates of other customers will be unreasonably increased in violation of KRS 278.030(1) by having to pay for the capital costs of excess capacity.

To quantify the potential rate impacts in 2032, we modeled the incremental capital cost revenue requirement caused by data centers, compared to incremental demand revenue that the data centers would pay under the Companies’ Retail Transmission Service (“RTS”) tariffs.¹³ We used the current demand rates in the RTS tariffs escalated by 3% per year. We modeled three scenarios.

- 1) Full Data Center Load: full realization of data center load, resulting in complete RTS revenue collection;
- 2) Partial Data Center Load: the data center load ramps up in 2032, and KU collects revenues based on only 50% of the full expected data center load; and
- 3) No Data Center Load: the data center load does not materialize, and there is no revenue collection from the data center customers.

¹² Excludes Production Cost. Case data developed based on 03_ELG environmental scenario; E02 build case as evaluated under the MGMR fuel future.

¹³ KIUC 1-2 part j. <https://lge-ku.com/sites/default/files/media/files/downloads/LGE-Electric-Rates-01212025.pdf>; <https://lge-ku.com/sites/default/files/media/files/downloads/KU-Electric-Rates-01212025.pdf> rounded up to approximately \$230/kW-yr.

Table 4 shows the 2032 incremental capital cost of new generation in the Mid-Load case compared to the incremental RTS demand revenues under the three data center load materialization scenarios. To serve 1,050 MW of data center load, the Companies must build 1,354 MW of new generation to maintain their 29% reserve margin. The rate impact (incremental cost versus incremental revenue) to existing customers ranges from a \$35 million rate reduction where there is no load ramp and the full potential data center load materializes in 2032, to a \$118 million rate increase where 50% of the data center load materializes due to the load ramping up, and a \$271 million rate increase where no data center load materializes. Because large data centers typically take 3-4 years from initial energization to full usage, the 50% scenario of a \$118 million rate increase in 2032 is most likely. In the PowerHouse/Poe example, the initial 130 MW load is only 32.3% of the expected full load of 402 MW.

Table 4
2032 New Generation Incremental Capital Cost Compared To
Incremental RTS Demand Revenue (Mid-Load)

Mid-Load (1,050 MW Data Center) 03_ELG; E02, MGMR, 2032	Capital Costs \$ million	RTS Revenue \$ million	Delta \$ million
Full Expected Data Center Load	\$271	\$306	\$35
Partial Data Center Load (50% Load Ramp)	\$271	\$153	(\$118)
No Data Center Load	\$271	\$0	(\$271)

Table 5 shows the 2032 incremental capital cost of new generation in the High-Load case compared to the incremental RTS demand revenues under the three data center load materialization scenarios. To serve 1,750 MW of data center load, the Companies must build 2,257 MW of new generation to maintain their 29% reserve margin. The CPCN Load Forecast includes 1,750 MW of data center load by 2032. The rate increases (incremental cost exceeds incremental revenue in all three scenarios) to existing customers ranges from \$35 million where there is no load ramp and the full potential data center load materializes in 2032, \$290 million where 50% of the data center load materializes due to the load ramping up, and \$545 million

where no data center load materializes. Because large data centers typically take 3-4 years from initial energization to full usage, the 50% scenario of a \$290 million rate increase in 2032 is most likely. Again, the PowerHouse/Poe example supports this point.

Table 5
2032 New Generation Incremental Capital Cost Compared To Incremental RTS Demand Revenue (High-Load)

Low-Load to High-Load (1,750 MW data center) 03_ELG; E02, MGMR, 2032	Capital Costs \$ million	RTS Revenue \$ million	Delta \$ million
Full Expected Data Center Load	\$545	\$510	(\$35)
Partial Data Center Load (50% Load Ramp)	\$545	\$255	(\$290)
No Data Center Load	\$545	\$0	(\$545)

All of the prior financial analyses used cost and load information from the IRP. But it is instructive to also take a brief look at the CPCN financials. The proposed in-service date for the \$775 million Cane Run BESS is 2028. The first-year capital cost revenue requirement will be approximately \$124 million. The proposed in-service date for the \$1.415 billion Mill Creek 6 NGCC is 2031. The first-year capital cost revenue requirement will be approximately \$226 million. The Mill Creek 6 NGCC may provide offsetting fuel savings, and may earn some level of off-system sales margins. But there may be only a small amount of data center demand revenue during 2028-2031 to off-set the additional capital costs.

If data center load is not realized as projected, then the capital costs will be recovered through alternative means. Either existing customers will be responsible, shareholders will be responsible, or the Companies will have to try to sell their excess capacity. 25% of Trimble County Units 1 and 2 was sold to the Indiana Municipal Power Agency (“IMPA”) and Illinois Municipal Electric Agency (“IMEA”) in the early 1990s because of an excess capacity situation when Trimble County came on-line.

The RTS tariff does not provide sufficient protection from data center risk. The RTS tariff has a one-year contract term. Under the RTS tariff, the Companies “*may require a longer term of contract and termination notice because of conditions associated with the Customer’s requirements of service.*” It is unclear based on their response to KIUC 2-5 if the Companies intend to use this authority to require contract terms longer than one year for new data centers. But even a contract term longer than one year will not solve the problem because of the RTS minimum bill provisions. For peak and intermediate demand charges, the minimum bill is 50% of the highest measured load over the prior eleven months. Therefore, after eleven months, a data center customer could pay no peak or intermediate demand charges. The base demand charge can be applied to 100% of contract capacity based on the maximum expected load on the system, but the base demand charge is very low.

The contract term under KU’s Fluctuating Load Service (“FLS”) tariff is a minimum of five years. This is in apparent recognition that the risks of serving certain loads require greater revenue certainty.

Pursuant to Administrative Case 327, both Companies have Economic Development Rates (“EDR”) with ten-year terms. The first five years include demand charge discounts. The second five years are at full tariff pricing. The rationale for the ten-year term is to ensure that EDR customers make a reasonable contribution to the utility’s fixed costs.

Under KRS 278.030(3), the Commission has broad authority to set rates based upon individual customer usage characteristics. “*Every utility may employ in the conduct of its business suitable and reasonable classifications of its service, patrons and rates. The classifications may, in any proper case, take into account the nature of the use, the quality used, the quantity used, the time when used, the purpose for which used, and any other reasonable consideration.*” Pursuant to this authority, the Commission approved ten-year electric rates for

the two Western Kentucky aluminum smelters that varied with the worldwide price of aluminum. National-Southwire Aluminum Co. v. Big Rivers Elec. Corp., 785 S.W. 2d 503 (Ky. Ct. App. 1990).

Before the Commission approves \$2.19 billion for the Cane Run BESS and the Mill Creek 6 NGCC primarily to serve 1,750 MW of potential data center load, it should require long-term contractual commitments with strong minimum bill provisions. The data center contracts should be signed *before* construction of the new generation or storage begins. That is the only way for the Commission to be certain that the data centers are not merely shopping around the same potential load among many utilities. If data centers need long-term generation, then they should be willing to make long-term commitments before the generation is built. This approach satisfies the KRS 278.030(2) requirement that utilities serve all customers in their certified service territories, and the KRS 278.030(3) provision that allows utilities to make reasonable classifications in their rates. Otherwise, the largest and most powerful companies in the world would be getting free options for generation supply funded by the Companies' more than one million ratepayers. It would not be prudent for the Companies to invest billions of dollars in new generation or storage before long-term contracts are signed.

Recommendation: We recommend that LG&E/KU be required to seek approval of a new data center tariff similar to Kentucky Power's proposal.¹⁴ Kentucky Power's proposed tariff would apply to new loads over 150 MW; require a 20-year contract term ending upon five-years notice; require the customer to make a one-time payment equal to five-years' minimum billing; impose a minimum bill of 90% of contract capacity; and require collateral of 24 times the customer's previous maximum monthly non-fuel bill. Long-term contracts should be signed before the construction of new generation or storage begins. A properly structured data center-

¹⁴ Case No. 2024-00305.

only tariff protects ratepayers, protects the utility, and is fair, just and reasonable to the data center customers.

Curtable Service Rider

The Companies have Curtable Service Riders (“CSR”) which provide large industrial customers who can shed load during grid emergencies a credit for providing this reliability service. There is also a penalty for non-compliance. Not all large industrial customers can quickly shed load during an emergency. An auto manufacturer generally cannot; an electric arc steel company can. Interruptible rate programs are common in Kentucky and in other states. In addition to reliability, these programs help keep energy-intensive manufacturers competitive. In the IRP, the CSR program is modeled as a 110 MW - 115 MW limited duration resource that reduces the Companies’ need for additional generation.¹⁵

In its Investigation into the service provided by the Companies during Winter Storm Elliott,¹⁶ the Commission recommended that in this IRP and in future rate cases the Companies should evaluate expansion of the CSR program and consider whether the penalty for non-compliance is an effective deterrent.

“Having reviewed the record and being sufficiently advised, the Commission finds that LG&E/KU’s CSR tariffs largely acted as intended, allowing for a reduction of 130 MW during Winter Storm Elliott. LG&E/KU appropriately penalized the out-of-compliance customers and reminded the customers of their obligations pursuant to the tariff for service. Ultimately, the out of compliance customers were only short approximately 1.2 mVA on December 23, 2022. The Commission recommends that LG&E/KU continue to evaluate the expansion of their CSR programs and whether the current penalty for non-compliance is an effective deterrent. The Commission will further explore evaluation of the CSR tariff and other tariffs in LG&E/KU’s 2024 IRP and future rate case filings.”¹⁷

¹⁵ IRP Table 5-1, page 5-3.

¹⁶ Case No. 2023-00422.

¹⁷ Id. at 43-44.

Recommendation: KIUC has no objection as to how the Companies modeled their CSR resources in the IRP. However, in their next rate cases the Companies should expand the MW size of the program and update CSR interruptible credits to account for the increased cost of new generation.

Respectfully submitted,

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