

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

**In the Matter of:**

<b>ELECTRONIC TARIFF FILING OF</b>	)	
<b>KENTUCKY UTILITIES COMPANY FOR</b>	)	
<b>APPROVAL OF AN ECONOMIC</b>	)	<b>CASE NO. 2022-00371</b>
<b>DEVELOPMENT RIDER SPECIAL</b>	)	
<b>CONTRACT WITH BITIKI-KY, LLC</b>	)	

**RESPONSE OF**  
**KENTUCKY UTILITIES COMPANY**  
**TO**  
**KENTUCKIANS FOR THE COMMONWEALTH**  
**KENTUCKY SOLAR ENERGY SOCIETY**  
**MOUNTAIN ASSOCIATION**  
**KENTUCKY RESOURCES COUNCIL, INC.**  
**SUPPLEMENTAL REQUEST FOR INFORMATION**  
**DATED DECEMBER 21, 2022**

**FILED: JANUARY 9, 2023**







**KENTUCKY UTILITIES COMPANY**

**Response to Kentuckians for the Commonwealth, Kentucky Solar Energy Society,  
Mountain Association, and Kentucky Resources Council, Inc.  
Supplemental Request for Information  
Dated December 21, 2022**

**Case No. 2022-00371**

**Question No. 2.1**

**Responding Witness: John Bevington**

- Q-2.1 Please refer to the Company's response to Joint Intervenors' Request 1.1. Please confirm whether or not the Company has in its possession any documents or other information from Bitiki-KY concerning the "approximately five new jobs" that would purportedly be created by the Proposed Facility, other than the contract and accompanying letters referenced in the response. If the Company does have any such documents or information in its possession, please produce copies of any such documents or, in the case of any information that is not in the form of a document, please describe the information in the Company's possession.
- A-2.1 KU does not possess any unproduced documents responsive to this request.

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**Question No. 2.2**

**Responding Witness: John Bevington**

- Q-2.2. Please refer to the Company's response to Joint Intervenors' Request 1.2. Please confirm whether the Company has in its possession any documents or other information from Bitiki-KY concerning the types of jobs that will be created by the Proposed Facility, their anticipated annual starting salary, any educational requirements or other prerequisites, and whether the jobs will be performed in person at the Proposed Facility or could be performed remotely. If the Company does have any such documents or information in its possession, please produce copies of any such documents or, in the case of any information that is not in the form of a document, please describe the information in the Company's possession.
- A-2.2. KU does not possess any unproduced documents responsive to this request.

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**Question No. 2.3**

**Responding Witness: John Bevington**

- Q-2.3. Please refer to the Company's response to Joint Intervenors' Request 1.3. Please confirm whether the Company has in its possession any documents or other information from Bitiki-KY substantiating the \$25 million in anticipated investment in the Proposed Facility that is referenced in the Proposed Special Contract. If the Company does have any such documents or information in its possession, please produce copies of any such documents or, in the case of any information that is not in the form of a document, please describe the information in the Company's possession.
- A-2.3. KU does not possess any unproduced documents responsive to this request.

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**Case No. 2022-00371**

**Question No. 2.4**

**Responding Witness: John Bevington**

- Q-2.4. Please refer to the Company's response to Joint Intervenors' Request 1.17. Does the Company believe that it is appropriate to offer an EDR contract to any customer who meets the criteria identified in the Company's response to Joint Intervenors' Request 1.1? Please explain in detail why or why not.
- A-2.4. KU believes it is appropriate to offer EDR contracts to customers who meet the Commission-approved tariff criteria and for whom offering EDR demand discounts might affect the customers' decision whether to locate or expand in KU's service territory. KU does not believe it is appropriate to offer EDR discounts to customers who would locate or expand in KU's service territory irrespective of receiving EDR discounts.

One EDR tariff vital criterion is the requirement that an EDR customer must have "a certification that Customer has been qualified by the Commonwealth of Kentucky for benefits under programs reviewed and approved by the Kentucky Economic Development Finance Authority, or any successor entity authorized by the Commonwealth of Kentucky." This helps ensure that EDR applicants are providing bona fide economic development opportunities at a level recognized by the Commonwealth of Kentucky.

In addition, because EDR discounts are available only when adding an applicant's load would not create a need for new generating facilities, as well as the requirement that an EDR customer's revenues exceed the cost of any incremental transmission or distribution facilities, adding EDR customers provides net benefits to all customers.

It could be argued that some EDR customers would locate in KU's service territory irrespective of receiving EDR discounts. KU believes this perspective overlooks a key economic reality, namely that businesses tend to locate new operations or expand existing operations where it is most economically beneficial to do so. In a competitive economic development marketplace, the ability to offer EDR discounts *when it is also beneficial to existing customers* is important to

KU's ability to compete for and obtain such economic development investment, which again should redound to the benefit of all customers and the Commonwealth.

Finally, KU would note that not every business that expands or newly locates in its service territory receives EDR discounts because many such businesses do not meet the EDR criteria. Over the past decade, customers in KU's and Louisville Gas and Electric Company's ("LG&E's") service territories have announced \$31 billion of new investments and 100,000 new jobs to be created.<sup>1</sup> Of those announcements, only 16 customers have been offered and approved for an EDR, all of which were involved in rigorous economic development processes to make the decision to expand or locate in Kentucky and were involved with a variety of other parties to help with those processes, including Kentucky's Economic Development Cabinet.

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<sup>1</sup> See Kentucky Cabinet for Economic Development's "Kentucky Business & Industry Location/Expansion Announcement Search," available at <https://ced.ky.gov/KBIIS/KBIISLocXpnsnSrch.aspx>.

## KENTUCKY UTILITIES COMPANY

### Response to Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Mountain Association, and Kentucky Resources Council, Inc. Supplemental Request for Information Dated December 21, 2022

Case No. 2022-00371

#### Question No. 2.5

#### Responding Witness: Michael E. Hornung

- Q-2.5. Please refer to workbook named, “KU\_DR1\_JI\_Attach\_to\_Q19\_Production\_PVRR\_Analysis\_2021\_with\_Summary”, worksheet named “Summary”, where it states, “The rationale behind this is that the Economic Development Rate determined by the Company will be charged on an NCP basis for demand.” Please explain why the Economic Development Rate would be charged on a non-coincident peak basis for demand.
- A-2.5. The cited sentence attempts to explain that the “Production Demand (per kW of added NCP Demand)” of \$2.32/kW-month is calculated on a non-coincident peak basis, i.e., it applies the typical coincidence factor for large customers (60.27%) to the coincident peak (“CP”) marginal production cost (\$3.84/kW-month).<sup>2</sup>

Note that applying a full CP marginal production cost of \$3.84/kW-month to Bitiki would result in a marginal production cost of \$49,920/month.<sup>3</sup> Adding to that a full CP transmission marginal cost of \$260/month results in a full CP non-energy marginal cost of \$50,180,<sup>4</sup> which is nearly \$69,000 *less* per month than the discounted demand rates Bitiki would pay at full load in the first (and most heavily discounted) year of the EDR contract.<sup>5</sup> In other words, Bitiki will pay considerably more than its marginal cost in every year of the EDR contract, even applying full CP marginal costs.

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<sup>2</sup> The cited sentence is not well worded: EDR is not a “rate” to be “charged”; rather, it provides demand-charge discounts to existing rates.

<sup>3</sup> \$3.84/kW-month x 13,000 kW of demand = \$49,920.

<sup>4</sup> See KU’s response to PSC 1-3.

<sup>5</sup> Full demand charges at current retail rates for Bitiki’s full projected load (13,000 kW) would be \$237,900 per month. The first year of the EDR contract would discount that by 50% (\$118,950). Subtracting Bitiki’s full CP marginal cost of \$50,180 per month from the 50% discounted demand charges equals \$68,770 per month of demand revenues in excess of full CP marginal costs (non-energy).

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**Question No. 2.6**

**Responding Witness: Michael E. Hornung**

Q-2.6. Please refer to the workbook named “KU\_DR1\_JI\_Attach\_to\_Q26\_-\_Cost Comparison”.

- a. Please provide the supporting analysis for the Demand Charges shown in cells E14 to E16.
- b. Please explain why cells E14 to E16 are added together.

A-2.6.

- a. These are the Demand Charges that were approved by the Commission in its Orders in Case No. 2020-00349 dated December 6, 2021 and December 8, 2021.<sup>6</sup>
- b. The cells are added together for illustrative purposes only and are not used in any other calculations in the workbook.

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<sup>6</sup> Case No. 2020-00349, Order (Ky. PSC Dec. 6, 2021); Case No. 2020-00349, Order (Ky. PSC Dec. 8, 2021).

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**Question No. 2.7**

**Responding Witness: Michael E. Hornung / John Bevington**

- Q-2.7. Please refer to the Company's response to Joint Intervenors' Request 1.3 where the Company states, "Also, KU is aware that Bitiki now has facilities on-site that are operating and creating significant electrical load already. Thus, this is not a merely speculative operation; it is currently operating and growing."
- a. Please provide the billing information for the time that Bitiki has been operational in 2022.
  - b. Please identify the current load and load factor for the facility.
  - c. Does the Company anticipate that the facility's load and/or load factor will change in 2023, in the absence of Commission approval of an Economic Development Rate for the facility? If yes, please explain in detail what changes are anticipated. If no, please explain why not.
- A-2.7.
- a. See attached. Individual customer billing information is considered confidential and is being filed under seal pursuant to a Petition for Confidential Treatment.
  - b. See the attachment provided in response to part a for demand information. Bitiki's December 2022 billing month data showed a monthly load factor of 90.4%.
  - c. The RTS service and EDR contracts in the record of this proceeding speak for themselves concerning Bitiki's anticipated load. KU possesses no other information upon which to anticipate Bitiki's load with or without EDR demand discounts.

The entire attachment is  
Confidential and  
provided separately  
under seal.

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**Question No. 2.8**

**Responding Witness: John Bevington**

- Q-2.8. Please refer to the Company's response to Joint Intervenors Request 1.1. Please identify the current number of jobs at the Bitiki-KY facility and explain if the "approximately 5 new jobs" would be new additions to any current employees at the facility that is already operational.
- A-2.8. KU does not possess any information concerning the number of jobs already created at the Bitiki site. Bitiki represented to KU in the EDR Contract that it anticipated "creating approximately 5 new jobs."

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**Question No. 2.9**

**Responding Witness: Michael E. Hornung**

- Q-2.9. Please refer to workbook named  
“KU\_DR1\_JI\_Attach\_to\_Q19\_Production\_PVRR\_Analysis\_2021\_with\_Summary”, worksheet named “Prod Economic Carrying Charge”, cells D28:E29.
- a. Please explain if the coincidence factor reported in this cell represents the coincidence of the Companies’ firm customer demand to the total system demand.
  - b. If not, please explain what the coincidence factors are based on
- A-2.9.
- a. No. The coincidence factor in the referenced cells represents a simple average of the relationship between the NCP and CP demands for the TOD and RTS rate classes. Those classes represent the most likely customers who would be eligible for the Economic Development Rider.
  - b. See the response to part a.

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**Question No. 2.10**

**Responding Witness: Michael E. Hornung**

Q-2.10. Please refer to workbook named “KU\_DR1\_JI\_Attach\_to\_Q25\_-\_Avoided\_Transmission\_Capacity\_Cost\_Analysis\_2021”, worksheet named “Transmission Avoided Cap Cost”, cells B32 and C34. Please provide the supporting calculations for the coincidence factors reported in the referenced cells.

A-2.10. See attachment being provided in Excel format.

The attachment is being provided in a separate file in Excel format.

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**Question No. 2.11**

**Responding Witness: Michael E. Hornung / Stuart A. Wilson**

- Q-2.11. Please refer to workbook named “KU\_DR1\_JI\_Attach\_to\_Q25\_-\_Avoided\_Transmission\_Capacity\_Cost\_Analysis\_2021”, worksheet named “Transmission Avoided Cap Cost”. Please explain the difference between the forecasted total system demand reported in cells C29 and B30 and what was reported in Tables 7-19 and 7-20 of the 2021 IRP.
- A-2.11. Cells C29 and B30 of the referenced worksheet represent for each company the sum of 12 forecasted monthly peak demands (kW) that are coincident to the combined companies’ forecasted monthly peak demands from the 2020 Rate Case. Tables 7-19 and 7-20 from the 2021 IRP contain the sum of annual energy requirements (GWh) for each company and the breakdown by class.

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**Question No. 2.12**

**Responding Witness: Michael E. Hornung**

- Q-2.12. Please refer to page 10 of the Marginal Cost Study where it states “The marginal production energy cost per kWh of additional energy for both LG&E and KU is \$0.03447. In addition, it would be necessary to adjust the marginal energy cost value to reflect the applicable loss-factor for a prospective customer which could take service at a transmission, primary or secondary voltage” and “Again, it would be necessary to adjust the marginal transmission cost value to reflect the applicable loss-factor for a prospective customer which could take service at a transmission, primary or secondary voltage.”
- a. Please provide the applicable loss-factor to adjust the marginal energy cost value.
  - b. Please provide the applicable loss-factor to adjust the marginal transmission cost value.

A-2.12.

a.

<b>Loss Factor at Sales (Meter) Level</b>	
<b>Demand (kW)</b>	<b>Total KU<sup>7</sup></b>
Transmission	1.03295
Primary Substation	1.03883
Primary	1.06632
Secondary	1.09017
<b>Energy (kWh)</b>	
Transmission	1.02827
Primary Substation	1.03382
Primary	1.05011
Secondary	1.07651

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<sup>7</sup> Case No. 2020-00349: Attachment to Response to AG-KIUC-1 Question No. 173(c) – KU Power System 2010 Analysis of System Losses Report

- b. See the response to part a.

Note that even when applying the line loss factors above to the Marginal Cost Analysis, Bitiki's revenues (including Fuel Adjustment Clause and Environmental Surcharge adjustment clause revenues) still exceed Bitiki's marginal costs in every year of the EDR Contract, and Bitiki will contribute over \$8.8 million to energy and demand-related fixed costs over 10 years (Base Rate Revenue minus Marginal Costs).

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**Question No. 2.13**

**Responding Witness: Stuart A. Wilson**

- Q-2.13. Please refer to Table 8-1 on page 8-1 of the 2021 Integrated Resource Plan and the workbook named “KU\_DR\_JI\_Attach\_to\_Q13\_-\_Reserve\_Margin” provided in response to Joint Intervenors 1-13.
- a. Please explain what assumption has been made to result in a different Gross Peak Load between what was reported in Table 8-1 of the 2021 IRP and the Gross Peak Load provided in “KU\_DR\_JI\_Attach\_to\_Q13\_-\_Reserve\_Margin”.
  - b. Please explain if the Gross Peak Load forecast provided in “KU\_DR\_JI\_Attach\_to\_Q13\_-\_Reserve\_Margin” includes the load addition from the Ford Motor electric vehicle battery facility.
- A-2.13.
- a. See the response to PSC 2-6.
  - b. Yes, see the response to part a.

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**Question No. 2.14**

**Responding Witness: Stuart A. Wilson**

- Q-2.14. Please refer to page 7 of the Marginal Cost of Service Study. Please provide the anticipated online date and MW size for the Ford Motor electric vehicle battery facility.
- A-2.14. Ford's planned BlueOval SK Battery Park has a planned summer peak load of almost 260 MW, a winter peak load around 225 MW, and a capacity factor of almost 90%.<sup>8</sup> KU anticipates BlueOval will come fully online in 2027-2028.

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<sup>8</sup> The stated peak load figures represent BlueOval's non-coincident, peak hourly usage projections grossed up by a transmission loss factor of 1.02827. BlueOval's anticipated summer billing demand is 254 MW.

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**Question No. 2.15**

**Responding Witness: Stuart A. Wilson**

- Q-2.15. Please refer to the Company's response to Commission Staff's Question 2-A where the Company stated: "It is correct that KU and LG&E's modeling reported in the 2021 IRP assumed that NGCC units would require carbon capture and sequestration ("CCS"), and the models selected simple-cycle combustion turbines ("SCCTs") rather than NGCC units based on that assumption. But it is also true that when KU and LG&E's models did not assume NGCC required CCS, the model selected NGCC units rather than SCCTs. That result held even when the model was permitted to select additional coal unit retirements and at carbon prices ranging from \$0 to \$25 per ton. Indeed, KU and LG&E's model selected NGCC without CCS at carbon prices as high as \$120 per ton, and it selected NGCC, with or without CCS, as a generation technology to deploy at carbon prices as high as \$150 per ton (the price at which the Companies stopped modeling carbon). It was therefore reasonable for The Prime Group to use NGCC to calculate marginal production demand costs."
- a. Please explain if the modeling referenced in the response to Staff's Question 2-A included capacity expansion modeling that allowed new resources to be selected over the entirety of the planning period.
  - b. Please explain if the modeling referenced in the response to Staff's Question 2-A included capacity expansion modeling that only allowed for new resources to be selected in the year 2035.
- A-2.15. The response to both subparts is that KU and LG&E conducted the modeling to which the cited response refers to meet energy requirements in 2035. As KU and LG&E explained in that proceeding, the purpose of modeling to meet energy needs in 2035 was twofold: (1) as a simplifying assumption and (2) because capacity shortfalls would be greatest at the end of the IRP modeling period, giving a reasonably complete view of portfolio additions over the entire modeling period. No party to the proceeding demonstrated that modeling 2035 energy needs had any impact on the IRP portfolio selections.

Indeed, subsequent analyses demonstrated that adding NGCC to KU and LG&E's portfolio prior to 2035—indeed, by 2028—is lowest reasonable cost. As noted in the cited response, a third-party consultant's analysis demonstrated that adding NGCC capacity by 2028 is lowest reasonable cost regardless of whether KU and LG&E join an RTO.<sup>9</sup> The Companies' own analyses in Case No. 2022-00402, which allowed models to select capacity additions in all years modeled, again show that adding NGCC capacity to meet a 2028 capacity need is lowest reasonable cost in all cases modeled where the types of replacement resources were unconstrained (i.e., all fossil-fueled and non-fossil-fueled resource types modeled were available for the model to select).<sup>10</sup>

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<sup>9</sup> Case No. 2020-00349, LG&E-KU 2022 RTO Membership Analysis at 19-21 and Exhibit 2 at 3-35 – 3-38 (Nov. 14, 2022).

<sup>10</sup> *Electronic Joint Application of Kentucky Utilities Company and Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Site Compatibility Certificates and Approval of a Demand Side Management Plan*, Case No. 2022-00402, Direct Testimony of Stuart A. Wilson Exh. SAW-1 (Dec. 15, 2022).

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**Question No. 2.16**

**Responding Witness: Stuart A. Wilson**

- Q-2.16. Please refer to the Company's response to Commission Staff's Question 2-A where the Companies stated "In addition, the capacity expansion plans conducted by an outside consultant, Guidehouse, Inc., as part of KU and LG&E's most recent RTO membership analysis indicated that adding NGCC capacity in 2028 was optimal in both the standalone and RTO membership scenarios with no carbon pricing. The load forecast Guidehouse used in its analysis included an anticipated Ford BlueOval SK Battery Park peak load of 320 MW. With the more recent reduction in expected load for the battery park (annual peak load of 254 MW), there is strong reason to believe that adding 13 MW of Bitiki load would not advance the 2028 capacity need."
- a. Please provide the planning period over which the capacity expansion modeling was performed.
  - b. Please provide the name of the capacity expansion model that was used for the analysis performed by Guidehouse.
  - c. Please provide the capacity expansion plans for the modeling runs conducted by Guidehouse.
- A-2.16.
- a. 2025-2040.
  - b. Guidehouse's capacity expansion modeling tool is Power System Optimizer.
  - c. See attached.



Energy Markets Analysis

**APPENDIX B: CAPACITY ADDITIONS AND RETIREMENTS**

**Standalone Cases**

**Table B1. Standalone Capacity Expansion and Reserve Margins**

Year	Effective Summer Resource Capacity (MW)	Peak Summer Demand (MW)	Effective Summer Capacity Reserve (%)	Effective Winter Resource Capacity (MW)	Peak Winter Demand (MW)	Effective Winter Capacity Reserve (%)
2025	7,630	6,303	21.1%	7,891	6,058	30.3%
2026	7,630	6,308	21.0%	7,939	6,058	31.0%
2027	7,676	6,427	19.4%	7,800	6,213	25.5%
2028	7,537	6,425	17.3%	8,322	6,211	34.0%
2029	8,056	6,422	25.5%	8,313	6,210	33.9%
2030	8,044	6,419	25.3%	8,301	6,209	33.7%
2031	8,040	6,416	25.3%	8,297	6,208	33.7%
2032	8,036	6,413	25.3%	8,330	6,206	34.2%
2033	8,068	6,411	25.8%	7,724	6,205	24.5%
2034	7,460	6,408	16.4%	8,021	6,204	29.3%
2035	7,779	6,405	21.5%	8,902	6,202	43.5%
2036	8,677	6,402	35.5%	8,400	6,201	35.5%
2037	8,173	6,399	27.7%	8,831	6,200	42.4%
2038	8,602	6,397	34.5%	8,036	6,199	29.6%
2039	7,866	6,394	23.0%	9,348	6,197	50.8%
2040	9,200	6,391	44.0%	8,296	6,196	33.9%



Energy Markets Analysis

Table B2. Standalone Capacity Addition (MW)

	CC	CT Gas	Storage	Utility Solar	Wind
2025					
2026					
2027				100	
2028	484			200	
2029	484			100	
2030					
2031					
2032					
2033				100	
2034		400		250	
2035	484			250	
2036	800		100	400	
2037		200	200	250	100
2038		200	200	250	
2039		200	200	250	
2040	968	200	200		

Table B3. Standalone Capacity Retirements (MW)

	Coal	CT Gas
2025	300	23
2026		
2027		
2028	709	
2029		
2030		
2031		
2032		
2033		
2034	969	121
2035		242
2036		121
2037	950	
2038		
2039	868	292
2040		



Energy Markets Analysis

RTO Cases

Table B4. RTO Capacity Expansion and Reserve Margins

Year	Effective Summer UCAP (MW)	Peak Summer Demand (MW)	FPR	Effective Margin to FPR (%)
2025	7,136	6,303	6,331	13.2%
2026	7,136	6,308	6,336	13.1%
2027	7,135	6,427	6,456	11.0%
2028	7,074	6,425	6,453	10.1%
2029	7,110	6,422	6,450	10.7%
2030	7,098	6,419	6,448	10.6%
2031	7,093	6,416	6,445	10.6%
2032	7,089	6,413	6,442	10.5%
2033	7,121	6,411	6,439	11.1%
2034	7,123	6,408	6,436	11.2%
2035	7,092	6,405	6,433	10.7%
2036	7,396	6,402	6,431	15.5%
2037	7,137	6,399	6,428	11.5%
2038	7,369	6,397	6,425	15.2%
2039	7,190	6,394	6,422	12.4%
2040	7,356	6,391	6,419	15.1%

Table B5. RTO Capacity Addition (MW)

	CC	CT Gas	Storage	Utility Solar	Wind
2025					
2026					
2027					
2028	484			300	
2029				100	
2030					
2031					
2032					
2033				100	
2034	484	500		250	
2035			100	350	
2036	400			100	
2037		400	200	250	100
2038			200	250	
2039	484	400		250	
2040			200		



Energy Markets Analysis

Table B6. RTO Capacity Retirements (MW)

	Coal	CT Gas
2025	300	23
2026		
2027		
2028	709	
2029		
2030		
2031		
2032		
2033		
2034	969	121
2035		242
2036		121
2037	950	
2038		
2039	868	292
2040		

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Supplemental Request for Information  
Dated December 21, 2022**

**Case No. 2022-00371**

**Question No. 2.17**

**Responding Witness: Stuart A. Wilson**

Q-2.17. Please refer to pages 9-10 of the Marginal Cost Study where it states “Specifically, the Company provided data for the twelve months ended December 2023 pertaining to the marginal costs for fuel, consumables (including scrubber reactants and other reagents), ash and waste disposal, and emission allowances for all 8,760 hours based on each hour’s marginal generating unit for the next MW of capacity needed on the system” and the workbook named “CONFIDENTIAL – KU DR1 JI Attach to Q24 – 2023 Monthly Marginal Cost Components.”

- a. Has the Company provided information concerning monthly emissions costs? If so, please identify where that information has been provided.
- b. To the extent not already provided, please provide the historical monthly emissions allowance cost for each of the Company’s thermal units for the years 2021 and 2022.

A-2.17.

- a. KU and LG&E provided the cited data to The Prime Group to perform its marginal cost study, which The Prime Group performs annually for KU and LG&E.<sup>11</sup> KU has not previously provided that data in this proceeding.
- b. The Companies did not purchase emission allowances for years 2021 and 2022; therefore, monthly emissions allowance costs are \$0 for this timeframe.

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<sup>11</sup> See KU’s response to JI 1-18.