COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC TARIFF FILINGS OF	**)**	
LOUISVILLE GAS AND ELECTRIC COMPANY	**)**	
AND KENTUCKY UTILITIES COMPANY TO	**)**	
REVISE PURCHASE RATES FOR SMALL	**)**	**CASE NO. 2023-00404**
CAPACITY AND LARGE CAPACITY	**)**	
COGENERATION AND POWER PRODUCTION	**)**	
QUALIFYING FACILITIES AND NET	**)**	
METERING SERVICE-2 CREDIT RATES	**)**	

RESPONSE OF
KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
THE KENTUCKY SOLAR ENERGY SOCIETY AND MOUNTAIN ASSOCIATION'S INITIAL REQUEST FOR INFORMATION

DATED JANUARY 11, 2024

FILED: January 25, 2024

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Robert M. Conroy**, being duly sworn, deposes and says that he is Vice President, State Regulation and Rates, for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, 220 West Main Street, Louisville, KY 40202, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Robert M. Conroy

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 24th day of JANUARY 2024.

Notary Public

Notary Public ID No. KYNP61560

My Commission Expires:

November 9, 2026

TAMMY J. ELZY
COMM EXPIRES
11/09/2026
NOTARY
PUBLIC
ID # KYNP61560
STATE AT LARGE, KENTUCKY

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Michael E. Hornung**, being duly sworn, deposes and says that he is Manager of Pricing/Tariffs for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Michael E. Hornung

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 16th day of January 2024.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Peter W. Waldrab**, being duly sworn, deposes and says that he is Vice President, Electric Distribution, for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Peter W Waldrab
Peter W. Waldrab

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 22nd day of January 2024.

Caroline J. Davison
Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Stuart A. Wilson**, being duly sworn, deposes and says that he is Director, Energy Planning, Analysis & Forecasting for LG&E and KU Services Company, 220 West Main Street, Louisville, KY 40202, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Stuart A. Wilson

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 17th day of January 2024.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to
Kentucky Solar Energy Society and Mountain Association's
Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.1

Responding Witness: Robert M. Conroy / Michael E. Hornung

Q-1.1. Please provide the following information regarding the Company's NMS-1 & NMS-2 customer-generators, for each year from 2018 through 2023. For all requests below that result in a data response, please provide the data in Excel spreadsheet format with formulas intact and cells unlocked.

a. For each month and year, how many kWh of excess generation ("Received" or "Rcvd" kWh) were supplied back to the Companies from all Net Metering Service ("NMS") customers? Provide the aggregate amount for each month and year of total received "Rcvd" kWh by rate class.

b. For each month and year, how many kWh of energy produced by the Companies ("Delivered" or Dlvd") were used by all NMS customers? Provide the aggregate amount for each month and year of total delivered "Dlvd" kWh by rate class.

c. For purposes of this question and the proposed tariff, please explain whether the Companies define "excess generation" on an hourly, daily, or billing period basis, or if none of these, explain how the companies define and measure "excess generation?"

d. List the number of residential and commercial customers taking NMS service. List the number by each tariff.

e. List the total installed generation capacity (AC and DC) for customers receiving NMS by each specific tariff.

f. For each NMS customer, without divulging customer identity of geographic location, please list the capacity (system size in KW) of their Distributed Generation System, the technology type of that system (e.g., PV, wind, hydro, biomass), the date of interconnected operation, and the rate class. List the total amount of kWh delivered to the grid from each NMS customer in each month.

g. What was the total combined capacity by rate class of all NMS customers, all residential NMS customers, and all commercial NMS customers for each year?

h. What percentage of the Company's single hour peak load for the previous year did the aggregate NMS customer generation represent for each year?

i. Please provide any additional data concerning net metering or generation from NMS customers for the years 2018 through 2023 which the Company has reported to the US Energy Information Administration, FERC, the Kentucky Energy and Environment Cabinet, or any other regulatory agency. This includes but is not limited to data filed on Form EIA-861 for each of those years.

j. For each NMS customer, please provide the monthly and annual energy consumption data for the year prior to the interconnected operation of the customer generation system. If this data is not available, please explain why not.

k. For each new NMS account in the years 2021, 2022, and 2023, provide the name of the installation contractor(s) identified on the customer's net metering application.

A-1.1.

a. See attachment being provided in Excel format.

b. See attachment being provided in Excel format.

c. The term "excess generation" does not appear in the Companies' current or proposed NMS-2 tariff sheets. The only change the Companies have proposed to their NMS-2 tariff sheets is to update the dollar-denominated bill credit.

The term "excess gen" does appear twice in Table 21: NMS-2 Bill Credits ($/kWh) on page 17 of the 2024-2025 Qualifying Facilities Rates & Net Metering Service-2 Bill Credit document filed with the Companies' proposed revised tariff sheets. In those two entries, one for each of the Companies, "NMS-2 Bill Credit for Excess Gen" is a synonym for "dollar-denominated bill credit" in the Companies' NMS-2 tariff sheets. As stated in those tariff sheets:

> For each billing period, Company will net the dollar value of the total energy consumed and the dollar value of the total energy exported by Customer as follows: Company will (a)

> bill Customer for all energy consumed from Company in accordance with Customer's standard rate and (b) Company will provide a dollar-denominated bill credit for each kWh Customer produces to the Company's grid.

For additional context, as required in KRS 278.266(2), each net metering customer has a bilateral meter with two registers: one registers all electricity consumed from the grid, and the other registers all electricity exported to the grid. At the end of each billing period, the Companies read both registers. For an NMS-2 customer, the Companies bill the customer under the customer's standard rate schedule for all energy consumed as recorded by the consumption register, and the Companies provide a dollar-denominated bill credit for all energy the customer exported as recorded by the export register. Solely as a simplified example, assume in a single billing period that a KU Rate RS and NMS-2 customer consumes 1,000 kWh from the grid as measured by the consumption register and exports 300 kWh as measured by the export register. Ignoring all other riders and charges for simplicity's sake, under current rates KU would bill the customer under Rate RS for $96.99 (1,000 kWh * $0.09699/kWh) and would provide a bill credit under NMS-2 on the same bill for $22.10 (300 kWh * $0.07366) for a net bill of $74.89 for that billing period.

This approach is fully consistent with and required by the Commission's November 4, 2021 Order on Rehearing in Case Nos. 2020-00349 and 00350,[1] as well as KRS 278.465(4) and 278.466(2)-(4).

d. See attachment being provided in Excel format.

e. See attachment being provided in Excel format. The Companies have historically requested only DC capacity values associated with customers' facilities.

f. See attachment being provided in Excel format.

g. See attachment being provided in Excel format.

h. The table below contains cumulative nameplate net metering capacity and the sum of prior-year non-coincident peaks by Company (LG&E and KU) from the prior year. They do not represent actual contributions of NMS customer-generators during the peaks.

[1] Case Nos. 2020-00349 and 2020-00350, Order at 11-12 (Ky. PSC Nov. 4, 2021).

Year	KU End of Year Cumulative Net Metering Capacity (MW DC)	Prior Year Non-Coincident Peak (MW)[2]	Percentage of Prior Year Peak
2018	2.26	3,798	0.06%
2019	3.40	4,530	0.08%
2020	5.56	4,147	0.13%
2021	10.93	3,428	0.32%
2022	16.45	3,641	0.45%
2023	21.29	4,217	0.50%

Year	LG&E End of Year Cumulative Net Metering Capacity (MW DC)	Prior Year Non-Coincident Peak (MW)	Percentage of Prior Year Peak
2018	2.61	2,608	0.10%
2019	3.55	2,618	0.14%
2020	5.12	2,609	0.20%
2021	7.68	2,505	0.31%
2022	13.87	2,540	0.55%
2023	19.87	2,572	0.77%

i. For information concerning net metering or generation from NMS customers for the years 2018 through 2023, please refer to the Companies' EIA-861 Monthly submissions to the Energy Information Administration (EIA) located at https://www.eia.gov/electricity/data/eia861m/. Monthly data for each of the Companies will be under the Net Metering section for each year and on the Utility Level-States tab.

j. Monthly consumption for the twelve months prior to interconnection was provided where available. See attachment being provided in Excel format.

k. The requested information is not readily accessible. The Companies do not maintain this information electronically because they do not have a business use for it. It would therefore be unduly burdensome to produce the requested information because it would involve manually reviewing more than three thousand net metering applications.

[2] Peaks exclude ODP and typically occur in winter months for KU.

The attachments are being provided in separate files in Excel format.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to
Kentucky Solar Energy Society and Mountain Association's
Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.2

Responding Witness: Michael E. Hornung

Q-1.2. Please provide the following information regarding the Company's SQF and LQF facilities, for each year from 2018 through 2023. For all requests below that result in a data response, please provide the data in Excel spreadsheet format with formulas intact and cells unlocked.

a. For each month and year, how many kWh of excess generation ("Received" or "Rcvd" kWh) were supplied back to the Companies from all facilities? Provide the aggregate amount for each month and year of total received "Rcvd" kWh by rate class.

b. For each month and year, how many kWh of energy produced by the Companies ("Delivered" or Dlvd") were used by all facilities? Provide the aggregate amount for each month and year of total delivered "Dlvd" kWh by rate class.

c. List the number of facilities taking SQF and LQF service. List the number by each tariff.

d. List the total installed generation capacity (AC and DC) for facilities by each specific tariff.

e. For each SQF and LQF customer, without divulging customer identity of geographic location, please list the capacity (system size in KW) of their Distributed Generation System, the technology type of that system (e.g., PV, wind, hydro, biomass), the date of interconnected operation, and the rate class. List the total amount of kWh delivered to the grid from each NMS customer in each month.

f. What was the total combined capacity by rate class of all SQF and LQF for each year?

g. Please provide any additional data concerning qualified facilities for the years 2018 through 2023 which the Company has reported to the US Energy Information Administration, FERC, the Kentucky Energy and Environment Cabinet, or any other regulatory agency. This includes but is not limited to data filed on Form EIA-861 for each of those years.

h. For each new SQF and LQF account in the years 2021, 2022, and 2023, provide the name of the installation contractor(s) identified on the customer's net metering application.

A-1.2.

a. See attachment being provided in Excel format.

b. See attachment being provided in Excel format.

c. See attachment being provided in Excel format.

d. See attachment being provided in Excel format. The Companies have historically requested only DC capacity values associated with customers' facilities.

e. See attachment being provided in Excel format.

f. See attachment being provided in Excel format.

g. For information concerning qualifying facilities customers for the years 2018 through 2023, please refer to the Companies' EIA-861 Monthly submissions to the Energy Information Administration (EIA) located at https://www.eia.gov/electricity/data/eia861m/. Monthly data for each of the Companies will be under the Non Net Metering Distributed section for each year and on the Utility Level-States tab.

h. The Companies do not maintain this information electronically because they do not have a business use for it. Nonetheless, the Companies have reviewed the relevant applications. See attachment being provided in Excel format.

The attachments are being provided in separate files in Excel format.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to
Kentucky Solar Energy Society and Mountain Association's
Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.3

Responding Witness: Stuart A. Wilson

Q-1.3. Please refer to the 2024-2025 Qualifying Facilities Rates & Net Metering Service-2 Bill Credit, Generation Planning & Analysis, October 2023 (beginning at pdf 16 of both the LG&E and KU December 4, 2023, filings, hereinafter "Planning Study"). Please provide all supporting workpapers in native format with formulas intact and cells unlocked.

A-1.3. See attachments being provided in separate files. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

All files are being provided in Excel format. Certain information requested is confidential and is being provided under seal.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to
Kentucky Solar Energy Society and Mountain Association's
Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.4

Responding Witness: Stuart A. Wilson

Q-1.4. Refer to Section 2 at p.3 (pdf 18) of the Planning Study. Have the Companies conducted any additional analysis that takes into account the certificates of public convenience and need (CPCNs), closures, power purchase agreements (PPAs) and demand side management (DSM) plan approved in the final order of the Commission in Case No. 2022-00402 dated November 06, 2023? If so, please provide any such analysis. If not, why not? See Order, Electronic Joint Application of Kentucky Utilities Company and Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Site Compatibility Certificates and Approval of a Demand Side Management Plan and Approval of Fossil Fuel-Fired Generating Unit Retirements, Case No. 2022-00402, Nov. 6, 2023.

A-1.4. See the response to PSC 1-1.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to
Kentucky Solar Energy Society and Mountain Association's
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Dated January 11, 2024

Case No. 2023-00404

Question No. 1.5

Responding Witness: Stuart A. Wilson

Q-1.5. Please refer to Section 3.1 of the Planning Study beginning at p. 6 (pdf 21).

a. What is the Company's projection for how NMS customer cumulative capacity would expand through 2028?

i. Please represent this in terms of cumulative capacity (KW) and percent of the Company's single hour peak load for the previous year both for cumulative NMS customer-generator capacity, as well as for NMS-1 and NMS-2 customer-generators summed separately. Please provide a detailed explanation and copies of all analysis or studies supporting the Company's projections.

ii. Under each scenario, when does the company project the aggregate capacity of NMS customers would reach 1% of the Company's single hour peak load for the previous year? Please provide a detailed explanation and copies of all analysis or studies supporting the Company's projection.

b. Please refer to Tables 22 and 23 in Appendix A to the Planning Study, and provide the unit-specific capacity additions, and retirements assumed under each of the scenarios, for each year.

c. Have any updates to the assumptions in Tables 22 and 23 in Appendix A to the Planning Study been made since the Planning Study? If so, please provide updated versions of the Tables, along with the unit-specific assumptions.

d. Were different possible scenarios for compliance with any environmental regulatory schemes aside from EPA's proposed Section 111(d) rule evaluated? If so, please provide inputs and outputs/results of any such analysis. If not, why not?

e. Did Companies analyze reductions in capacity factors at either gas or coal plants, other than retirement, whether to comply with federal environmental rules or otherwise, as part of its forecasting of future capacity need? If so, please provide inputs and outputs/results of any such analysis. If not, why not?

A-1.5.

a.

i. The Companies do not project NMS-1 and NMS-2 customer capacity separately. For reference, as of the end of 2023, KU's total installed NMS-1 customer capacity was 10.7 MW DC and LG&E's total installed NMS-1 customer capacity was 8.0 MW DC.

The Companies focus on distributed solar generation when forecasting distributed generation customers and capacity. This is reasonable because nearly all the Companies' current distributed generation installations are solar. The tables below provide the Companies' projections of NMS-level (i.e., less than or equal to 45 kW) distributed solar capacity through 2028.

Year	KU End of Year Cumulative Distributed Solar Capacity (MW DC)[3]	Ratio of EOY Solar Installed Capacity to Single Hour Peak Load
2024	28.14	0.81%
2025	35.05	0.90%
2026	38.84	0.96%
2027	42.07	1.05%
2028	45.29	1.10%

Year	LG&E End of Year Cumulative Distributed Solar Capacity (MW DC)	Ratio of EOY Solar Installed Capacity to Single Hour Peak Load
2024	25.49	0.97%
2025	31.75	1.24%
2026	35.19	1.39%
2027	38.11	1.51%
2028	41.03	1.62%

[3] The KU distributed solar capacities and peak loads in the table exclude ODP. The Companies do not forecast NMS-1 and NMS-2 separately. Customers having net metering installations connected prior to September 24, 2021 are NMS-1. Those having installs connected on or after September 24, 2021 are NMS-2 customers.

The rate of distributed solar growth slowed in 2023 after a period of significant growth from 2020-2022. See the response to Question No. 1.1(h). This slowed growth could be the result of a number of factors, including total costs of installation, higher interest rates, and high inflation.

Because overall economics are important to an investment in distributed solar, the Companies' distributed solar generation forecast is based upon a consumer choice model. The consumer choice model is driven by various economic and financial inputs, including the retail price for electricity, the levelized cost of energy ("LCOE") for solar installations, disposable personal income, and the price paid for energy exported to the grid. The changes to the timing of the solar investment tax credit ("ITC") phase-out discussed in the Inflation Reduction Act ("IRA") is included in the LCOE variable in this model. Two models are specified using the above variables to create both a near-term and a long-term model. This forecast is a blend of the output of these two models.

The results of the modeling process show two distinct phases of distributed generation adoption through 2028. In the first phase, there is rapid growth in distributed generation customers and capacity while NMS-2 service remains available to new customers. In the second phase that occurs after the 1% caps are reached, there is a more gradual increase in distributed generation customers and capacity during the period in which the IRA's extended federal ITC persists but compensation for exported energy is assumed to fall from the NMS-2 rates to the SQF rate.

By the end of 2028, the Companies are projecting more than 86 MW of distributed generation (excluding QFs larger than 45 kW and merchant generators) in the LG&E and KU Kentucky service territories. This is more than double the distributed generation capacity the Companies had at the end of 2023.

ii. The Companies' most recent forecast indicates that LG&E's net metering capacity would reach 1% of its single hour peak load for the previous year in early 2025. For KU, net metering capacity is projected to reach 1% of its single hour peak load for the previous year in early 2027. See Attachment 1 provided in response to Question No. 3 for the hourly load forecast.

b.

Year	Scenario 1		Scenario 2	
	Retirements	Additions	Retirements	Additions
2024	-	-	-	-
2025	• Mill Creek 1 • Haefling 1-2 • Paddy's Run 12	• Rhudes Creek Solar PPA • Ragland Solar PPA	• Mill Creek 1 • Haefling 1-2 • Paddy's Run 12	• Rhudes Creek Solar PPA • Ragland Solar PPA
2026	-	• Gray's Branch Solar PPA • Nacke Pike Solar PPA • Song Sparrow Solar PPA • Mercer Solar • Brown Battery	-	• Gray's Branch Solar PPA • Nacke Pike Solar PPA • Song Sparrow Solar PPA • Mercer Solar • Brown Battery
2027	• Mill Creek 2	• Mill Creek 5 • Gage Solar PPA • Frontier Solar	• Mill Creek 2	• Mill Creek 5 • Gage Solar PPA • Frontier Solar
2028	• Brown 3 • Ghent 2	• Brown 12	• Brown 3 • Ghent 2	• Brown 12
2029	-	-	-	-
2030	-	-	-	-
2031	-	-	-	-
2032	-	-	• Ghent 1, 3-4 • Mill Creek 3-4 • Trimble 1-2	-
2033	-	-	-	-
2034	• Ghent 1 • Brown 9	-	• Brown 9	-
2035	• Brown 8-10	-	• Brown 8-10	-
2036	• Brown 11	-	• Brown 11	-
2037	• Ghent 3-4	-	-	-
2038	-	-	-	-
2039	• Mill Creek 3-4 • Brown 6-7	-	• Brown 6-7	-
2040	• OVEC	-	• OVEC	-
2041	• Brown 5 • Paddy's Run 13 • Dix Dam 1-3	-	• Brown 5 • Paddy's Run 13 • Dix Dam 1-3	-
2042	• Trimble 5-7	-	• Trimble 5-7	-
2043	-	-	-	-
2044	• Trimble 8-10	-	• Trimble 8-10	-

c. No. See the response to PSC 1-1.

d. No. See the response to PSC 1-1.

e. No. Such constraints will be evaluated in the 2024 IRP after the Section 111 rules are finalized.

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

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to
Kentucky Solar Energy Society and Mountain Association's
Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.6

Responding Witness: Stuart A. Wilson

Q-1.6. Please refer to the Generation Forecast Process, Generation Planning & Analysis, 2023 (beginning at pdf 35 of both the LG&E and KU December 4, 2023, filings, hereinafter "Forecast Process"). Please provide all supporting workpapers in native format with formulas intact and cells unlocked.

A-1.6. See Attachments 1-4 and Attachment 5 at the filepath: \02_03_04\02_CONFIDENTIAL_PROSYM provided in response to Question No. 3.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to
Kentucky Solar Energy Society and Mountain Association's
Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.7

Responding Witness: Stuart A. Wilson

Q-1.7. Provide a breakdown by category of each component of costs included in the Company's avoided cost calculations, and the methodology and data on which the cost was calculated and assigned. Please provide a comparison of the current costs for each category with the assumed avoided costs in 2020-00349 and 00350 and explain the basis or bases for the increase or decrease in costs.

A-1.7. The avoided cost categories the Companies calculated for their October 31, 2023 tariff filings were avoided energy and generation capacity costs.

With regard to avoided energy cost, the Companies did not calculate or assign component costs; rather, the Companies used SAS to calculate the decremental total avoided energy cost.

Concerning avoided generation capacity cost, differences between the proposed and current rates are explained primarily by the shift in the assumed year of capacity need (2032 in the proposed rates; 2025 in the current rates), which is offset by other changes in assumptions, including higher SCCT costs in the proposed rates.[4] The table below contains the impact of these changes on the generation capacity rates in the NMS-2 Bill Credits.

NMS-2 Bill Credits ($/kWh) – Avoided Generation Capacity Cost (With Losses)

	LG&E	KU
Proposed Rate Component	0.01444	0.01476
Shift Capacity Need from 2032 to 2025	+0.01315	+0.01344
Other Differences (including SCCT Costs)	-0.00698	-0.00714
Current Rate Component	0.02061	0.02106

[4] Other changes in assumptions also include, for example, changes in the discount rate and the presentation of the data in 2023 dollars in the proposed rates (compared to 2021 dollars in the current rates).

KENTUCKY UTILITIES COMPANY
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Response to
Kentucky Solar Energy Society and Mountain Association's
Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.8

Responding Witness: Robert M. Conroy / Stuart A. Wilson

Q-1.8. Please refer to Order, *In the Matter of: Electronic Application of Kentucky Utilities Company for an Adjustment of Its Electric Rates, a Certificate of Public Convenience and Necessity to Deploy Advanced Metering Infrastructure, Approval of Certain Regulatory and Accounting Treatments, and Establishment of a One-Year Surcredit, Case No. 2020-00349; and Electronic Application of Louisville Gas and Electric Company for an Adjustment of Its Electric and Gas Rates, a Certificate of Public Convenience and Necessity to Deploy Advanced Metering Infrastructure, Approval of Certain Regulatory and Accounting Treatments, and Establishment of a One-Year Surcredit*, Case No. 2020-00350, Sept. 24, 2021.

a. In the present application, please explain how each of the guiding principles developed by the Commission in Kentucky Power Company Case No. 2020-00174 and reiterated in the Commission's Order in Case Nos. 2020-00249 and 2020-00350 were addressed and incorporated into the formulation of each the proposed tariffs. See Order at 41-42.

b. Please explain which of the components of the Commission's Avoided Cost Rate Calculation were updated in this filing, and the basis and formulae for how each was calculated. Provide all supporting workpapers in native format with formulas intact and cells unlocked for the calculation and formulation of:

   i. avoided energy cost

   ii. avoided generation capacity cost

   iii. avoided transmission capacity cost

   iv. avoided distribution capacity cost

v. avoided ancillary services cost

vi. avoided carbon cost

vii. avoided environmental compliance cost, and

viii. jobs benefits

A-1.8.

a. The Companies used the same avoided energy and avoided generation capacity calculation methodologies used in formulating the SQF, LQF, and NMS-2 rates approved in the Commission's Sept. 24, 2021 Order in Case Nos. 2020-00349 and 2020-00350 to update the avoided energy and avoided generation capacity components of the rates for Riders SQF, LQF, and NMS-2. The Companies did not update the other components of Rider NMS-2.

b. See the response to a. above and the workpapers provided in response to Question No. 1.3. Note that, consistent with the Commission's approach in its Sept. 24, 2021 Order in Case Nos. 2020-00349 and 2020-00350, the Companies computed the energy and generation capacity components of Rate NMS-2 as the average of the seven-year PPA prices (with line losses) for fixed-tilt solar PPAs beginning in 2024 and 2025.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to
Kentucky Solar Energy Society and Mountain Association's
Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.9

Responding Witness: Stuart A. Wilson

Q-1.9. What was the Company's load profile for each of the last two years, expressed in 15-minute intervals?

a. Provide a breakdown of how the Company's cost of power changes over the course of each day for each month of the year.

b. What is the Company's cost of power during peak demand times for each month (including all energy, demand, and transmission charges)?

c. Identify what resources the Company uses to meet demand during times of peak demand.

d. Identify the Company's costs for power and energy during on peak and off-peak times each month.

A-1.9. See the attachment being provided in a separate file.[5]

a. See the response to the primary question above. The data provided includes the Companies' system lambda, which represents the estimated average cost of the incremental 1 MW above load for each period.[6] It includes estimates for the costs of fuel and operating consumables expenses, the market value of emissions allowances, and the net revenue associated with the sales and handling of coal combustion residuals. The Companies do not track the total cost of power on an hourly basis.

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[5] The Companies' system of record for load data is integrated on an hourly basis. The sub-hourly data provided here may total with small differences compared to the official hourly data.

[6] The system lambda is calculated automatically based on inputs to the Companies' dispatch system. The calculation can be subject to specific system conditions that result in a small subset of readings with abnormally high or low values.

b. Demand and transmission charges are fixed and are not incurred on an hourly basis. For energy, see the response to part (a).

c. All resources are relied upon to meet demand at all times, including peak times, and are dispatched depending on system conditions.

d. See the responses to the primary question above and part (a).

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

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to
Kentucky Solar Energy Society and Mountain Association's
Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.10

Responding Witness: Michael E. Hornung

Q-1.10. Please refer to Companies' Tariff Terms and Conditions – Net Metering Service Interconnection Guidelines (Sheet 108.4) provision (9), and Companies' Responses to Kentucky Solar Industries Associations Inc.'s Initial Requests for Information dated January 22, 2021, in Case Nos. 2020-00349 & 2020-00350, Response to Question 5.

a. Please provide the number of customer-generators previously grandfathered into NMS-1 that have been removed from NMS-1 due to expansion, or other alteration of the facility.

b. Please provide the total hourly energy produced by customer-generators previously grandfathered into NMS-1 that have been removed from NMS-1 due to expansion, replacement, or other alteration of the facility since removal from NMS-1.

c. Please provide the total generation capacity of customer-generators previously grandfathered into NMS-1 that have been removed from NMS-1 due to expansion, or other alteration of the facility since removal from NMS-1, both by original and expanded capacity.

A-1.10.

a. The Companies have not removed any customer-generator from NMS-1 service due to expansion or other alteration of the customer-generator's facility.

b. See the response to a. above.

c. See the response to a. above.

KENTUCKY UTILITIES COMPANY
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Response to
Kentucky Solar Energy Society and Mountain Association's
Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.11

Responding Witness: Counsel

Q-1.11. Please provide a comprehensive tabulation of all costs and allocation of costs associated with the following activities, for each of the years 2021-2023:

a. Trade association dues to and staff time spent on activities conducted by any organization developing or taking any position on net metering rate design, rate design in general, or conducting studies or issuing reports on net metering rate design and rate design in general.

b. Lobbying and regulatory affairs advocacy and communications relating to net metering rate design, non-utility generation, and related topics; and other utility-related topics.

c. Economic development rates and incentives.

d. Storm and extreme-weather damage prevention and response.

A-1.11.

a. Objection. The information requested in parts a. – d. is irrelevant to the subject matter of this proceeding, i.e., updating compensation rates for customers' exported energy under Riders SQF, LQF, and NMS-2. Moreover, none of the information requested could reasonably be expected to lead to the discovery of relevant information. In addition to being irrelevant, the requests are vague, overly broad, and unduly burdensome.

b. See the response to a. above.

c. See the response to a. above.

d. See the response to a. above.

KENTUCKY UTILITIES COMPANY
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Response to
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Dated January 11, 2024

Case No. 2023-00404

Question No. 1.12

Responding Witness: Robert M. Conroy

Q-1.12. The National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources ("NSPM-DER," available at https://www.nationalenergyscreeningproject.org/national-standard-practicemanual/) provides a comprehensive framework for cost-effectiveness assessment of distributed energy resources including distributed generation, distributed storage, demand response, and energy efficiency. The NSPM-DER also provides guidance on addressing multiple DERs and rate impacts and cost shifts.

a. Is the Company aware of and familiar with the NSPM-DER?

b. Did the Company rely upon the NSPM-DER in developing its proposal for a new net metering tariff? Please explain why or why not.

A-1.12.

a. Yes, the Companies are aware of the NSPM-DER. It is unclear what is intended by "familiar with." Some of the Companies' personnel have read portions of the NSPM-DER.

b. No. The Companies' October 31, 2023 tariff filings that are the subject of this proceeding did not "propos[e] … new net metering tariff[s]"; rather, with regard to Rider NMS-2 for each of the Companies, the filings solely updated the existing dollar-denominated bill credit. In doing so, the Companies relied on the direction provided in the Commission's Sept. 24, 2021 Order in Case Nos. 2020-00349 and 2020-00350 to update avoided energy and generation costs, and for all other components of the Rider NMS-2 bill credit the Companies used the cost components prescribed by the Commission in that Order.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to
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Initial Request for Information
Dated January 11, 2024

Case No. 2023-00404

Question No. 1.13

Responding Witness: Robert M. Conroy

Q-1.13. Has the Company performed cost of service analysis on net metering customers? Please explain whether and how net metering customers cost more or less to serve than non-net metering customers. If the Company has not performed cost of service analysis on net metering customers, how has the Company determined that its proposed net metering tariff changes adhere to the principle of cost causation, i.e. that customers are fairly allocated the costs to serve them. Please provide copies of any and all such studies.

A-1.13. No. See the response to Question 12.b. The Commission's Sept. 24, 2021 Order in Case Nos. 2020-00349 and 2020-00350 did not suggest or require that net metering customers be treated as a separate class in cost of service studies, nor would it make sense to do so given the statutorily required approach to compensating NMS-1 customers and the NMS-2 rate components prescribed by the Commission in that Order.

KENTUCKY UTILITIES COMPANY
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Response to
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Dated January 11, 2024

Case No. 2023-00404

Question No. 1.14

Responding Witness: Peter Waldrab

Q-1.14. Has the Company performed any studies or analysis of the impact distributed energy resources could have or has had on their distribution grid, to reduce or defer infrastructure investments, or to improve system reliability or resilience for customers? Is the Company aware of any such studies performed by other parties in other regions or utility territories? Please provide copies of any such studies or analysis.

A-1.14. The Companies have not performed any broad-based studies on the impact of DERs within their system. DER interconnections are tracked and studied on an individual basis as they are received. If negative grid impacts or violations of the LG&E and KU interconnection guidelines are discovered, the customer or installer is notified of suggested changes. Often, smart inverter settings are recommended to utilize the DER to remedy negative voltage or power quality impacts when possible.

Relatively low penetrations of DERs on the Companies' distribution system have limited any potential net benefits or costs of DER. Additionally, the intermittency of solar and wind generation limits the ability to rely on DER to provide beneficial grid services as the grid must be designed to handle the highest forecasted electric load when DER may not be available.

The Companies do currently evaluate non-wires alternatives when performing system planning. Also, the Companies monitor peer utilities' activities through participation in industry organizations such as EEI, EPRI, and others. Through such participation, the Companies are aware that a number of studies of the kind addressed in the request exist. The Companies are specifically aware of and have readily available the attached responsive documents, which are confidential and proprietary and are being provided under seal pursuant to a petition for confidential protection. The names of the documents and links to where EPRI members may access them and non-members may purchase them are below:

- Screening of Non-Wires Alternatives in Distribution Planning: Integration of NWA Screening Criteria, Methods, and Resource Characterizations[7]

- Utility Strategies and Lessons Learned from Non-Wires Alternative (NWA) Projects: Workshop Proceedings[8]

- Guidance on DER as Non-Wires Alternatives (NWAs): Technical and Economic Considerations for Assessing NWA Projects[9]

[7] Available at https://www.epri.com/research/products/000000003002021681.
[8] Available at https://www.epri.com/research/products/000000003002027698.
[9] Available at https://www.epri.com/research/products/000000003002013327.

The information requested is confidential in its entirety and is being provided under seal.