COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILITIES COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC RATES AND APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS	**)** **)** **)** **)** **)**	**CASE NO. 2025-00113**

RESPONSE OF KENTUCKY UTILITIES COMPANY TO THE KENTUCKY SOLAR INDUSTRIES ASSOCIATION, INC.'S INITIAL REQUEST FOR INFORMATION

DATED JULY 3, 2025

FILED: July 16, 2025

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, 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 14th day of July 2025.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

CAROLINE J. DAVISON
NOTARY PUBLIC
ID # KYNP63286
COMM EXPIRES 01/22/2027
STATE AT LARGE, KENTUCKY

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

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

Elizabeth J. McFarland

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10th day of July 2025.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

CAROLINE J. DAVISON
NOTARY PUBLIC
ID # KYNP63286
STATE AT LARGE, KENTUCKY

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Charles R. Schram**, being duly sworn, deposes and says that he is Vice President –Energy Supply and Analysis for Kentucky Utilities Company and Louisville Gas and Electric Company and is an employee of LG&E and KU Services Company, 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.

Charles R. Schram

Subscribed and sworn to before me, a Notary Public in and before said County and State this 10th day of July 2025.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

CAROLINE J. DAVISON
NOTARY PUBLIC
ID # KYNP63286
STATE AT LARGE, KENTUCKY
COMM EXPIRES 01/22/2027

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, 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

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10th day of July 2025.

Notary Public

Notary Public ID No. KYNP61560

My Commission Expires:

November 9, 2026

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

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 1

Responding Witness: Michael E. Hornung / Charles R. Schram

Q-1. References: Case No. 2025-00113, Application, Filing Requirements, Volume 1 of 10, Tab 4, Page 104 of 205 [PDF 118 of 438] and 108 of 205 [PDF 122 of 438]; 2025-00114, Application, Filing Requirements, Volume 1 of 11, Tab 4, Page 102 of 204 [PDF 107 of 723] and Page 106 of 204 [PDF 111 of 723]. Additional Reference: Application, Direct Testimony of Michael E. Hornung ("Hornung Direct"), page 18, lines 1 through 5 which states: "The Companies are further revising the Availability section of Riders SQF and LQF to clarify that power purchase agreements, therefore, capacity payments, are available to customers only under buy-all, sell-all arrangements, not to behind-the-meter qualifying facilities in which customers have first call on their facilities' capacity and energy."

a. For the period from January 1, 2020 to the present, by Company and by year, identify the number of Sellers under each Company's Standard Rate Rider SQF tariff provision from whom the Company purchased "energy and capacity" from the Seller in the absence of the Seller having a power purchase agreement ("PPA") with the Company.

b. For the period from January 1, 2020 to present, by Company and by year, identify the number of Sellers under each Company's Standard Rate Rider LQF tariff provision from whom the Company purchased "energy and capacity" from the Seller in the absence of Seller having a PPA with the Company.

c. With regard to the purchases of "energy and capacity" in the absence of a PPA pursuant to either Rider SQF or Rider LQF identified in parts (a) and (b) above, how was(were) the capacity payment rate(s) determined? If there were no purchases of "energy and capacity" pursuant to either Rider SQF or Rider LQF as per the requests in parts (a) and (b), explain the Company's method or approach for how the Company would have determined the various capacity payment rates.

d. For the existing Rider SQF of each Company, state whether a Seller has an option of entering into a power purchase agreement that is not a buy-all,

sell-all arrangement. If yes, identify and describe the other types of power purchase agreement arrangements that are available to a Seller.

e. For the existing Rider LQF of each Company, state whether a Seller has an option of entering into a power purchase agreement that is not a buy-all, sell-all arrangement. If yes, identify and describe the other types of power purchase agreement arrangements that are available to a Seller.

f. Regarding Rider SQF, state whether either Company is proposing to eliminate energy (only) purchases from all Sellers who have not entered into a PPA with the Company. If yes, explain why.

g. Regarding Rider LQF, state whether either Company is proposing to eliminate energy (only) purchases from all Sellers who have not entered into a PPA with the Company. If yes, explain why.

h. Is either Company proposing to eliminate "energy" (only) purchases under power purchase agreements that are not buy-all, sell-all arrangements. If yes, explain why.

A-1.

a. Zero.

b. Zero.

c. The Companies would not provide capacity payments in the absence of a power purchase agreement. That said, see Section 3 of Exhibit CRS-6 for the Companies' methodology for calculating avoided capacity rates.

d. Customers can only enter into a power purchase agreement on a buy-all, sell-all basis.

e. Customers can only enter into a power purchase agreement on a buy-all, sell-all basis.

f. The Company will maintain the provision of credits to customers who supply energy on an "as-available" basis. As the tariff specifies the applicable terms and conditions for "as-available" arrangements, a separate purchase contract is not required.

g. The Company will maintain the provision of credits to customers who supply energy on an "as-available" basis. As the tariff specifies the applicable terms and conditions for "as-available" arrangements, a separate purchase contract is not required.

h. Yes. Customers using behind-the-meter generation mainly for their own use fall under the tariff's "as-available" provisions and do not need a contract. If the Company does not have priority rights to the generated energy, by definition, a contract is unnecessary.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 2

Responding Witness: Charles R. Schram

Q-2. Reference: Application, Direct Testimony of Charles R. Schram ("Schram Direct"), Exhibit CRS-6, Generation Planning & Analysis, May 2025.

a. Section 2, at pertinent part on page 3, states: "To focus the analysis on the costs of the Companies' resources serving native load, market electricity purchases and off-system sales were not permitted in PROSYM." Refer to Schram Direct, page 31, lines 15 through 17 which states: "The basic idea underlying the concept of avoided costs is that customers should pay no more for energy or capacity from a QF than they would pay for energy or capacity from a non-QF resource." Fully explain what the phrase "Companies' resources serving native load" comprises. Include with the explanation an identification of the resources that are assets in the rate bases of either or both of the Companies and, separately, the resources that are not in the rate bases of either or both of the Companies.

b. For any amount of time in the period from January 1, 2020 to present, have either Company or the Companies relied upon market electricity purchases for the purpose of serving native load? If yes, please explain why PROSYM is not permitted to consider market electricity purchases for serving native load.

A-2.

a. All of the Companies' generation resources serve native load and are in the Companies' rate bases. The resources are listed in Exhibit CRS-5.

b. Yes. The Companies have relied on relatively small amounts of purchased power to serve native load when it has been economic to do so or, rarely, to support reliability. It has been the Companies' practice to not model uncertain energy market transactions so that they do not impact resource decisions.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 3

Responding Witness: Charles R. Schram

Q-3. Reference: Schram Direct, page 35, lines 7 through 11 that states: "Because the Companies are transitioning from lower economic minimum reserve margins to higher minimum reserve margins developed to reduce the loss of load expectations to one day in ten years, the capacity need is assumed to be immediate, in 2026."

a. State the Companies' position concerning whether net metering customers, SQF sellers, or LQF sellers are providing a present or otherwise immediate capacity benefit regarding the Companies' immediate capacity need? Fully explain.

b. Additional Reference: Schram Direct, Exhibit CRS-6, Page 6 of 14. Under the assumptions that the Companies' proposals are approved and there are no delays, the earliest in service date for Brown 12 occurs in 2030, the earliest in service date for Mill Creek 6 occurs in 2031, the earliest in service date for Cane Rune BESS occurs in 2028, and the SCR system at Ghent 2 is projected to be operational in 2028, state the Companies' position concerning whether net metering customers, SQF sellers, or LQF sellers are providing a present or otherwise immediate capacity benefit regarding Companies' need for capacity for which the Companies are pursuing the development of additional capacity and the maintenance of capacity through the pending application for the various certificates of public convenience and necessity for these four (4) projects. Fully explain.

A-3.

a. Because net metering service customers ("NMS"), SQF, and LQF resources are reflected as reductions to the Companies' load forecasts based on their generation profiles, they are not explicitly regarded as generation capacity. Solar resources, which are the primary resource type among NMS and QF resources, provide no load reduction at the times of the Companies' forecasted winter peaks.

b. While existing NMS, SQF, and LQF customers, which are primarily solar, have a favorable impact on summer reserve margin by lowering summer net peak load, they have no impact on the Companies' winter capacity need and thereby have no impact on the need for the resources proposed in the Companies' CPCN application.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 4

Responding Witness: Charles R. Schram

Q-4. Reference: Schram Direct, page 31, lines 15 through 17. At pertinent part, the referenced testimony states that "customers should pay no more for energy or capacity from a QF than they would pay for energy or capacity from a non-QF resource." Additional Reference: Exhibit CRS-6, Section 3.1, Contribution to Timing and Size of Future Need for Capacity, Page 7 of 14 which states, at pertinent part: "As Table 5 shows, 80 MW QF PPAs of single-axis tracking solar, fixed tilt solar, and wind do not result in any changes to the Companies' optimal resource plan."

a. Identify the basis for the Companies' apparent position that there is no requirement for the Companies to pay for capacity from a QF in the absence of the capacity from the QF causing a change in the Companies' long-range resource proposals.

b. Additional Reference: Schram Direct, page 34, lines 11 through 13. With regard to generation resources (excluding battery storage resources from consideration for this question), is it the Companies' position that the only scenario in which capacity from a QF should be compensated is one in which the amount of capacity from the QF (or from QFs in the aggregate) is (are) sufficient to offset the total capacity amount that would otherwise be met by the addition of a non-QF resource? For this question, for example, with regard to the proposed Brown 12, is it the Companies' position that capacity provided by a QF should only be compensated if the QF or QFs in the aggregate eliminate the need for Brown 12?

A-4.

a. The basis is that if no capacity resource would actually be avoided or delayed by a QF resource, then no capacity payment should be made. Otherwise, customers would be overpaying for capacity.

b. Yes. See the response to part (a).

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 5

Responding Witness: Charles R. Schram

Q-5. Reference: Schram Direct, Exhibit CRS-6, page 11 of 14. The Companies recommend limiting QF capacity to the lower of the actual need or 1,000 MW to provide an intermittent generation "circuit breaker" for assessing grid reliability in a scenario where a large amount of QFs are constructed in the Companies' service territories. Additional Reference: Application, Direct Testimony of John R. Crockett III, page 11, lines 1 through 5 which states: "We recognize that we filed a CPCN case in February of this year in which significant investments are proposed to meet expected load growth, which includes two new natural gas combined cycle ("NGCC") generating facilities, a battery energy storage systems, and a pollution control facility for one of our generating units at the Ghent Generating Station."

a. Given that the Companies have identified load growth in a range from 1,750 MW to 6,000 MW regarding data center projects alone, explain whether, and if applicable why, the Companies' assumptions and assessments regarding grid reliability in scenarios in which a large amount of QFs are constructed in the Companies' service territories.

b. With regard to the phrase "large amount of QFs," explain what is meant by the phrase and provide a quantification of this concept to the Companies' existing system and the Companies' system in a scenario in which 6,000 MW of load is added to serve data centers.

A-5.

a. It is unclear what this incomplete question is attempting to ask.

b. Large amounts of intermittent generation can result in reliability issues. The 1,000 MW limit is intended to create a reasonable check point to allow for the Companies to evaluate system reliability before too much intermittent generation can be placed on the system in a short amount of time. The Companies have not quantified the term "large amount" beyond the 1,000 MW.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 6

Responding Witness: Charles R. Schram

Q-6. Reference: Schram Direct, page 39, lines 5 through 7. Please explain in detail how "any avoided costs driven by environmental regulatory changes that affect generation capacity decisions are already reflected in the avoided generation capacity cost component."

A-6. The avoided capacity cost component of the Rider NMS-2 compensation rate reflects avoided capacity costs no matter the reason for the capacity need, including environmental regulatory changes. In other words, if environmental regulatory changes occur in which new generation capacity is required for compliance, the cost of that generation capacity is reflected in the avoided capacity cost component.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 7

Responding Witness: Charles R. Schram

Q-7. Reference, Schram Direct, Exhibit CRS-6, page 6 of 14, Table 5. Please explain why an 80 MW solar QF would not substitute for an 80 MW portion of the 815 MW of solar identified in the High Gas scenarios (columns 3 and 5 starting from the left) in the row reflecting the 2025 CPCN Resource Plan.

A-7. The results indicate that the 815 MW of solar selected in the 2025 CPCN Resource Plan in high gas price scenarios would remain economic from an energy cost perspective with the addition of 80 MW of QF solar.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 8

Responding Witness: Michael E. Hornung

Q-8. Reference: Hornung Direct, page 18, lines 1 through 5 which describe the Companies' proposal to revise Riders SQF and LQF to limit payments for capacity to QFs that sell power under buy-all, sell-all rates. Please identify any other utilities that the Companies are aware of that limit capacity payments to QFs to buy-all, sell-all power purchase contracts.

A-8. The Companies have not performed this research.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 9

Responding Witness: Peter W. Waldrab

Q-9. Reference: Application, Direct Testimony of Peter W. Waldrab ("Waldrab Direct") at page 41, lines 9 through 12 which states: "When distributed energy resources are dispatchable, the serving utility can use them, for example, to time-shift peak demand on circuits nearing capacity to offset the need for capacity upgrades."

a. Please admit that distributed energy resources modify the demand on circuits and substations regardless of whether they are dispatched to do so.

b. If your response to subpart(a) of this request is anything other than an unqualified admission, please explain in detail.

A-9.

a. Yes, distributed energy resources do modify the demand on circuits, however, impact is dependent upon coincidence with system peak loading.

b. See Exhibit PWW-3 "Effects of Distributed Generation on Distribution & Transmission".

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 10

Responding Witness: Peter W. Waldrab

Q-10. Reference: Waldrab Direct. Please provide the workpapers associated with Exhibit PWW-3 in executable spreadsheet format with all formulas and file linkages intact.

A-10. See attachment being provided in a separate file.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 11

Responding Witness: Peter W. Waldrab

Q-11. Reference: Waldrab Direct, Exhibit PWW-3 at Page 4 of 5 which depicts the shape of peak loads on the LGE Worthington Substation and the KU Newtown Substation in the Companies' hypothetical distribution value analysis, and providing accompanying discussion of their interpretation of the results of that analysis.

a. Does the Companies' distribution planning and analysis for the Worthington substation utilize the summer peak or the winter peak as the relevant peak load metric when considering whether additional capacity is required to meet customer loads?

b. Does the Companies' distribution planning and analysis for the Newtown substation utilize the summer peak or the winter peak as the relevant peak load metric when considering whether additional capacity is required to meet customer loads?

c. Do the Companies only upgrade substations if projected peak demands exceed the maximum capacity of a substation by more than 1 MW?

d. For each individual substation and distribution feeder on the Companies' system, please provide the following information for the 2023 and 2024 calendar years.

1. The date and time, in prevailing time hour ending format, of the maximum annual peak demand.

2. The maximum annual peak demand.

3. The maximum demand that the substation or distribution feeder, as applicable, is capable of serving.

4. The composition of customers served by that infrastructure broken down by rate class or general category of customer (e.g., residential, commercial, industrial).

A-11.

a. For the Worthington Substation analysis the summer peak was used for distribution planning and analysis, which is the highest yearly peak for that substation.

b. For the Newtown Substation analysis the winter peak was used for distribution planning and analysis which is the highest yearly peak for that substation.

c. No, the Companies base substation capacity upgrades on nameplate capacity of the substation transformer and corresponding non-coincidental peak load forecast.

d. The data provided on all circuits with available SCADA data to historical limit.

    1. See attachment being provided in a separate file.

    2. See the response to part (a).

    3. See the response to part (a).

    4. The Company does not track customer rate class by circuit or substation.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 12

Responding Witness: Peter W. Waldrab

Q-12. Reference: Waldrab Direct, Exhibit PWW-3 at Page 2 of 5 which shows the solar production profile that the Companies' used in their distribution value analysis based on the production profile of the Simpsonville Solar Share facility. The flat character midday production in the accompanying figure indicates that solar production during peak solar production hours is being "clipped" due to inverters being undersized relative to the maximum production capability of the solar PV modules.

a. Please identify the total rated capacity of the solar PV modules for the Simpsonville Solar Share facility.

b. Please identify the total rated capacity of the inverters used by Simpsonville Solar Share facility.

c. Is it the Companies' experience that inverters for residential solar installations are commonly undersized in relation to the total rated capacity of the solar PV modules present in the system? If so, please provide any supporting evidence that the Companies possess in support of this assertion.

A-12.

a. Total DC capacity of first 5 sections is 2,584,240 Watts DC.

b. Total AC capacity of first 5 sections is 2,100,000 Watts AC.

c. While it is common to size the DC capacity higher than the AC capacity, the actual ratio is dependent on each individual design and contractor installation practices. In exhibit PWW-3, a clipped production profile was chosen to maximize the capacity factor for the solar production resulting in the best-case output for solar.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 13

Responding Witness: Peter W. Waldrab

Q-13. Reference: Waldrab Direct, Exhibit PWW-3 at Pages 2 and 3 of 5 discussing sizing considerations for service transformers.

a. Please describe in detail the tolerance metrics that the Companies' employ to determine whether a customer requires a larger service transformer due to the customer's peak load.

b. Please describe in detail the tolerance metrics that the Companies' employ to determine whether a customer requires a larger service transformer due to the maximum export potential from a behind the meter solar installation on the customer's site.

c. During 2024, what percentage of the Companies' service transformers experienced peak loads in excess of their rated capacity?

A-13.

a. Transformers are sized in accordance with load sheets submitted by the developer and/or customer. This process accounts for load diversity and ensures that the transformer has adequate capacity to serve the load.

b. For behind the meter distributed generation installations, service transformer nameplate capacity is compared to maximum export potential to determine if upgrades are required. Any solar installations that result in maximum exports over 100% of nameplate capacity require higher capacity transformers to be installed.

c. The Companies do not currently track loading on service transformers. This functionality is being added with the AMI deployment.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 14

Responding Witness: Elizabeth McFarland

Q-14. Reference: Application, Direct Testimony of Elizabeth J. "Beth" McFarland ("McFarland Direct"). Please provide the workpapers associated with Exhibit BJM-3 in executable spreadsheet format with all formulas and file linkages intact.

A-14. See attachments being provided in separate files. The information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 15

Responding Witness: Elizabeth J. McFarland / Charles R. Schram

Q-15. Reference: McFarland Direct, Exhibit BJM-3 at Page 4 of 6 describing the limits that the Companies' employed on the aggregate amount of distributed energy resources in their transmission value analysis.

a. Please provide an annual forecast of distributed energy resource capacity for the Companies' systems that is not constrained by the 1% of single hour peak load limit.

b. Please provide the results of the Companies' transmission modeling based on a simulation that does not employ the 1% of single hour peak load constraint on distributed energy resource capacity.

A-15.

a. See the table below for annual DER capacity forecast (in kW) that is not constrained by the 1% cap limit. This forecast is identical to the 2024 IRP High Solar Case. See also the response to Joint Intervenors 1-137.

Year	KU NMS (kW)	KU QF	KU total	LGE NMS	LGE QF	LGE total
2025	42,926	5,159	48,086	40,480	2,997	43,476
2026	55,231	5,548	60,779	51,744	3,222	54,966
2027	67,912	5,936	73,848	62,946	3,448	66,394
2028	80,776	6,324	87,100	74,078	3,673	77,752
2029	93,690	6,713	100,402	85,419	3,899	89,318
2030	106,854	7,101	113,955	97,758	4,124	101,882
2031	119,464	7,489	126,953	111,254	4,350	115,604
2032	131,907	7,878	139,785	123,000	4,575	127,575
2033	144,706	8,266	152,972	135,090	4,801	139,891
2034	156,583	8,654	165,237	145,178	5,027	150,204
2035	169,666	9,043	178,709	155,266	5,252	160,518

b. The Companies have not performed this analysis.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 16

Responding Witness: Elizabeth J. McFarland

Q-16. Reference: McFarland Direct, Exhibit BJM-3 at Page 6 of 6 describing why the MVA flow violation and voltage violations indicated by the "W/O DER" scenarios are not significant.

a. Is it correct that the Companies would only undertake transmission upgrade investments if violations are considered to be "significant impacts" according to the metrics that define a significant impact in the transmission planning process?

b. Please explain in detail the circumstances where the Companies would plan investments based on impacts that fall below the "significant" criteria metrics.

c. Please explain in detail the circumstances where the Companies would not plan investments even where impacts are forecasted to be above the "significant" criteria metrics.

A-16.

a. The Companies would make necessary transmission upgrades for any thermal overloads or voltage violations that violate the Companies' planning criteria. However, to prevent attributing violations to proposed projects that have non-material contributions to those violations, the Companies quantify those contributions using certain criteria metrics. The Companies have set those thresholds for "significant impact" at or above 1% for the voltage impact or 2 MW impact on a transmission facility.

b. See the response to part a.

c. See the response to part a.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 17

Responding Witness: Charles R. Schram

Q-17. Reference: Schram Direct, Exhibit CRS-1 and Exhibit CRS-2. In reference to Exhibit CRS-1 and Exhibit CRS-2, please provide in Excel format with all formulas intact, average and median values for all rate classes eligible to participate in net metering, SQF, or LQF rates in an 8,760 hour format the base period(s) and the test year.

A-17. See attachment being provided in a separate file. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. Note that median is not available.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 18

Responding Witness: Charles R. Schram

Q-18. Reference: Schram Direct, Exhibit CRS-6. In reference to 2026-2027 Qualifying Facilities Rates & Net Metering Service-2 Bill Credit Generation Planning & Analysis May 2025, please provide the data used to calculate the values presented in Table 1: QF Generation Technologies in Excel spreadsheet format with all formulas intact.

A-18. See attachment being provided in a separate file, which includes calculations for capacity factors in Row 30 of the "Pivot" worksheet. Hourly generation profiles for single-axis tracking solar, fixed tilt solar, and wind QF generation technologies were provided in Exhibit CRS-7 at "CSR_QF_NMS\SAS\Profiles\2025BP_QFProfiles.csv."

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 19

Responding Witness: Charles R. Schram

Q-19. Reference: Schram Direct, Exhibit CRS-6. In reference to 2026-2027 Qualifying Facilities Rates & Net Metering Service-2 Bill Credit Generation Planning & Analysis May 2025 (i.e. Exhibit CRS-6 at page 4) please provide the following:

a. An explanation of the intended meaning of the word "decremental";

b. The reference upon which the intended meaning of the word "decremental" is based; and

c. A justification for the use of the word "decremental" in the context of calculating the avoided cost.

A-19.

a. Similar to the incremental cost of energy, which represents the cost of ramping up by 1 MW, the decremental cost of energy is the cost of ramping down by 1 MW.

b. See the response to part a.

c. Because QF generation would result in fewer MW required of the Companies' existing and planned resources in a given hour, the decremental cost of energy is the appropriate measure for avoided energy costs from QF generation.

KENTUCKY UTILITIES COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
Dated July 3, 2025

Case No. 2025-00113

Question No. 20

Responding Witness: Charles R. Schram

Q-20. Reference: Schram Direct, Exhibit CRS-6. In reference to 2026-2027 Qualifying Facilities Rates & Net Metering Service-2 Bill Credit Generation Planning & Analysis May 2025 (i.e. Exhibit CRS-6 at page 5) please provide the data and calculations used to calculate the values presented in Table 3: Annual Avoided Energy Cost ($/MWh) in spreadsheet format with all formulae intact.

A-20. As stated on page 3 of Exhibit CRS-6, "The Companies evaluated the impact on system energy costs for each Qualifying Facility ("QF") technology using forecasted hourly energy costs developed in PROSYM." The referenced PROSYM runs were provided in Exhibit CRS-7 at "CSR_QF_NMS\PROSYM." Then, as stated on page 4 of Exhibit CRS-6, "the Companies first computed the decremental cost of energy for each megawatt-hour ("MWh") of generation in each hour of the forecast period (2026-2033). Then, for each hour and generation technology, the avoided cost of energy was computed with the assumption that the highest-cost energy would be avoided first." The workpapers for these steps were included in Exhibit CRS-7 at "CSR_QF_NMS\SAS." Finally, as stated on page 4 of Exhibit CRS-6, "the annual avoided energy costs were averaged over the three fuel price scenarios." The workpaper showing this calculation was included in Exhibit CRS-7 at "CSR_QF_NMS\SAS\ CONFIDENTIAL_20250305_QFModel_2025BP_D06.xlsx." The values in Table 3 are calculated in cells C4:F11 of the "Market" worksheet.

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Question No. 21

Responding Witness: Charles R. Schram

Q-21. Reference: Schram Direct, Exhibit CRS-6. In reference to 2026-2027 Qualifying Facilities Rates & Net Metering Service-2 Bill Credit Generation Planning & Analysis May 2025 (i.e. Exhibit CRS-6 at pages 6 and 7):

a. Please explain fully the decision to use an 80 MW QF and not a different QF capacity amount;

b. Please explain how non-"Other" QFs co-located with a BESS were considered and evaluated for their capacity contribution;

c. Please provide documentation and model results of all other changes to the dispatch and generation of the Companies' existing or planned resources under each PLEXOS scenario in Table 5; and

d. Please explain in full detail with documentation how the Companies' accounted for and the energy-related costs of charging the "battery energy storage system ("BESS")" as defined in Schram Direct at 23:15 in the avoided cost of energy.

A-21.

a. The Companies modeled 80 MW QF generation profiles because 80 MW is the maximum nameplate capacity for a small power production facility (rather than a cogeneration) QF.[1] Using the maximum nameplate capacity maximizes a QF's potential avoided energy and capacity costs. See page 3 of Exhibit CRS-6.

b. Such QFs were not explicitly evaluated; however, such a facility may fit within the "Other Technologies" category of QFs, depending on the characteristics of the generation profile.

[1] 807 KAR 5:054 Sec. 1(3), (8), and (10).

c. See the workpapers previously provided in Exhibit CRS-7 at the file path \CSR_QF_NMS\PLEXOS.

d. The Companies' forecasted hourly energy costs developed in PROSYM included 125 MW BESS beginning in 2027 and an additional 400 MW BESS beginning in 2028. See the workpapers provided in Exhibit CRS-7 at "CSR_QF_NMS\PROSYM." In calculating avoided energy costs for QF PPAs, the Companies assumed QF generation would not affect charging and discharging of BESS resources.

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Case No. 2025-00113

Question No. 22

Responding Witness: Charles R. Schram

Q-22. Reference: Schram Direct, Exhibit CRS-6. In reference to 2026-2027 Qualifying Facilities Rates & Net Metering Service-2 Bill Credit Generation Planning & Analysis May 2025 (i.e. Exhibit CRS-6 at page 7) please provide the data and calculations used to calculate the values presented in Table 7: Cane Run BESS Economic Carrying Charge ($/MW-Year) in spreadsheet format with all formulae intact.

A-22. See the workpaper previously provided in Exhibit CRS-7 at Row 55 in the "Model" worksheet of "CSR_QF_NMS\SAS\ CONFIDENTIAL_20250305_QFModel_2025BP_D06.xlsx."

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Case No. 2025-00113

Question No. 23

Responding Witness: Charles R. Schram

Q-23. Reference: Schram Direct, Exhibit CRS-6. In reference to 2026-2027 Qualifying Facilities Rates & Net Metering Service-2 Bill Credit Generation Planning & Analysis May 2025 (i.e. Exhibit CRS-6 at page 8) please provide the data and calculations used to calculate the values presented in Table 9: Avoided Capacity Costs Based on Cane Run BESS Cost ($/MWh) in spreadsheet format with all formulae intact.

A-23. See the workpaper previously provided in Exhibit CRS-7 at Column U in the "Market" worksheet of "CSR_QF_NMS\SAS\ CONFIDENTIAL_20250305_QFModel_2025BP_D06.xlsx."

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Case No. 2025-00113

Question No. 24

Responding Witness: Charles R. Schram

Q-24. Reference: Schram Direct, Exhibit CRS-6. In reference to 2026-2027 Qualifying Facilities Rates & Net Metering Service-2 Bill Credit Generation Planning & Analysis May 2025 (i.e. Exhibit CRS-6 at page 8) please provide all PLEXOS modeling assumptions related to the allowable BESS unit size in capacity amounts, i.e. 50 MW BESS additions, 100 MW BESS additions, 200 MW Bess additions, etc.

A-24. In PLEXOS, the modeling assumptions allow the solution optimization to build BESS in increments of 100 MW additions, consistent with the Companies' 2024 IRP and 2025 CPCN analyses.

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Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
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Case No. 2025-00113

Question No. 25

Responding Witness: Charles R. Schram

Q-25. Reference: Schram Direct, Exhibit CRS-6. In reference to 2026-2027 Qualifying Facilities Rates & Net Metering Service-2 Bill Credit Generation Planning & Analysis May 2025 (i.e. Exhibit CRS-6) please explain in full detail why no time differentiated (i.e. on- or off-peak) hourly prices for energy are included and why no seasonally differentiated capacity prices are included.

A-25. These items are unnecessary to reasonably calculate avoided costs. The Companies' avoided energy cost forecasts are based on avoided energy in each hour of every year compared to the generation profile of each resource type. Avoided capacity costs are based on the potential avoided fixed costs of future resources, which are evaluated on an annual basis.

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Response to Kentucky Solar Industries Association, Inc.'s Initial Request for Information
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Question No. 26

Responding Witness: Charles R. Schram

Q-26. Please provide the results of all studies showing the capacity contribution by resource type – including but not limited to effective load carrying capacity (ELCC) or other similar metrics – the Companies have conducted or caused to be conducted since January 1, 2020.

A-26. The table below has a list of studies and their results for capacity contribution by resource type.

Study	Case No.	Location	Capacity Contribution
2025 Rate Case	2025-00113, 2025-00114	Exhibit CRS-7 at CSR_QF_NMS\SERVM	4-hr BESS: 0.83 CSR: 0.26
2024 IRP Resource Adequacy Analysis	2024-00326	Table 11 at page 19 at https://psc.ky.gov/pscecf/2024-00326/rick.lovekamp%40lge-ku.com/10182024014139/08-LGE_KU_2024_IRP_Volume_III.pdf	4-hr BESS: 0.85 8-hr BESS: 0.93 Dispatchable DSM: 0.39
2022 RFP Minimum Reserve Margin Analysis	2022-00402	Table 15 at page D-24 at https://psc.ky.gov/pscecf/2022-00402/rick.lovekamp%40lge-ku.com/05042023113216/07-JI_DR2_LGE_KU_Attach_to_Q60%28a%29_-_Att_2_2023-05_UPDATE_Exhibit_SAW-1_Resource_Assessment_PUBLIC.pdf	4-hr BESS: 0.82 8-hr BESS: 0.93 Dispatchable DSM: 0.35