COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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	)	**CASE NO. 2020-00350**
DEPLOY ADVANCED METERING	)	
INFRASTRUCTURE, APPROVAL OF CERTAIN	)	
REGULATORY AND ACCOUNTING	)	
TREATMENTS, AND ESTABLISHMENT OF A	)	
ONE-YEAR SURCREDIT	)	

RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
KENTUCKY SOLAR INDUSTRIES ASSOCIATION, INC.'S
SUPPLEMENTAL REQUESTS FOR INFORMATION
DATED FEBRUARY 5, 2021

FILED: FEBRUARY 19, 2021

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, 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 17th day of February 2021.

Notary Public

Notary Public ID No. 603967

My Commission Expires:

July 11, 2022

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Christopher M. Garrett**, being duly sworn, deposes and says that he is Controller 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.

DocuSigned by:
Christopher M. Garrett
5B353C6395DE4D7...
Christopher M. Garrett

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 16th day of February 2021.

Judy Schooler
Notary Public

Notary Public ID No. 603967

My Commission Expires:

July 11, 2022

VERIFICATION

STATE OF NORTH CAROLINA)
)
COUNTY OF BUNCOMBE)

The undersigned, **William Steven Seelye**, being duly sworn, deposes and states that he is a Principal of The Prime Group, LLC, 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.

William Steven Seelye

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 17th day of February 2021.

(SEAL)
Notary Public

Kyle Mello
NOTARY PUBLIC
BUNCOMBE COUNTY, NC
MY COMMISSION EXPIRES 7/29/2023

Notary Public ID No. 201823100096

My Commission Expires:
7/29/2023

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **David S. Sinclair**, 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 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.

David S Sinclair

David S. Sinclair

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 16th day of February 2021.

Judy Schooler
Notary Public

Notary Public, ID No. 603967

My Commission Expires:

July 11, 2022

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s
Supplemental Requests for Information
Dated February 5, 2021

Case No. 2020-00350

Question No. 1

Responding Witness: Robert M. Conroy

Q-1. Please refer to your response to KYSEIA 1-15(c), which provides a table depicting NMS-1 customers that "never export power to the grid." For the purposes of this table, please identify the interval over which an "export" of power to the grid was measured (e.g., instantaneous, 15 minutes, hourly, monthly).

A-1. Bi-directional meters utilized with net metering installations measure both customer consumption "from" and exports "to" the grid instantaneously.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Supplemental Requests for Information Dated February 5, 2021

Case No. 2020-00350

Question No. 2

Responding Witness: Robert M. Conroy / William Steven Seelye

Q-2. Please refer to your response to KYSEIA 1-11(c) discussing adequacy of Company facilities in the case of a distributed generation ("DG") outage and KYSEIA 1-28, which states that "Costs that cannot be avoided (or are "less likely to be avoided" as referenced in Mr. Seelye's testimony) are fixed demand- and customer-related costs. For example, once poles, transformers, conductor, services, meters, etc. are installed, the depreciation and other costs related to these facilities cannot be avoided." Please explain how facilities such as poles, transformers, conductors, etc. that are adequate to serve a DG customer before they install DG would become inadequate to meet that customer's full load after the customer installs DG.

A-2. Facilities such as poles, transformers, conductors, etc. installed to serve DG customers before they install DG should normally be adequate to serve the customers after they install DG, and these facilities will remain in place after the customers install DG. Once installed, the costs are fixed. This reinforces the statement made in the Company's response to KSIA 1-28. Once the distribution facilities are installed to serve a customer, the fixed distribution facility costs are not avoided after DG customers install DG facilities.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s
Supplemental Requests for Information
Dated February 5, 2021

Case No. 2020-00350

Question No. 3

Responding Witness: William Steven Seelye

Q-3. Please refer to your response to KYSEIA 1-10. Please provide the interval data that the Company does have for its current residential net metering customers. The data for each customer should be associated with a unique identifier, but this request does not require the inclusion of information that could be used to identify an individual customer. Please ensure that your response includes all information necessary to interpret the data, including but not limited to clear and complete explanations for all data fields, time and date specifications, etc.

A-3. See attachment being provided in Excel format.

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

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s
Supplemental Requests for Information
Dated February 5, 2021

Case No. 2020-00350

Question No. 4

Responding Witness: William Steven Seelye / David S. Sinclair

Q-4. Please provide 8760 hour load profiles for a residential electric heating customer, a residential non-electric heating customer, and a class average residential customer.

A-4. See attachment to AG-KIUC 1-114 for the class load for residential customers. The Company does not have separate load profiles based upon heating source.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Supplemental Requests for Information Dated February 5, 2021

Case No. 2020-00350

Question No. 5

Responding Witness: Robert M. Conroy

Q-5. Please refer to your response to PSC Staff 2-95(b) and 2-96. Please provide a calculation of the SQF rate that does not "exclude" fuel related costs that the Company represents are "fixed and non-variable."

A-5. See the response to PSC 3-19 part b.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Supplemental Requests for Information Dated February 5, 2021

Case No. 2020-00350

Question No. 6

Responding Witness: Robert M. Conroy

Q-6. Please reference the Company's current and proposed Rider SQF and proposed Rider NMS-2. Under a scenario where a customer elects service under Rider SQF and exercises the option to sell "part of the output" from their distributed generation system to the Company (i.e., utilize a portion of the energy directly on-site), please explain in detail any differences between what the customer pays for electricity and their compensation for electricity exported to the grid under this arrangement would be from a scenario where that same customer instead took service under NMS-2.

A-6. See the response to KSIA 1-23. A customer taking service under a standard rate schedule and having generation behind the meter who elects to take service under either Rider SQF or Rider NMS-2 will be billed the standard rate schedule for the energy consumed and will receive compensation for the energy put back on the grid at the Rider SQF rate as specified in the appropriate section of the tariff.

For Rider SQF:

PAYMENT
Any payment due from Company to Seller will be due within sixteen (16) business days (no less than twenty-two (22) calendar days) from date of Company's reading of meter; provided, however, that, if Seller is a Customer of Company, in lieu of such payment Company may offset its payment due to Seller hereunder, against Seller's next bill and payment due to Company for Company's service to Seller as Customer.

For Rider NMS-2:

ENERGY RATES & CREDITS
For each billing period, Company will (a) bill Customer for all energy consumed in accordance with Customer's standard rate and (b) Company will provide a dollar denominated bill credit for each kWh of production. The dollar denominated bill credit will be calculated by multiplying the total kWh of production within the billing period by the Non-Time-Differentiated SQF rate

within tariff Sheet No. 55. Any bill credits greater than the Customer's total bill will be carried forward to future bills.

Unused credits existing at the time Customer's service is terminated, end with Customer's account, have no monetary value, and are not transferrable between locations.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Supplemental Requests for Information Dated February 5, 2021

Case No. 2020-00350

Question No. 7

Responding Witness: William Steven Seelye

Q-7. Please explain how the output from customer-sited DG affects the allocators used in the Company's cost of service study. For instance, for the fixed production cost allocator based on Loss of Load Probability ("LOLP"), how is production utilized in the development of the hourly LOLP amounts that form the basis for this allocator?

A-7. Output from customer-sited DG would reduce the hourly load for the applicable rate class under which the DG customers are served. The reduced hourly load would then result in a corresponding reduction in the $LOAD_i$ variable (vector) in the following formula used to calculate the production fixed cost allocator in the LOLP cost of service study:

$$\overline{\boldsymbol{PROD\ ALLOCATOR}} = \sum_{i=1}^{8760} \boldsymbol{LOLP_i} * \overline{\boldsymbol{LOAD_i}}$$

Where: $\overline{\boldsymbol{PROD\ ALLOCATOR}}$ is the allocation vector for production fixed costs in the cost of service study;
$\boldsymbol{LOLP_i}$ is the Loss of Load Probability for hour i;
$\overline{\boldsymbol{LOAD_i}}$ is a vector of hourly load (in kW) for each rate class at hour i; for example, $\overline{\boldsymbol{LOAD_i}}$ = (load for Rate RS at hour i, load for Rate GS for hour i, load for Rate PS at hour i, …); and
i is the hour of the year.

Therefore, to the extent that DG customers reduce the hourly load for a rate class, $\overline{\boldsymbol{LOAD_i}}$ would be reduced for the rate class under which the DG customer is served. See Direct Testimony of William Steven Seelye at page 106.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s
Supplemental Requests for Information
Dated February 5, 2021

Case No. 2020-00350

Question No. 8

Responding Witness: William Steven Seelye

Q-8. Please refer to the Direct Testimony of William Seelye ("Seelye Direct"), Exhibit WSS-22 [PDF 248 of 491]. Please identify the dates and times of the peaks used in the development of alternative allocators based on the 12 CP and 6 CP methodologies. Please specify whether these times reflect prevailing time adjusted for daylight savings time.

A-8. Below are the dates and times used for each of the twelve Coincident Peaks in the development of the 12CP and 6CP allocation methodologies. The 12CP allocator uses all 12 monthly system peaks. The 6CP allocator uses the monthly peaks from January, February, June, July, August and September. The times listed below are not adjusted for daylight savings time.

July 23, 2021	14:00-15:00
August 13, 2021	14:00-15:00
September 1, 2021	15:00-16:00
October 11, 2021	15:00-16:00
November 29, 2021	7:00-8:00
December 20, 2021	8:00-9:00
January 18, 2022	7:00-8:00
February 11, 2022	7:00-8:00
March 10, 2022	20:00-21:00
April 26, 2022	14:00-15:00
May 31, 2022	15:00-16:00
June 23, 2022	14:00-15:00

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s
Supplemental Requests for Information
Dated February 5, 2021

Case No. 2020-00350

Question No. 9

Responding Witness: William Steven Seelye

Q-9. Please refer to Seelye Direct at page 115 [PDF 119 of 491] lines 17-21 stating that maximum class demands form the basis of allocators for transmission costs.

a. Has maximum class demand historically been used to allocate transmission costs by the Company?

b. Is it Witness Seelye's view that maximum class demand is commonly used by other utilities to allocate transmission costs? Please identify any other examples of utilities or states that use maximum class demand rather than a measure of coincident peak demand to allocate transmission costs.

c. Please explain the specific reasons that the Company used maximum class demand as opposed to a coincident demand methodology to allocate transmission costs.

d. Please identify the date and times for the maximum class demand for each class of customer. Please specify whether these times reflect prevailing time adjusted for daylight savings time.

A-9.

a. Yes.

b. Yes. NARUC's *Electric Utility Cost Allocation Manual* at pages 80-81 identifies two non-coincident peak methods for allocating transmission costs. Also, many applications of the Average and Excess Method use class maximum demands to develop the allocator for transmission costs. See NARUC's *Electric Utility Cost Allocation Manual* at p. 82.

c. Both KU and LG&E utilize their transmission system to deliver power to specific load centers. Therefore, it was determined that an NCP allocator represents an appropriate allocator for the Companies' transmission system.

d. Below are the dates and times used for each class's Non-Coincident Peak demand during the forecasted test period. The times listed below are not adjusted for daylight savings time.

Residential	August 17, 2021	17:00-18:00
General Service	September 1, 2021	13:00-14:00
Power Service Secondary	August 16, 2021	14:00-15:00
Power Service Primary	June 14, 2022	12:00-13:00
Time-of-Day Secondary	August 31, 2021	16:00-17:00
Time-of-Day Primary	July 15, 2021	13:00-14:00
Retail Transmission Service	February 4, 2022	21:00-22:00
Special Contract	July 12, 2021	4:00-5:00
Outdoor Sports Lighting	June 18, 2022	20:00-21:00

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s
Supplemental Requests for Information
Dated February 5, 2021

Case No. 2020-00350

Question No. 10

Responding Witness: Christopher M. Garrett / William Steven Seelye

Q-10. Please refer to the Company's response to the Attorney General and KIUC 1-179. Please specify whether the peak load hours reflected in the Attachment to the response are:

a. Hour ending or hour beginning.

b. Adjusted for daylight savings time.

A-10.

a. The peak load hours are hour ending.

b. The peak load hours are not adjusted for daylight savings time. All times are Eastern Standard Time.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Supplemental Requests for Information Dated February 5, 2021

Case No. 2020-00350

Question No. 11

Responding Witness: William Steven Seelye

Q-11. Please refer to your response to the Attorney General and KIUC 1-188 and accompanying attachments depicting class cost of service results using different fixed production cost allocation methodologies. Please explain:

a. Why customer-related unit costs vary depending on which methodology (LOLP, 6 CP, 12 CP) is used to allocated fixed production costs.

b. Why it is reasonable for a cost of service study to produce results for customer-related unit costs that are sensitive to the selection of a methodology for allocating totally unrelated costs, such as production costs.

A-11.

a. The primary cause for customer-related costs to vary in each cost-of-service study is because the rates of return for each rate class are different in each study. This is due to the varying levels of production plant and O&M costs allocated to each class of customers based on the different allocation methodology used (LOLP, 6CP, 12CP). As the rate of return increases or decreases, so too will the return on distribution customer-related costs in rate base for each customer class. This results in a different total amount of distribution customer-related costs being shown for each cost-of-service study methodology.

   There is also a small impact on the revenue credits received from each class's production allocation of Rent from Electric Property and Other Electric Revenue, which is allocated based on total net rate base.

b. As stated in the response to (a), this outcome is reasonable since each methodology for allocating production demand-related costs results in a different amount of production rate base and O&M being assigned to each rate class, which results in a different rate of return for each rate class. Thus, the change in customer-related distribution costs is a direct result of the change in each class's rate of return and associated revenue credits, which are based on their allocation of production costs.

Unit costs comprise two types of costs: the allocated direct costs such as O&M expenses, depreciation expenses, etc. and the return on rate base. In the three cost of service studies, the allocated direct customer-related costs have not changed, but the return on rate base does change in the three studies, resulting in slightly different customer-related unit costs.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Supplemental Requests for Information Dated February 5, 2021

Case No. 2020-00350

Question No. 12

Responding Witness: William Steven Seelye

Q-12. Please refer to your response in PSC Staff 2-108(2), stating in relevant part that "The load data used to develop these estimates are not based on a statistically valid sample, particularly considering the large variance in the usage patterns for net metering customers." [PDF 92 of 1,068]

a. Please confirm or refute that the estimate provided by the Company in this response for the amount of the second type of subsidy received by residential net metering customers reflects a statistically biased estimate of the second type of subsidy as a result of the Company's failure to use a statistically valid sample to create this estimate.

b. Please confirm or refute that this characterization is also true with respect to the Company's estimate from the following statement made elsewhere in the same response: "If the 1% cap on net generation capacity is reached on KU's system, then this second subsidy would increase to over $400,000 annually." [PDF 93 of 1,068] Provide the underlying assumptions used in the Company's calculation.

A-12.

a. Denied. The Companies did not state that the estimate is statistically biased. Due to the load variance for net metering customers, the sample size is simply not large enough to be statistically valid. A larger sample would be necessary to ensure that the estimates are statistically meaningful.

b. Denied. The Companies did not state that the estimate is statistically biased. See response to part a.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Solar Industries Association, Inc.'s Supplemental Requests for Information Dated February 5, 2021

Case No. 2020-00350

Question No. 13

Responding Witness: Robert M. Conroy / William Steven Seelye

Q-13. Please refer to your response in KYSEIA 1-19.

a. Please confirm that NMS-2 relative to NMS-1, holding other variables constant, will result in an increase in the payback period and a decrease in the net present value to a customer that invests in a new net-metered DG facility, assuming the DG facility's electricity exports to the grid are greater than zero. If the response is anything other than an unqualified confirmation, please explain in detail why this would not be the result.

b. Is the Company aware that customers can finance an investment in a DG facility and that financing can make investments in rooftop solar accessible to customers that otherwise would not have been able to afford the full upfront cost of a system?

c. Does the Company agree that, holding other variables constant, a change in the Company's net metering tariff that results in an increase in the payback period and a decrease in the net present value to a customer that invests in a new net-metered DG facility is more likely than not to reduce the number of low- and moderate-income customers that can afford to install a DG facility, including through financing the DG facility?

A-13. Two of the parts of this request concern the "payback period" for net metering customers' generating facilities. That period is irrelevant for ratemaking purposes; it is not addressed in KRS 278.465 or 278.466. What is relevant is how much all customers must pay for the energy net metering customers provide to the Company's system. The Company believes customers should pay only the Company's truly avoided costs for such energy, namely the non-time-differentiated Rider SQF rate.

a. Confirmed. As explained in Mr. Seelye's direct testimony, the purpose of implementing NMS-2 is to prevent overcompensating net metering customers for the energy that they supply to the grid, energy for which all other customers must pay. Eliminating the subsidies that are provided to net metering customers will affect the economics of implementing DG facilities. It is the Company's position that other customers should not be forced to subsidize net metering customers.

b. The Company is aware that customers could possibly finance their investments in DG facilities. The Company has no knowledge of whether relying on financing ultimately makes the facilities more "affordable" to low-income customers, whether relying on financing would otherwise benefit low-income customers in the long run, whether low-income customers could even obtain such financing, or whether a low-income customer who resides in rental property would likely install solar panels in rental housing.

   But it should be observed that, according to the Company's records, none of the Company's customers who participate in the Low-Income Home Energy Assistance Program (LIHEAP) are net metering customers. This suggests that the low-income customers who arguably have the most incentive to engage in net metering (because they tend to have above-average usage) either cannot install distributed generation equipment or do not desire to do so, even under the current Rider NMS. Therefore, continuing to overcompensate net metering customers for the energy they put on the grid burdens customers in the greatest need (as well as all other non-net-metering customers).

c. Holding all other variables constant, the introduction of NMS-2 would affect the payback period or net present value to a customer that is supplying energy to the grid. The Company does not possess information about the effect, if any, of a projected payback period on the ability of a customer to finance a distributed generation facility. But it seems likely that the ability for a customer to finance the cost of a distributed generating facility would depend more on the customer's credit, collateral, and income than on the customer's energy usage or the terms of Rider NMS-2.

   Note that customers of all income levels interested in renewable generation can avoid the financing issue entirely, as well as the difficulty involved with constructing a generating facility at their homes, by subscribing to the Solar Share Program. Customers can currently participate for less than $6 per month with no credit checks and a commitment of only 12 months; all that is required is that the customer have no arrearage at the time of application.