

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matters of:

ELECTRONIC APPLICATION OF KENTUCKY)
UTILITIES COMPANY FOR AN ADJUSTMENT)
OF ITS ELECTRIC RATES, A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY) CASE NO.
TO DEPLOY ADVANCED METERING) 2020-00349
INFRASTRUCTURE, APPROVAL OF CERTAIN)
REGULATORY AND ACCOUNTING)
TREATMENTS, AND ESTABLISHMENT OF A)
ONE-YEAR SURCREDIT)

ELECTRONIC APPLICATION OF LOUISVILLE)
GAS AND ELECTRIC COMPANY FOR AN)
ADJUSTMENT OF ITS ELECTRIC AND GAS)
RATES, A CERTIFICATE OF PUBLIC) CASE NO.
CONVENIENCE AND NECESSITY TO DEPLOY) 2020-00350
ADVANCED METERING INFRASTRUCTURE,)
APPROVAL OF CERTAIN REGULATORY AND)
ACCOUNTING TREATMENTS, AND)
ESTABLISHMENT OF A ONE-YEAR SURCREDIT)

**KENTUCKY SOLAR INDUSTRIES ASSOCIATION, INC.
JOINT POST-HEARING MEMORANDUM BRIEF**

Comes now the Kentucky Solar Industries Association, Inc. (KYSEIA), by and through counsel, and, pursuant to the Commission’s May 3, 2021 Order, files this Joint Post-Hearing Memorandum Brief. The Commission should deny the rates and changes proposed by Kentucky Utilities Company’s (“KU”) and Louisville Gas and Electric Company’s (“LG&E) (collectively “Companies”) for net metering service and qualifying facilities.

The Companies' net metering and export rate proposals were developed based upon a very narrow inquiry and set of considerations. An evaluation of the Companies' proposals demonstrates that they are inadequate, fail to demonstrate fair, just and reasonable rates, and fail to meet their burden of proof.

KYSEIA agrees with the principles for compensation for eligible customer-generators and export rate cost components established by the Commission for Kentucky Power Company in its May 14, 2021 Order in Case No. 2020-00174 (also "KPC Order").¹ Nonetheless, the Companies' proposals in the instant cases were offered for review, particularly with regard to discovery, prior to the KPC Order. In part due to gaps in the data, KYSEIA is not in a position to fully-quantify or recommend specific export rates through this memorandum.

KYSEIA, through this memorandum, addresses the development of fair, just and reasonable rates through a discussion of the principles and the cost components set forth in the KPC Order. It is primarily a qualitative analysis.² Finally, KYSEIA's memorandum is limited to the issues that have been carved out of a Stipulation and Recommendation reached by the parties and submitted to the Commission.³

KYSEIA is filing a comprehensive joint post-hearing memorandum. KYSEIA notes, however, that it is still reviewing certain confidential information provided by the Companies on May 23, 2021 in response to its post-hearing requests for information. KYSEIA provides notice

¹ Case No. 2020-00174, *Electronic Application of Kentucky Power Company for (1) A General Adjustment of Its Rates for Electric Service; (2) Approval of Tariffs and Riders; (3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; (4) Approval of a Certificate of Public Convenience and Necessity; and (5) All Other Required Approvals and Relief* (application filed Jul. 15, 2020).

² KYSEIA also agrees with the principle that information describing the larger context is helpful. KPC Order, page 20.

³ KYSEIA, a signatory to the document, recommends and supports the agreed upon items set forth in the Stipulation and Recommendation.

that it will complete its review of the confidential information as soon as reasonable and states that it *may* seek leave to file a supplemental memorandum based upon the evidence provided on May 23rd. KYSEIA is aware of the deadlines associated with the Commission's consideration of this matter and will support any such motion for leave to file a supplemental memorandum with a demonstration of good cause.

BACKGROUND

KYSEIA is a Kentucky nonprofit in good standing with the Kentucky Secretary of State.⁴ The purpose of KYSEIA includes, among other things, promoting the exchange of knowledge for solar energy and advocating on behalf of solar energy constituents and members.⁵ KYSEIA was granted intervention into the instant proceedings by Orders entered on December 30, 2020.⁶ KYSEIA has also been active in other net metering and related dockets before this Commission in addition to the instant cases.

KYSEIA is participating in Case No. 2020-00349 through Matt Partymiller, President of KYSEIA.⁷ Both KYSEIA and Mr. Partymiller take service under KU's net metering tariff.⁸ KYSEIA is also participating through Wilderness Trace Solar, Inc., a member of KYSEIA that takes service under KU's net metering tariff.⁹

KYSEIA is participating in Case No. 2020-00350 through Matt Partymiller, President of KYSEIA; and Solar by Ecos LLC, a member of KYSEIA that takes service under LG&E's net

⁴ Case No. 2020-00349, KYSEIA Motion to Intervene (filed Dec. 16, 2020), page 1. Note: Unless otherwise noted, reference for information filed or appearing in both dockets will be by reference to the record in Case No. 2020-00349.

⁵ *Id.*

⁶ Case No. 2020-00349 (Ky. PSC Dec. 30, 2020); Case No.2020-00350 (Ky. PSC Dec. 30, 2020).

⁷ KYSEIA Motion to Intervene (filed Dec. 16, 2020), page 2.

⁸ *Id.*

⁹ *Id.*

metering tariff.¹⁰ In turn, Solar by Ecos LLC is participating in the proceeding through Christopher Zitelli, a member of Solar by Ecos LLC and who takes service at his residence under LG&E's net metering tariff.¹¹

Each of the Companies serve eligible customer-generators through an existing standard rate rider for net metering service. Through the Companies' proposals, the existing rider for net metering service will be "renamed Rider NMS-1 until 25 years from the effective date of rates established in these proceedings."¹² Pursuant to KRS 278.466(6), customers taking service under the proposed Rider NMS-1 will continue to be compensated on a one-to-one kWh denominated energy credit for electricity fed into the grid for 25 years.

Per the Applications: "Rider NMS-1 will remain available for eligible electric generating facilities for which customers have completed the Companies' net metering application before the effective date of the rates established in these proceedings."¹³ To this end, the Companies' abbreviated notices for the rate adjustment each expressly state the intent for the proposed "Rider NMS-1 will serve eligible electric generating facilities as defined in KRS 278.465(2) for which customers have submitted an application for net metering service before the effective date of rates established in his proceeding."¹⁴ Thereafter, NMS-1 will be closed to further applications.

The Companies each propose a new standard rate rider for net metering service based upon changes to KRS Chapter 278.¹⁵ Rider NMS-2 is the rider proposed for net metering service for

¹⁰ Case No. 2020-00350, KYSEIA Motion to Intervene (filed Dec. 2020), page 2.

¹¹ *Id.*

¹² Application (filed Nov. 25, 2020), Testimony, Vol. 2 of 4, Conroy ("Conroy Testimony") at page 25 [PDF 407 of 447].

¹³ *Id.*

¹⁴ Application (filed Nov. 25, 2020), Vol. 1 of 3, Tab 7, Exhibit C (Full Notice), page 29 [PDF 437 of 1,864]. See, at pertinent part: "for which the Customer has executed Company's written Application for Interconnection and Net Metering before January 1, 2021."

¹⁵ 2019 Ky. Acts ch 101 (hereinafter "Senate Bill 100").

“any eligible customer-generator operating an eligible electric generating facility located on the customer’s premises on or after the effective date of the rates established in these proceedings.”¹⁶ As further explained in the Applications, the Companies propose to “bill each customer served under Rider NMS-2 in accordance with the customer’s standard rate schedule, and the Companies will compensate the customer for energy provided to the Companies’ system in the form of dollar denominated bill credits.”¹⁷

The Companies propose to move from monthly netting of net metering customer imports from the grid against exports to the grid under NMS-1 to instantaneous netting under NMS-2. The Companies describe proposed billing under NMS-2 through confirmation of following hypothetical scenario. For a customer-generator who produces 1,000 kWh total during a month and consumes a total of 800 kWh, the customer will pay for any consumption that is above the customer’s production used directly behind the meter at the applicable tariff rate, and the customer will be credited for any exports at the Companies’ Rider SQF Rate.¹⁸ Thus, for this scenario, if customer-generator produces 1,000 kWh in total during a month and uses 400 kWh directly behind the meter, the customer will pay for 400 kWh (800 – 400) of consumption from the grid.¹⁹ Of the 1,000 kWh of production, the customer will be credited for 600 kWh (1,000 – 400) at the Rider SQF Rate.²⁰

KYSEIA, one of several parties which have been granted intervention into this proceeding, has propounded discovery, filed written testimony of its experts into the record, responded to discovery requests, participated in settlement negotiations, and participated in an evidentiary

¹⁶ Application (filed Nov. 25, 2020), Conroy Testimony, pages 25 and 26 [PDF 407, 408 of 447].

¹⁷ Application (filed Nov. 25, 2020), Conroy Testimony, page 26 [PDF 408 of 447].

¹⁸ KU Response to KYSEIA 1-17 (filed Jan. 22, 2020) [PDF 34 of 52]

¹⁹ *Id.*

²⁰ *Id.*

hearing held by this Commission on April 26 through April 28, 2020. KYSEIA now presents its Joint Post-Hearing Memorandum.

1. The Companies, Without Any Apparent Qualms of Having Done So, Provided Materially Misleading Notices Concerning Their Net Metering Proposals.

The Companies are seeking changes in rates. KRS 278.180 governs changes in rates and states, in pertinent part: “[N]o change shall be made by any utility in any rate except upon thirty (30) days’ notice to the commission, stating plainly the changes proposed to be made and the time when the changed rates will go into effect.” Further, “rate” is defined pursuant to KRS 278.010(12) as the following:

“Rate” means any individual or joint fare, toll, charge, rental, or other compensation for service rendered or to be rendered by any utility, and any rule, regulation, practice, act, requirement, or privilege in any way relating to such fare, toll, charge, rental, or other compensation, and any schedule or tariff or part of a schedule or tariff thereof.”

Pursuant to KRS 278.180, in combination with KRS 278.010(12), the Companies are required, as a condition precedent to any change in rate, to provide proper notice which includes “stating plainly the changes proposed to be made and the time when the changed rates will go into effect.” In the instant cases, the Companies stated plainly that they proposed to permit service under NMS-1 to any “Customer who has executed Company’s written Application for Interconnection and Net Metering before January 1, 2021,” the proposed effective date of the rates prior to their suspension by the Commission pursuant to KRS 278.190.²¹ The earliest that the Companies could otherwise place the rates into effect is June 30, 2021.

The significance of the Companies’ notice and KRS 278.180(1) is that they bear upon “legacy rights” or “grandfathering rights” created pursuant to KRS 278.466(6) which states in

²¹ Order (Ky. PSC Dec. 9, 2020).

pertinent part that “an eligible electric generating facility in service prior to the effective date of the initial net metering order by the commission” will continue to take net metering service under the current Rider NMS (proposed to be renamed Rider NMS-1) for a period of twenty-five (25) years. Service under Rider NMS-1 includes the one-to-one (1:1) kilowatt-hour denominated energy credit provided for electricity fed into the grid, an option that will not be available for customers taking service under the proposed Rider NMS-2.

Having materially misled the Commission, the parties, their customers, and the public through the notices as to the eligibility requirements for service under Rider NMS-1, the Companies now feign that they have no choice but to believe that KRS 278.466 prohibits them from being held to representations that they made.²² Per the Companies, there is no “uncertainty in the applicable statutory text concerning the issue.”²³

Problematic and undiscussed by the Companies is KRS 278.180(1) which also contains no uncertainty as to the requirement of proper notice that plainly states the changes sought. For this reason, the Commission would be acting in accordance with the clear intent of KRS Chapter 278 to deny the net metering proposals based upon the materially misleading notices. Further, in terms of other remedial action, the Commission would be acting within its power to order the Companies to cause a revised notice, including publication, and disallow rate recovery of the cost of the notice.

The Commission has the responsibility to implement all provisions of KRS Chapter 278 in a manner that does not produce an absurd result. In addition to KRS 278.180(1), KRS 278.466(5) makes clear that “the ratemaking processes” provided by Chapter 278, such as customer notice,

²² KU and LG&E Response to Commission Staff’s Post-Hearing Request 1-39 (filed May 19, 2021) [PDF 201 of 205].

²³ *Id.*

are in full force for the Companies' proposals. It would be absurd to suggest that KRS 278.466(5) and KRS 278.180(1) should be read as having no effect or bearing upon the current situation, a problem resulting from a material mistake solely attributable to the Companies. Considering the intent of the various statutes and the requirement for harmonization of seemingly conflicting provisions so as to provide meaning to all statutes at issue, it is clear that the effective date identified in KRS 278.466(6) is necessarily dependent upon prior satisfaction of KRS 278.180.

This is not to suggest that the Commission, a creature of statute, may simply ignore a statutory provision or create power out of whole cloth. Quite to the contrary: The Commission clearly may not ignore KRS 278.180. In this situation, the Commission's plenary power and capacity to enforce KRS 278.180 is more than enough to address this situation through a necessary and logical extension of KRS 278.466 to permit a relation forward of the effective date of the start of the legacy period to match the notice and otherwise remedy the situation. If they are not, then the Companies proposals should be denied for having failed to satisfy KRS 278.180(1), a statutorily created condition precedent that cannot be waived by the Commission.

2. The Companies' Evidence is Insufficient and Unreliable to Support Their Proposals; Further, the Companies' Proposals Are Not Fair, Just, and Reasonable. The Proposals Should be Denied.

KYSEIA submits that the Companies have not conducted sufficient customer load research and an accompanying cost of service study.²⁴ The Companies have not conducted load research on their net metering customers using statistically valid sampling methods. In a post-hearing response to data requests, the Companies admitted that use of non-random sampling, as they did by creating load profiles for use in its residential net metering cost of service studies, "could

²⁴ KYSEIA Inskeep Testimony (filed Mar. 5, 2021), pages 5, 20, 21, 26, and 27 [PDF 5, 20, 21, 26, and 27 of 130].

introduce bias into the computation of estimators,” meaning the Companies cannot in fact claim that their net metering cost of service studies are based on statistically reliable data on which fair, just, and reasonable rates could be formed.²⁵ To summarize, the Companies use of non-random sampling means that they did not use statistically reliable data.

Furthermore, the Companies altogether failed to provide net metering cost-of-service studies for non-residential customers. The proposals also do not reflect long-term costs and benefits of net metering, adhere closely to the rate-making principle of gradualism, or adhere to relevant net metering best practices in other jurisdictions.²⁶ Additionally, the proposals fail to grant legacy rights with respect to rate design, compensation rate and other tariff terms and conditions.²⁷ The proposals do not adequately address system changes and appear geared toward enabling the Companies to improperly divest statutorily-created legacy rights.

Moreover, the proposals rely upon an avoided cost rate, Rider SQF, that is not fair, just and reasonable for net metering because (1) it results in a compensation rate that is below the Companies’ true avoided costs and (2) it fails to account for all of the benefits provided by net metering over the life of a net metering system thereby undercompensating net metering customers.²⁸ It is the result of an inadequate consideration of avoided costs. The Companies’ NMS-2 proposals are so extreme that the Companies forecast that, if approved, LG&E would not reach *one-half* and KU would not reach *one-third* of their respective 1% net metering caps by 2050, whereas under NMS-1 the Companies’ both forecast continued rooftop solar growth that would

²⁵ See KU and LG&E Response KYSEIA Post-Hearing Request 1-3 (filed May 19, 2021) [PDF 10 of 44].

²⁶ KYSEIA Inskeep Testimony (filed Mar. 5, 2021), page 5 [PDF 5 of 130].

²⁷ KYSEIA Inskeep Testimony (filed Mar. 5, 2021), pages 5 and 6 [PDF 5, 6 of 130].

²⁸ KYSEIA Inskeep Testimony (filed Mar. 5, 2021), pages 20 and 21 [PDF 20, 21 of 130].

result in their respective net metering caps being reached in approximately six years.²⁹ For these reasons, the Companies fail to meet their burden of proof, and the proposals should be denied.

2.1 The Commission Should Use a Monthly Netting Period.

“Net metering” is based upon a difference of electricity supplied by a customer to the grid and by the utility to the customer over a billing period, rather than a portion of a billing period or consideration of instantaneous imports and exports which would limit the amount of self-consumption that a customer-generator could otherwise achieve.³⁰ KYSEIA asserts that the reasonable interpretation of the billing period requirement is that exports within a billing period, measured in kWh, should continue to be netted against imports within a billing period, measured in kWh. Thus, the export rate concerns the compensation for net excess generation, if any, that occurs by reference to the entire billing period. The Companies’ proposed bill calculation method is at odds with the intent for a billing period determination. Additionally, the Companies’ bill calculation proposal significantly increases the complexity of the NMS-2 rate design in the absence of any clear demonstration of benefit. Typical residential and small customers are unable to realistically plan for, monitor, or respond to second-by-second changes in their generation and consumption so as to limit the quantity of exports, which would be necessary for them under NMS-2 to maximize the economic benefits of their net metering facilities to avoid being undercompensated for instantaneous exports. The Companies’ “solution” for net metering customers – the installation of battery storage to limit exports – would entail a massive additional expense to net metering customers that is both extremely onerous to customers and completely

²⁹ KYSEIA Inskeep Testimony (filed Mar. 5, 2021), page 24 [PDF 24 of 130].

³⁰ See KRS 278.465(4).

unjustified by the Companies. The Companies' proposed bill calculation should, therefore, be rejected.³¹

2.2 Comments on the Development of the Avoided Cost Rate.

KYSEIA notes its general agreement with the eight components (or “stacks”) for the Residential NMS II Export Rate and Commercial NMS II Export Rate used in the Commission May 14, 2021 KPC Order to compensate monthly net excess generation. Due to differences between Kentucky Power Company and KU and LG&E, there is some need for tailoring the components for use for the Companies' rates. KYSEIA submits that there is additional information needed for final calculations.

Avoided Energy Cost

KYSEIA agrees that public data and data sources are critical to evaluating the reasonableness of a rate.³² The publicly available LMPs at LG&E's interface with the PJM are a reasonable source of information for this purpose.³³ The LMPs, daytime only, averaged from 2017-2019 are reasonable, and, as recognized in Case No. 2020-00174, Year 2020 data should be omitted because of the unprecedented COVID-19 pandemic.³⁴ The average LMPs should be levelized over a 25-year period to account for long-term change in energy pricing.³⁵ The component should incorporate transmission and distribution line losses in calculating avoided cost.³⁶

³¹ See KPC Order, pages 24 and 25.

³² KPC Order, page 26.

³³ The PJM's interregional data map lists the interface as “PJM (EKPC)” but also lists “Louisville Gas and Electric (LGEE)” as the interface point between which power flows are measured. We refer to this as the LG&E interface.

See, <https://www.pjm.com/markets-and-operations/interregional-map.aspx>.

³⁴ KPC Order, page 27, footnote 80.

³⁵ KPC Order, page 27.

³⁶ KPC Order, page 27.

Avoided Ancillary Service Cost

KYSEIA agrees that avoided ancillary service cost should be a stack in the net metering export rate. Further, the value should be forward looking.³⁷

Avoided Generation Capacity Costs

KYSEIA agrees that the use of Net CONE meets the objective of public data and data sources and provides “a market based capacity value” specific to the location.³⁸ KYSEIA adds that UCAP Net CONE, as opposed to the Minimum Offer Price, is the best measure of the incremental cost of a new capacity resource because the Minimum Offer Price represents a *bid price floor* which is set at a discount to the calculated cost of new capacity. Such a price floor is a minimum benchmark that does not represent a typical or average cost of new capacity.³⁹

Per the Companies’ most recent Integrated Resource Plan, “NGCC capacity consistently appears as the least-cost source of replacement capacity in the longer-term, even in the high gas price and high CO2 price scenarios.”⁴⁰ Thus, NGCC is the next capacity resource per the IRP. PJM establishes minimum offer prices for NGCC units for each annual auction, and the information is a transparent measure of the cost of new capacity. Therefore, the PJM Zone 3, UCAP Net CONE for NGCC (three-year average) is reasonable for use.

KYSEIA recommends that the effective capacity of a solar resource, as a percentage of its nameplate capacity, be established based on the alignment of solar production with the Company’s

³⁷ KPC Order, page 32.

³⁸ KPC Order, page 29.

³⁹ KYSEIA notes the pertinent final number in the Commission’s January 13, 2021 Order in Case No. 2020-00174 appears consistent with MOPR Floor Offer Price rather than Net CONE. The KPC Order is clear, however, that Net CONE is the basis.

⁴⁰ Case No. 2018-00348, *Electronic 2018 Joint Integrated Resource Plan of Louisville Gas and Electric Company and Kentucky Utilities Company* (filed Oct. 19, 2018) Vol. 1, page 5-39 [PDF 44 of 117].

loss of load probability analysis. This can be accomplished by weighting solar production during each hour of a year by the percentage of the total loss of load probability calculated for that same hour. For instance, if a given hour comprises 1 percent of the total sum of loss of load probability, expected solar production during that hour (e.g., 50 percent of nameplate) should be weighted at 1 percent.

The resulting sum of weighted solar capacity factors defines the annual effective capacity of the solar resource. This approach is similar to how the effective capacity of solar was calculated for the Kentucky Power Company, except that in that case the weighting utilized the peak hours associated with the PJM's 5 coincident peak (5CP) methodology. Using a PVWatts production profile for a hypothetical south-facing roof-mounted system KYSEIA has calculated an effective solar capacity of approximately 58 percent of nameplate.⁴¹

The capacity rate calculation should be the same for the Companies as for Kentucky Power Company, a capacity value per kW divided by annual energy produced per kW based on the same production profile used to calculate the effective capacity contribution. The rate should be grossed up for demand losses under the assumption that the facilities are connected at secondary voltage.

Avoided Transmission Capacity Costs

From an industry perspective, the Companies employ a highly unusual cost allocation method for transmission. KYSEIA asserts that solar output at the time of the maximum non-coincident class demand is not the proper measure of solar's ability to avoid transmission costs. Transmission costs are generally considered to be incurred on the basis of system peak demands

⁴¹ This value includes an adjustment for daylight savings time which is not accounted for in PVWatts production profiles. This adjustment shifts the solar profile to one hour later in the day beginning in early March and correspondingly shifts the solar profile back by one hour to standard time in early November.

rather than maximum class demands that are not coincident with system peak. Accordingly, a coincident peak methodology provides the proper measure of solar's ability to avoid future investments in transmission infrastructure.

Even if only for the purpose of developing the net metering export rate, allocation of transmission should be on the same basis as production capacity, LOLP in this case, or under a coincident peak methodology such as the alternative 6CP method presented in the instant proceeding. Further, demand losses should be added through a gross up, under the assumption that the facilities are connected at secondary voltage. The Commission should use the same rate escalation and discounting methodology as used for Kentucky Power Company, but with adjustments to the escalation rate consistent with the escalation of the Company's costs for transmission. This escalation can be determined through an evaluation of the historic escalation of transmission costs. KYSEIA has preliminarily calculated a transmission cost escalation rate of 6.84 percent for the Louisville Gas and Electric Company based on the escalation of net cost transmission rate base from the Company's 2016 general rate case to the current rate case.⁴²

Avoided Distribution Capacity Costs

KYSEIA recommends the same general approach for distribution as avoided transmission except that the effective solar capacity factor should be calculated based upon the solar production in relation to the top 10 percent of hourly class loads for each utility. This produces an effective solar capacity of 13.75 percent for KU and 17.76 percent for LG&E based on the Companies'

⁴² This calculation was performed by comparing amounts presented in the 2016 general rate case for the test year ending June 30, 2018 to the amounts from the current rate case using a test year ending June 30, 2022. The total percentage increase over that time frame was accordingly divided by four years to produce an annualized percentage increase relative to the current net cost transmission rate base.

residential class load shapes.⁴³ This amount should also be grossed up for distribution demand losses using an assumption that systems are connected at secondary voltage.

KYSEIA recommends that the Commission use the same rate escalation and discounting methodology used in the KPC Order; however, the escalator should be set according to utility-specific information. Based upon the information in the current proceedings and the prior two rate cases, for Louisville Gas and Electric KYSEIA has calculated an annual escalation rate of 6.41 percent for distribution.⁴⁴

Avoided Carbon Cost

KU and LG&E should include an avoided carbon cost within the NMS-2 export rate. Using the Companies' Joint Integrated Resource Plan, CO₂ prices are forecasted to increase from \$17.00 per ton in 2026 to \$26.00 per ton in 2033.⁴⁵ The basis for the CO₂ analysis in the IRP is a 2016 Synapse Energy Economics report with prices "presented in real 2015 dollars" and for the analysis "escalated to nominal dollars at 1.8 percent annually."⁴⁶

KYSEIA recommends that CO₂ prices in the IRP need to be updated because the numbers in the 2016 Synapse report may significantly underestimate carbon cost. As acknowledged by the Companies in the IRP, "more recently" developed price scenarios serve as a better foundation for analysis.⁴⁷ By reference to a more recent government estimate of the social cost of carbon, using

⁴³ This calculation uses the top 10 percent of class load hours from the combined residential and residential net metering groups of customers. A different effective capacity should be calculated for non-residential rates based on the load shapes of a customer's respective class.

⁴⁴ This amount is based on annual growth in demand-related net cost distribution rate base.

⁴⁵ Case No. 2018-00348, *Electronic 2018 Joint Integrated Resource Plan of Louisville Gas and Electric Company and Kentucky Utilities Company* (filed Oct. 19, 2018), Vol. 1, page 5-24 [PDF 29 of 117]; Vol. 3, pages 15 and 16 [PDF 77, 78 of 93].

⁴⁶ *Id.*

⁴⁷ *Id.*, at Vol. 3, page 15 [PDF 77 of 93].

a three percent discount rate, CO2 costs are forecasted to increase from \$51.00 per ton in 2020 to \$85.00 per ton in 2050.⁴⁸

Avoided Environmental Compliance Cost

KYSEIA agrees that avoided environmental compliance costs should be a component in the NMS II export rate. In principle, the Commission could convert and project forward the respective environmental cost recovery for KU and LG&E. The costs are in the form of a percent of bill factor, varying by month. It would be reasonable to adjust the information into a levelized \$/kWh amount.

Job Benefits

Distributed generation is providing, among other things, economic benefits to the Commonwealth of Kentucky including job creation. It is unfortunate that the Companies are, at best, indifferent to economic benefits of net metering. Indeed, their complacency and, at times, hostility to the role and importance of distributed generation in the transition to renewable energy may work substantially against the ability of the Commonwealth to retain and attract industries, commercial enterprises, and a vibrant and talented workforce.

Among the resource available for considering the economic benefits of solar resources, including behind the meter resources, is a 2018 report prepared for the Maryland Public Service Commission.⁴⁹ As part of the report, “the economic and job impacts of incremental investment in

⁴⁸ Interagency Working Group on Social Cost of Greenhouse Gases, United States Government, *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide*, (Feb. 2021), page 5 [PDF 6 of 48].

Available at https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf?source=email

⁴⁹ *Benefits and Costs of Utility Scale and Behind the Meter Solar Resources in Maryland* (dated November 2, 2018), Daymark Energy Advisors. The report is attached as an exhibit to this memorandum.

distributed solar resources in the territories of the four Maryland IOUs” were calculated.⁵⁰ The study demonstrates that the direct job and economic impacts of behind the meter solar projects are (1) substantial and (2) quantifiable.⁵¹ The Commission should direct the Companies to evaluate job benefits and economic development as an export component for their next rate case filing through an unbiased and objective valuation. The evaluation should be forward-looking and calculate benefits on a per kWh basis for behind the meter resources.

2.3 The Commission Should Protect and Promote Legacy Rights.

The legislative intent for the creation of legacy rights found in KRS 278.466(6) is the preservation of rights for “an eligible electric generating facility in service prior to the effective date of the initial net metering order by the commission.” It is expressly for allowing the continuation of net metering service under the current Rider NMS (proposed to be renamed Rider NMS-1) for a period of twenty-five (25) years, including the one-to-one (1:1) kilowatt-hour denominated energy credit provided for electricity fed into the grid.

KYSEIA agrees that the replacement of eligible generating facilities in the ordinary course that result in only an incidental increase, if at all, in capacity should not divest an NMS-1 customer of their legacy status.⁵² KYSEIA submits that repair and replacement of facilities that have been significantly damaged, for example through adverse weather events, falls within the scope of “ordinary course” of actions to maintain or restore the facility. A high bar for divestment is consistent with intent of KRS 278.466(6). Further, adding battery storage to an eligible generating facility does not increase the capacity of the net metering facility, as battery storage is not an

⁵⁰ *Id.*, at Section 5.4, page 188 [PDF 206 of 245].

⁵¹ *Id.*, at Section 5.4.1, pages 195 through 197 [PDF 213 – 215 of 245].

⁵² KPC Order, page 44.

identified net metering technology in the net metering statute, and does not divest NMS-1 legacy status.

With regard to customers who take service under NMS-2, these eligible customer-generators should have legacy protections as well. For the reasons set forth and in the manner described in the KPC Order, eligible customer-generators who take service under the Companies' NMS-2 should be allowed to take service under the existing two-part rate structure and netting for a period of 25 years.⁵³ KYSEIA agrees that legacy rights for NMS-2 customers “mitigate the negative financial impact that changes in rate design may have on an eligible customer-generator who invested in an eligible generating facility.”⁵⁴

While the Commission determined in the KPC Order that “any modification or installation that materially increase the capacity of an eligible generating facility should be evaluated on the same basis as any other new application”⁵⁵ and, in turn, divests the customer of the ability to continue to take service under the NMS-1 for the remainder of the 25-year period, KYSEIA respectfully request the Commission to reconsider this finding from the KPC Order and not apply it in the instant cases.

The finding is based upon the provisions in a Commission Order in Case No. 2008-00169,⁵⁶ a proceeding that considered applications for interconnection and net metering years before the creation of legacy rights now found in KRS 278.466(6). This particular issue simply was not examined in Case No. 2008-00169 because the issue did not then-exist, and a successive application did not divest the customer of 1:1 credit. To this end, interconnection and legacy rights

⁵³ KPC Order, page 43.

⁵⁴ KPC Order, page 43.

⁵⁵ KPC Order, page 44.

⁵⁶ Case No. 2008-00169 (Ky. PSC Jan. 8, 2009).

necessarily result from distinct considerations, the former being centered upon safety, operations, and service with the latter being centered upon rates and the billing under the net metering tariff.

The 45 kW limitation on size of a net metering facility, among other things, does serve as a constraint on system size increases, and at the same time the increase from a 30 kW cap to 45 kW under the Net Metering Act manifests a legislative intent to enable net metering service to larger facilities. If the legislature had chosen to freeze in place the rated capacity of existing facilities, it could have done so. That the legislature increased the capacity cap in the same legislative act that created legacy rights offers reasonable and persuasive grounds that they are not antagonistic to one another but instead complementary.

2.4 Summary for Net Metering.

KYSEIA recommends the Commission reject the Companies' proposal to replace monthly netting under NMS-1 (and approved in the KPC Order for NMS II customers of KPC) with instantaneous netting under NMS-2. KYSEIA agrees with the KPC Order that export rates for monthly net excess generation should be developed through a cost-benefit analysis conducted on a forward-looking basis.⁵⁷ The export rate should incorporate the broad spectrum of cost and allocation considerations for distributed generation.⁵⁸ Quantitative analysis is the key.⁵⁹ KYSEIA submits that another principle of fair, just and reasonable rates is durability through the avoidance

⁵⁷ KYSEIA Inskeep Testimony (filed Mar. 5, 2021), page 8 [PDF 8 of 130]; also page 15 and 16 [PDF 15, 16 of 130] KYSEIA notes that a cost of service evaluation, while short-term in nature and a "second best test," also has merits through identifying "responsibility for embedded costs, including whether net metering customers are themselves more or less costly to serve than the 'average' customer in a class." At this stage in considering net metering proposals, KYSEIA maintains that a targeted cost of service study is a reasonable and helpful complement to evaluation of benefits and costs. "Both have a valuable role to play." For these reasons, KYSEIA recommends that reliable cost of service studies in tandem with cost and benefit studies be encouraged for the Companies future applications for net metering rate adjustments.

⁵⁸ KYSEIA Inskeep Testimony (filed Mar. 5, 2021), page 29 [PDF 29 of 130].

⁵⁹ KYSEIA Inskeep Testimony (filed Mar. 5, 2021), page 61 [PDF 61 of 130].

of “short-lived tariffs or programs that are subsequently replaced with different arrangements.”⁶⁰ Durability has considerable commonality with avoiding unnecessary or nonbeneficial complexity in rate design.⁶¹ There is a need to minimize and mitigate negative impacts that result through major changes.⁶²

3. The Companies’ Evidence is Insufficient and Unreliable to Support Their Proposed Rider SQF and Rider LQF; Further, the Companies’ Rider SQF and Rider LQF Are Not Fair, Just, and Reasonable. The Proposals Should be Denied.

The Companies offer two different tariffs for purchases from Qualifying Facilities (QFs): Rider SQF for facilities 100 kW or less and Rider LQF for facilities larger than 100 kW.⁶³ The Companies’ proposals and evidence concerning these QF rates are not sufficient to meet the requirements of KRS Chapter 278 or the corresponding burden of proof. Both should be rejected.

3.1 Rider SQF

Rider SQF provides standard rates for purchases of energy with a customer option to elect a time-differentiated rate, but it does not contain a capacity purchase component. Rider SQF proposes a standard flat rate of \$0.02173/kWh, while the time differentiated rate ranges from \$0.02145/kWh off-peak to \$0.02282/kWh on-peak. The proposed rate for energy purchases will remain the same as the current tariff. However, the Companies are requesting that for the time differentiated Rider SQF option, legal holidays that fall on a weekday should now be considered “a weekday for the purpose of determining on-peak periods.”⁶⁴ Rider SQF also does not identify a contract term. Energy is only purchased on an as available basis. Rider SQF should be rejected, and the Commission should require a tariff that better reflects the realities of QF economics and

⁶⁰ KYSEIA Inskeep Testimony (filed Mar. 5, 2021), pages 9 and 10 [PDF 9, 10 of 130].

⁶¹ KPC Order, page 24.

⁶² KYSEIA Inskeep Testimony (filed Mar. 5, 2021), page 37 and 62 [PDF 37, 62 of 130].

⁶³ Application (filed Nov. 25, 2020), Vol. 1 of 3, Tab 4 [PDF 97 of 2359].

⁶⁴ Application (filed Nov. 25, 2020), Conroy Testimony, page 45 [PDF 427 of 447].

service. The proposals and evidence concerning Rider SQF are not sufficient to meet the requirements of KRS Chapter 278 or the corresponding burden of proof. It should be rejected.

3.1.1 Rider SQF should Be Rejected for Failing to Require a Contract Term of at Least Ten (10) Years.

The Commission should require the Companies to revise Rider SQF to establish a minimum contract term of ten years. This will not only help ensure fair, just, and reasonable rates for SQFs, it will also help encourage SQFs to locate in the Companies' service territory.⁶⁵ A ten-year term for an SQF contract is appropriate because, as discussed below, capacity planning and acquisition is fundamentally a long-term exercise and the associated avoided capacity costs are long term in character.

In the recent Kentucky Power rate case, KYSEIA recommended that QFs be offered fixed rate contracts with terms of at least 10 years. As KYSEIA noted in that case, there are several jurisdictions that authorize fixed rate contracts with terms that range from 10 – 25 years and longer duration contracts are more consistent with an IRP-based avoided capacity cost framework. The available contract terms could be structured so that a QF has multiple options (e.g., fully variable, 5-year, 10-year, 20-year) where at least one option has a term of 10 years or more. While KYSEIA recommends a fully fixed rate be offered for both energy and capacity components for a minimum of 10 years, the capacity and energy rate components do not necessarily have to have equivalent terms.⁶⁶ For example, if the Commission determined that capacity compensation should be fixed for 20 years, it could still elect to reset energy compensation rates at 10 years.⁶⁷

⁶⁵ See KPC Order, page 100 (“The Commission also finds that Kentucky Power’s current minimum term of one year may discourage QFs from locating in its service territory and will therefore lengthen the minimum agreement term to five years.”)

⁶⁶ KYSEIA Response to Commission Staff Request 1-4 (filed Apr. 1, 2021) [PDF 8 of 22].

⁶⁷ *Id.*

The Companies have confirmed that the Rhudes Creek PPA price of \$27.82/MWh was contingent on the availability of a fixed price contract with a 20-year term, that “one of the lessons learned from the Companies’ renewable RFP was, ‘A longer contract term (20 years) was less expensive than a shorter contract term (15 years)”⁶⁸ The evidence supplied by the Companies demonstrates that, among other things, the term of the contract cannot be ignored when considering price. Thus, the 20-year term of the Rhudes Creek PPA cannot be separated from its role in establishing the contract price, and the long-term contract price is not a reliable market-price for avoided cost for a solar facility, for this and other reasons. Moreover, the Companies evidence and argument supports the position that QFs are entitled to a minimum contract term of 20 years.

In sum, the Commission should require the Companies to revise Rider SQF to establish a minimum contract term of ten years.

3.1.2 The Commission Should Require Capacity Payments for Rider SQF.

Consistent with the Order in Case No. 2020-00174, the Commission should require capacity payments for Rider SQF. The Companies’ proposal calls for capacity payments for LQFs but not SQFs. As noted by KYSEIA Witness Barnes, the Companies provide no economic rationale for differentiating compensation for the provision of capacity due a QF solely based on the size of the facility.⁶⁹ Capacity compensation should be established for Rider SQF under the same methodology KYSEIA recommends for Rider LQF below. *See Section 3.2.3, infra.*

3.1.3 The Commission Should Require the Companies to Modify Its Avoided Energy Costs to Include Hedging Value and Avoided Line Losses.

⁶⁸ KU and LG&E Response KYSEIA Post-Hearing Request 1-10(c) (filed May 19, 2021) [PDF 26 of 44].

⁶⁹ Case No. 2020-00350, KYSEIA Barnes Testimony (filed Mar. 5, 2021), page 8 [PDF 10 of 83].

The Commission should also adjust the Companies' calculation of avoided energy costs. The Companies' calculation is confined to fuel and variable operations and maintenance costs, referred to as hourly marginal energy costs by the Companies. This excludes the value that accrues from additional price stability over the course of a QF contract. A QF reduces the volume of fuel that is used to generate electricity and thus reduces the volumes of hedged natural gas and coal fuels.⁷⁰

i. Fuel Price Hedging Benefits

The proposed Rider SQF energy rate should also include a fuel price hedging value. As noted by the North Carolina Utilities commission:

In the Sub 140 Phase One Order [2016 avoided cost rate update proceeding] the Commission found that renewable generation provides fuel price hedging benefits because a utility's purchase of energy from a QF reduces the amount of fuel the utility otherwise would need to purchase. In doing so, the Commission acknowledged that purchasing solar power can be seen as the equivalent of buying natural gas forwards. Based upon the foregoing and the entire record herein, the Commission finds that the evidence in this proceeding demonstrates again that there are fuel price hedging benefits associated with renewable generation. Purchases from QFs are substitutes for the purchase of fuels and reduce the amount of fuel that must be purchased and, therefore, the costs that the utilities would incur toward fuel procurement.⁷¹

Michigan has also determined that a hedging benefit can be included in avoided energy cost pricing. While North Carolina incorporates a specific \$/kWh hedging benefit in its avoided cost pricing model derived using the Black-Scholes options pricing model, Michigan has not

⁷⁰ *Id.*

⁷¹ NCUC Docket No. E-100, Sub 158. Order Establishing Standard Rates and Contract Terms for Qualifying Facilities. April 15, 2020. p. 61.

adopted a specific value or pricing methodology.⁷² Some states may also use a combination of futures pricing and forecasts to incorporate an implied hedging value.⁷³

The Commission should require the Companies to include a fuel price hedging value in Rider SQF's energy rate.

ii. Line Loss Adder

The proposed Rider SQF energy rate should also include a line loss adder allowing a gross-up for avoided line losses that accrue when dispersed QF generation serves nearby loads and displaces large-scale generation that must be transported longer distances and pass through more transformer infrastructure in order to reach customer loads at their respective service voltages. Localized generation has a higher energy and capacity value than centralized generation. Thus, the energy and capacity rates for SQFs should be grossed up for line losses.

This is also reflected in 807 KAR 5:504. 807 KAR 5:504 Section 5 provides that in determining the final purchase rate for QFs, several factors must be considered. Section 5(c) expressly includes among those factors “Savings or costs resulting from line losses that would not have existed in the absence of purchases from a qualifying facility.”

In light of 807 KAR 5:504 Section 5(c) and as noted by KYSEIA witness Barnes, recognizing avoided lines losses as an avoided cost should not be controversial, although the amounts and variations in marginal losses may be.⁷⁴ Typically, line losses are reflected in retail rates that are differentiated by service voltage to reflect losses or the lack of losses. This differentiation is also found in the purchased power tariffs of many utilities. Some utilities specify

⁷² KYSEIA Response to Commission Staff Request 1-1 (filed Apr. 1, 2021) [PDF 3 of 22].

⁷³ *Id.*

⁷⁴ Case No. 2020-00350, KYSEIA Barnes Testimony (filed Mar. 5, 2021), page 9 [PDF 11 of 83].

that that deliveries of energy from QFs are subject to a delivery voltage adjustment factor defined as the reciprocal of the applicable delivery efficiency factor, while other utilities apply a premium for purchases associated with QFs interconnected at distribution voltage relative to interconnected at transmission voltage.⁷⁵ Most recently in Kentucky, the Commission adopted an avoided energy pricing methodology for Kentucky Power providing that the avoided energy price be set at the variable PJM locational marginal price (“LMP”), which implicitly includes a marginal transmission loss component as well as a congestion component.⁷⁶

3.2 Rider LQF

As stated above, the Companies have offered Rider LQF for purchases for QFs that are larger than 100 kW. The Companies’ Rider LQF offers formulas under which energy and capacity purchase rates are established rather than specific rates themselves. The energy rate is based primarily on hourly avoided fuel costs associated with the Companies’ self-owned coal and natural gas generation facilities. The Companies propose an adjustment to the language defining the hourly avoided energy cost to exclude certain fuel-related costs that the Companies identify as “fixed” in nature. The Companies proposes to add a qualifier to the “actual avoided fuel expenses” such that it reads “actual fuel expenses, excluding those that are fixed and non-variable.”⁷⁷

The Companies’ Rider LQF capacity rate is calculated using an implied cost of capacity that is based on the hourly purchase price of power (\$/MWh) available on the inter-utility market minus the Companies’ variable fuel expense. This rate is referred to as the Avoided Capacity Cost

⁷⁵ *Id.* at 10 [PDF 12 of 83].

⁷⁶ *Id.*

⁷⁷ Application (filed Nov. 25, 2020), Conroy Testimony, pages 45 and 26 [PDF 427 of 447].

(“ACC”). The ACC is then multiplied by the capacity delivered during an hour by the QF (“CAP”).⁷⁸

If system demand is less than the Companies’ available capacity during an hour, the Companies calculate CAP to be zero (0). If the system demand is more than the Companies’ available capacity but less than the sum of the Companies’ capacity plus the capacity from the QF, CAP is limited to capacity purchased on the inter utility market. CAP represents the amount delivered by the QF only if system demand is greater than both LG&E capacity and the capacity added by the QF.⁷⁹

Rider LQF allows for a term of one year for purchases of energy on a self-renewing basis and a term of five years for contracts that cover the purchase of both energy and capacity.⁸⁰

The Companies’ proposals and evidence concerning Rider LQF is not sufficient to meet the requirements of KRS Chapter 278 or the corresponding burden of proof. It should be rejected.

3.2.1 The Lack of Transparency Creates Unreasonable Uncertainty in Rider LQF Rates.

The lack of transparency in both energy and capacity compensation rates creates an unreasonable amount of uncertainty for prospective QF customers. The QF customer has no ability to determine the amount of compensation that may be provided to it for its services. While the energy rate methodology appears to be similar to what is used to determine energy rates for Rider SQF customers, the actual amounts are not stated. The rate is variable based on actual monthly fuel expenses. A QF customer does not have the information necessary to determine how the rate may vary over a contract period. For example, PJM locational marginal prices (LMPs), which the

⁷⁸ Case No. 2020-00350, KYSEIA Barnes Testimony (filed Mar. 5, 2021), pages 5 to 7 [PDF 7 to 9 of 83].

⁷⁹ *See id.*

⁸⁰ *Id.*, page 7 [PDF 9 of 83]

Commission determined should be the avoided energy rate for QFs in the most recent Kentucky Power case,⁸¹ are publicly available. No such transparency is available from the Companies, and when asked, the Companies refuse to disclose publicly disclose such information under the auspices of confidentiality.⁸²

3.2.2 The Commission Should Reject the Companies' Proposed Energy Rate Calculation for Rider LQF.

The Commission should reject the Companies' proposed changes to the tariff language governing energy rate compensation under Rider LQF. The calculation of the energy rate should be set in accordance with the recommendations for the Rider SQF energy rate, such that it includes variable O&M expenses and hedging value in addition to fuel costs. This can be done by repeating the same rates in both Rider LQF and Rider SQF for the purpose of stating the applicable energy rates.⁸³

i. O&M and Fuel Expenses

KYSEIA objects to how the Companies calculate "actual fuel expense." "Actual fuel expense" appears to exclude variable O&M costs. Variable O&M costs should be included in avoided energy costs because they are incurred on a \$/MWh basis. The Companies also propose to exclude "fixed and non-variable" expenses from actual fuel expenses. According to the Companies, "fixed and non-variable" expenses include natural gas transportation fees, fixed rail transportation costs, rail car leasing, and barge fleetings, but notes "this list is not meant to be all

⁸¹ KPC Order, page 100.

⁸² See KU and LG&E Respons to KY OAG and KIUC Request 1-172 Attachment 2 "CONFIDENTIAL Att 2 Avoided _11075_1." (filed Jan. 22, 2021) [PDF 63 of 314].

⁸³ Case No. 2020-00350, KYSEIA Barnes Testimony (filed Mar. 5, 2021), page 14 [PDF 16 of 83].

inclusive if the Company incurs additional fuel-related costs that meet the revised definition in the tariff.”⁸⁴

The proposed calculation for the Rider LQF energy rate affords too much discretion to the Companies and is unfair to a QF customer. The Companies’ proposal allows too much discretion in the determination of “fixed” costs at a future date, which could allow for the reduction of compensation due to a QF already under contract with a Company. This would render a QF contract meaningless. As noted by KYSEIA witness Barnes, over a long-time horizon, all costs are variable, and the Commission should require stronger requirements and less discretion by which the Companies determines a “fixed and non-variable” expense, including the consideration of long-term avoided costs.⁸⁵

ii. Fuel Price Hedging Benefits

For the same reasons set forth in the context of Rider SQF in **Section 3.1.3 i.**, *supra*. Rider LQF should also include a hedging benefit.

iii. Line Loss Adder

For the same reasons set forth in the context of Rider SQF in **Section 3.1.3 ii.**, *supra*. Rider LQF should also include a line loss adder.

3.2.3 The Commission Should Reject the Companies’ Proposed Capacity Rate Calculation for Rider LQF.

The Commission should reject the Companies’ proposed capacity compensation for Rider LQF. The capacity pricing methodology and rates are not transparent, it fails to compensate a QF

⁸⁴ Case No. 2020-00350, LG&E Response Commission Staff Request 3-19(a) (filed Feb. 19, 2021) [PDF 34 of 106].

⁸⁵ KYSEIA Response to Commission Staff Request 1-2 (filed Apr. 1, 2021) [PDF 5 of 22].

for the capacity they deliver by eliminating payments at certain times and fails to reflect that capacity and capacity planning are long term in nature.

807 KAR 5:504 Section 4(b) states, “Rates for energy or capacity or both offered on a legally enforceable basis shall be based at the option of the qualifying facility on either avoided costs at the time of delivery or avoided costs at the time the legally enforceable obligation is incurred.” 807 KAR 5:504 Section 5 further states that purchase rates consider a series of factors associated with the availability of energy or capacity from a facility and the “Ability of the electric utility to avoid costs due to deferral, cancellation, or downsizing of capacity additions, and reduction of fossil fuel use.” Together, these sections provide that a QF is entitled to capacity compensation not on the basis of as-needed non-firm market purchases, but on the ability of the QF to substitute for utility investments.

i. The Lack of Transparency Creates Unreasonable Uncertainty in LQF Capacity Rates.

In order for a QF to assess the potential value of providing capacity to the Companies, it would have to know the nature and amounts of historic transactions of this type, or projections of the future need for power purchases. Neither are available to a prospective QF from the Companies. The uncertainty would likely cause a prospective QF to assume a zero value for this component and discourage construction of QFs.⁸⁶

In the recent case Kentucky Power rate case, the Commission found that “the avoided capacity rate should be the zonal net CONE [“Cost of New Entry”] for the delivery years that have an established CONE at the time of the contract and the last known net CONE for the remainder of the term. This will balance the interests of Kentucky Power and the QF by enabling QFs to

⁸⁶ Case No. 2020-00350, KYSEIA Barnes Testimony (filed Mar. 5, 2021), page 16 [PDF 18 of 83].

estimate the avoided capacity rates from publicly available documents and providing a market-based capacity value specific to Kentucky Power's location."⁸⁷ The Commission found that the existence of publicly available data was imperative to balancing the interests of Kentucky Power and prospective QFs to locate within its territory. The need for that same balancing should also apply to the Company's proposed avoided cost rates in this case.

ii. The Rider LQF Capacity Rates Fail to Reflect the Long-Term Nature of Capacity Planning.

The Companies' framework to calculate capacity rates defies the purpose of capacity pricing itself.⁸⁸ The Companies assumes there will always be another party willing to sell to it if the Companies experiences a shortfall in resource availability relative to its load. Capacity has value because it represents a resource that can be called upon when needed, or in the case of solar, wind, or other intermittent technologies, can be expected to be available at certain times due to its production characteristics.⁸⁹ A capacity payment allows a generator to recover its fixed costs that are not recoverable through the sale of energy as a payment for availability.⁹⁰ If a generator does not believe those fixed costs cannot be recovered by the combination of energy and capacity compensation, the generation unit will never be built.⁹¹ Capacity payment is provided to ensure that capacity is available when it is needed.⁹²

However, the use of an as available market price represents only an immediate short-term time horizon.⁹³ Ensuring that sufficient capacity exists to meet demand cannot be wholly reliant

⁸⁷ KPC Order, page 100.

⁸⁸ Case No. 2020-00350, KYSEIA Barnes Testimony (filed Mar. 5, 2021), page 15 [PDF 17 of 83].

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

on short-term market purchases. Doing so creates no assurance that demand can be met, and assuming availability from non-contracted resources is particularly problematic considering that periods of particularly high demand are often regional in nature and driven by regional weather phenomenon.⁹⁴ The Companies must take a longer-term outlook on capacity to address these concerns.

iii. The Companies Own Records Suggest that It Has an Impending Need for Capacity.

The Companies' 2018 joint IRP shows a potential need for 50 – 550 MW of new or replacement capacity starting in 2026 using a scenario where its operating units have a 55-year lifetime and the base case load scenario. This need rises to 2,000 – 2,500 MW by 2033 as further retirements take place. The associated long-term resource plans include differing amounts of natural gas combined cycle (“NGCC”) capacity and 300 – 500 MW of solar capacity.⁹⁵ In addition, on January 7, 2021, the Companies issued a RFP seeking 300 – 900 MW of replacement capacity sized at 100 MW or larger beginning in 2025 to 2028, including at least 100 MW of battery storage.⁹⁶ Based on the Companies own IRP and RFP, it has demonstrated a need for capacity through the next 5-10 years.

Even if the Companies will be resource sufficient for the next several years, the Companies may choose to seek additional resources along a different timeline for reasons beyond filling a specific capacity need.⁹⁷ This could include taking advantage of federal tax credits or meeting meet

⁹⁴ *Id.*

⁹⁵ Commission Case No. 2018-00348, LGE-KU 2018 IRP (Oct. 19, 2018), Vol. 1, pages 5-37 to 5-39 [PDF 42 to 44 of 117].

⁹⁶ LG&E. Press release. “LG&E and KU request bids for energy to continue to reliably serve customers.”

January 7, 2021. Available at: <https://lge-ku.com/newsroom/press-releases/2021/01/07/lge-and-ku-requestbids-energy-continue-reliably-serve-customers>.

⁹⁷ KYSEIA Response to Commission Staff Request 1-3 (filed Apr. 1, 2021) [PDF 7 of 22].

customer green energy preferences, among others. The addition of those resources, to the extent they have capacity value, could have the effect of pushing the period of resource sufficiency forward in a manner that disadvantages qualifying facilities that could serve as a substitute for that procurement.⁹⁸

Resources secured through Rider LQF could provide the capacity to meet these future needs. The Companies' modeling in the 2018 IRP assumed that solar would contribute to summer peak loads at 80% of its total capacity and stated that the existing E.W. Brown solar facility contributed at a ratio of 57% of its nameplate rating to the July 2017 annual peak.⁹⁹ Smaller QF generation can also be deployed relatively quickly and in increments that reduce the existence of excess or underutilized capacity created by fossil fuel additions or due to forecasting error.¹⁰⁰

iv. The Commission Should Remedy the Lack of Alignment Between the Companies' Capacity Planning and QF Capacity Compensation.

The Commission should require the Companies to tether the QF compensation rates to the IRP process and any other proceedings in which it seeks approval to build or otherwise acquire capacity.¹⁰¹ This will ensure that that non-utility generation is placed on a level playing field with Company-owned generation, and that ratepayers are rendered indifferent to whether their energy needs are met with utility-owned or non-utility owned generation.

⁹⁸ *Id.*

⁹⁹ Case No. 2018-00348, LGE-KU 2018 IRP Volume 3, E.W. Brown Solar Profile, 2017, page 3 and 2018 IRP Resource Screening Analysis page 9 [PDF 11 of 93 and 30 of 93].

¹⁰⁰ Case No. 2020-00350, KYSEIA Barnes Testimony (filed Mar. 5, 2021), page 18 [PDF 20 of 83].

¹⁰¹ See also KYSEIA Response to Commission Staff Request 1-5 (filed Apr. 1, 2021) [PDF 9 of 22]. KYSEIA witness Barnes provides an example tariff language from Duke Energy Progress South Carolina ("DEP-SC") Rate Schedule PPL-3 (PURCHASED POWER SCHEDULE FOR LARGE QUALIFYING FACILITIES PPL-3), including a "tether" to the utility's IRP.

The Companies' Rider LQF should be modified to provide that the current short-term market purchase-based regime is only applicable during periods when the Companies are resource sufficient according to its IRP or other indicators of an intention to acquire capacity, such as an application for approval to build or acquire a specific resource. To that end, KYSEIA witness Barnes recommends the "proxy unit" method of determining capacity costs and capacity compensation, where the proxy unit is designated by the preferred next resource addition in the Companies' IRP.¹⁰² The capacity contribution applied to non-dispatchable resources, such as solar or wind, should be based on the assumptions used in the IRP.¹⁰³

In the recent Kentucky Power rate case, the Commission revised the methodology used to determine Kentucky Power's avoided cost rates, choosing to "avail itself of the new capability to require variable energy rates and finds that the avoided energy rate should be the variable LMP at time of delivery."¹⁰⁴ The Companies, unlike Kentucky Power, are not part of an organized wholesale market for energy or capacity. However, the recommendation for the use of a proxy unit methodology based on a proxy unit identified in the Companies' IRP will improve upon the capacity valuation methodology and establish a methodology more akin to Kentucky Power's newly approved avoided cost rates.¹⁰⁵

The effectiveness of the proposal that avoided capacity costs be "tethered" to the integrated resource planning process is contingent on the Commission not permitting the Companies to engineer circumstances that allow it to evade the purpose of the tethering, given that the obligation

¹⁰² Case No. 2020-00350, KYSEIA Barnes Testimony (filed Mar. 5, 2021), page 20 [PDF 22 of 83].

¹⁰³ *Id.*

¹⁰⁴ KPC Order, page 100.

¹⁰⁵ *See* Case No. 2020-00350, KYSEIA Barnes Testimony (filed Mar. 5, 2021), page 21 [PDF 23].

to offer payment for capacity is tied to a utility's relative resource sufficiency or deficiency.¹⁰⁶ This can occur when future Company resource needs are left vague or conditional in the IRP, denoting that future capacity needs are uncertain, making resource sufficiency or deficiency difficult or impossible to ascertain. If the Companies later makes decisions that imply or create such certainty (a plant retirement date) and seeks to fill that need according to its own preferences (issuing an RFP) without a reasonable opportunity for QFs to meet that need in part or in full.¹⁰⁷ The Commission should not tolerate such actions to circumvent the intent of establishing avoided cost pricing and a level playing field for QFs.¹⁰⁸

3.3 Summary for Rider SQF and Rider LQF.

KYSEIA recommends the Commission modify the Companies' avoided energy costs under Rider SQF and Rider LQF to include hedging value and avoided line losses. The contract term for Rider SQF should be extended to a minimum of ten (10) years. Capacity compensation should be established for Rider SQF under the same methodology as for Rider LQF.

The Commission should also reject the Company's proposed revisions to the methodology for establishing energy rates for Rider LQF. The Commission should direct the Company to modify Rider LQF to provide that the current capacity calculation methodology only applies during periods of resource sufficiency as indicated by the Companies' most recent IRP or related proceedings in which the Company proposes to build or otherwise acquire capacity. The Company's avoided capacity cost during periods of resource insufficiency should be established based on the costs of a proxy unit defined by the Company's most recent IRP as the next unit

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

addition. The Commission should require the Companies to establish a term of ten (10) years or more for LQF contracts that involve the sale of capacity.

WHEREFORE, KYSEIA respectfully requests that the Commission reject and deny the Companies' proposals discussed in this memorandum.

Respectfully submitted,

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NOTICE AND CERTIFICATION FOR FILING

Undersigned counsel provides notice that the electronic version of the paper has been submitted to the Commission by uploading it using the Commission's E-Filing System on this 24th day of May 2021, and further certifies that the electronic version of the paper is a true and accurate copy of each paper filed in paper medium. Pursuant to the Commission's March 16, 2020, and March 24, 2020, Orders in Case No. 2020-00085, *Electronic Emergency Docket Related to the Novel Coronavirus Covid-19*, the paper, in paper medium, will be filed at the Commission's offices within 30 days of the lifting of the state of emergency.

/s/ David E. Spenard
David E. Spenard

NOTICE REGARDING SERVICE

The Commission has not yet excused any party from electronic filing procedures for this case.

/s/ David. E. Spenard
David E. Spenard