COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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	) Case No. 2020-00174))))))

Joint Intervenors, Mountain Association, Kentuckians for the Commonwealth, and Kentucky Solar Energy Society's Response To Data Requests From Commission Staff

PSC DR JI 1. Refer to the Direct Testimony of Joshua Bills (Bills Testimony), page 5, lines 4 –5. Mr. Bills asserts that the proposed Tariff NMS II does not address the impact of net metering customers who take service under GS and LGS and already pay demand charges under those tariffed rates, from which fixed costs are recovered. Provide Mr. Bills's recommendation for addressing demand charges in a net metering tariff for GS and LGS customers.

PSC DR JI 1 RESPONSE:

I would recommend demand charges in a net metering tariff for GS and LGS customers remain as defined for GS and LGS customers not participating in a net metering tariff, which is currently how demand charges are applied for NMS customers that are GS or LGS customers.

N.M.S. II billing section as proposed in KPCO_APP_Section_II_Volume_2_Filing_Requirements_and_Exhibits_D_and_E, page 133, lists the following:

"All net billing kWh and kW in each netting period, accumulated for the billing period, shall be charged at the rates applicable under the Company's standard service tariff under which the customer would otherwise be served, absent the customer's electric generating facility."

NMS II with the introduction of netting periods and "billing *kW in each netting period*" raises a potential interpretation that the demand charge would be applied twice, once for each demand meter read in each netting period.

Witness: Joshua Bills

PSC DR JI 2. Refer to the Bills Testimony, unnumbered page 5, lines 6–21.
a. Mr. Bills states that some benefits will be lost, yet only lists the loss of the ability for GS and LGS customers to levelize their electric payments. Provide all other benefits that will be lost through the adoption of the proposed Tariff NMS II.
b. Provide the billing evaluations that support the allegation that businesses are able to offset high winter electric bills with excess solar generation in non-winter months.

PSC DR JI 2. RESPONSE:

a. Additional benefits lost through the adoption of proposed Tariff NMS II will be the following. There may be other benefits lost too that I've not considered.

1. Customer-generators will be unable to have generation kWhs delivered to KPC in one netting period from offsetting consumption kWhs from KPC in another netting period.

2. Customer-generators will be credited reduced value for net kWhs delivered to KPC over a billing period, for each of two netting period time blocks.

3. Customers considering participation in NMS II will have a more complicated determination of savings potential from their generation source. The simplicity offered by Tariff NMS, with one-for-one kWh crediting and without required netting time blocks allows calculation of savings simply on evaluation of generation kWhs. Tariff NMS II savings evaluation will depend on one's consumption profile and its relationship to one's generation profile within two netting time blocks. Determination of consumption profile would not be available from monthly KPC billing information.

b. Attachment 2.1 to PSC DR 1 is a spreadsheet that shows monthly net kWhs billed for Customer 42 listed in KPC's Fourth PSC response spreadsheet, 4.1 KPCO_R_KPSC_4_82_Attachment1. Prior to installation of solar from September 2018 through March of 2019 Customer 42 was billed for 30,000 kWh of consumption. The following year after solar installed from September 2019 through March of 2020 Customer 42 was billed for 17,200 kWh.

Witness: Joshua Bills

PSC DR JI 3. Refer to the Direct Testimony of James Owen (Owen Testimony), page 25, lines

5–14. Provide all supporting studies and quantifications that the proposed increase to the basic service charge will have a detrimental impact on low-income customers, low-usage customers, customers employing distributed energy resources on side, and energy efficiency goals.

PSC DR JI 3. RESPONSE:

The detrimental impacts of higher service charges on low-income, low-usage, and customer-generator customers and on energy efficiency are extremely well-documented and widely confirmed across the country. Therefore, it is impossible to provide all of the supporting studies of such a self-evident conclusion. Mr. Owen's conclusion rests as much on simple deductive reasoning as it does on supporting studies and literature. However, we have included citations and links to several instructive papers, studies, and reports below.

1. Shannon Baker-Branstetter, "Caught in a Fix: The Problem with Fixed Charges for Electricity." Consumer Reports, February, 10 2016. Available at: https://advocacy.consumerreports.org/research/caught-in-a-fix-the-problem-with-fixed-charges-for-electricity/

2. "Utility Rate Design: High Utility Fixed Charges Harm Low-Income, Elders and Households of Color." National Consumer Law Center. **Summary of research and analysis available at: https://www.nclc.org/issues/energy-utilities-a-communications/utility-rate-design.html**

3. Caroline Grolin, The Greenlink Group, "A Troubling Trend in Rate Design: Proposed Rate Design Alternatives to Harmful Fixed Charges." Southern Environmental Law Center, December 2015. Available at: https://www.southernenvironment.org/uploads/news-feed/A_Troubling_Trend_in_Rate_Design.pdf

4. "Public Comment of John Howat, National Consumer Law Center on Behalf of Wisconsin Community Action Program Association." Public Service Commission of Wisconsin, File No. 3270-UR-120, October 3, 2014. Available at: **https://apps.psc.wi.gov/ERF/ERFsearch/content/searchResult.aspx?UTIL=3270&CASE=UR&SEQ=120&START=none&END=none&TYPE=none&SERVICE=none&KEY=none&NON=N**

These are provided in addition to the documents cited in testimony:

5. Whited, M. et al. (2016). Caught in a fix. Synapse Energy Economics. Available at: https://advocacy.consumerreports.org/wp-content/uploads/2016/02/Caught-in-a-Fix-FINAL-REPORT-20160208-2.pdf
6. Vote Solar, "Guidance for utility commissions on Time of Use rates: A shared perspective from consumer and clean energy advocates", Electricity Rate Design

Review Paper No.2, July 15, 2017, *available at* https://votesolar.org/files/9515/0039/8998/TOU-Paper-7.17.17.pdf

7. Lazar, J. (2016) "Use great caution in design of residential demand charge rates". Regulatory Assistance Project, *available at* https://www.raponline.org/wp-content/uploads/2016/05/lazar-demandcharges-ngejournal-2015-dec.pdf

8. Minnesota Public Utilities Commission, In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota; Findings of Fact, Conclusions, and Order; Docket No. E-002/GR- 13-868, May 8, 2015, p. 88.

9. Rate Design Direct Testimony by Allison, A., on behalf of Sierra Club. Public Service Commission of the State of Missouri File No. ER-2019-0335, In the Matter of Union Electric Company, d/b/a Ameren Missouri's Tariff to Decrease Its Revenues for Electric Service, December 18, 2019, p.11.

10. Connecticut Public Utilities Regulatory Commission. Docket No. 17-10-46, Decision In the Matter of the Connecticut Light and Power Company d/b/a Eversource Energy (April 18, 2018).

11. State of New York Public Service Commission. Case No. 17-E-0459, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plan In the Matter of Central Hudson Gas & Electric Corporation (June 14, 2018).

12. Statement in Support of Joint Proposal by Howe, C., on behalf of Acadia Center. New York Public Service Commission. Case No. 17-E-0459, In the Matter of the Central Hudson Gas & Electric Corporation (May 2, 2018).

Witness: James Owen

PSC DR JI 4. Refer to the Owen Testimony, page 27, lines 15–18. Provide all supporting studies that low-income customers are more likely to reside in multi-family apartments, specifically in Kentucky Power's service territory.

PSC DR JI 4. RESPONSE:

The assumption that low-income customers are more likely to reside in multifamily apartments comes from Mr. Owen's general experience and familiarity with low-income customer sector. Mr. Owen has no specific knowledge of the prevalence of low-income customers residing in multifamily apartments within Kentucky Power's service territory, but rather as a general trend nationally. Below are several citations and links that are instructive in this area:

1. "America's Rental Housing 2020." Joint Center for Housing Studies of Harvard University, 2020. Available at: https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Americas_Rental_Housing_2020.pdf

2. "Issue Brief: Reducing Energy Burden for Low-Income Residents in Multifamily Housing with Solar Energy." U.S. Department of Energy Better Buildings®, Available at: https://betterbuildingssolutioncenter.energy.gov/sites/default/files/IB_Reducing%20Energy%20Burden%20in%20MF%20Housing%20with%20Solar%20Energy_FINAL_0.pdf

3. Ariel Drebhol, Lauren Ross, "Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities." Energy Efficiency for All and the American Council for an Energy Efficient Economy, April 2016. Available at: https://assets.ctfassets.net/ntcn17ss1ow9/1UEmqh5l59cFaHMqVwHqMy/1ee1833cbf370839dbbdf6989ef8b8b4/Lifting_the_High_Energy_Burden_0.pdf

Witness: James Owen

PSC DR JI 5. Refer to the Owen Testimony, page 28, lines 7–11. Provide all studies and support documentation that fixed charges punish customers who employ distributed generation.

PSC DR JI 5. RESPONSE

See: Response to DR-3.

Witness: James Owen

PSC DR JI 6. Refer to the Owen Testimony, page 31, lines 1–4.
a. Explain whether Mr. Owen has conducted a cost-benefit analysis.
b. If not, explain why not and why it is not provided as part of his testimony.
c. Explain whether the data necessary to conduct a cost-benefit analysis is available.

PSC DR JI 6. RESPONSE:

a. Mr. Owen did not conduct any study, calculation or analysis related to the Company's proposed N.M.S. II avoided rate in this case.

b. Rather than conducting a study, calculation or analysis, Mr. Owen noted that the Company itself seems to not have conducted such any study, calculation, or analysis of all of the costs and benefits of net-metered solar in developing its

proposed N.M.S. II avoided rate, and thus has not carried its necessary burden in this case.

c. The data necessary to conduct a cost-benefit analysis is available primarily and most exactly from Kentucky Power Company itself. The Company has the most accurate and thorough data for existing net-metering customers, and thus is in the best position to develop a model for the costs and benefits of hypothetical levels of net-metered solar penetration in the future. In addition to direct data from the Company, many so-called "Value-of-Solar" studies have been conducted throughout the country, which could provide a model for Kentucky Power Company's own analysis for the value of solar kilowatt-hours provided to the grid from customer-generators. Some of these studies are cited on pages 34 and 35 of Mr. Owen's Direct Testimony, and discussed further in some of the resources cited in the footnotes of Mr. Owen's testimony.

Witness: James Owen

PSC DR JI 7. Refer to the Direct Testimony of Andrew McDonald, page 6, lines 11–13. Provide a study of the economic impact of solar businesses operating in Eastern Kentucky.

PSC DR JI 7. RESPONSE:

I have not conducted a study of the economic impact of solar businesses operating in Eastern Kentucky nor am I aware of any such study. However, the following two studies address the potential economic impact of renewable energy and energy efficiency policies on Kentucky as a whole, and the third study addresses the job-creation potential of the solar industry. Each of these studies are included as attachments to this response.

Potential Impacts of a Renewable and Energy Efficiency Portfolio Standard in Kentucky, Synapse Energy Economics, January 12, 2011. Prepared for the Mountain Association for Community Economic Development and the Kentucky Sustainable Energy Alliance.

Empowering Kentucky: A no-regrets plan to create jobs, improve health, lower bills, and invest in a just transition while cutting harmful emissions, Synapse Energy Economics, April 10, 2017. Prepared for Kentuckians for the Commonwealth.

10th Annual National Solar Jobs Census 2019, The Solar Foundation, February 2020. The National Solar Jobs Census offers an indication of the potential for job creation in the solar industry for Eastern Kentucky, by comparison to what has been achieved in other states. As stated in the Executive Summary (p.10):

> *The Solar Foundation's National Solar Jobs Census 2019 is the tenth annual report on current employment and workforce trends in the U.S.*

solar industry, nationwide and state by state. Based on a rigorous survey of U.S. companies, this report represents the most comprehensive analysis of solar labor market trends in the United States.

As of November 2019, the solar industry employs nearly 250,000 solar workers, representing a growth of 2.3%, or 5,643 jobs, since 2018. This growth contrasts with job losses in 2017 and 2018 but continues the seven years of well-documented growth from 2010 to 2016. Annual data from the National Solar Jobs Census has found that since 2010, solar employment has grown 167%, from just over 93,000 to 249,983 jobs in all 50 states, the District of Columbia, and Puerto Rico."
https://www.thesolarfoundation.org/national/

Witness: Andrew McDonald

PSC DR JI 8. Refer to the McDonald Testimony, page 9, lines 15–18.
a. Explain whether Mr. McDonald has conducted his own cost-benefit analysis.
b. If not, explain why it was not conducted.
c. Explain whether the data necessary to conduct a cost-benefit analysis is available.

PSC DR JI 8. RESPONSE:

a. I have not conducted my own cost-benefit analysis of the value of net metering or distributed generation resources to Kentucky Power Company and its customers.

b. As Rabago and Keyes have discussed in their 2013 report, *A Regulator's Guidebook: Calculating the Benefits and Costs of Distributed Solar Generation* (see Attachment 8.1 to PSC DR1), there have been numerous studies of the value of distributed solar generation (DSG) and "recent DSG studies have varied widely due to differences in study assumptions, key parameters and methodologies."[1] The report references an example in Arizona, "where two DSG benefit and cost studies were released in consecutive order by that State's largest utility and then by the solar industry. The utility-funded study showed a net solar value of less than four cents per kilowatt-hour ("kWh"), while the industry-funded study found a value in excess of 21 cents per kWh. A standard methodology would be helpful as legislators, regulators and the public attempt to determine whether to curtail or expand DSG policies. Valuations vary by utility, but the authors contend that *valuation methodologies* should not."[2] [emphasis added]

[1] Rabago, K. & Keyes, J., *A Regulator's Guidebook: Calculating the Benefits and Costs of Distributed Solar Generation*, 2013, Interstate Renewable Energy Council, p. 3.
[2] Id.

This is the first rate case in which the Commission is addressing the changes to net metering enacted in SB100. It is my view that the Commission should establish a standard methodology for analyzing the value of DSG before a cost-benefit analysis is conducted. Without this standard methodology, each utility rate case could repeat debates between the utilities, intervenors, and Commission about the appropriate assumptions, parameters, and methodologies to be used in the cost-benefit analysis. It did not seem like a prudent use of the Joint Intervenors resources to produce a cost-benefit analysis at this stage in the process, prior to knowing what inputs and parameters the Commission would recognize as appropriate to the analysis.

c. I cannot answer this question with certainty without knowing the methodology, assumptions, and parameters to be used for conducting the cost-benefit analysis. However, based on the range of categories of costs and benefits analyzed in such studies, I believe that the necessary data should be available, either within KPC's filings for this rate case or from other sources.

Witness: Andrew McDonald

Verification

The undersigned, Josh Bills, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and correct to the best of his information, knowledge, and belief after reasonable inquiry.

Josh Bills

Subscribed and sworn to before me by Josh Bills this 2nd day of November 2020.

Amy Williams
Notary Public
State at Large, Kentucky

Notary Public

Notary ID: KYNP9940

My commission expires: 6-29-2024

Verification

The undersigned, Andy McDonald, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and correct to the best of his information, knowledge, and belief after reasonable inquiry.

Andy McDonald

Subscribed and sworn to before me by Andy McDonald this 2nd day of November 2020.

Notary Public

My commission expires: 1-10-2080

CALEB MANLEY NOTARY PUBLIC STATE AT LARGE

Verification

The undersigned, James Owen, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and correct to the best of his information, knowledge, and belief after reasonable

James Owen

Subscribed and sworn to before me by James Owen this 2nd day of November 2020.

KYNDL MCGEHEE
Notary Public, Notary Seal
State of Missouri
Webster County
Commission # 14627764
My Commission Expires 06-16-2022

Notary Public