

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 RATES FOR ELECTRIC)
AND GAS SERVICE, A CERTIFICATE OF)
PUBLIC CONVENIENCE AND NECESSITY TO)
DEPLOY ADVANCED METERING) CASE NO.
INFRASTRUCTURE, APPROVAL OF CERTAIN) 2020-00349
REGULATORY AND ACCOUNTING)
TREATMENTS, AND ESTABLISHMENT OF A)
ONE-YEAR SURCREDIT)

And

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

**RESPONSE OF JOINT INTERVENORS MOUNTAIN ASSOCIATION, KENTUCKIANS
FOR THE COMMONWEALTH, AND KENTUCKY SOLAR ENERGY SOCIETY TO
DATA REQUESTS FROM COMMISSION STAFF**

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April 1, 2021

Response of Joint Intervenors To Commission Staff Data Requests

Commission Staff DR 1:

Refer to the Direct Testimony of Cathy Kuhn, [The Kuhn Testimony was filed in Case No. 2020-00350 only] page 8, regarding the statement that “it can be argued that low- and fixed-income [electric] customers generally use less energy” Provide support for this statement for electric customers in general and for electric customers of Louisville Gas and Electric Company (LG&E) specifically.

JI Response 1:

The statement in this testimony is referring to studies which point to low income households utilizing less energy than they would prefer in order to save on their electric bills. For example, the 2015 US Energy Information Administration Residential Energy Consumption Survey found that 11% of households surveyed reported keeping their home at an unhealthy or unsafe temperature. Moreover- 6 percent of the total - reported that financial constraints kept them from using their heaters at some point in 2015 and 6 million households reported they couldn't use their air conditioning.

<https://www.eia.gov/todayinenergy/detail.php?id=37072>.

A paper entitled “Reversing Energy System Inequity: Urgency and Opportunity During the Clean Energy Transition” similarly notes that “households with the lowest incomes are on average the very lowest energy users. This is true all across the country....Yet even though households with the least means are using the least energy, they are shouldering the greatest energy burdens.” (See charts on page 2 and 3 of the following document):

https://www.nclc.org/images/pdf/special_projects/climate_change/report-reversing-energy-system-inequity.pdf

Similarly, a literature review describing high energy burden and low income affordability states: “Low-income households spend a higher proportion of their income on energy bills than any other income group (Eisenberg 2014, Drehobl and Ross 2016, Berry et al 2018). This is true, even though low-income households consume less energy per capita and they spend less on energy per square foot of living space than other households (Drehobl and Ross 2016).”

<https://iopscience.iop.org/article/10.1088/2516-1083/abb954>

A 2016 presentation by Melissa Whited and Tim Woolf entitled “Caught in a Fix: The Problem with Fixed Charged Electricity” documents how these rate structures have disproportionate impact on low income people because they tend to be low usage, a relationship which holds true in every state, including Kentucky. (See pages 13 and 14 of the following document):

<https://www.synapse-energy.com/sites/default/files/Caught-in-a-Fix-Webinar-Slides.pdf>

The 2015 State of Metropolitan Housing Report entitled “Searching for Safe, Fair and Affordable Housing: Learning from Experiences noted that while it is true that housing in lower income areas is older and may result in more inefficiencies and higher electricity costs, it is also true that “the regions of the county with the highest wealth (East Jefferson, Northeast Jefferson, and Floyds Fork) have the highest percentages of four or more bedroom housing units.” Thus, housing in lower income areas is smaller- as proved by maps of density - which results in less usage than in higher income areas with larger homes. (See Map 12 of the following document:)

<https://metropolitanhousing.org/wp-content/uploads/2020/10/Searching-for-Safe-Fair-and-Affordable-Housing-Learning-from-Experiences.pdf>).

Additionally, LGE/KU's response to the PSC 3rd Data request, Question 28 reports and attaches a study showing that income is positively correlated with usage. This same report also notes that customers receiving bill assistance use *more* energy than customers *at the same income* who do not receive assistance, however this does not refute the first finding and makes sense since that is likely why they are seeking assistance.

Data from Jefferson County Public School district during the pandemic found that approximately 30% of the district's roughly 98,000 students did not have access to a device or internet access. Initially, many low-income families in the district were forced to share devices that were given to them through the school district, suggesting less energy usage due to fewer devices in the home than higher income households.

<https://www.courier-journal.com/story/news/education/2020/08/05/jcps-how-louisville-families-can-request-chromebooks-wi-fi-hotspots/3288562001/>

Witness: Cathy Kuhn

Commission Staff DR 2:

Refer to the Direct Testimony of James Owen (Owen Testimony), page 37, lines 5–8. 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.

JI Response 2:

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. My 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:

1. 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>
2. 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>
3. 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>
4. 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.
5. 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.
6. 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).
7. 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).
8. 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

Commission Staff DR 3a:

Refer to the Direct Testimony of James Owen, page 39, lines 6–9.

- a. Regarding the assertion that low-income customers "tend to consume less energy" as compared to high-income customers.

Provide support for this statement for electric customers in general and for electric customers of LG&E and Kentucky Utilities Company (KU), specifically.

JI Response 3a:

See references in response to Staff DR 1.

Witness: James Owen

Commission Staff DR 3b:

- b. Provide all supporting studies that low-income customers are more likely to reside in multi-family apartments, specifically in KU's and LG&E's service territories.

JI Response 3b:

See 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>

Witness: James Owen

Commission Staff DR 4a:

Refer to the Owen Testimony, page 52, lines 1–16. Mr. Owen refers to the Targeted Energy Efficiency (TEE) Program.

- a. Confirm that KU and LG&E do not offer the TEE Program.

JI Response 4a:

Confirmed.

Witness: James Owen

Commission Staff DR 4b:

- b. Refer to the chart at the top of page 43. Provide which program offering the proposed PAYS program would be best suited.

JI Response 4b:

Of the currently funded four programs the “non-residential rebates” and the “WeCare” programs would be most compatible with a PAYS® tariff offering. These programs include components that are focused on investments made on the customer’s side of the meter and could be facilitated / expanded if participants were able to pay for additional investments through an on-tariff PAYS® charge. Of the programs in the chart which are listed, but not funded, the home energy rebates and home energy analysis programs would likely be the best fit to be complimented by PAYS. In my testimony, at page 51, I noted that I propose all upgrades must have Energy Star certification or must be a Commission approved energy efficiency measure. Based on the types of projects that have been completed in Kentucky through the How\$martKY program with Rural Electric Cooperatives across the state, at a minimum an on-bill tariff program should have the following EE measures available. These measures should include, but not be limited to, attic insulation, floor insulation, reduce duct/air leakage, HVAC, LED lighting, water heating, and heat pumps.

Witness: James Owen

Commission Staff DR 5:

Refer to the Owen Testimony, page 62, lines 7–9. Mr. Owen notes that he takes issue with the proposal to record the difference between AFUDC accrued at the weight average cost of capital. Provide Mr. Owen's opinion on recording the difference at the long-term debt rate.

JI Response:

I did not offer an opinion on that in my testimony, I would need to see the details of such a proposal before offering an expert witness opinion.

Witness: James Owen

Commission Staff DR 6:

Refer to the Owen Testimony, page 63, lines 6–8. Provide examples of what types of programs and rates that KU and LG&E should develop that will provide benefits to both companies' customers.

JI Response 6:

AMI meters provide the utility (and, hopefully, customers) the data to allow them to offer/ participate in rate structures including optional multi-tiered TOU rates, Rates to encourage off-peak or over-night Electric

Vehicle charging, or rate designs that allow customers to match usage to times when renewable energy is powering the grid. AMI meters can facilitate a variety of potential rate designs and programs beyond using AMI meters primarily to facilitate “pre-pay” type rates mentioned in the companies’ testimony.

Witness: James Owen

Commission Staff DR 7:

Refer to the Direct Testimony of Karl R. Rabago [sic] (Rabago [sic] Testimony), page 16, line 21, and page 17, lines 1–3. Provide studies or research supporting the generalization that the proposed NMS-2 tariff or similarly designed tariffs will drive customers towards smaller system investment.

JI Response 7:

Mr. Rábago’s testimony is based on basic economic functions relating to marginal cost and marginal returns. If customers receive lower marginal revenues, they will seek to minimize marginal cost. Because distributed solar has zero operating cost, the perceived marginal cost is a function of the marginal cost of additional capacity. Lower marginal revenue will therefore likely result in lower investment in generating capacity. Mr. Rábago has observed this effect when he administered a highly successful solar program as a utility executive with Austin Energy. The desire to avoid being a free driver has also been discussed in works such as “The Tragedy of the Commons,” by Garrett Hardin.

Witness: Karl Rábago

Commission Staff DR 8:

Refer to the Rabago [sic] Testimony, page 17, lines 13–20, and page 18, lines 1–8, regarding a cost of service study (COSS). There are several NARUC approved approaches to a COSS, including but not limited to the 6-CP, 12-CP, BIP, and Peak and Excess. If Mr. Rabago [sic] were to do a COSS, explain what NARUC approved approach he would use and why.

JI Response 8:

Mr. Rábago’s understanding is that NARUC does not “approve” COSS methods as much as set forth guidance for proper use of alternative methods. Mr. Rábago does not have a set opinion on the form of COSS that should be used. Mr. Rábago’s opinion is that the COSS should be

conducted in a form that is comparable for both generating and non-generating customers in order to capture differences. It is also important to note that a COSS will inform whether generating customers have lower cost to serve—most studies Mr. Rábago has seen confirm lower costs for serving generating customers. However, a COSS is not typically forward looking, nor does it capture the full range of benefits associated with customer generation. For that reason, a transparent, comprehensive and fair value of solar and/or BCA analysis is also necessary to craft just, reasonable, and non-discriminatory rates.

Witness: Karl Rábago

Commission Staff: Explain if the estimated cost to serve net metering customers could change based upon the COSS approach.

Mr. Rábago understands that differences in cost of service study methods do result in different calculated costs. A method that used only a single peak would not capture the value of changes in service requirements that vary throughout the seasons or months of the year. An NCP method would not capture the benefits of class diversity. A BIP or other method that allocates costs based on peak vs. off-peak consumption might obscure the cost drivers associated with very large loads that vary significantly in off-peak hours. These examples show that because methods vary in what they measure, the results may also vary.

Witness: Karl Rábago

Commission Staff DR 9a:

Refer to Mr. Rabago's [sic] suggestion that the Commission require the utilities to engage in benefit-cost analysis.

- a. Explain whether Mr. Rabago [sic] conducted any of these studies for the instant case.

Jl Response 9a:

Mr. Rábago did not conduct a BCA in this case.

Witness: Karl Rábago

Commission Staff DR 9b:

- b. If not, explain why none of these studies were conducted.

JI Response 9b:

Mr. Rábago does not have access to utility data or staff, nor is Mr. Rábago a proponent for a new net metering rate.

Witness: Karl Rábago

Commission Staff DR 9c:

- c. Explain whether the data necessary to conduct any of these studies available.

JI Response 9c:

Mr. Rábago believes that the utility has the most relevant data, and that in cooperation with stakeholders in a transparent process, could conduct a fair and comprehensive BCA.

Witness: Karl Rábago

Commission Staff DR 9d:

- d. Explain how one or more of the above listed analysis would quantify reliability.

JI Response 9d:

Mr. Rábago is not aware of direct measures of reliability in BCAs. Mr. Rábago believes that reliability costs and benefits can be addressed in establishing a BCA framework.

Witness: Karl Rábago

Respectfully submitted,

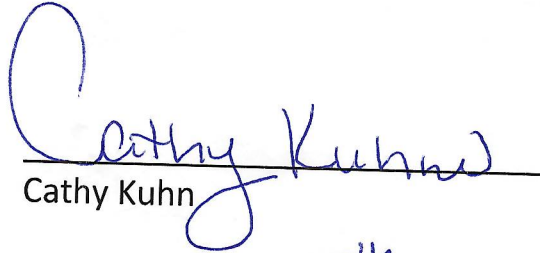


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for the Commonwealth, and
Kentucky Solar Energy Society*

VERIFICATION

The undersigned, Cathy Kuhn, after being first duly sworn, deposes and says that she has personal knowledge of the matters set forth in her foregoing Responses To Data Requests propounded by the Commission Staff and by LG&E and KU and that the information contained therein is true and correct to the best of her information, knowledge, and belief, after reasonable inquiry.


Cathy Kuhn

Subscribed and sworn to before me by Cathy Kuhn this 21st day of March 2021.



Notary Public

My commission expires: 03/16/2024


SAMANTHA RACZYNSKI
Notary Public
Kentucky-State at Large
Commission Number KYNP5121
My Commission Expires March 16, 2024

VERIFICATION

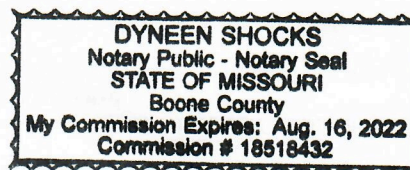
The undersigned, James Owen, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing responses and that the information contained therein is true and correct to the best of his information, knowledge, and belief, after reasonable inquiry.


James Owen

Subscribed and sworn to before me by James Owen this 29 day of March, 2021.



Notary Public

My commission expires: August 16, 2022



VERIFICATION

The undersigned, Karl R. Rábago, after being first duly sworn, deposes and says that he has personal knowledge of the matters set forth in his foregoing Responses to Data Requests propounded by the Commission Staff and by LG&E and KU and that the information contained therein is true and correct to the best of his information, knowledge, and belief, after reasonable inquiry.


Karl R. Rábago

Subscribed and sworn to before me by Karl R. Rábago this 31st day of March 2021.


Notary Public

My commission expires: 3-11-2024

TYLER HALL
Notary Public
State of Colorado
Notary ID # 20204010238
My Commission Expires 03-11-2024

CERTIFICATE OF SERVICE

This is to certify that the electronic version of the foregoing is a true and accurate copy of the same document that will be filed in paper medium; that the electronic filing has been transmitted to the Commission on April 1, 2021; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and that in accordance with the March 16, 2020 Commission Order in Case No. 2020-00085 an original and ten copies in paper medium of this *Statement Regarding Receipt of Electronic Transmissions* will not be mailed until after the lifting of the current state of emergency.



Tom FitzGerald