Exhibit No.:	
Issues:	*Solar Subscription Pilot Rider* *Standby Service Rider*
Witness:	*Claire M. Eubanks, PE*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Rebuttal Testimony*
Case Nos.:	*ER-2018-0145 and* *ER-2018-0146*
Date Testimony Prepared:	*August 7, 2018*

MISSOURI PUBLIC SERVICE COMMISSION

COMMISSION STAFF DIVISION

ENGINEERING ANALYSIS

REBUTTAL TESTIMONY

OF

CLAIRE M. EUBANKS, PE

KANSAS CITY POWER & LIGHT COMPANY
CASE NO. ER-2018-0145

and

KCP&L GREATER MISSOURI OPERATIONS
CASE NO. ER-2018-0146

Jefferson City, Missouri
August 2018

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Q. Please state your name and business address.

A. Claire M. Eubanks and my business address is Missouri Public Service Commission, P.O. Box 360, Jefferson City, Missouri, 65102.

Q. By whom are you employed and in what capacity?

A. I am employed by the Missouri Public Service Commission ("Commission") as a Utility Regulatory Engineer II in the Engineering Analysis Department, Commission Staff Division.

Q. Are you the same Claire M. Eubanks who filed in the Cost of Service and Class Cost of Service Reports?

A. Yes.

Q. What is the purpose of your Rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to testimony regarding the Solar Subscription Pilot Rider and Standby Service Rider. Specifically, I will address the Direct Testimony of KCPL and GMO witnesses Bradley D. Lutz and Kimberly H. Winslow and Renew Missouri Advocates witness Philip Fracica regarding the Solar Subscription Pilot

Rider. Regarding the Standby Service Rider, I will respond to KCPL and GMO witness Bradley D. Lutz and Division of Energy witness Jane E. Epperson.

SOLAR SUBSCRIPTION PILOT RIDER

Q. Please briefly summarize the Company's proposed Solar Subscription Pilot Rider (SSPR).

A. The proposed SSPR is a utility-offered pilot program which allows customers to subscribe to a shared solar facility. Initially, the Company intends to construct a 5 MW-AC solar facility which will be utilized for the jointly offered program to its three jurisdictions KCP&L-MO, KCP&L-KS, and KCP&L-GMO. The Company plans to add additional solar resources to support the program, up to 50 MW of solar capacity.

Q. Did Staff previously provide direct testimony regarding solar subscription programs?

A. Yes. Staff's Class Cost of Service Report[1] outlined key principles to a quality utility-offered solar subscription program and provided detail on typical program attributes.

Q. Please summarize the Company's proposed SSPR utilizing the program attributes detailed in Staff's Class Cost of Service Report.

A. The table below describes the program attributes previously presented in Staff's Class Cost of Service Report with the specific design elements of the Company's proposed SSPR:

[1] Pages 53-54.

Program Attribute	Description	SSPR
Participation Mechanism	How the subscriber pays for participation in the program.	SSPR includes two parts: Solar Block charge ($/kWh) and interconnection charge ($/kWh). As proposed, both rates can change over time.
Economic value	The value subscribers receive in participating.	Unclear.
Size Increments	A set increment in which a subscriber can increase or decrease its share.	10% increments.
Subscription Fee	Used to guarantee a participant's subscription prior to the community solar project.	None.
Treatment of Renewable Energy Credits	Determination on which party retains the RECs generated by the project.	Retired by the Company on behalf of program.[2]
Availability	Customer classes which are allowed to participate.	Available to all customer classes, however, for the first 3 months non-residential customers are limited to 50% of the total resource capacity.
Participation limitations	Limitation on an individual's share ensures multiple subscribers can participate.	2,500 kW AC per customer but also based on 50% of annual usage. After expansion of the program the Company may allow larger subscriptions.
Subscription Transfers	Whether subscriptions can be transferred to others or follow the individual.	$25 dollar fee per transfer and a 12-month re-enrollment limit.
Cancelation Fees and Minimum Subscription Term	Used to discourage subscribers from leaving the program or to ensure a subscriber will participate for a certain amount of time.	Minimum subscription term of 1 year; 5 years if subscribing to 25% or more of the resource.
Unsubscribed energy	How unsubscribed energy is treated.	Covered by all ratepayers through the Fuel Adjustment Clause.

[2] The Company intends to track RECs in the North American Renewables Registry and retire them in a group subaccount on behalf of customers participating in the program.

Q. Did Staff's Class Cost of Service Report provide any recommendations regarding the Company offering a solar subscription program?

A. Yes. Staff recommended the Company offer a separate solar subscription program for each of its jurisdictions. The Company's proposal is to utilize an initial 5 MW-AC resource, and eventually all resources constructed for the program, to support the SSPR across its three jurisdictions: KCPL-MO, KCPL-KS, and KCPL-GMO. The Company asserts combining the subscriptions will support a larger solar facility and may result in a more economical resource.

Q. Is there a concern with the program being shared amongst the jurisdictions?

A. The Company has proposed the same program design in Kansas; however, there is no guarantee that the resulting program will be the same in all jurisdictions. The Company intends to balance the split between jurisdictions monthly based on the subscription level.[3]

Although a single resource, less than 5 MW, may have a small load impact to the hosting utility, there are no provisions in the program to limit the entirety of the program (50 MW) in one service territory.

Additionally, the program may confuse customers in the event they choose to relocate due to the limitations on transferring customer subscriptions. For example, a KCPL-GMO customer would not be able to transfer its subscription to KCPL-MO or KCPL-KS. The participating customer would be required to terminate the subscription and rejoin in another jurisdiction, subject to the terms of that jurisdiction. KCPL and GMO have a practical reason for requiring subscription termination when relocating to a different jurisdiction,

[3] Response to Staff Data Request No. 0232.

billing. However, from the customer's perspective they would relocate and subscribe to the same solar facility but be presented with a different value proposition. Finally, elements such as rate of return reflected in the Solar Block charge vary across jurisdictions and should result in different Solar Block charges that are jurisdiction-specific.

Q. Please expand on Staff's recommendation.

A. Staff recommends the program consist of two facilities, one in KCPL's Missouri service territory and one in GMO's service territory, between 2 and 5 MW-AC in size.[4] The size of the facility in each jurisdiction should be sized in accordance with the demand for the program within that jurisdiction as discussed in Staff's proposed subscription portion of the tariff.[5]

Q. The Company has proposed the solar subscriber program as a pilot; does Staff have concerns with the pilot?

A. Yes. The Company has not proposed specific criteria for evaluation of the pilot program prior to expansion and, as proposed, the Company may expand the program up to 50 MW.

Q. What is the size of GMO's Greenwood Solar?

A. Approximately 3 MW.

Q. Was Greenwood Solar considered a pilot?

A. Yes, the Commission granted a Certificate of Public Convenience and Necessity ("CCN") for the construction of a pilot solar plant in Case No. EA-2015-0256.

[4] Staff makes no recommendation on KCPL's offerings in Kansas.
[5] See rebuttal testimony of Staff witness Sarah L.K. Lange.

Q. Did the Report and Order in Case No. EA-2015-0256 include a requirement for a plan and evaluation of the Company's learning objectives for the Greenwood Solar Facility?

A. Yes. The Company provided its plan to evaluate its Greenwood Solar Facility pilot.[6] The plan indicates that KCPL and GMO will annually discuss the learning objectives internally and complete a report for the Commission after five years of operation or when GMO files for another solar CCN.

Q. What are KCPL's and GMO's learning objectives for this pilot rider?

A. The testimony of Ms. Winslow discusses the following learning opportunities:

- How customers view renewables and willingness to directly own renewable energy, and
- To build on the lessons learned from construction and operation of the Greenwood Solar facility.

Q. Has the Company provided its evaluation of the Greenwood pilot solar facility to the Commission?

A. No, the Greenwood pilot has not yet operated for 5 years;[7] additionally, GMO has not applied for an additional solar CCN.

Q. What is Staff's recommendation regarding the program being structured as a pilot?

A. Staff recommends the solar subscriber program initially remain as a pilot program with an evaluation to be submitted with any future KCPL or GMO requests for expansion or after 5 years of operation, whichever is first. Topics Staff would like to see covered in KCPL's and GMO's pilot evaluation include:

[6] Company compliance filing in Case No. EA-2015-0256 dated March 3, 2016.
[7] Greenwood Solar went into service in June 2016.

- Tracking of program costs and revenues (participants, all ratepayers, company),
- Numbers and types of subscribers (by rate class and participation by low and moderate income customers),
- Annual surveys of participating customers covering (economic considerations and customer service),
- Impact or benefits of the facility on the utility distribution system, and
- Plans to site program expansion facilities in areas where distributed generation would benefit the electric utility's distribution system, such as areas where there is a potential to avoid or minimize distribution system investment.

Q. Does Staff support using the existing Greenwood Solar project for a shared solar subscription for GMO?

A. Non-residential customers with renewable goals tend to prefer programs which are additive rather using existing facilities. However, utilizing the existing Greenwood facility would be somewhat advantageous in terms of lowering costs and more quickly offering the program to GMO customers.

Q. How does the proposed Solar Subscription Pilot Rider compare to net metering?

A. Although the program is intended to serve customers who do not participate in solar net metering, there are key distinctions between the program and net metering. Under the program, customers may only subscribe to solar blocks which generate up to 50% of their usage, whereas, net metering systems may be be sized to offset part or all of the customer's usage. Additionally, net metering compensates customers for excess generation in the form of bill credits.[8] The proposed program does not include provisions to utilize excess generation to offset subscriber's future bills.[9]

[8] Calculated from avoided fuel cost (4 CSR 240-20.065(7)(C)) and Credits expire 12-months from generation (4 CSR 240-20.065(7)(D)).
[9] Staff's proposed tariff language modifies the Solar Subscription Pilot Rider to be more akin to net-metering, in that it includes a provision for excess generation credits.

Q. With a participation limit of up to 50% of the customer's average annual usage would excess generation credits even be produced?

A. In some instances. Take a school as an example; usage is likely to drop off in summer months when the solar facility would typically generate more electricity. Under the proposed program, that generation benefit to the customer is not captured, nor are the revenues collected.

Q. You mentioned the proposed SSPR does not include excess generation credits; is there another form of economic value for participating customers?

A. That is unclear. The SSPR includes two charges, the Solar Block Charge and the interconnection charge. The Solar Block Charge is based on the cost of the actual solar resource, though currently it is based on an engineering estimate, plus an adder to account for the shortfall between the levelized cost of energy (LCOE) and discounted annual revenue requirements.[10] Under the Company's proposal, as additional resources are added, the Solar Block Charge may increase or decrease. If the Company does not construct additional resources, there is potential for a portion of the subscriber's bill to be fixed for the life of the program. However, as proposed, if the Company expands the program with higher cost facilities, participating customers would see increases in the Solar Block Charge.[11] The interconnection service charge is based on the embedded cost of Transmission and Distribution based on the Company's class cost of service study, and is subject to change in future rate cases. Staff witness Sarah L.K. Lange provides further testimony regarding the interconnection service charge.

[10] Response to Staff Data Request No. 0220.
[11] Staff's recommendation is to limit the program to one facility each, for KCPL and GMO, therefore the addition of higher cost facilities is not at issue.

Q. Are there risks to non-subscribers?

A. Yes, if the proposed program is not fully subscribed the unsubscribed portions will ultimately be covered by all ratepayers. To limit risk exposure to other customers while KCPL and GMO conduct the proposed pilot program, Staff recommends limiting the overall scale of the program to two facilities, one in KCPL's Missouri service territory and one in GMO's service territory, between 2 and 5 MW-AC in size. Additionally, Staff recommends unsubscribed Solar Blocks be incorporated into the energy provided to retail customers. If overall subscription falls below 50% of total Solar Blocks, Staff recommends the revenues be imputed to equal a minimum subscription level of 50%.[12]

Q. How were some of the issues regarding economic value to subscribers and risks to non-subscribers addressed in Ameren Missouri's solar subscriber tariff?

A. Ameren Missouri's solar subscription program is similar to the proposed SSPR in that it has two parts an energy charge and facilities charge.[13] However, Ameren Missouri's tariff specifies that additional resources will only lower the subscription cost. Additionally, the Ameren Missouri tariff is clear that the solar energy charge replaces the kWh of the energy charge and energy efficiency charge. Finally, under Ameren Missouri's solar subscription program, the Company shares in the risk of unsubscribed solar blocks.

Q. The Direct Testimony of Renew Missouri Advocate witness Philip Fracica discusses low-income customer participation in solar subscription programs. Is Staff concerned with the structure of the SSPR in terms of discouraging low-income customer participation?

[12] Staff's proposed provision for risk sharing is similar to Ameren Missouri's solar subscription program.
[13] Second non-unanimous stipulation and agreement filed May 14, 2018.

A. Yes, because the program does not provide clear economic value to participants Staff does not see the program, as designed, as being attractive to low income customers. Additionally, the SSPR requires a 12 month minimum subscription term and also includes a $25 fee to transfer a subscription.

Q. Will Staff's proposal encourage low-income participation?

A. A number of Staff's modifications were intended to structure the program such that a customer may see future economic value in participation. However, Staff's modifications may not bridge the gap for all income levels. Ultimately, the cost of the resource constructed to serve the program and the resulting Solar Block charge will determine whether the program is attractive to customers.

Q. In addition to the concerns already addressed, does Staff have additional concerns regarding the SSPR?

A. Yes. In addition to the primary concerns addressed above, Staff has concerns with the clarity of the proposed tariff. A specimen tariff red-line is attached to Staff witness Sarah L.K. Lange's testimony as Schedule SLKL-3.

STANDBY SERVICE RIDER

Q. Did Staff recommend language to include in the KCPL's and GMO's Standby Service Riders (SSR) in its Class Cost of Service Report?

A. Yes, I provided recommended language on Page 58 of Staff's Class Cost of Service Report. Additionally, I recommended that KCPL and GMO retain hourly load data, or 15-minute interval data, where available, for each customer served under the SSR. The retention of this data will support future review of the appropriateness of the Standby Service rates.

Q. Ms. Epperson's direct testimony outlines metrics for evaluating proposed SSR rates. Does Staff agree with those metrics?

A. The metrics Ms. Epperson discusses should be considered in context. For example, Ms. Epperson states the annual avoided cost percentage should be above 90 percent for all classes of service. The avoided cost percentage is useful for customers evaluating whether the economics support investment in onsite generation, however, it is not necessarily a metric for evaluating the fairness of a standby rate. It is also unclear whether Ms. Epperson's recommended metrics can be applied to KCPL's and GMO's specific rate designs. For example, the second metric Ms. Epperson mentions is related to fixed charges for generation, transmission, and distribution compared to the demand charge on the otherwise applicable tariff. It is unclear whether Ms. Epperson would include both the annually-established facilities charge and the monthly-established demand under "demand charge" to similarly situated customers in evaluating standby rates.

Q. Does Staff oppose implementation of the Standby Service Rider proposed by the Company?

A. No. Currently there are no KCPL and GMO customers who take service under a related schedule or under the proposed rider.[14] Staff does not oppose implementation of the Standby Service Rider; however, in the absence of customer data to refine KCPL's and GMO's proposal a future review will be necessary upon availability of customer-specific information.

[14] Response to Staff Data Request No. 0409.1, Division of Energy Data Request 301 and 302.

Q. Do you have any recommended edits to the Standby Service Rider?

A. On Sheet 28, the Company's tariff defines distributed generation as having "a nameplate capacity of 100 KW with the Company." This appears to be a typographical error and should read "has a nameplate capacity greater than or equal to 100 kW."

Q. Does this conclude your rebuttal testimony?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2018-0145
		and
In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2018-0146

AFFIDAVIT OF CLAIRE M. EUBANKS, P.E.

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW CLAIRE M. EUBANKS, P.E., and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Rebuttal Testimony* and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Claire M Eubanks

Claire M. Eubanks, P.E.

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 6th day of August, 2018.

DIANNA L. VAUGHT
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: June 28, 2019
Commission Number: 15207377

Dianna L Vaught

Notary Public