Exhibit No.:	
Issue:	Production Allocation, Renewable Programs, Standby, LED Lighting
Witness:	Bradley D. Lutz
Type of Exhibit:	Direct Testimony
Sponsoring Party:	KCP&L-Greater Missouri Operations Company
Case No.:	ER-2018-0146
Date Testimony Prepared:	January 30, 2018

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2018-0146

DIRECT TESTIMONY

OF

BRADLEY D. LUTZ

ON BEHALF OF

KCP&L GREATER MISSOURI OPERATIONS COMPANY

Kansas City, Missouri
January 2018

DIRECT TESTIMONY

OF

BRADLEY D. LUTZ

Case No. ER-2018-0146

Q: Please state your name and business address.

A: My name is Bradley D. Lutz. My business address is 1200 Main, Kansas City, Missouri 64105.

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

A: I am employed by Kansas City Power & Light Company ("KCP&L") as Senior Manager – Regulatory Affairs.

Q: On whose behalf are you testifying?

A: I am testifying on behalf of KCP&L Greater Missouri Operations Company ("GMO" of "Company").

Q: What are your responsibilities?

A: My current responsibilities are focused on regulatory policy, providing support for the Company's regulatory activities in the Missouri and Kansas jurisdictions. Specifically, my duties require me to be current with industry issues with the potential to impact the Company and to provide guidance to optimize KCP&L's response to those issues. Previously, I was responsible for the Rate Design function, including class cost of service ("CCOS") support, rate design, tariff management, and filing preparation. Furthermore, I have represented the Company through participation in regulatory rulemakings and compliance reporting. I have also managed certain analytical activities for the department

including docket management system administration, rate change implementation, billing determinant calculation, and retail revenue calculation.

Q: Please describe your education, experience and employment history.

A: I hold a Master of Business Administration from Northwest Missouri State University and a Bachelor of Science degree in Engineering Technology from Missouri Western State University.

I joined KCP&L in August 2002 as an Auditor in the Audit Services Department. I moved to the Company's Regulatory Affairs group in September 2005 as a Regulatory Analyst where my primary responsibilities included support of our rate design and class cost of service efforts. I was promoted to Manager in November 2010 and was promoted to my current position in October 2017.

Prior to joining KCP&L, I was employed by the St. Joseph Frontier Casino for two years as Information Technology Manager. Prior to St. Joseph Frontier Casino, I was employed by St. Joseph Light and Power Company for nearly 14 years. I held various technical positions at St. Joseph Light and Power Company, including Engineering Technician-Distribution, Automated Mapping/Facilities Management Coordinator, and my final position as Senior Client Support Specialist-Information Technology.

Q: Have you previously testified in a proceeding before the Missouri Public Service Commission ("Commission" or "MPSC") or before any other utility regulatory agency?

A: Yes, I have testified before the Commission as part of ER-2016-0156 supporting minimum filing requirements, revenues, class cost of service, and rate design for KCP&L-Greater Missouri Operations Company and EX-2010-0169, a rulemaking proceeding concerning

the renewable energy standard. Additionally, I have testified multiple times before the Kansas Corporation Commission concerning class cost of service and rate design issues as part of recent rate proceedings.

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to:

I. Discuss how the Company approached production allocation within the Class Cost of Service Study ("CCOS") filed in this case;

II. Explain the Company's proposed Solar Subscription Pilot Rider tariff;

III. Explain the Company's proposed Renewable Energy Rider tariff;

IV. Explain the Company's proposed Standby tariff and revisions proposed for related tariffs;

V. Explain the Company proposal to incorporate language addressing Underutilized Infrastructure within its tariffs; and

VI. Discuss the Company's efforts to deploy LED Lighting, including an update on the conversion of Municipal Street Lights, an explanation of the Company's proposed LED Private Lighting tariff, and discussion of the revenue increase proposed for the Lighting class.

I. PRODUCTION ALLOCATION WITHIN CCOS

Q: What is the purpose of this part of your testimony?

A: The Company is proposing to use the Average & Excess ("A&E") method to allocate its electric generating assets, its production plant, as part of the CCOS study offered in this case. Use of this method represents a transition from past allocation methods proposed by

the Company and my testimony is offered to help explain the conditions inspiring this change.

Q: Why did the Company reconsider its production allocation method?

A: Production plant is the single, largest component cost to allocate to the classes within the CCOS study. As such, the production allocator has the most impact on the outcome of the CCOS study. The Company believes it is important to continually monitor the environment in which it operates and identify the allocation method that best represents the way production costs are incurred and properly reflect other appropriate factors related to the production plant. The Company performs a similar review as part of each CCOS preparation and the review has resulted in changing of production allocation methods in the past.

Q: Would you please describe the production allocation changes that the Company has proposed in the past?

A: KCP&L began regular rate cases in 2005 with the initiation of the Comprehensive Energy Plan ("CEP"). The CEP initiative resulted in the building of the Spearville Wind Generation Facility, the Iatan 2 Generating Station, environmental retrofits at LaCygne and Iatan 1, as well as distribution system enhancements and the deployment of demand side programs. The CEP contemplated a series of rate cases to bring these investments into rate base and adjust rates accordingly. With the first case, ER-2006-0314, the KCP&L prepared a CCOS study to support rate design utilizing an Average & Peak ("A&P") methodology for allocation of production plant. It was noted in the KCP&L filing that this method was used because it provided recognition for usage and peak loads. KCP&L asserted that generating plant was used to provide both energy and capacity to its customers. The A&P

methodology provided a similar approach. Separately, the A&P methodology was being used by Staff at about this same time. Dr. Michael S. Proctor, formerly the Manager of the Commission's Research and Planning Department advocated the method, publishing a related article in Public Utilities Fortnightly.[1]

Use of the A&P method continued and was adopted by the Company in 2009 when in case ER-2009-0090 the Company prepared its CCOS study using the Base-Intermediate-Peak (BIP) methodology. Used in the first case following the merger of KCP&L and Aquila, the BIP methodology represented a more detailed means to assign the Company's generating assets and allocated them depending on their use in meeting customer loads. Individual generating plants were assigned to the base, intermediate, or peak segments and then allocated using varying methods that aligned with that individual segment's purpose. As the BIP method continued to rely on a combination of energy and demand allocation, the transition remained true to the intent of the blended allocation method started with the A&P approach. The change to a BIP methodology was driven mainly by a need to provide the Commission a rate level, seasonally differentiated CCOS study to support decisions concerning the KCP&L's All-Electric rates. In case ER-2007-0291, various parties attacked these rates and additional support was needed to evaluate the appropriateness of the designs. The Commission ordered KCP&L to prepare such a study. The BIP approach allowed for a study of this detail to be prepared.

Use of the BIP method continued until 2014 when, in case ER-2014-0371, the Company prepared its CCOS study again using the A&P methodology. Expressing concern that the transition of the Southwest Power Pool ("SPP") to an Integrated

[1] "Capacity Utilization Responsibility: An Alternative to Peak responsibility" published in the April 28, 1983, issue of Public Utilities Fortnightly.

Marketplace ("IM") with centralized dispatch would make it difficult to accurately assign the generating units into base, intermediate, and peak groups based on their use, the Company retained an Energy Weighted approach, returning to the A&P methodology. Use of the A&P method continued until this case.

Q: How did the Company evaluate its production allocation methodology in this case?

A: As with each transition in the past, the Company began by examining the way the production assets were being utilized and considered the environment surrounding those assets. This allows cost causation to be the primary focus. Next, the Company considered influences such as testimony and orders from recent rate cases as well as other information available within the public domain. This allowed the Company to examine for trends and applications that could be relevant to our situation. Finally, the Company turned to the National Association of Regulatory Utility Commissioners' ("NARUC") "Electric Utility Cost Allocation Manual" to reexamine the common allocation methods defined by that organization. Published in January 1992, the NARUC Manual has served as a reference of common allocation approaches.

Q: Were there any issues or topics unique to this reconsideration as compared to the earlier efforts?

A: Yes. Most significant was the proposed merger with Westar. Details of the merger are discussed in more detail by Mr. Darrin Ives in his testimony. This proposed merger led the Company to take a closer look at the CCOS processes and allocation methods used by Westar. Additionally, the Company examined the competitiveness of its rates, with some emphasis on commercial and industrial rates. Exemplified by the public efforts of Amazon to identify a location for their second headquarters and the recent decision by Nucor to

locate within our area, highlighted the economic benefit of providing competitive commercial and industrial rates.

Q: Please describe how these elements were utilized to perform the reconsideration.

A: The various elements were reviewed and discussed by Regulatory Affairs personnel. The group reviewed our production plant and how it was being utilized. The group then critically evaluated the perceived strengths and weaknesses of various allocation methods. Some comparisons were assembled from previous rate cases to understand the methodologies. The Company also looked at other rate design efforts and considered the efforts made under the Missouri Energy Efficiency Investment Act. In the end, two methods seemed appropriate for more detailed consideration, the A&P and A&E methodologies.

Q: How did you proceed with the more detailed consideration of these alternatives?

A: The Company felt it was very familiar with the A&P method as it had been proposed and supported by the Company many times in the past. To address the A&E method we spoke with consultants that we were familiar with to learn their thoughts and opinions concerning the method. Ultimately, the combination of these inputs led the Company to decide the A&E method was likely the most appropriate production allocation method to apply in this case.

Q: Did the Company them prepare the Average & Excess allocator?

A: The Company retained the services of Mr. Thomas J. Sullivan, Jr., P.E. with Navillus Utility Consulting LLC to support the Company in this effort. Mr. Sullivan has more detailed and comprehensive knowledge of the allocation methodology and is better suited to prepare, support, and validate the allocator on the Company's behalf. Mr. Sullivan

describes the A&E production allocation method and calculates the allocator for use in the CCOS study as part of his testimony offered in this case.

Q: Have you reviewed the testimony prepared by Mr. Sullivan?

A: Yes.

Q: Do you agree with using this allocation method in this case?

A: Given the conditions observed, yes I do. I recognize that this represents a deviation from the methods used by the Company in the past and is contrary to past Company testimony concerning A&E allocation. Each past transition was purposeful, and this is no different.

Q: Please explain what you mean.

A: The transition from A&P to BIP was driven by the need for detailed cost data to support rate design. The transition from BIP back to A&P was driven by changes to the use of our production assets resulting from changes within SPP. This transition is reflective of the movement of the Company to a longer view, more focused on the way our customers utilize the production plant than simply the operational characteristics. Past methods supported by the Company considered energy production as a significant factor in the cost causation for production plant. Operationally, this is still true. However, a broad consideration of the CCOS study process and the role that the CCOS study plays in the rate design process suggests other views are warranted.

Q: What is the impact of the transition?

A: Mr. Sullivan performs a comparison of the A&E method to other allocation alternatives as part of his testimony. In short, the A&E method emphasizes load factor in allocating cost. Lower load factor customer classes will receive higher allocations relative to methods used in the past.

Q: Do you believe this is reasonable?

A: Again, given the conditions observed, yes I do.

Q: How were these allocations used by the Company?

A: The A&E allocations were combined with numerous other allocations and used to apportion the jurisdictional cost to the Company's customer classes. This process is described and supported by KCP&L witness Marisol Miller in her direct testimony. The results of the study were then considered in completing the rate design offered in this case.

Q: How does the Company suggest the Commission use the CCOS study and should there be any emphasis placed on the Company's decision to transition to a new method?

A: The Company believes that all CCOS studies, regardless of the methods used hold value and that generally, a collective view provides the best information. As has been done in the past, the CCOS results should be used as a guide and other considerations such as bill impacts, revenue stability, rate stability and public acceptance should be considered.

I would not specifically recommend any emphasis be applied to this transition other that it is reflective of the continuing change experienced within the business. As detailed in this testimony, the operations and investments of the Company do not occur in a vacuum and often external factors shape the approaches we take. I offer that this is no different.

II. SOLAR SUBSCRIPTION PILOT RIDER TARIFF

Q: The Company is proposing a new Solar Subscription Pilot Rider tariff. Are you sponsoring that proposal?

A: Yes. A copy of the proposed tariff is included as Schedule BDL-1.

Q: Are any other witnesses providing testimony concerning this program?

A: Yes. Company witness Kimberly H. Winslow is providing testimony supporting the customer aspects of the Rider. Specifically, what are the drivers for this proposal, such as customer needs and preferences, industry direction, corporate goals, and program development.

Q: Please provide an overview of the Solar Subscription Pilot Rider.

A: The Solar Subscription Pilot Rider ("Program") is a form of shared solar where one or more solar generating units will be installed on the Company system and Customers will be offered the opportunity to receive the output through a subscription. The Program will be offered to both residential and commercial Customers. Initially, it will be composed of 10,000- five-hundred-watt capacity subscription blocks for an expected solar generating unit of 5 MW-AC. Each customer will be allowed to subscribe to the number of capacity blocks required to produce up to 50 percent of their annual energy usage, which will be based on their previous 12 months of usage history. A Customer will also need a minimum historical or estimated annual energy usage to ensure that one subscription block could be fully consumed. In addition, a Customer may not subscribe to more than 25 percent of the total number of blocks offered within the program. This will allow sufficient allocation of the solar generating unit across Customers and Customer classes.

All Customers classes are eligible to participate in the Solar Subscription Pilot Rider. Customers receiving Unmetered, Lighting, Net Metering, or Time-of-Use Service are ineligible for this Program while participating in those service agreements. Further, the Company has identified some subscription limitations by Customer and Customer class to provide for class equality. The Company will reserve 50 percent of the generating solar

capacity to residential Customers and the remainder to non-residential Customers. However, if after the first three months of open enrollment, the Company has experienced more or less interest from a specific Customer class, the Company may revise or eliminate these reservations so that the minimum subscription percentage may be achieved and construction of the solar generating unit may proceed. It is anticipated that a similar process would be repeated for any future expansion of the Solar Subscription Pilot Rider.

Q: What is the cost associated with subscribing?

A: A Solar Block Subscription Charge ("Charge") is defined in the tariff and charged to participants based on their level of subscription to the solar resource. Based on preliminary information and project projections the initial rate is being set at $0.162 per kWh.

Q: How was that cost determined?

A: The Charge will be reflective of two elements, the Solar Block cost and an interconnection charge. The Solar Block cost is defined by the total cost of the solar resources built to serve the Program. Once the required level of interest is obtained, the Company will go through a procurement process to construct the solar resource. All costs associated with that construction, operations, and maintenance, as well as general and administrative cost will be compiled or estimated and a "per kWh" charge calculated. If multiple solar resources are deployed, the Solar Block cost will be the levelized costs for those resources. To ensure the cost of the Program is borne by participants, the Solar Block cost will include all construction, operations, maintenance, and assignable administrative costs related to the solar resource. Under the current projections, this component is $0.123 per kWh. The interconnection charge is the embedded cost of Transmission and Distribution for the

Residential class based on the Company's class cost of service study from this rate case. Based on these calculations, this component is $0.039 per kWh.

Q: Can this cost change in the future?

A: Yes. The Company will file a revised tariff to update the Solar Block charge if these proposed rates do not appropriately reflect the costs of the initial system and again if additional solar resources are added to serve Subscribers. Filing would occur after the required subscriber interest is received and the Company has a firm estimate of the cost. The interconnection charge will change if the costs attributed to Transmission and Distribution functions change in a subsequent rate case. The Charge may increase or decrease due to these provisions.

Q: What will be done with the renewable energy certificates associated with this energy production?

A: The renewable energy certificates ("REC") associated with the generation output of the solar facility received by Participants will be retired by the Company on behalf of those Participants.

Q: Please provide an example of how a participating Customer's bill will be determined.

A: The assumptions are contained in the Table 1 below. The Company elects to install 5,000 kW AC (5 MW) of capacity (Row A). Based on National Renewable Energy Laboratory ("NREL") solar production estimations for 1 kW of installed capacity in Kansas City (Row B)[2], the monthly energy output of the total solar generating facility is 598,500 kWh (Row C).

[2] Based on PVWatts estimate for 1 kw standard module, fixed array, default losses, tilt, and azimuth. http://pvwatts.nrel.gov/pvwatts.php

Table 1 - Solar Production Calculation

	Calculation/Assumption	Reference Row
System Capacity	5,000 kW AC	A
Estimated per kW AC Monthly Production	119.7 kWh per kW	B
System Energy Production for the month	598,500 kWh	C

Next, we look to evaluate how to calculate a subscriber's capacity using the assumptions in Table 2 following. The subscriber has a 12-month usage of 10,000 kWh (Row E) and the subscriber wants to offset 50% (Row F) of their traditional energy consumption with energy from the Solar Subscription Program. By multiplying the subscriber's annual load with their requested offset percentage and then dividing by the result of the NREL per kW production estimate (Row B) by 12 months, we are left with the customer's needed capacity to offset their percentage request (Row G). The capacity is then converted to blocks (Row H) where one block is equal to half a kW of capacity. The Solar Subscription Program will be made of approximately 10,000 blocks.

Table 2 - Customer Subscription Calculation

	Calculation/Assumption	Reference Row
Annual Customer Usage	10,000 kWh per Year	E
Customer Subscription Level	50%	F
Calculated Capacity Subscription	(E x F) / (B x 12 Months/Yr) = G (10,000 kWh/Yr x .50) / (119.7 kWh/kW-Mo. x 12 Mo/Yr)= 3.48 kW	G
Customer Subscribed Blocks	G / 500 w = I 3.48 kW / 500 w = 6 blocks (Rounded down to the nearest whole number	H

The subscriber's monthly energy allocation is calculated using the assumptions in Table 3 below. First, we convert the subscriber's subscription to a percentage of the total program by dividing their subscription of 6 blocks (Row H) by the total solar blocks available resulting in 0.0006% (Row I). We then multiple this percentage by the System Energy Production (Row C) to find the Subscriber's monthly energy allocation (Row J). The System Energy Production will vary for each month and represents the metered output of the system.

Table 3 - Monthly Energy Allocation

	Calculation/Assumption	Reference Row
Customer's Percentage Allocation	H / Total Solar Blocks = I 6 Blocks / 10,000 blocks = 0.0006%	I
Subscriber's Monthly Energy Allocation	I x C = J 0.0006% x 598,500 kWh = 359.10 kWh	J

Finally, the subscriber's monthly energy allocation is utilized in monthly billing under the assumptions contained in the following Table 4. First we assume a Residential Energy Price of $0.10 per kWh (Row K) and a Solar Energy Price of $0.15 per kWh (Row L). Next, we obtain the customer's actual monthly energy use through the normal meter reading processes (Row N). From this monthly customer usage, we subtract the Subscriber's Monthly Energy Allocation (Row J) leaving us with the Non-Solar Energy Usage (Row O). The Non-Solar Energy Usage is multiplied by the Residential Energy Price of $0.10 per kWh (Row K) resulting in the Monthly Non-Solar Energy Cost of $47.42 (Row P). The Subscriber's Monthly Energy Allocation (Row J) is multiplied by the Solar Energy Price of $0.15 per kWh (Row L) resulting in the Monthly Solar Energy Cost of

$53.87 (Row Q). The final customer bill is the combination of the Non-Solar Energy Cost (Row P) plus the Solar Energy cost (Row Q) plus the Remaining Bill Charges (Row M).

Table 4 - Monthly Billing

	Calculation/Assumption	Reference Row
Residential Energy Price	$0.10 per kWh	K
Solar Energy Price	$0.15 per kWh	L
Remaining Bill Charges	$20.00 (represents charges from the standard rate tariff that include customer charges, riders, taxes, fees, etc.)	M
Customer Energy Usage for the Month	833.33 kWh	N
Non-Solar Energy Usage	N – J = O 833.33 kWh/Mo. – 359. 10 kWh/Mo = 474.23 kWh/Mo.	O
Monthly Non-Solar Energy Cost	O x K = P 474.23 kWh/Mo. X $0.10/kWh = $47.42/Mo.	P
Monthly Solar Energy Cost	J x L = Q 359.10 kWh/Mo. X $0.15/kWh = $53.87/Mo.	Q
Final Bill	O + P + M = Q $47.42 + $53.87 + $20.00 = $121.29	R

It is important to note that rate blocks and riders will be accounted for in this program. Specific to rate blocks, customers will pay the corresponding block prices for the remaining energy after the subscriber's monthly energy allocation is separated from the monthly customer usage. Riders will be applied based on the subscriber's metered usage. Taxes will apply to the subscriber's total bill once all adjustments are made.

Q: Will this bill calculation occur during the normal billing cycles?

A: Although the billing will occur as part of our normal billing processes, we anticipate that there will be lag between the actual solar energy production and the presentation on the customer bill. We have allowed a delay of one billing month to allow for the data to be received from the solar facility, calculated, and then applied to bills.

Q: May a customer elect to unsubscribe from the Solar Subscription Pilot Rider if they deem it is not advantageous to them?

A: Yes. Customers who have subscribed to less than 25 percent of the available solar blocks will be required to stay enrolled in the Solar Subscription Pilot Rider for a minimum of 12 months. Those who have subscribed to greater than 25 percent of the available solar blocks (typically a non-residential Customer) have a minimum 60-month commitment. Following the minimum enrollment period, customers may elect to reduce or eliminate their participation in the Solar Subscription Pilot Rider effective on their next billing cycle. Any block returned to the Company will be placed back into the Solar Subscription Pilot Rider block pool and will be distributed to Customers on the wait list on a first come, first serve basis.

Q: May a customer elect to transfer their subscription?

A: Yes. Participants who move to another location within the Company's Missouri service territory may transfer their subscription, provided the total kWhs of the subscribed amount is not more than the new locations allowed subscription level (actual or estimated). If the subscription level exceeds the allowed amount at the new location, the subscription will be adjusted down accordingly. Upon cancelation of a Participant's service, Participants may

transfer their entire subscription to another eligible Participant's service agreement, including non-profits, for a $25 fee.

Q: How will the Company expand the program beyond its initial offering?

A: The Company plans to closely evaluate the subscription interest of the Solar Subscription Pilot Rider on an ongoing basis. When the initial 5MW system becomes fully subscribed, the Company will form a 'wait list' that will aggregate Customer information and desired subscription size. The Company will monitor the wait list and will determine the appropriate time to add solar capacity to the program. The Company is proposing to add additional solar resources up to 50MW of solar capacity. To compensate for changes in the cost of solar generation as new units are added, the Company anticipates that the price for the Solar Block charge should decrease to reflect the levelized cost of the program and lower costs over time.

Q: Do you anticipate a change will be needed to the Company's Fuel Adjustment Charge to account for this Program?

A: No.

Q: Will the Program be designed to reflect all costs and recover those from participants?

A: Yes.

Q: Does the Company have any obligation under the Program?

A: Yes. Although the Company will strive to appropriately size the program to meet the needs of the customers that are participating it is expected that, from time to time, subscription levels will be below the total renewable resource capacity. When that occurs, the Company assumes the unsubscribed amounts on behalf of all Customers and accounts for that cost through the Fuel Adjustment Clause. For example, at the end of each billing period, and

after all subscriptions have been applied we expect that there might be a remaining amount. This remaining amount would be "purchased" at the Solar Block Subscription Charge. This purchase would flow through the FAC as a purchased power cost. As this is a remainder, we expect the amount will vary from month to month. All efforts will be made to identify subscribers to first claim the energy production.

Q: Is the Company seeking uniformity of the Solar Subscription Program across its three jurisdictions?

A: Yes. The Company will propose the same tariff design in its KCP&L-Missouri, KCP&L-Kansas, and KCP&L-Greater Missouri Operations jurisdictions. If approved, a single renewable resource would be utilized to satisfy the needs of the subscribers. The Company believes combining the subscriptions would allow for a larger and likely more economical solar resource to be deployed. This uniformity will also aid in the facilitation and growth of the program by alleviating any customer confusion that could be generated by differences between jurisdictions. To help ensure fairness, all costs for the program would be apportioned between the three jurisdictions based on the respective subscription levels for each.

III. RENEWABLE ENERGY PROGRAM TARIFF

Q: The Company is proposing a new tariff to offer renewable energy to Customers. Are you sponsoring that proposal?

A: Yes. A copy of the proposed tariff is included as Schedule BDL-2.

Q: Are any other witnesses providing testimony concerning this program?

A: Yes. Company witness Kimberly H. Winslow is providing testimony supporting the customer aspects of the Tariff. Specifically, what are the drivers for this proposal, such as

Customer needs and preferences, industry direction, corporate goals, and program development.

Q: Please provide an overview of the Renewable Energy Program.

A: The Renewable Energy Program is a renewable subscription program where the Company executes one or more Power Purchase Agreements ("PPA") to supply renewable energy to participating Customers. The Renewable Energy Program will be offered to non-residential Customers except for those receiving Unmetered, Lighting, Net Metering, or Time-of-Use Service, who are ineligible for this Program while participating in those service agreements. The first procured renewable resource will be limited to a minimum capacity of 100 MW and will not exceed 200 MW. The Company plans to consolidate all subscriptions from its three jurisdictions (KCP&L-Missouri, KCP&L-Kansas, and KCP&L-Greater Missouri Operations Company) and serve them through this renewable PPA.

Q: How would this consolidation work?

A: Similar to the approach proposed for the Solar Subscription Pilot Rider, the Company will propose the same tariff design in its KCP&L-Missouri, KCP&L-Kansas, and KCP&L-Greater Missouri Operations jurisdictions. If approved, a single PPA would be utilized to satisfy the needs of the subscribers. The Company believes combining the subscriptions would allow for a larger and likely more economical PPA to be procured. This uniformity will also aid in the facilitation and growth of the program by alleviating any customer confusion that could be generated by differences between jurisdictions. To help ensure fairness, all costs for the program would be apportioned between the three jurisdictions based on the respective subscription levels for each.

Q: Please describe the basis for participating in this Renewable Energy Program.

A: A Customer may subscribe up to 100 percent of their annual energy usage, which will be based on the previous 12 months' usage history. A Customer must have an average annual peak demand of 200 kW in order to participate. However, Customers with multiple accounts may aggregate their load by jurisdiction.

Q: What do you mean by aggregation?

A: We recognize that many customers have multiple accounts but would have the same renewable goals for each. Allowing the combination of accounts under this Renewable Energy Program would allow the Customer to address these needs more completely. For administrative clarity, limits have been established for this aggregation. These aggregated accounts must have a combined average annual peak demand of 2.5 MW and an average of 200 kW per account. Governmental and municipal accounts would be able to aggregate without limit to size, subject to the others terms of the Renewable Energy Program. Aggregation is only for the purpose of Renewable Energy Program participation and does not imply that account usage and/or demands would be consolidated for billing under the blocks, and minimums of the standard rates. Additionally, processing of aggregated participation may occur outside of normal cycle billing. To allow for the accumulation of data and calculation of the program cost, adjustments associated with this Rider may be applied up to 60 days later than the market transactions associate with the renewable energy production.

Q: Are there terms set for the subscriptions?

A: Yes. Customers may opt for subscription terms of 5, 10, or 20 years. Should the renewable resource PPA contract term be other than 20 years, then the maximum term made available

to the customer will be adjusted to match the PPA's term. Customers subscribing to more than 20% of the renewable resource will be required to commit to a minimum term of ten years.

Q: What will be done if there is excess interest in the Renewable Energy Program?

A: Interested customers, who are not allotted capacity in the initial resource offering, will be placed on a wait list that will be evaluated semi-annually. If a Customer subscribes after the resource has been available for some period, the Customer's term is limited to no more than the remaining term of the PPA.

Q: How will the Renewable Energy Program be initiated?

A: Similar to the Solar Subscription Pilot Rider detailed earlier in this testimony, the Company will compile a list of Customers who desire to participate in the program before the procurement process is underway. Once the Company has gathered sufficient interest, it will solicit a PPA for a renewable resource. To ensure the renewable resource meets the desire of Customers to have "additionality", the Company would enter into a contract for renewable resources placed into service after January 1, 2019. The Company will begin this procurement process when it has a minimum of 100 MW of capacity subscription interest.

Q: Please describe how a Participant's bill will change when joining the Renewable Energy Program.

A: Also, similar to the Solar Subscription Pilot Rider, Renewable Energy Program participants will subscribe to a renewable resource capacity amount to offset the amount of monthly energy as requested by the participant. This subscribed amount, or percentage, will be converted to a kW demand value that will be used to source the renewable resource. The

Customer's monthly bill will be the sum of its standard bill, which is based on the Customer's monthly usage under their current retail rate, plus a renewable adjustment. The renewable adjustment is comprised of the following items:

- Renewable Output
- Subscribed Share
- Subscription Charge (with Administration charge)
- Final Market Price

The Renewable Output is the metered output from the renewable resource at the market node. The Subscribed Share is the capacity amount associated with a Customer's subscription. The Subscription Charge is the sum of the Delivered Price per MWh of energy delivered to the Company and the Administration Charge for the facilitation of the Renewable Energy Program. The Administration Charge will vary based on the term length of the customer subscription. The Final Market Price is sum of all applicable market revenues and charges arising from, or related to, the delivery of the energy output of the renewable resource into the wholesale energy market during that calendar month divided by the actual metered hourly energy production.

Q: The Subscription Charge and Final Market Price are key parts of the Renewable Adjustment. Would you please provide more detail concerning how these factors are determined?

A: The Subscription Charge reflects the cost of the PPA plus an administrative charge. To ensure the cost of the Renewable Energy Program is borne by participants, the Subscription charge will include all costs related to procuring the PPA. Administration charges are designed to cover the ongoing costs associated with the Renewable Energy Program such

as processing the data, accounting, and customer billing. Internal labor will be needed to manage applications and administer the Renewable Energy Program each month. This cost is estimated to be approximately $0.10 per MWh. The administrative cost is increased to $0.30 per MWh for Participants desiring shorter agreement terms. The premium is expected to cover the increased turn-over resulting from the shorter terms.

The Final Market Price ("FMP") is the mechanism where the value of sale of the renewable energy is returned to the Subscriber. The tariff contemplates one of two approaches to complete this sale. One approach is to inject the energy directly in to the nearest market node and receive the market price at that location. Alternatively, the Company could choose to obtain transmission service and deliver the energy to an alternate load point. The Company believes it is important to provide a level of flexibility at this point in the Renewable Energy Program. Decisions made concerning the interaction with the market could impact the value stream delivered for the term of the subscription. The Company would plan to use these alternatives to attempt and capture the best value possible for participants and reduce the risk of depressed nodal prices. As with the rest of the tariff approach, all costs associated with either alternative will be identified and borne by Subscribers.

Q: Please provide an example of how a participating customer's bill will be determined.

In this example, we demonstrate how the Renewable Adjustment associated with this program can impact a Customer's monthly bill. First, we assume that the Company has received enough Customer interest in the Renewable Energy Program to source a 100 MW generation resource, noted as the Renewable Resource Capacity (Row A). With an assumed Renewable Resource Capacity Factor of 35% (Row B), we can estimate the

System Energy Production for the month (Row C). This results in a total of 26,040 MWh of energy for the month.

Table 5 - Renewable Resource Production Calculation

	Calculation/Assumption	Reference Row
Renewable Resource Capacity	100 MW	A
Renewable Resource Capacity Factor	35%	B
System Energy Production for the month	26,040 MWh	C

Next, to show how a Customer's subscription is calculated we assume that the Customer has an Annual Customer Energy Usage of 100,000 MWh from the prior year (Row D) and that they desire to set their Subscription Increment at 100% (Row E). Using this information, the Customer's Subscription Level (Row F) is the result of 100,000 MWh multiplied 100%, then divided by the product of 8,760 Hours/year and the Renewable Resource Capacity Factor of 35%. The result is a Subscription Level of 32.62 MW.

Table 6 - Subscription Level Calculation

	Calculation/Assumption	Reference Row
Annual Customer Energy Usage	100,000 MWh/Yr.	D
Chosen Subscription Increment	100%	E
Subscription Level	(D x E) / (8,760 Hrs./Yr. x B) (100,000 MWh/Yr. x 100%) / (8,760 Hrs./Yr. x 35%) = 32.62 MW	F

The Subscription Level is then converted in a Subscription Share (Row G) by dividing the Subscription Level (Row F) by the Renewable Resource Capacity (Row A), resulting in a

Subscription Share of 32.62%. The Monthly Renewable Energy Allocation (Row H) would then be the Subscription Share multiplied by the System Energy Production for the month (Row C) resulting in an allocation of 8,493.15 MWh in our example month.

Table 7 - Subscription Share Calculation

	Calculation/Assumption	Reference Row
Subscription Share	F / A 32.62 MW / 100 MW = 32.62%	G
Monthly Renewable Energy Allocation	G x C 32.62% x 26,040 MWh = 8,493.15 MWh	H

The final part of the example outline how the Monthly Renewable Adjustment is calculated. Assuming that the Customer had agreed to an all-inclusive Subscription Charge of $20 per MWh (Row I) and that for this month the Final Market Price was $30 per MWh (Row J). The Adjustment would be the Subscription Charge minus the Final Market Price multiplied by the Monthly Renewable Energy Allocation (Row H). The result is an adjustment of negative $84,931.51 (Row K), which would be a credit to the customer. This adjustment would be applied to Customer's Standard Bill prior to taxes being applied. It is important to note that should the Final Market Price had been $10, less than the Subscription Charge, then the Customer would have been required to pay the Company an additional $84,931.51 on their monthly bill.

Table 8 - Renewable Adjustment Calculation

	Calculation/Assumption	Reference Row
Subscription Charge	$20 per MWh	I
Final Market Price	$30 per MWh	J
Monthly Renewable Adjustment	(I – J) x H ($20/MWh - $30/MWh) x 8,493.15 MWh = ($84,493.15)	K

Q: Will this bill calculation occur during the normal billing cycles?

A: Although the billing will occur as part of our normal billing processes, we anticipate that there will be lag between the renewable energy production and the presentation on the customer bill. Since third parties are involved in providing the data and in anticipation of additional bill processing to manage aggregation, we have allowed a delay of two billing months to allow for the transactions to be applied to bills.

Q: May a Customer participate in both the Solar Subscription Pilot Rider and the Renewable Energy Program?

A: No. Customers that meet the requirements necessary for participation in both programs may only select one program.

Q: May a Customer transfer their subscription?

A: Yes. Participants who move to another location within the Company's Missouri service territory may request transfer of their subscription, provided the total kWh of the subscribed amount is less than the new location's average annual historical usage (actual or Company estimated). If the existing subscription level exceeds the allowed usage amount at the new location, the subscription will be adjusted down accordingly.

Q: May a Customer terminate their subscription?

A: Yes. Participants who request termination of the Participation Agreement before the expiration of the term of the Participation Agreement. However, to avoid any impact to other participant or non-participants, the terminating Customer must pay any associated costs and administration associated with termination of the subscribed renewable resource. The Company will make an effort to transfer the subscription another interested Customer. If another Customer fully assumes the obligation for the purchase of the renewable energy prior to the effective date of the termination, costs for the termination could be minimized or eliminated.

Q: How will the Company expand the Renewable Energy Program beyond its initial offering?

A: If the Company receives interest that would require capacity greater than the initial offering, then it will form a 'wait list' that will aggregate customer information and desired subscription size until it deems it has a great enough need to start a new renewable facility procurement process. This will be at the Company's discretion so that it may balance Customer interests with each tranche of renewable facilities.

Q: Does the Company intend to own and operate the renewable resources required for this Renewable Energy Program?

A: No, the Company intends to utilize PPAs to fulfill the subscriptions within this program.

Q: Do you anticipate a change will be needed to the Company's Fuel Adjustment Charge to account for this Renewable Energy Program?

A: Yes. Revisions will be needed to exclude amounts associated with the PPAs made to satisfy the Renewable Energy Program. Specifically, changes to the Purchased Power and Off System Sales provisions. Those changes are addressed in the testimony of Tim Rush.

Q: What will be done with the Renewable Energy Credits associated with this energy production?

A: Renewable Energy Credits associated with energy obtained through this Program will be transferred to the Customer annually or at any time upon Customer request. Alternatively, and if requested, the Company will retire the credits on behalf of the Customer with all costs associated with the registration and retirement borne by the requesting Customer.

Q: Will the Renewable Energy Program be designed to reflect all costs and recover those from participants?

A: Yes.

Q: Does the Company have any obligation under the Program?

A: Yes. Although the Company will strive to appropriately size the program to meet the needs of the Customers that are participating it is expected that, from time to time, subscription levels will be below the total renewable resource capacity. When that occurs, the Company assume the unsubscribed amounts on behalf of all Customers and account for that cost through the Fuel Adjustment Clause.

Q: Are there any other features of the Renewable Energy Program you wish to address?

A: Yes. The proposed Renewable Energy Program includes a provision for renewable contracts supporting economic development. The Company anticipates that there will be

customers who wish to enter into individual agreements for renewable energy. In these situations, the Company may, at its discretion, enter into the individual agreement if it will support customer retention or incremental load resulting from the construction or expansion of facilities within the Company's service territory. The individual terms concerning pricing will be established with the requesting Customer. All agreements are subject to availability and deliverability of Renewable Energy resources and will be structured in such a way as to ensure recovery of all related costs from the requesting Customer.

IV. STANDBY SERVICE TARIFF

Q: The Company is proposing a new tariff for Standby Service. Are you sponsoring that proposal?

A: Yes. A copy of the proposed tariff is included as Schedule BDL-3.

Q: Please describe the proposal.

A: The Company is proposing to introduce a Standby Service tariff for its customers. GMO does not currently offer Standby service. In addition, the Company is proposing eliminate the Special Isolated Generating Plant Service tariff, Sheet 103 and 104 and revise and rename the Company's CoGeneration Purchase Schedule tariff, Sheet 102. The proposed changes are intended to complement each other and better serve self-generating customers.

Q: What caused the Company to make this proposal?

A: In a recent rate case (ER-2014-0370) the Commission ordered KCP&L to conduct a review of its Standby Service for Self-Generating Customers tariff, Schedule SGC, Sheet 28 through 28D with the results of that review to be provided within two years of the effective date of the order in that case. KCP&L established an internal cross-functional team to

review the SGC Tariff. It was determined that the SGC Tariff is largely similar, based on the features evaluated, to the standby tariffs utilized by other utilities in Missouri and Kansas. It was also noted that the SGC Tariff was based on a Real-Time Pricing ("RTP") structure that was unique among those reviewed. At the time of that study KCP&L committed to continue monitoring utilization of the SGC Tariff and the role of the RTP pricing mechanism to determine if any revision or enhancement might be beneficial. It was that subsequent review that identified a desire to propose a new Standby design.

Q: Please describe that review.

A: The team reviewing the tariff included representation from the Energy Solutions group, the internal group responsible for customer support and interaction. It was through comments from this representative that we started to understand the limitations of the RTP design. In short, the RTP design was considered complex and difficult for customers to evaluate. Combined with the review of other Standby tariffs offered by other utilities, it became clear that a redesign would be useful. Further, the review identified that a Standby Service tariff was not available in the GMO jurisdiction.

Q: Please describe the new design.

A: The Standby Service Rider ("SSR"), is a rider, building from the generally available rate. Further, the SSR provides for different approaches for different sizes of customer generation. Small systems, those less than 2MW, rely mainly on the generally available rate with the addition of two fixed charges to cover capacity reservation and interconnection costs. Larger systems, those between 2MW and 10MW would be subject to various charges for backup, maintenance, and supplemental service. The largest systems, those greater than 10MW would be treated individually due to Southwest Power

Pool and North American Electric Reliability Corporation requirements but rates would be largely based on the charges defined in the SSR. For the systems between 2MW and 10MW, the focus of the tariff design, simplified methods are used to identify the character of service being received.

Q: Please provide some detail concerning the service.

A: Provisions are made for three types of service, backup maintenance, and supplemental. Traditional Standby tariff designs rely on predefined operational schedules to help determine which service is received by the customer. Backup service is received when the customer generator is unexpectedly offline and the utility must provide service. Maintenance service is received when the customer generator is offline when expected and the utility must provide service. Finally, supplemental service is the additional service needed by the customer beyond what they generate themselves. To remove the need for the predefined schedule, the Company proposal relies on predefined periods and thresholds. The following figure is useful to explain the design:

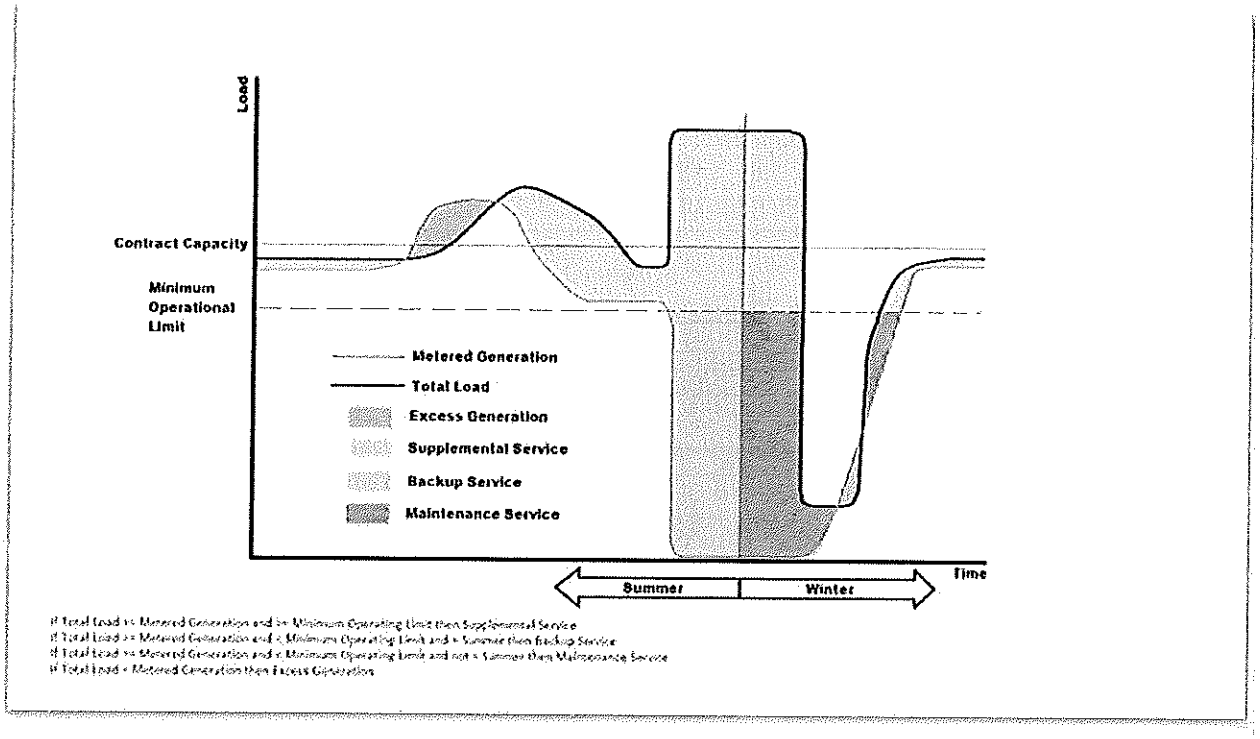

Figure 1 - Standby Period Example

Q: How do these periods and thresholds work to define the service?

A: At the time the customer applies for service under this rider a Standby Contract Capacity is defined. The Company presumes that the customer will normally operate at 90% or greater than this capacity. Supplemental Service is based on this minimum operational limit. Next, the design relies on the seasons defined by the Company's generally available rates. The Company wants customers to avoid outages of their generating systems in the summer period so it defines the summer as the Backup period. Conversely in the winter period when capacity is generally more available, the Company defines the winter as the Maintenance period. Using these periods, combined with metering that measures the customer generator output and total load, the following service definitions result:

- Supplemental Service - Supplemental Service will occur if the Customer's Total Load is greater than the Metered Generation Output and greater than the Minimum Operating Limit.

- Backup Service - Backup Service will occur if the Metered Generation Output is less than the Minimum Operating Limit and less than the Total Customer Load during any time in the Summer period.

- Maintenance Service - Maintenance Service will occur if the Metered Generation Output is less than the Minimum Operating Limit and less than the Total Customer Load during any time in the Winter period.

The purpose of this design is to eliminate the need for scheduling and status communication. Many designs require communication within minutes of a customer generator outage. The Company believes this expectation can be onerous for both the customer and the Company. This design, by being predefined and subject to the actual metering, removes this complexity and produces a more manageable rate.

Q: What other charges are associated with service to customers with generation sized between 2MW and 10MW?

A: A Standby Service Metering & Administrative Charge is used to recover the cost of additional metering and bill processing. A Capacity Reservation Charge is applied to recover the cost of providing and maintaining the generation and transmission facilities required to support the capacity requirements of the customer within the Company system. Finally, there is an Excess Generation Credit to compensate the customer generator for energy delivered to the Company system.

Q: Your proposal included changes to other tariffs. Please provide more detail concerning those changes.

A: The Company is proposing to eliminate the Special Isolated Generating Plant Service tariff, Sheet 103 and 104. This tariff is a specialized tariff, designed to serve customers constructing and operating isolated generating plants. There is no recollection that any customer has been served by this tariff.

The Company is also proposing to reconfigure and rename the CoGeneration Purchase Schedule to match the Parallel Generation Contract Service tariff, Schedule PG offered by KCP&L-Missouri. The current CoGeneration tariff simply provides details concerning pricing. The Company proposes expanding this tariff. The new design incorporates several safety, interconnection, and metering requirements for the customer generator.

V. UNDERUTILIZED INFRASTRUCTURE PROVISIONS

Q: The Company is proposing new tariff language to address Underutilized Infrastructure. Are you sponsoring that proposal?

A: Yes. A copy of the proposed tariff is included as Schedule BDL-4.

Q: Please describe the proposal?

A: In case ER-2016-0285 KCP&L was ordered to file in its next rate case, a line extension tariff designed to account for geographic areas where there is underutilized distribution infrastructure. KCP&L formed a cross-functional team to discuss and determine the best approach to incent or otherwise recognize the value of making use of that infrastructure. KCP&L proposed new provisions in section 9.04, on Sheet 1.30D, the section on Permanent Service, to its existing line extension rules to address this need. The proposal will add language providing customers locating new Residential subdivision extension developments on underutilized circuits a reduction of the up-front cost of lot development equal to $200 per lot or $200 per building for multifamily buildings. Non-Residential Customers locating extensions locating a distribution extension on underutilized circuits will receive 10% additional Construction Allowance associated with the extension.

Customers receiving incentives for Beneficial Location of Facilities under the Company's Economic Development Rider will not qualify for this underutilized circuit adjustment.

Each year KCP&L will produce a listing of circuits that have at least 50% of their rated capacity available under normal and contingency scenarios. To address expected conditions, this list will not include circuits serving areas with identifiable near-term growth, particularly commercial and industrial areas at initial stages of development or where existing customers are expected to increase their connected load, circuits serving areas with known platted areas for residential development, rural circuits limited by voltage or in areas with limited development where the existing circuit is provided and designed primarily for public convenience and need, or other circuits where a low capacity rating is needed or expected by KCP&L.

GMO proposes applying this same language to its tariff to provide consistency and address this concern in all Missouri jurisdictions.

Q: Will any special consideration be needed to incorporate this change into the GMO Line Extension Rules?

A: No. As part of the same Commission order in ER-2016-0285, KCP&L has already implemented the GMO Line Extension Rules for service to its customers. That change went into effect on January 1, 2018. The new Underutilized Infrastructure language prepared by KCP&L was applied to the GMO-based Rules. Applying it within the GMO Rules is simple and would occur in the same, named section.

Q: Please describe the changes proposed.

A: The Underutilized Infrastructure provisions will be added to Section 7.04, Permanent Service, on Sheet R-50. Some repositioning of existing content to Sheet R-51 and R-52 is needed to accommodate the new language.

VI. LED LIGHTING – MUNICIPAL STREET AND PRIVATE LIGHTING

Q: Please describe your testimony concerning LED Lighting.

A: I intend to address three topics related to Light Emitting Diode ("LED") Lighting. First I wish to provide an update on the Company's efforts to deploy LED Lighting for its Municipal Street Lighting customers. Next, I will address the Company's plans to offer LED Lighting for its Private Lighting customers. Finally, I will explain the Company's proposed application of the revenue increase requested in this case to the Lighting class.

Q: What is the status of the LED Municipal Street Lighting implementation.

A: GMO is in the process of deploying LED lighting for its Municipal Street Lighting customers. A new tariff was approved in May of 2017 and supported a structured conversion of existing Municipal Street Lighting to LED based luminaires. The Company then began a systematic replacement of existing High Pressure Sodium and Mercury Vapor fixtures with equivalent LED luminaires. Conversion efforts were distributed throughout the Company jurisdiction, mixing rural towns with Kansas City metro cities, converting the systems community by community. As each was completed, the Company worked with the communities and their citizens to resolve questions and issues. I would offer then conversion has been successful and all issues raised have been or are in the process of being resolved.

Q: Does the implementation remain on schedule?

A: Conversion is on schedule and estimated to be approximately 80% complete as of the end of December.

Q: Next, the Company is proposing a new tariff for LED Private Lighting. Are you sponsoring that proposal?

A: Yes. A copy of the proposed tariff is included as Schedule BDL-5.

Q: Please describe the proposal.

A: In 2017 the Company proposed and received approval to implement LED technology for its Municipal Lighting Service, Sheet 150. This proposal would extend the availability of LED lighting into the Private Lighting service. Proposed as Schedule PL, Sheet 152 through 152.2, the LED Private Lighting schedule would consolidate and replace the current L&P Private Area Lighting tariff, Sheet 47 through 49 and 50.1 and MPS Private Area Lighting Service tariff, Sheet 91 through 94 and 95.1. This consolidation is consistent with past efforts to combine L&P and MPS tariffs into GMO tariffs.

Q: What is Private Lighting?

A: Private Lighting is unmetered lighting service for private entrances, exits, yards, driveways, streets, alleys, walkways and other all-night outdoor private areas on existing Customer's premises. Private Lighting is provided in two ways, an area light that provides light in a circular pattern or a directional flood light that uses reflectors to aim the light in a specific direction. Private Lighting is not available for Municipal Street Lighting. By contrast, Municipal Street Lights tends to be larger in size and provide different lighting patterns designed for roadway use.

Q: What Private Lighting options are to be offered?

A: The Company has identified three area light option and three flood light options. The sizes, based in lumens, range from 4,500 to 45,000 and effectively replace the current High Pressure Sodium ("HPS") and mercury vapor alternatives deployed under the current Private Area Lighting service tariffs.

Q: How do the new Private Lighting rates compare to those being replaced?

A: The rates for LED Private lights are lower than the current HPS standard available under the current Private Area Lighting service tariffs. This rate reduction is reflective of the lower cost of maintenance and operation associated with the LED technology.

Q: How will the new LED options be deployed?

A: Subject to terms preexisting from the current Private Area Lighting service tariffs, customers would be able to request the new lights once the new Schedule is approved as part of this case. The Company does not plan to proactively convert the Private Lights as it did with the Municipal Street Lights.

Q: Finally, please describe the Company's proposal for applying the revenue requirement to the Lighting class.

A: The Lighting Class is proposed to receive an equal percentage increase, similar to the other class, with some exceptions. The LED Municipal Street Lights approved by the Commission in May of 2017 will receive no increase except for the transitional LED rates which will receive the class increase plus an additional increase of 10%.

Q: What is the Company's motivation for this mixed application of the revenue increase for LED Municipal Street Lighting.

A: The current rates for LED Municipal Street Lighting were recently set and the conversion is still underway. The Company would like to retain the current rates and allow the conversion to complete. The current rates are believed to be appropriate. However, within the LED Municipal Street Lighting tariff the Company established transitional rates. These transitional rates were set at below the LED cost with the intent that they would be gradually increased and brought to parity with the regular LED rates. Applying an increase representing the revenue increase request plus an additional 10% will represent the first step in completing that transition.

Q: Does that conclude your testimony?

A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

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 BRADLEY D. LUTZ

STATE OF MISSOURI)
) **ss**
COUNTY OF JACKSON)

Bradley D. Lutz, being first duly sworn on his oath, states:

1. My name is Bradley D. Lutz. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Manager – Regulatory Affairs.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of KCP&L Greater Missouri Operations Company consisting of thirty-nine (39) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Bradley D. Lutz

Subscribed and sworn before me this 29th day of January 2018.

Notary Public

My commission expires: 4/26/2021

ANTHONY R WESTENKIRCHNER
Notary Public, Notary Seal
State of Missouri
Platte County
Commission # 17279952
My Commission Expires April 26, 2021

SOLAR SUBSCRIPTION PILOT RIDER
Schedule SSP

PURPOSE

The purpose of the Solar Subscription Pilot Rider (Program) is to provide a limited number of Customers the opportunity to voluntarily subscribe to the generation output of a solar resource and receive electricity from solar resources. This Program will allow the Company to deploy and evaluate a structure for integrating solar energy directly into service provided to its Customers.

Program Participants will subscribe and pay for Solar Blocks of five hundred (500) watts (W AC) each. Energy produced by the subscribed Solar Blocks will offset an equivalent kWh amount of energy they receive and are billed for under their standard class of service. Approximately 10,000 Solar Blocks will be available for subscription with the initial offering. This program may be expanded to include up to 50 MW of installed solar capacity. Depending on Customer interest, additional solar resources may be built and Solar Blocks made available. Customers will be required to enroll for the Program in advance and each solar resource will be built when 75 percent of the proposed solar resource is committed. If the Company does not receive a sufficient number of subscriptions for the Program, the Company may terminate this Schedule SSP.

AVAILABILITY

This Rider is available to any Customer currently receiving permanent electric service under the Company's retail rate schedules. Customers must complete the required Participant Agreement and have an account that is not delinquent or in default.

Participants will be enrolled on a first-come, first-served basis. Customers applying but not allowed into the Program due to Solar Block unavailability will be placed on a waiting list and incorporated into the Program in the order they are received. Should Solar Blocks become available due to construction of additional solar resources or subscription cancellations, Customers on the waiting list will be offered the opportunity to subscribe. Subscription hereunder is provided through one meter to one end-use Customer and may not be aggregated, redistributed, or resold.

Total participation of non-residential Customers will be limited to no more than 50 percent of the total solar resource capacity during the first three months of the Program. After three months, and at the Company's sole discretion, all available solar resource capacity may be made available to all eligible Customers.

This Rider may not be combined with any other renewable energy program offered by the Company for the same Customer account.

Customers receiving Unmetered, Lighting, Net Metering, or Time-of-Use Service are ineligible for this Program while participating in those service agreements. This schedule is not available for resale, standby, breakdown, auxiliary, parallel generation, or supplemental service.

SOLAR SUBSCRIPTION PILOT RIDER
Schedule SSP

PRICING

The Solar Block Subscription Charge for energy sold through this Program is $0.151 per kWh, made up of two costs:

- The Solar Block cost of $0.123 per kWh; and
- The charge of $0.039 per kWh for interconnection service costs.

The Solar Block cost is defined by the total cost of the solar resources built to serve the program. The interconnection charge is the embedded cost of Transmission and Distribution based on the Company's class cost of service study from the Company's most recent rate case. When an additional solar resource is added to the Program, the levelized cost of the new solar resource will be averaged with the remaining levelized cost of existing solar resource(s) to determine the new price for the cost of the Solar Block. This price may be greater than or less than the previous price. The cost of facilities for distribution interconnection is subject to change in future general rate proceedings, independent from the Solar Block cost.

SUBSCRIPTION LEVEL

Participants may subscribe to Solar Blocks that, when combined, are expected to generate up to 50 percent of their annual energy. During initial sign-up, the Customer will designate their desired subscription percentage in increments of 10 percent. The Company will provide to the Customer the number of Solar Blocks necessary to supply their subscription percentage based on the Customer's annual energy usage. The Customer's annual energy usage will be determined in one of two ways. If during initial signup the Customer has 12 consecutive months of usage history at the address where the subscription is being requested, then the annual energy will be the energy consumed during that 12-month usage history. If the Customer does not have 12 consecutive months of usage history at the address where the subscription is being requested, then the annual energy will be estimated by the Company. The calculation for the number of Solar Blocks is equal to the annual energy (in kWh) divided by the expected annual energy production of one block rounded down to the lowest whole number. A Customer must have sufficient annual usage to support subscription of at least one Solar Block.

Until the Company expands its solar energy production beyond the initial 5 MW, the maximum amount any one Customer may subscribe to is 2,500 kW AC of capacity. After the expansion of solar energy production, subscription for any one Customer beyond 2,500 kW AC will be at the Company's discretion. A Participant may change their subscription level only once in any 12-month period after the initial 12-month subscription. In the event there is a significant and regular reduction in Participant metered energy consumption, the Company, at its sole discretion, may adjust the Participant's subscription level.

SOLAR SUBSCRIPTION PILOT RIDER
Schedule SSP

BILLED PURCHASE QUANTITY

The quantity of energy that will be purchased by a Participant for each monthly billing cycle will be computed as follows:

$$PQ = (SL \div TSC) * AME$$

Where,

PQ = Monthly Purchase Quantity in kWh

SL = Subscription Level in kW AC

TSC = Total Solar System Capacity in kW AC

AME = Actual Monthly Energy Produced by the Solar Resource in kWh.

The Total System Capacity will be re-determined whenever a new solar facility is brought online or an existing solar facility is taken offline.

MONTHLY BILLING

1. The monthly energy production of the solar resource will be measured and apportioned to each Participant based on their respective subscription share. To facilitate billing, energy production will be applied to the monthly billing one month after it occurs.

2. The Participants share of the solar resource energy production will be subtracted from the metered energy consumed by the Participant for the billing month. Should the solar resource energy production amount for a given month be larger than the Participant's metered energy consumption, the net energy will be zero for that month.

3. Any remaining metered energy consumption will be billed under the rates associated with the Participant's standard rate schedule, including all applicable riders and charges

4. Other, non-energy charges defined by the standard rate schedule are not impacted by the Solar Block subscription and will be billed to the Participant.

5. The entire bill amount, inclusive of all standard rate charges and Program charges, must be paid according to the payment terms set forth in the Company Rules and Regulations.

WAITING LIST

If at the time of subscription request a Customer's desired subscription level is greater than the available energy of the solar resource, then the Customer may elect to be placed on a waiting list.

Customers will be offered an opportunity to subscribe in the order that they are placed on the waiting list, only if available capacity is greater than the customer's desired subscription level. If the available capacity is less than the Customer's desired subscription level, the Customer will be offered the opportunity to subscribe to the remaining available capacity. If the Customer does not wish to participate at this lower than desired subscription level, then the next Customer on the waiting list will be checked for subscription availability.

SOLAR SUBSCRIPTION PILOT RIDER
Schedule SSP

SUBSCRIPTION TERM

Participants must remain in the Program for one year, as measured from the first bill received under this Rider.

Non-residential Participants who subscribe to 25 percent of the available Solar Blocks for a given solar resource, are required to commit to a minimum term of five years.

PROGRAM PROVISIONS AND SPECIAL TERMS

1. All rights to the renewable energy certificates (REC) associated with the generation output of the solar facility will be retired by the Company on behalf of Participants.

2. Any Participant being served or having been served on this Program waives all rights to any billing adjustments arising from a claim that the Participant's service would be or would have been at a lower cost had it not participated in the Program for any period of time.

3. Participants who move to another location within the Company's Missouri service territory may transfer their subscription, provided the total kWhs of the subscribed amount is not more than the new location's allowed subscription level (actual or estimated). If the subscription level exceeds the allowed amount at the new location, the subscription will be adjusted down accordingly.

4. Participants must notify the Company in writing of their intent to transfer any subscription(s). Transfers will only be effective if the Transferee satisfies the terms and conditions applicable to the subscription and signs the Participant Agreement and assumes all responsibilities associated therewith.

5. Customers that subscribe will continue as Participants until they cancel their subscription or the Program is terminated. New subscriptions and cancelations require notice 20 days prior to the end of the Participant's billing cycle and will take effect at the beginning of the next applicable billing cycle.

6. Upon cancelation of a Participant's service, Participants may transfer their entire subscription to another eligible Participant's service agreement, including non-profits, for a $25 fee. Participants with more than one Solar Block may transfer their Solar Block subscriptions in whole subscription increments to one or more Eligible Customers for a $25 fee per transfer.

7. Any Participant who cancels Program participation must wait 12 months after the first billing cycle without a subscription to re-enroll in the Program.

8. Ownership of unsubscribed Solar Blocks and the associated RECs will be assumed by the Company and incorporated into the energy provided to retail Customers.

ADJUSTMENTS AND SURCHARGES

The rates hereunder are subject to adjustment as provided in the following schedules:

- Fuel Adjustment Clause (FAC)
- Renewable Energy Standard Rate Adjustment Mechanism Rider (RESRAM)
- Demand-Side Investment Mechanism Rider (DSIM)
- Tax and License Rider

REGULATIONS

Subject to Rules and Regulations filed with the State Regulatory Commission.

KCP&L GREATER MISSOURI OPERATIONS COMPANY

P.S.C. MO. No. 1 _____ Original Sheet No. 139

Canceling P.S.C. MO. No. _____ _____ Sheet No. _____

For Missouri Retail Service Area

RENEWABLE ENERGY RIDER
Schedule RER

PURPOSE

This Program is designed to provide non-Residential Customers a voluntary opportunity to purchase Renewable Energy, in addition to service provided through a generally available rate, from Renewable Energy sources that the Company contracts.

Following Commission approval of this Rider, the Company will endeavor to procure the Renewable Energy sources necessary to fulfill Customer requests for service under this Program. Pricing and related terms will be updated to reflect these sources.

AVAILABILITY

Customer accounts receiving Unmetered, Lighting, Net Metering, or Time-of-Use Service are ineligible for this Program while participating in those service agreements. This Program is not available for resale, standby, breakdown, auxiliary, parallel generation, or supplemental service.

Service under this Program is available on a limited and voluntary basis, at the Company's option, to non-Residential Customers currently receiving permanent electric service from the Company through its Small General Service, Large General Service, and Large Power Service rate schedules, with an annual average monthly peak demand greater than 200 kW. At the Company's sole approval, Customers that have an aggregate electric load of at least 2.5 MW based upon peak annual demand and an average of 200 kW per account, or Governmental/Municipal Customers as established by Section 46.040, RSMo, or pursuant to Article VI, Section 15 of the Missouri Constitution and applicable enabling statutes enacted by the General Assembly thereunder, may combine separate accounts to participate in this Program.

Customers will be enrolled and subscribed on a first-come, first-served basis. Customers applying but not allowed to subscribe due to Renewable Energy resource unavailability will be placed on a waiting list and may be offered the opportunity to subscribe if subscription cancellations or forfeitures occur. Customers approved for aggregation of accounts may choose to participate in part or remain on the list as a consolidated group, depending on resource availability. Participants may cancel their subscription at any time subject to any net cost of the remaining Renewable Energy for the term. Service hereunder is provided to one end-use Customer and may not be redistributed or resold.

Within any limits prescribed by the individual tariffs, the Company will combine the subscription requirements for all Company jurisdictions in executing the power purchase agreement(s) for the Renewable Energy resource. The combined Program will be initially limited to a minimum total load of 100 megawatts (MW) and a maximum total load of 200 MW, split equally between the KCP&L Missouri, KCP&L Kansas and KCP&L Greater Missouri Operations jurisdictions. The Company reserves the right to reapportion the allocation between Companies in response to Customer subscription. The production from the combined power purchase agreement(s) for the Renewable Energy resource will be allocated among the various Company jurisdictions based on the respective subscriptions within that jurisdiction. The limit will be re-evaluated if or when the 200 MW limit is reached. Additional subscriptions will be made available at the sole discretion of the Company.

RENEWABLE ENERGY RIDER
Schedule RER

DEFINITIONS

For purposes of this Program the following definitions apply:

i. PARTICIPANT – The Customer, specified as the Participant in the Participant Agreement, is the eligible Customer that has received notification of acceptance into the Program.

ii. PARTICIPANT AGREEMENT – The agreement between the Company and Customer, utilized for enrollment and establishing the full terms and conditions of the Program. Eligible Customers will be required to sign the Participant Agreement prior to participating in the Program. This agreement may be provided and executed electronically.

iii. POWER PURCHASE AGREEMENT (PPA) – an agreement or contract between a resource owner and the Company for renewable energy produced from a specific renewable resource.

iv. RENEWABLE ENERGY CREDITS – also known as Renewable Energy Certificates or RECs, represent the environmental attributes associated with one (1) megawatt-hour of renewable electricity generated and delivered to the power grid.

v. RENEWABLE ENERGY – energy produced from a renewable resource as defined in 4 CSR 240-20.100(1)(N) and associated with this Program. Renewable resources procured will be utilized for this program or similar voluntary, green programs.

vi. RESOURCE PROCUREMENT PERIOD – the period of time in which the Company will, if the subscriptions on the waiting list warrant such effort, attempt to obtain a renewable resource to serve the Participation Agreements queued on the waiting list. At a minimum, two Resource Procurement Periods will occur each calendar year

vii. SUBSCRIPTION INCREMENT (SI) – An eligible Customer may subscribe and receive energy from a renewable resource in single percentage increments, up to 100% of the Customer's Annual Usage.

RENEWABLE ENERGY RIDER
Schedule RER

DEFINITIONS (continued)

viii. SUBSCRIPTION SHARE (SS) – The proportion of the renewable resource, adjusted for the Renewable Resource Capacity Factor, allocated to the Customer to achieve the desired Subscription Increment amount. The Subscription Share is determined at enrollment and is calculated using the following formula:

$$SS = \frac{SL_{MW}}{RRC_{MW}}$$

Where,

$$SL_{MW} = \frac{AU_{MWh} \cdot SI}{8{,}760_{\text{hours per year}} \cdot RRC_{factor}}$$

AU = Annual Usage; the Customer's actual metered energy usage over the previous 12 monthly billing periods, if available, or Customer's expected metered energy usage over 12 monthly billing period as determined by Company.

RRC = Renewable Resource Capacity; the average annual capacity of the renewable resource(s) as established by the Company.

RRC_{factor} = Renewable Resource Capacity Factor; the average annual capacity factor of the renewable resource(s) as established by Company.

ENROLLMENT

1. The Customer must submit a completed Participant Agreement to the Company for service under this Program. In the Participant Agreement, the Customer must specify the Subscription Increment to be subscribed.

2. Customers applying for service under this Program must have an account that is not delinquent or in default at the beginning of the Resource Procurement Period and must have completed the required Participant Agreement.

3. Enrollment requests may be submitted to the Company at any time.

4. The Company will review the Participant Agreement and determine if the Customer will be enrolled into the Program.

5. In each Resource Procurement Period the Company will match as accurately as possible the combined Renewable Subscription Level of all Participants with a renewable resource, subject to availability. The minimum renewable resource to be acquired will have a capacity of 100 MW and the maximum will depend upon the level of Participation Agreements received. The renewable resource obtained for each Subscriber group may be made up of capacity from multiple renewable resources.

RENEWABLE ENERGY RIDER
Schedule RER

CHARGES AND BILLING

All charges provided for under, and other terms and conditions of, the Customer's applicable standard service classification(s) tariff shall continue to apply and will continue to be based on actual metered energy use during the Customer's normal billing cycle.

Under this Schedule, Customers will receive a Renewable Adjustment (RA), in the form of an additional charge or credit to their standard bill based upon the sale of the metered output of the renewable resource(s) into the wholesale market. The Renewable Adjustment will be calculated as follows:

$$RA = [RMO_{MWh} \cdot SS] \cdot [SC_{\$\ per\ MWh} - FMP_{\$\ per\ MWh}]$$

Where,

RMO = Metered output from the renewable resource at the market node.

SC = Subscription Charge; the delivered price per MWh of the renewable resource plus the Company Administration Charge of $0.10 per MWh (RMO) for twenty-year term Participant Agreements. For all other Participant Agreements, the Company Administration Charge will be $0.30 per MWh (RMO).

FMP = Final Market Price; the accumulation of all applicable market revenues and charges arising from or related to injection of the energy output of the renewable resource into the wholesale energy market in that calendar month at the nearest market node, divided by the actual metered hourly energy production, using the best available data from the regional transmission operator, who facilitates the wholesale marketplace, for the calendar month as of the date the Customer's Renewable Adjustment is being prepared. Alternatively, and at the Company's discretion if determined to be economic, the Company may seek to obtain the necessary transmission to deliver the energy output of the renewable resource to a local, Company market node. If this occurs, the Final Market Price will be calculated based on the accumulation of all applicable market revenues and charges inclusive of this delivery. The energy produced under this alternative will be subject to curtailment by the regional transmission operator. The Final Market Price will be rounded to the nearest cent.

The Renewable Adjustment may be applied up to 60 days later than the market transactions to allow for settlement and data processing.

Market revenues and charges may be adjusted to reflect net costs or revenues associated with service under the Program in prior months, for which more recent wholesale market settlement data supersedes the data that was used to calculate initial charges or credits that were assessed to participating Customers.

The Renewable Subscription Charge and the Subscription Share are to be determined at the time the Company obtains the renewable resource to satisfy the Participation Agreement.

Billing and settlement of charges under this Schedule may occur separately from the billing associated with service provided to a Customer's under the Standard Rate Schedules. The Company reserves the right to consolidate account data and process charges collectively to facilitate Customers electing to aggregate subscriptions under this Schedule.

RENEWABLE ENERGY RIDER
Schedule RER

TERM

Agreements under this Program are available for enrollment for five-year, ten-year, and twenty-year terms. Customers will select the term at time of enrollment and will not be allow to change the term once the renewable resource serving the Customer has been obtained. Customers subscribing to more than 20% of the renewable resource will be required to commit to a minimum term of ten years.

RENEWABLE RESOURCE ENERGY CREDITS

Renewable Energy Credits associated with energy obtained through this Program will be transferred to the Customer annually or at any time upon Customer request. Alternatively, and if requested, the Company will retire the credits on behalf of the Customer with all costs associated with the registration and retirement borne by the requesting Customer.

TRANSFER OR TERMINATION

Participants who move to another location within the Company's service territory may request transfer of their subscription, provided the total kWh of the subscribed amount is less than the new location's average annual historical usage (actual or Company estimated). If the existing subscription level exceeds the allowed usage amount at the new location, the subscription will be adjusted down accordingly.

Participants who request termination of the Participation Agreement, or default on the Participation Agreement before the expiration of the term of the Participation Agreement, shall pay to the Company any associated costs and administration associated with termination of the subscribed renewable resource. Such termination charge may be adjusted if and to the extent another Customer requests service under this Schedule and fully assumes the obligation for the purchase of the renewable energy prior to the effective date of the contract amendment or termination; provided, however, Company will not change utilization of its assets and positions to minimize Customer's costs due to such early termination. The Participant must notify the Company in writing of their request to terminate.

RENEWABLE CONTRACTS SUPPORTING ECONOMIC DEVELOPMENT

The Company may, at its discretion, enter into an individual agreement with a Customer requesting Renewable Energy to support customer retention or incremental load resulting from the construction or expansion of facilities within the Company's service territory. Depending on the details of the Customer need, the load may be served by the same Renewable Energy resource used for this Program or may result in agreements for additional Renewable Energy resources. The individual terms concerning pricing will be established with the requesting Customer. All agreements are subject to availability and deliverability of Renewable Energy resources and will be structured in such a way as to ensure recovery of all related costs from the requesting Customer.

PROGRAM PROVISIONS AND SPECIAL TERMS

1. In procuring the Renewable Energy, the Company will ensure that Renewable Energy resources utilized under this Program are or have been placed in service after January 1, 2019.

2. At enrollment, the Company will calculate the Customer's demand for the prior twelve-month period to determine eligibility. If twelve months of demand data is not available, the Company may estimate the annual demand to the nearest kW, using a method that includes, but is not limited to, usage by similarly sized properties or engineering estimates.

3. Customers that the Company, at its sole discretion, determines are ineligible will be notified promptly, after such Participant Agreement is denied.

RENEWABLE ENERGY RIDER
Schedule RER

PROGRAM PROVISIONS AND SPECIAL TERMS (continued)

4. Customer participation in this Program may be limited by the Company to balance Customer demand with available qualified Renewable Energy resources, adequate transmission facilities, and capacity.

5. Customers who need to adjust in their commitments due to increases or decreases in electric demand may request such adjustment in writing from the Company. Efforts will be made to accommodate the requested adjustment. The Customer will be responsible for any additional cost incurred to facilitate the adjustment.

6. Any Customer being served or having been served on this Program waives all rights to any billing adjustments arising from a claim that the Customer's service would be or would have been at a lower cost had it not participated in the Program for any period of time.

7. The Company may file a request to discontinue this Program with the Commission at any time in the future. Prior to the termination, the Company will work with the participating Customer to transition them fully from the subscriptions in effect to a Standard Rate Schedule or to an alternate green power option that the Company may be providing at that time. Any Participant who cancels Program participation must wait twelve (12) months after the first billing cycle without a subscription to re-enroll in the Program.

8. Ownership of unsubscribed energy and the associated RECs will be assumed by the Company and incorporated into the energy provided to retail Customers. Unsubscribed amounts will be allocated between the jurisdictions based on the Customer Subscriptions in place at the time of processing.

9. Ownership of unsubscribed energy and the associated RECs will be assumed by the Company and incorporated into the energy provided to retail Customers. Unsubscribed amounts will be allocated between the jurisdictions based on the Customer Subscriptions in place at the time of processing.

10. The Company shall not be liable to the Customer in the event that the Renewable Energy supplier fails to deliver Renewable Energy to the market and will make reasonable efforts to encourage the Renewable Energy supplier to provide delivery as soon as possible. However, in the event that the Renewable Energy supplier terminates the Renewable Energy contract with the Company, for any reason during the term of contract with the Customers, the Company, at the election of the Customer, shall make reasonable efforts to enter into a new PPA with another Renewable Energy supplier as soon as practicable with the cost of the Renewable Energy to the Customer revised accordingly.

11. Operational and market decisions concerning the renewable resource, including production curtailment due to economic conditions, will be made solely by the regional transmission operator. These decisions could impact the market price received for the renewable resource energy output.

REGULATIONS

Subject to Rules and Regulations filed with the State Regulatory Commission.

STANDBY SERVICE RIDER
Schedule SSR

APPLICABILITY

Applicable to each Customer at a single premises with behind-the-meter, on-site parallel Distributed Generation system(s) with a capacity greater than or equal to 100 kilowatts (kW), as a modification to standard electric service supplied under either the tariffed rate schedules of Small General Service, Large General Service, or Large Power Service. Customers must receive service under a standard rate schedule that includes a Facilities Charge and a Demand Charge. Provision of this Rider will be based on the nameplate rating of the Distributed Generation.

Customers with emergency backup, intermittent renewable generation, or energy storage systems are excluded from this Schedule SSR.

DEFINITIONS

Distributed Generation – Customer's private, on-site generation that:

1. is located behind the meter on the Customer's premises;
2. has a nameplate capacity of 100 KW with the Company;
3. operates in parallel with the Company's system; and
4. adheres to an applicable interconnection agreement entered with the Company.

Standby Contract Capacity – Shall be the LESS of:

1. The sum of nameplate rating(s) of all Customer Distributed Generation systems;
2. The sum of nameplate rating(s) less any generation on the same premises used exclusively for generation redundancy purposes; and
3. The number of kilowatts mutually agreed upon by Company as representing the Customer's Standby Capacity requirements based on a Company approved Customer load curtailment plan. Any evidence that the load curtailment plan is not used as intended will result in the Standby Contract Capacity being reset to one of the other alternatives.

STANDBY SERVICE RIDER
Schedule SSR

RATES

A. For Customers with Standby Contract Capacity greater than or equal to 100kW and less than or equal to 2MW

a. CAPACITY RESERVATION CHARGE – An additional charge, based on the size of the Distributed Generation, applied to recover the cost of providing and maintaining the generation and transmission facilities required to support the capacity requirements of the Customer within the Company system.

b. INTERCONNECTION CHARGE – A charge applied in place of the Facility Charge associated with the standard rate, to recover the cost of providing and maintaining the distribution facilities required to interconnect the Customer to the Company system that are normally embedded in the volumetric energy charge of the standard rate.

c. SUPPLEMENTAL SERVICE CHARGE – A charge for electric service (demand and energy) provided by the Company to the Customer to supplement normal operation of the Customer's Distributed Generation system to meet the Customer's full service requirements. Supplemental Service will be deemed to occur if the Customer's Metered Grid Interconnection Load is positive. Supplemental Service will be supplied at the applicable rates under the standard rate schedule.

d. EXCESS GENERATION CREDIT - If the Customer's Metered Grid Interconnection Load is negative, the excess energy received by the Company system will be credited at the then current Parallel Generation Contract Service tariff rate.

	Small General Service	Large General Service	Large Power Service
Capacity Reservation Charge (per kW of Standby Contract Capacity)	$0.317	$0.219	$2.635
Interconnection Charge (per kW of Standby Contract Capacity)	$2.890	$4.422	$6.296

Supplemental Service Charge: All service will be supplied at the applicable rates under the standard rate schedule.

Excess Generation Credit: Excess energy will be credited at the current Parallel Generation Contract Service tariff rate.

B. For Customers with Standby Contract Capacity between greater than 2MW and less than or equal to 10MW

a. MINIMUM OPERATING LIMIT – 90% of the Standby Contract Capacity.

b. METERED GRID INTERCONNECTION LOAD – all metered Customer usage from the Company system. Metering will measure both energy consumed and excess energy, if any, delivered back to the Company system.

c. METERED GENERATION OUTPUT – all metered output from the Customer's Distributed Generation system.

d. TOTAL CUSTOMER LOAD – is the Metered Grid Interconnection Load plus the Metered Generation Output.

STANDBY SERVICE RIDER
Schedule SSR

RATES (continued)

B. For Customers with Standby Contract Capacity between greater than 2MW and less than or equal to 10MW (continued)

E. STANDBY SERVICE METERING & ADMINISTRATIVE CHARGE – A charge to cover additional meter costs, meter data processing, billing, and administrative costs beyond those covered in the standard tariff.

F. SUPPLEMENTAL SERVICE CHARGE - A charge for electric service (demand and energy) provided by the Company to the Customer to supplement normal operation of the Customer's Distributed Generation system to meet the Customer's full service requirements. Supplemental Service will be deemed to occur if the Customer's Total Load is greater than the Metered Generation Output and greater than the Minimum Operating Limit.

G. BACKUP SERVICE - Electric service (demand and energy) provided by the Company to Customer premises to replace capacity and energy normally produced by the Customer's Distributed Generation (formerly referred to as Breakdown service). Backup Service will be deemed to occur if the Metered Generation Output is less than the Minimum Operating Limit and less than the Total Customer Load during any time in the Summer period. Seasonal periods are defined in the applicable standard rate schedule.

H. MAINTENANCE SERVICE - Electric service (demand and energy) provided by the Company to customer premises to replace capacity and energy normally produced by the Customer's Distributed Generation. Maintenance Service will be deemed to occur if the Metered Generation Output is less than the Minimum Operating Limit and less than the Total Customer Load during any time in the Winter period. Seasonal periods are defined in the applicable standard rate schedule.

I. EXCESS GENERATION CREDIT - If the Customer's Metered Grid Interconnection Load is negative, the excess energy received by the Company system will be credited at the then current Parallel Generation Contract Service tariff rate.

STANDBY SERVICE RIDER
Schedule SSR

RATES (continued)

B. For Customers with Standby Contract Capacity between greater than 2MW and less than or equal to 10MW (continued)

	Small General Service	Large General Service	Large Power Service
Standby Service Metering & Administrative Charge (per month)	$110.00	$130.00	$430.00
Capacity Reservation Charge (per kW of Standby Contract Capacity)	$0.317	$0.219	$2.635
Demand Charge (per kW of Monthly Backup or Maintenance Demand):			
Backup Service	$0.053	$0.037	$0.622
Maintenance Service	$0.042	$0.029	$0.351
Energy Charge (per kWh of Backup or Maintenance Energy):			
Backup Service	$0.09810	$0.09075	$0.05618
Maintenance Service	$0.09810	$0.06867	$0.04423

Supplemental Service Charge: All service will be supplied at the applicable rates under the standard rate schedule.

Excess Generation Credit: Excess energy will be credited at the current Parallel Generation Contract Service tariff rate.

Where,

Daily Backup Demand shall equal the Maximum Backup Demand metered during a calendar day.

Monthly Backup Demand shall equal the sum of the Daily Backup Demands for the billing period.

Daily Maintenance Demand shall equal the Maximum Maintenance Demand metered during a calendar day.

Monthly Maintenance Demand shall equal the sum of the Daily Maintenance Demands for billing period.

C. For Customers with Standby Contract Capacity greater than 10MW

Terms for service to Distributed Generation systems of this size will be established by special rate and interconnection agreements. Provisions of the special agreements will address all requirements of systems of this size, including the requirements of the Southwest Power Pool and North American Electric Reliability Corporation. The Company may examine the locational benefit of the Customer Distributed Generation system and consider those benefits in defining the rates charged under this Schedule SSR. As practical, the terms of the special agreements will utilize rates and terms defined within the Company's Commission approved tariffs.

STANDBY SERVICE RIDER
Schedule SSR

GENERAL PROVISIONS

a. The contract term shall be one (1) year, automatically renewable, unless modifications to the Distributed Generation requires a change to the Standby Contract Capacity.

b. For Distributed Generation larger than 2MW, the Company will install and maintain the necessary suitable meters for measurement of service rendered hereunder, including the Metered Grid Interconnection Load and the Metered Generation Output. The Company may inspect generation logs or other evidence that the Customer's Distributed Generation is being used in accordance with the provisions this Schedule SSR. Upon installation of the metering, the Customer shall initially reimburse the Company for any metering investment costs that are in addition to the cost of metering of standard full requirements retail service.

c. Distributed Generation systems shall not commence parallel operation until after inspection by the Company and a written interconnection agreement is executed.

d. All metering occurring for service received and billed under this Schedule SSR will be measured in 15-minute intervals.

e. It is expected that the Customer will perform routine and scheduled maintenance of the Distributed Generation systems during the Winter Season.

f. The Customer is responsible for timely notification of the Company, in writing, if the Distributed Generation system or load curtailment plan is changed in any what that would impact the Standby Contract Capacity. The Company reserves the right to confirm the Standby Contract Capacity at any time.

g. If at any time Customer desires to increase demand above the capacity of Company's facilities used in supplying said service due to plant modifications, Customer will sign a new agreement for the full capacity of service required and in accordance with applicable rules governing extension of its distribution system.

h. In the event a Customer adds Distributed Generation systems after investments are made by the Company in accordance with the Company's Line Extension policy, the Company may require reimbursement by the Customer. Such reimbursement shall be limited to that investment which was incurred within the previous five years and shall be based upon the change in load requirements on the Company's electric system.

i. In establishing interconnection agreements, parallel operating guidelines, purchase agreements and standby service arrangements with customers in accordance with 18 C.F.R. Sections 292.101 et seq., it is not the Company's intent to simultaneously sell electricity at system-wide average costs and to re-purchase the same electricity at avoided costs. Any condition which allows for this to occur, potentially or actually, shall not be permitted.

REGULATIONS

Subject to Rules and Regulations filed with the State Regulatory Commission.

7.03 General Provisions (Continued)

G. An additional Construction Charge shall be paid by the applicant to Company for any ditching required to be performed by Company due to soil conditions including, but not limited to, the presence of rock or other environmental issues which prevent the use of normal trenching and backfilling practices used in trenchable soil. The charge under this provision shall be the estimated trenching and backfilling costs to be incurred by Company including conduit or padding for feeder lines, if required, less the estimated cost of normal trenching and backfilling. Applicant may be required to perform said ditching.

7.04 Permanent Service

A. Each application to Company for electric service of a permanent nature to premises requiring extension of Company's existing distribution facilities will be evaluated by Company in order that Company may determine the amount of investment (Construction Allowance) warranted by Company in making such extension. In the absence of special financing arrangements between the Applicant and Company, the Construction Charges as specified in the Facilities Extension Agreement shall be paid by the Applicant to Company before Company's construction commences.

B. The Construction Charges may be refundable in part, or in their entirety, to the original Applicant during the Open Extension Period. The Facilities Extension Agreement, to be executed by Applicant and Company, shall outline the applicable refund mechanism as related to the performance required by Applicant. In no event shall refunds aggregate an amount greater than the Construction Charges. Refundable Construction Charges shall not accrue interest. No interest in any potential refunds may be assigned. Applicant shall be responsible for notifying Company within six (6) months time of qualifying permanent loads connected to Company's system. On a periodic basis, Company shall make the applicable refund(s) as specified in the Facilities Extension Agreement. No refunds will be made for performance after the Open Extension Period.

C. Company will evaluate the feasibility of growth for an existing area when determining the amount of Construction Charges. Where sufficient growth is anticipated, the extension may be made without an additional charge or at a reduced rate.

D. Company will evaluate if the Distribution Extension will be located on a circuit deemed to be underutilized when determining the amount of Construction Charges.

For Residential Subdivision Extensions, customers locating new developments on underutilized circuits will qualify for a reduction of the up-front cost of lot development equal to $200 per lot or $200 per building for multifamily buildings.

For Non-Residential Extensions, customers locating a Distribution Extension on underutilized circuits will receive 10% additional Construction Allowance associated with the extension. Customers receiving incentives for Beneficial Location of Facilities under the Company's Economic Development Rider will not qualify for this underutilized circuit adjustment.

7.04 Permanent Service (continued)

Underutilized circuits are defined as those circuits having at least 50% of rated capacity available under normal and contingency scenarios as determined annually by the Company.

Underutilized circuits will not include:

a. Circuits serving areas with identifiable near-term growth, particularly commercial and industrial areas at initial stages of development or where existing customers are expected to increase their connected load.

b. Circuits serving areas with known platted areas for residential development.

c. Rural circuits limited by voltage or in areas with limited development where the existing circuit is provided and designed primarily for public convenience and need.

d. Other circuits where a low capacity rating is needed or expected by the Company.

7.05 Indeterminate Service

A. For all types of electric service of an indeterminate character, Applicant shall be required to pay to Company in advance of Company's construction all of the Estimated Construction Costs as Construction Charges as outlined in the Facilities Extension Agreement.

B. The Construction Charges will be considered non-refundable unless, at the sole discretion of Company and upon written request of the Applicant, the Applicant is reclassified to Permanent Service during the Open Extension Period. In that event, the refund procedure applicable to Permanent Service Applicants will apply.

C. Where the length or cost of an extension is so great and the anticipated revenue to be derived is so limited as to make it doubtful whether the necessary operating costs on the investment would be recovered an additional charge to Applicant may be required. The additional charge will cover the cost of insurance, cost of removal, license and fees, taxes, operation and maintenance and appropriate allocable administrative and general expenses of such facilities.

7.06 Temporary Service

For electric service of a temporary nature, Applicant shall be required to pay to Company as non-refundable Construction Charges as outlined in the Facilities Extension Agreement an amount equal to the estimated net cost of installing, owning and removing the Distribution Extension including non-salvageable materials. Applicant shall pay Company before Company's construction commences. This classification does not include temporary meter sets furnished to service an Applicant's construction requirements. Such temporary service is normally a 40 Amp self-contained meter set.

7.07 Extension Upgrade

Where an electric distribution Extension Upgrade is required to serve a non-residential customer's load requirements, the Facilities Extension Agreement between Company and Applicant shall apply the Estimated Construction Costs, Construction Allowance, and Construction Charges provisions contained in this extension policy to the Extension Upgrade.

7.08 Relocation or Conversion Request

An Applicant desiring to have Company's existing overhead facilities installed underground or to have existing overhead or underground facilities relocated may request Company to make such changes. If Company determines that such conversion or relocation can reasonably be made, Company will make such conversion or relocation on the following basis: The cost of removing and relocating such facilities, the related net cost of non-salvageable materials and the cost of any new facilities to be installed shall be paid by the Applicant as non-refundable Construction Charges as outlined in the Facilities Extension Agreement.

7.09 Excess Facilities Request

In those instances where Company chooses to provide facilities at Applicant's request in variance with the Electric Service Standards, Applicant shall be required to pay Company for the cost of such facilities, and to pay Company a Nonrefundable Construction Charge or a surcharge as outlined in the Facilities Extension Agreement. The charge is designed to recover the cost of insurance, replacement (or cost of removal); license and fees, taxes, operation and maintenance and appropriate allocable administrative and general expenses associated with such distribution facilities.

7.10 Applicability Limitation

The applicability of this extension policy is limited by the following conditions:

A. Facilities Extension Agreement Not Timely Executed: Company's Estimated Construction Costs and Construction Charges requirements as calculated for each extension may become void, at Company's discretion, after 120 days from the time a proposed Facilities Extension Agreement is provided by Company to Applicant. If a Facilities Extension Agreement is not fully executed before that time, it may become necessary for new estimates to be made incorporating the then current construction costs and the terms and conditions of Company's extension policy as on file and in effect with the Commission at that time.

B. Accurate Estimates Doubtful -- True-Up For Actual Costs: The Estimated Construction Costs will typically be the amount used in calculating the Construction Allowance and Construction Charges. In situations where the accuracy of the estimate is known to be highly uncertain, a true up to reflect actual costs at the Extension Completion date will be made. The intention to adjust the Estimated Construction Costs to reflect actual costs shall be specified and agreed to by both Applicant and Company in the Facilities Extension Agreement.

PRIVATE UNMETERED LED LIGHTING SERVICE
SCHEDULE PL

AVAILABILITY

For unmetered lighting service for private entrances, exits, yards, driveways, streets, alleys, walkways and other all-night outdoor private areas on existing Customer's premises. Not available for municipal street lighting or for temporary service. Customers will be required to sign an Application for Private Area Lighting Service Agreement before service will be provided.

RATE: MORPL, MOCPL

1. Base Charge:
   The monthly rate for each private lighting unit installed using existing secondary circuits is as follows:

	Monthly kWh	Monthly Rate
4,500 Lumen LED (Type A–PAL)	11	$11.27
8,000 Lumen LED (Type C–PAL)	21	$14.66
14,000 Lumen LED (Type D–PAL)	39	$19.32
10,000 Lumen LED (Type C–FL)	27	$14.66
23,000 Lumen LED (Type E–FL)	68	$26.63
45,000 Lumen LED (Type F–FL)	134	$56.86

Lumens for LED luminaires may vary ±12% due to differences between luminaire suppliers.

2. Additional Charges:
   Optional Equipment: The following rates for Optional Equipment may be added to the rate for basic installation.

   If an extension of the Company's secondary circuit or a new circuit is required either on or off the Customer's premises to supply service hereunder at the location or locations desired on the Customer's premises, the above monthly rate shall be increased as follows:

Each 30-foot metal pole installed (SP30)	$5.18
Each 35-foot metal pole installed (SP35)	$5.65
Each 30-foot wood pole installed (WP30)	$6.93
Each 35-foot wood pole installed (WP35)	$7.13
Each overhead span of circuit installed (SPAN)	$4.12
Optional Breakaway Base (for metal pole only) (BKWY)	$3.46

If the installation of additional transformer facilities is required to supply service hereunder, the above monthly rate shall be increased by a charge equal to one and three-fourths percent (1¾%) of the Company's total investment in such additional transformer facilities.

If the Customer requires underground service, the Customer will be responsible for installing all underground duct work in conformance with Company specifications and the Company will be responsible for installing cable and making the connection to Company facilities. There will be an additional $3.69 per month charge for each underground lighting unit served up to a maximum of 300 feet of underground conduit per lighting unit (U300).

PRIVATE UNMETERED LED LIGHTING SERVICE
ELECTRIC

BILLING

The charges for service under this schedule shall appear as a separate item on the Customer's regular electric service bill.

TERM

The minimum initial term under this rate schedule shall be one year for the LED Luminaire. However, if the private lighting installation requires a wood pole or the installation by the Company of additional transformer facilities, the Customer shall be required to execute a service agreement with an initial term of three years. If the Customer wants a metal pole installed, the Customer shall be required to execute a service agreement with an initial term of five years.

UNEXPIRED CONTRACT CHARGES

If the contracting Customer terminates service during the initial term of the agreement, and a succeeding Customer does not assume the same agreement for private lighting service at the same service address, the contracting Customer shall pay to the Company unexpired contract charges equal to the monthly rate times the number of remaining months in the contract period.

REPLACEMENT OF UNITS

The Company has the right to replace existing fixtures in need of repair or replacement (or on poles in need of repair or replacement) with equivalent Light Emitting Diode (LED) luminaires. Customers will be given the opportunity to decline the replacement and remove the fixture entirely.

SPECIAL PROVISIONS

A. The Customer shall provide, without cost to the Company, all permits, consents, or easements necessary for the erection, maintenance, and operation of the Company's facilities.

B. The Company reserves the right to restrict installations served under this schedule to areas easily accessible by service truck.

C. All facilities required for service under this schedule will be furnished, owned, installed and maintained by the Company in accordance with the presently effective Construction Standards of the Company.

D. Extension of the Company's secondary circuit under this schedule more than one pole and one span of wire for service hereunder to any Customer is subject to prior study and approval by the Company.

E. The Company will not be obligated to patrol to determine outages or required maintenance of the facilities used for service under this schedule. Upon notification of any outage or required maintenance of facilities used hereunder, the Company will restore normal service as soon as practicable but only during regularly scheduled working hours. No reduction in billing shall be allowed for any outage of less than ten working days after notification of Company.

PRIVATE UNMETERED LED LIGHTING SERVICE
ELECTRIC

SPECIAL PROVISIONS (continued)

F. Upon receipt of written request from the Customer, the Company will, insofar as it may be practicable and permissible, relocate, replace or change its non-lighting facilities used or to be used in rendering service to the Customer under this schedule, provided the Customer agrees in writing to reimburse the Company upon being billed for the Company's cost so incurred.

G. If a Customer who has agreed to a specific lighting unit, requests a change to a different lighting unit during the initial term of the contract, the Customer shall pay the labor cost for the removal of the existing unit and the Base Charge for the new unit shall be applicable thereafter.

H. Company shall select style and make of lighting facilities provided within each type system for which rates are listed. Lighting will not be installed on poles or structures not owned or leased by Company.

OPERATING HOURS

Unless otherwise stated, luminaires operate each and every day of the year from about one-half hour after sunset to about one-half hour before sunrise, approximately 4100 hours per year.

ADJUSTMENTS AND SURCHARGES

The rates hereunder are subject to adjustment as provided in the following schedules:

- Fuel Adjustment Clause (FAC)
- Renewable Energy Standard Rate Adjustment Mechanism Rider (RESRAM)
- Tax and License Rider.

REGULATIONS

Subject to Rules and Regulations filed with the State Regulatory Commission.