Exhibit No.:
Issue: MEEIA-TOU Rates, Solar Subscription Pilot Program, Renewable Energy Program Rider
Witness: Kimberly H. Winslow
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

KIMBERLY H. WINSLOW

ON BEHALF OF

KCP&L GREATER MISSOURI OPERATIONS COMPANY

Kansas City, Missouri
January 2018

DIRECT TESTIMONY

OF

KIMBERLY H. WINSLOW

Case No. ER-2018-0146

Q. Please state your name and business address.

A. My name is Kimberly H. Winslow. My business address is 1200 Main Street, Kansas City, Missouri 64105.

Q. On whose behalf are you testifying?

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

Q. Please state your educational background and describe your professional training and experience.

A. I graduated from Missouri University of Science and Technology with a Bachelor of Science degree in Mechanical Engineering in 1990. In 1994, I graduated from Rockhurst University with a Master of Business Administration degree. I began my career at Black & Veatch in 1990 as an equipment engineer in its Gas, Oil and Chemicals Division. Within a year, I transferred to Black & Veatch's Management Consulting Division. As a project manager and consultant, I worked on various projects for electric, gas, water and wastewater municipal and investor owned utilities, ranging in scope from long-term electric and natural gas demand and energy forecasts, cost of service and rate design studies, depreciation studies, valuation studies, and preparation of financial feasibility assessments and Consulting Engineer's Reports for revenue bond sales.

In December 2007, I began my employment with KCP&L as a Senior Energy Consultant working with KCP&L's large industrial customers. In 2009, I assumed the position of Manager of Energy Efficiency. In 2011, I transferred to our Generation Division as a Senior Quantitative Analyst. In September 2013, I assumed the position of Director of Energy Solutions within the Marketing and Public Affairs Division. I am a Professional Engineer in the state of Missouri.

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

A. I am employed by Kansas City Power & Light Company ("KCP&L") as Director of Energy Solutions.

Q. What are your responsibilities?

A. I lead and direct the following teams: Customer Solutions, Regulated Products and Services, Economic Development, Business Center and Market Intelligence. My responsibilities include initiating and bringing to market new regulated products, as well as improvements and innovations to existing affordability, energy efficiency and demand response products. I am also responsible for overseeing our small scale renewable programs and offerings, as well as our Clean Charge Network.

Additionally, I oversee our key accounts team who work with our largest customers (also referred to as Tier 1 customers). I also oversee our Business Center who interact with our Tier 2 business customers (minimum $50,000 annual revenue), and our Economic Development team who focuses on attraction of new business customers and retention and expansion of existing business customers.

Q. What is the purpose of your testimony?

A: I will be covering several topics as it relates to my responsibilities at GMO. I will address (1) the Company's proposed Solar Subscription Pilot Rider and Renewable

Energy Program tariffs and explain why the Company believes the time is right to propose these programs; and (2) the Company's proposed time of use ("TOU") pilots and why the Company is asking for recovery of the associated lost margin and program costs of the TOU rates through the Missouri Energy Efficiency Investment Act ("MEEIA").

Solar Subscription Pilot Rider

Q: Please generally describe utility-owned shared solar programs.

A: Utility-owned shared solar are programs designed to provide customers direct access to solar generation without having to own, install and maintain their own solar generation. The utility builds the solar facility, maintains it and virtually "transports" the energy to customers who voluntarily enroll in the program. Program designs vary; however, depending on the program and jurisdiction, customers generally buy a solar panel directly, subscribe to its generation output, and/or subscribe to panel capacity. Customers may not physically receive the energy generated from the solar, but do receive the solar output as a credit to their bill. GMO's solar program ("Solar Subscription Pilot Rider") is proposed in this filing and is defined in the Solar Subscription Pilot Rider ("SSPR") tariff. Company witness Brad Lutz also addresses aspects of the SSPR tariff.

Q: Why is the Company proposing the SSPR at this time?

A: Offering the SSPR provides choice to customers and will benefit those customers who want renewable generation but are unable to either afford their own solar generation installation or whose particular circumstance does not allow for solar installation.

In anticipation of offering the SSPR, the Company surveyed its Customer Advisory Panel ("CAP") to further understand how customers perceived rooftop solar, hindrances to rooftop solar adoption, and renewable preferences. The results indicate that 54 percent of customers (642 of 1,189 surveyed) are interested in rooftop solar but had not installed their own panels due to cost[1]. In addition, 25 percent of customers could not install due to either renting their home or zoning or subdivision restrictions.

While the survey responses are representative across the Company's three jurisdictions (KCP&L-Missouri, KCP&L-Kansas, and GMO), in the KCP&L-Missouri jurisdiction, data indicates that 35 percent[2] of customers rent their homes, which is a greater number than the survey results. Because renting typically precludes a customer from installing rooftop solar, by offering the SSPR the Company can help to fill in the gap for those customers who want renewable generation but are unable to physically install their own panels. Furthermore, over half the customers surveyed said the option to purchase renewable energy was important to them.[3]

Many utilities nationwide have begun to evaluate and offer programs that allow customers access to solar generation as a way to offset a part or all of their energy needs. Based on our customer survey and national trends, the Company believes it is appropriate to provide customers with a utility-owned shared solar option.

[1] October 4, 2017 Customer Advisory Panel Solar Survey.
[2] Appliance saturation survey conducted as part of the GMO 2016 DSM Potential Study, filed in EO-2017-0230, June 1, 2017.
[3] October 4, 2017 Customer Advisory Panel Solar Survey.

Q: What other investor-owned utilities are currently offering utility-owned shared solar programs within Kansas or Missouri?

A: Westar Energy ("Westar") in Kansas and Ameren Missouri ("Ameren") offer similar solar programs in their respective states. Westar's program allows customers to subscribe to blocks of capacity (kW) and receive an energy credit on their monthly bill based on the actual energy (kWh) output of that capacity. Energy usage and demand exceeding the output of the subscribed solar capacity is priced at the customer's current tariffed rates. The price of the solar is fixed and the term of the agreement is 5 to 20 years. Westar constructed a 1.2 MW solar system.

Ameren's program is structured differently than Westar's program. It allows customers to subscribe to solar blocks of 100 kWh that will directly offset the equivalent energy that the customer uses. Similarly, energy usage exceeding the amount of the subscribed solar energy is priced at the customer's current tariffed rates. The price of the solar may vary as additional solar generation is added to Ameren's program such that the customer pays a levelized cost of the new and existing solar generation. The term of Ameren's program is three years. Ameren installed a 1.0 MW solar system to supply their shared solar program subscribers.

Q: What other utility shared solar programs did the Company review in its development of its proposed program?

A: The Company reviewed several; however Sacramento Municipal Utility District ("SMUD") , Minnesota Power ("MN Power") and Oklahoma Gas & Electric ("OGE") offered programs that were of particular interest to the Company because of their individual program design, customer adoption, and ease of customer participation.

SMUD's SolarShares Program[4] allows the customer to subscribe to a minimum 0.5 kW of capacity up to the solar generating capacity and based on the actual energy output of that capacity, the customer can offset up to half their monthly usage. SMUD does not own the facility as a utility asset but contracts through a third party that owns and maintains the system and delivers the energy to SMUD under a 20-year Purchase Power Agreement ("PPA"). The rate is locked in for as long as customers wish to participate within the program with the idea that the current premium price will actually lead to cost savings if utility rates increase.

MN Power's Community Solar Program[5] contains 1.040 MW of solar generating capacity split between two locations in Duluth, Minnesota. Customers may subscribe to the program under three different options. The first is a per kWh charge for energy generated by the subscribed capacity. The second option is a flat monthly fee per kW of subscribed capacity. And the third option is a one-time upfront payment per kW that is for the duration of the 25-year program. Differing from SMUD's design, MN Power customers can subscribe to capacity sufficient to cover 100 percent of their monthly energy needs.

OGE's Solar Power Program[6] is a capacity-based subscription program that allows a customer to offset between 10 percent and 50 percent of their monthly energy needs with solar energy. Customers pay a fixed dollar-per-kWh rate for each kWh generated by the panels associated with their subscription. In order to participate, customers must also be on OGE's time-of-use tariff. Due to the success of the program, OGE is expanding beyond its initial 2.5 MW solar investment and

[4] *See* https://www.smud.org/en/Going-Green/SolarShares
[5] https://www.mnpower.com/Environment/CommunitySolar
[6] https://www.oge.com/wps/portal/oge/save-energy/Solar-Powe

adding 10 MW more of solar capacity for the more than 3,000 customers who currently are on their program wait list.

The Company reviewed each of these programs in conjunction with Ameren's and Westar's programs to develop a program that was easy for the customer to participate and understand, in addition to keeping the utility whole on recovery of the costs of the solar generating unit and properly assigning the output of the solar generating unit.

Q: Does the Company intend to own and operate the solar generating facilities required for this program or enter a PPA, similar to SMUD?

A: The Company plans to construct, own, operate and maintain solar generating facilities of no less than 5 MW-AC, or approximately 6.5 MW-DC, of new generating capacity for this program. A larger system, such as 5 MW, should provide a more levelized price versus a 1-2 MW system for customers. The Company will evaluate both company-owned and external partner property sites to choose the best suited location(s). As contained within the tariff language, the Company will enroll customers and place them on a waiting list and will not begin construction until 75 percent of the solar capacity is committed (or 3.75 MW). This will reduce the risk of the Company incurring costs should the program not generate sufficient interest and subscriptions from customers. If this were to occur, the Company may propose to terminate the program.

Q: Has the Company evaluated possible solar sites for construction?

A: The Company has begun evaluating sites that will minimize costs of the project. These evaluations consider a site's access to existing energy infrastructure, ability to

expand and usage fees, amongst other considerations. The Company is working with both internal and external stakeholders to begin preliminary analyses to identify potential sites. Stakeholders include the Company's Generation and Transmission/ Distribution Planning teams, as well as external partners like the City of Kansas City, Missouri and the Environmental Protection Agency.

Renewable Energy Rider

Q: Why is the Company proposing the Renewable Energy Rider?

A: GMO sees an opportunity to address corporate customers' increasing demand for renewables. GMO's Renewable Energy Rider is proposed in this filing and is further defined in the Renewable Energy Rider ("RER") tariff. Company witness Lutz also addresses aspects of the RER tariff.

The Renewable Energy Program provides a way for GMO to contract on behalf of its customers to provide renewably-sourced electricity at a long-term price that reflects the cost of generation and delivery, similar to if the customer were purchasing the PPA directly from the wind developer. The program is designed such that it contains the costs of the RER to those participating customers without imposing costs on other customers. The RER is designed to meet larger business customer's energy needs and renewable commitments while the SSPR is expected to be utilized by residential and smaller businesses. We recognize that across the industry, the trend has been in some cases for larger customers are asking the utility to provide 100 percent of their energy needs via renewables. This tariff provides GMO the opportunity to attract new load and retain existing load.

Customers within our jurisdictions have publically announced goals to achieve some level of renewable energy. Specifically, the RE100[7] "is a collaborative, global initiative uniting more than 100 influential businesses committed to 100 percent renewable electricity, working to massively increase demand for- and delivery of- renewable energy." Examples of companies that are committed to RE100 and have locations within the our territories include IKEA Group, SwissRe, Schneider Electric, Unilever and Wal-Mart. Additionally, primary data from surveys that we have fielded with our largest customers indicate that customers have renewable energy goals in place, which include purchasing a percentage of clean energy or installing solar. Other businesses have signed on to the Renewable Energy Buyers' Principles, which includes 72 companies engaged as of January 2018[8].

Additionally, the City of Kansas City, Missouri recently passed Resolution No. 1705869 ("Renewable Energy Now Resolution") in 2017 to advance the City's environmental goals related to the Paris Climate Agreement. Among a number of renewable initiatives, the resolution directs that the City will evaluate the feasibility of procuring 100 percent of the electricity for municipal operations from renewables within three years, and also challenges all universities, public and private schools, hotels, and hospitals in the City to do the same. KCP&L has met with the City on several occasions to discuss the REP and how it could be utilized to satisfy the resolution requirement. In addition, the Renewable Energy Now Resolution also requests an evaluation of the feasibility of developing five 1-MW shared solar

[7] www.there100.com

[8] http://buyersprinciples.org/about-us/

facilities for municipal employees and employees of universities, schools, and hospitals. My earlier discussion of the Company's proposed SSPR is directly correlated with this initiative.

Q: What other investor-owned utilities are currently offering corporate renewable programs within Kansas or Missouri?

A: Westar and Ameren Missouri have proposed tariffs before their respective Commissions for corporate renewables. Nationwide, utilities are responding to the need voiced by customers. According to World Resources Institutes, nearly 560 MW of generation capacity related to "green tariffs" were approved in 2017 with another 465 MW currently under negotiation. This is in contrast to 300 MW developed in 2015 and 220 MW in 2016.[10]

Q: What other corporate renewable programs did the Company review in its development of its proposed program?

A: The Company reviewed multiple programs that had been proposed or had been approved. Of note, we looked at the programs submitted by Ameren Missouri[11] and Westar[12] that are under consideration for approval in their respective jurisdictions. Our evaluation also looked into programs outside of our jurisdictions including programs operated by NV Energy[13], Puget Sound Energy[14] and Duke Energy (North Carolina)[15]. The various program structures applied by these utilities within their

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[9] http://cityclerk.kcmo.org/LiveWeb/Documents/Document.aspx?q=DfoUSXu7pUSJTU5A5Zt%2FoWqkjtNDkyUIaNl6mdOfwqYjGvJHb50FjMIZ0GCwrJvx

[10] http://www.wri.org/resources/charts-graphs/grid-transformation-green-tariff-deals

[11] *See* Missouri Public Service Commission Case No. ET-2018-0063

[12] *See* Kansas Corporation Commission Docket No. 18-WSEE-190-TAR

[13] https://www.nvenergy.com/cleanenergy/green-energy-choice

[14] https://pse.com/savingsandenergycenter/GreenPower/Pages/default.aspx

[15] https://www.duke-energy.com/home/products/renewable-energy/nc-greenpower

respective jurisdictions allowed the Company to consider multiple program structures before ultimately settling on one that we believe is best suited for our customers.

Time of Use Rates

Q. Please describe the pilot residential tariffs that KCP&L is requesting approval?

A. GMO is proposing to implement three Pilot Residential Demand Side Management ("DSM") rates, they are:

- Residential Time of Use (Schedule RTOU) - A two part rate comprised of a customer charge and a three period TOU per kWh energy charge
- Residential Demand Service (Schedule RD) - A three-part rate comprised of a customer charge, per kW demand charge, and a flat per kWh energy charge
- Residential Demand Service plus Time of Use (Schedule RDTOU) - A three-part rate comprised of a customer charge, a per kW demand charge, and a three-period TOU per kWh energy charge.

Because they are pilot tariffs, participation in each tariff will initially be limited to 1,000 customers meeting the eligibility requirements specified in the tariffs. Company witnesses Tim Rush and Marisol Miller also provide testimony on the Pilot Residential DSM tariffs.

Q. You have referred to these rates as Pilot Residential DSM rates. Please explain.

A. Per Missouri regulation 4 CSR 240-20.020 (12), "demand-side rate means a rate structure for retail electric service designed to reduce the net consumption or modify the time of consumption of a customer rate class". The 2017 GMO DSM Potential Study[16], performed for the 2018 Integrated Resource Plan, evaluated several residential and commercial rate designs for their Demand Response ("DR") potential.

This study identified several rate designs as candidates as viable Demand-Side Resources (defined in Missouri regulation 4 CSR 240-20.020 (13)[17]). Based on the DSM Potential Study, GMO designed the proposed rates for the pilot tariffs and have included them as candidate resources in our 2018 IRP process.

Q. What process did GMO use to design these DSM rates?

A. GMO contracted with Burns & McDonnell ("BMcD") to perform a Residential Rate Design Strategy Study[18] to prepare a general long term plan for implementing residential rate designs. As part of this study, GMO and BMcD used the conceptual rate constructs evaluated in the potential study to inform the development of the proposed rate designs that are revenue neutral with the current residential rate structures. Company witness Miller further describes the design of the DSM rates.

Q. Does GMO plan to propose these DSM rate as MEEIA programs?

A. Yes. As described in Mr. Rush's testimony, GMO proposes that the rates be approved in this case; however the rates will not become effective until approval of MEEIA Cycle 3. MEEIA Cycle 2 ends March 31, 2019 and it is anticipated that MEEIA Cycle 3 would go into effect in April, 2019. At that time, we expect to further define how to launch the program and provide a program budget to support active customer promotion and education as well as a budget for the evaluation, measurement and verification.

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[16] GMO 2016 DSM Potential Study, filed in EO-2017-0230, June 1, 2017.

[17] Missouri regulation 4 CSR 240-20.020 (13) Demand-side resource is a demand-side program or a demand-side rate conducted by the utility to modify the net consumption of electricity on the retail customer's side of the meter. A load-building program or rate is not a demand-side resource.

[18] Residential Rate Design Strategy Study, Burns & McDonnell Engineering Company, 2017

Q. As a DSM rate program, what costs does GMO anticipate seeking recovery as MEEIA program?

A, The recoverable program cost are in two main areas, program costs and lost revenue.

Q. Do you have an estimate of the lost revenue potential associated with the DSM rate programs?

A. The BMcD study provided some estimates of the lost revenue potential but these were conducted on previous class cost of service data and current rates. Using DSM rates designed to be revenue with no customer load modifications, the BMcD study estimated that with a 10 percent shift in on- to off-peak usage the average lost revenue per participant could range from a low of $0.50 per month, but could be as high as $5.60 per month. The BMcD study estimated that if 28 percent of customers switched to the rate providing them the lowest annual bill, the total residential class revenue loss could be about 1.5 percent. Actual lost revenues may vary significantly from these estimates based on the rates approved in this rate case and the level to which customers change their usage patterns.

Q. What is the benefit of initially offering the DSM rates as pilots?

A. Limiting the participation for each pilot rate to 1,000 customers will enable the company to fully assess what is required to recruit customers as well as evaluate the impact of the rates. If approved as DSM programs under MEEIA, the participation limits also provide a control to the level of revenue loss recoverable as part of the demand side investment mechanism charges. The EM&V conducted as a DSM program will provide data on which to determine future program expansion.

Q. Does this 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 KIMBERLY H. WINSLOW

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

Kimberly H. Winslow, being first duly sworn on her oath, states:

1. My name is Kimberly H. Winslow. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Director, Energy Solutions.

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 thirteen (13) pages, having been prepared in written form for introduction into evidence in the above-captioned dockets.

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.

Kimberly H. Winslow

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