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Witness: Scott Wibbenmeyer
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Case No.: ER-2019-0335
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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. ER-2019-0335

REBUTTAL TESTIMONY

OF

SCOTT WIBBENMEYER

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

St. Louis, Missouri
January 2020

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Scott Wibbenmeyer and my business address is 1901 Chouteau Avenue, St. Louis, Missouri 63103.

Q. By whom are you employed and what is your position?

A. I am employed by Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri" or "Company") as Director, Renewable and Technology Business Development.

Q. Please describe your educational background and employment experience.

A. I hold a Bachelor of Science in Mechanical Engineering from the University of Missouri – Columbia. I also hold a Masters of Business Administration from the University of Missouri – St. Louis. I joined Ameren Missouri in 1999. In my roles at Ameren, I have served as a design engineer at the Callaway Energy Center managing projects to improve efficiency and reliability of plant equipment. Following Callaway, my roles included engineering management responsibilities for maintenance, production, and turbine operations for Ameren Missouri's fossil generation fleet. I was then promoted to General Executive of Coal Operations where I managed the coal and

rail supply contracts for Ameren. In 2007, I transferred to the renewable development organization, where I led development teams for biomass, wind, and solar for Ameren Missouri. In 2015, I transitioned to Insurance Risk Management where I was responsible for managing Ameren's financial risk and insurance portfolios. In 2019, I returned to lead the renewables organization as Director, Renewable and Technology Business Development.

Q. What are your responsibilities in your current position?

A. I am currently responsible for leading the development of renewable generation projects to comply with the Missouri Renewable Energy Standard, reliable and affordable transition of Ameren Missouri's generation portfolio, and development of customer renewable energy solutions.

II. PURPOSE

Q. What testimony or issues are you responding to?

A. I am responding to the Commission Staff's testimony related to the in-service criteria for the Lambert Community Solar Project and the BJC Solar Project. Staff's report states: "In order to include the solar facilities in rate base, the plants must be fully operational and used for service."[1] Certain operational tests or operational requirements are used to determine whether or when a new facility is "fully operational and used for service," and are aptly referred to as "in-service criteria." Ameren Missouri and Staff previously agreed to in-service criteria for the O'Fallon Renewable Energy Center, and Staff asserts that those same in-service criteria are appropriate for the Lambert Community Solar Project and the BJC Project with only a slight modification to

[1]Staff Cost of Service Report, at p. 37, lines 8-9.

account for each facility's capacity.[2] As explained below, Ameren Missouri believes the O'Fallon in-service criteria require further modification for some projects like the BJC Project, and cautions against applying the O'Fallon in-service criteria across the board for solar projects without taking into account other factors.

III. THE LAMBERT AND BJC PROJECTS ARE IN-SERVICE

Q. Did Ameren Missouri and Staff previously agree to in-service criteria for the Lambert and BJC Projects?

A. No. As noted by Staff, construction of the Projects was completed during the true-up period — in August and October of 2019, respectively, so Staff plans to include its evaluation of whether the Lambert and BJC Projects are operational and used in its true-up testimony to be filed in February of 2020.

Q. Is the Lambert Community Solar Project fully operational and used for service?

A. Yes. The facility began delivering energy to the grid on August 7, 2019. From August 7 to the present, the Lambert solar facility has been producing energy as expected, with the exception of minor complications with the installation of a new "cell net" (equipment necessary to transmit detailed operational data). Without the new cell net, the irradiance and cell temperature data necessary to complete a capacity calculation (similar to what was used for the O'Fallon Renewable Energy Center) was not available. On December 18, 2019, the cell net connection was installed, allowing irradiance data and cell temperature to be collected. The irradiance and cell temperature data was submitted to Staff in response to data request MPSC 0392.1s2. That data was run through

[2]Staff Cost of Service Report, Appendix 3, Schedule CME-D1.

a calculation similar to that which was used for the O'Fallon Energy Renewable Center in-service criteria, and shows the facility reached 97% of guaranteed capacity. In response to data request MPSC 0392.1s2, Ameren Missouri has also submitted historical meter data from the Lambert facility showing that over a 5-month period the facility has continuously produced a total of 508,520 kilowatt-hours ("kWh") of energy in 2019. Based on the supply of the historical operating data and completion of the capacity test, the Lambert facility is clearly "fully operational and used for service" and should be included in rate base.

Q. Does the Lambert Community Solar Project meet the O'Fallon in-service criteria?

A. Yes. The O'Fallon in-service criteria are reasonable to use in evaluating a solar facility like Lambert. Here is a summary of how each of the seven O'Fallon in-service criteria are met by the Lambert Project:

1. All major construction work is complete.
2. All preoperational tests have been successfully completed.
3. The facility meets contractual operational guarantees.
4. For 72 consecutive hours, the facility did produce power in standard operating mode when sunlight was shining.
5. The Lambert facility reached 97% of guaranteed capacity for 50 15-minute blocks with Plane of Array Irradiance of at least 500 W/m^2.
6. Sufficient transmission/distribution interconnection facilities exist that have delivered energy to the grid.

7. Sufficient transmission/distribution facilities exist for the total plant design net electrical capacity.

Q. Is the BJC Solar Project fully operational and used for service?

A. Yes. The BJC solar facility began delivering energy to the grid on September 16, 2019. In response to data request MPSC 392.1s1, Ameren Missouri provided historical operational data for the facility showing, from September 16 through the end of 2019, the BJC facility has continuously produced a total of 397,075 kWh of energy.

Q. Why is it inappropriate to evaluate the BJC Project against the O'Fallon in-service criteria?

A. The BJC solar facility is a carport solar design that sits atop a parking garage at the Barnes Jewish Hospital in St. Louis, Missouri. The design of this facility is significantly different than that of the Lambert Community Solar Project or the O'Fallon Renewable Energy Center, which are fixed-axis ground-mount systems that have their panels tilted toward the sun at 21-25 degrees and have little to no shading due to space availability. The BJC facility is designed similar to a rooftop solar system, which means the facility is maximized to cover and create the roof/carport of the parking garage, and maximize energy during the summer months. This maximized coverage is obtained by placing the panels close together and at a low angle of 3 degrees, which makes this design sensitive to the sun's solstice. This solstice sensitivity causes row to row shading and lower output during the winter solstice and higher output with no shading during the high angle of the summer solstice sun. In addition, the facility was installed and designed with similar equipment to that of a rooftop system, meaning there was no irradiance

monitoring equipment installed at the site. It is for these key design differences that the capacity test is not an appropriate in-service criteria for the BJC facility.

More generally, in light of the unique details of various types of renewable generation projects, Ameren Missouri cautions against using the O'Fallon in-service criteria as a hard-and-fast, one-size-fits-all approach to evaluating diverse projects.

Q. What alternative in-service criterion or criteria do you propose for evaluation of the BJC facility?

A. Before answering that question, I should note that while the Company and Staff have generally reached advance agreement on specific "in-service criteria," the question of whether the plant is used and useful has rarely, if ever been in dispute. However, I am aware of no requirement that dictates that whether a plant is fully operational and used for service is dictated by meeting a particular set of in-service criteria. Instead, the issue is whether the plant is fully operational and used. These plants are fully operational and are being used to provide service.

Setting that issue aside, the facility equipment necessary to collect the irradiance and cell temperature data at the BJC site was not included in the design and therefore Ameren Missouri has not completed a capacity test (O'Fallon in-service criterion #5). However, Staff has asked for such a test, and given the relatively small cost of such equipment, the Company ordered it in December 2019. This equipment is expected to be delivered and installed by mid-January 2020. Upon completion of the installation, it may take months to collect the necessary data to complete the test due to low solar energy output during the winter solstice. While the O'Fallon in-service criterion of a capacity test is reasonable for a ground-mount system, such a test should not be a prerequisite to a determination

that a roof-top solar facility placed into service during the winter solstice. In lieu of the immediate capacity test though, Ameren Missouri has submitted months of historical operational data for the facility showing almost 400,000 kWh of energy produced from September 16 through the December 31, 2019.

With months of continuous operational data, completion of commissioning reports showing that all of the necessary equipment has been installed and tested, and completion of the other in-service criteria from O'Fallon, the BJC facility is demonstrated to be fully operational and continues to be used for service.

Q. Does this conclude your rebuttal testimony?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service.	)))	File No. ER-2019-0335

AFFIDAVIT OF SCOTT WIBBENMEYER

STATE OF MISSOURI)
) ss
CITY OF ST. LOUIS)

COMES NOW Scott Wibbenmeyer, and on his oath declares that he is of sound mind and lawful age; that he has prepared the foregoing *Rebuttal Testimony*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Scott Wibbenmeyer

Subscribed and sworn to before me this 21st day of January, 2020.

Notary Public

My commission expires:

GERI A. BEST
Notary Public - Notary Seal
State of Missouri
Commissioned for St. Louis County
My Commission Expires: February 15, 2022
Commission Number: 14839811