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Type of Exhibit: Direct Testimony
File No.: EA-2016-0208
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MISSOURI PUBLIC SERVICE COMMISSION

File No. EA-2016-0208

DIRECT TESTIMONY

OF

MICHAEL W. HARDING

ON

BEHALF OF

**UNION ELECTRIC COMPANY
d/b/a Ameren Missouri**

April 27, 2016

Ameren Exhibit No. 1
Date 10-17-16 Reporter K4
File No EA-2016-0208

1 **DIRECT TESTIMONY**

2 **OF**

3 **MICHAEL W. HARDING**

4 **FILE NO. EA-2016-0208**

5 **Q. Please state your name and business address.**

6 A. My name is Michael W. Harding. My business address is One Ameren Plaza,
7 1901 Chouteau Avenue, St. Louis, Missouri 63103.

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

9 A. I am employed by Ameren Services Company (“Ameren Services”), a subsidiary
10 of Ameren Corporation, as General Executive, Renewable Energy, in the Corporate Planning
11 Department.

12 **Q. Please describe your duties and responsibilities as General Executive,**
13 **Renewable Energy.**

14 A. My primary responsibilities are the development of renewable energy projects and
15 programs in support of Ameren’s subsidiary companies. Additionally, I support the department
16 to ensure Union Electric Company d/b/a Ameren Missouri (“Company” or “Ameren Missouri”)
17 is in full compliance with the requirements of the Missouri Renewable Energy Standard
18 (“RES”).

19 **Q. What is the purpose of your direct testimony?**

20 A. The purpose of my direct testimony is to describe the Ameren Missouri Solar
21 Partnership Pilot and how it would operate. Ameren Missouri witness William Barbieri provides
22 a more general overview of the pilot and an explanation of the reasons why Ameren Missouri is
23 pursuing it in his testimony.

1 **Q. Please briefly summarize the pilot program.**

2 A. In general, Ameren Missouri would own, operate and maintain photovoltaic solar
3 equipment on a customer's premises under a long-term lease agreement. Through this
4 arrangement, Ameren Missouri would retain and own all electricity and associated renewable
5 benefits from the facility. Effectively, each solar installation would constitute a small Ameren
6 Missouri generating unit interconnected to Ameren Missouri's electric distribution system.

7 **Q. Who can participate in this program?**

8 A. All Ameren Missouri electric customers that have the legal authority to enter into
9 a contractual agreement assigning rights to the Company necessary to allow production of
10 electricity on the customer's premises using photovoltaic solar equipment as a renewable
11 resource may participate in the program. It is available throughout the Company's Missouri
12 electric service area, as long as the distribution facilities of the Company are of adequate
13 capacity and configuration and have appropriate phase and suitable voltage adjacent to the site
14 served. The site must be able to support a facility with a minimum of 100 kW-DC¹ of nameplate
15 capacity.

16 **Q. Who pays for the solar installation?**

17 A. Ameren Missouri will spend up to \$2.45/watt-DC on installations made under the
18 pilot program towards the construction and interconnection of the solar generation equipment at
19 qualifying customer sites. Any amount exceeding the \$2.45/watt-DC, as determined by the
20 Company, will be paid by the customer as a contribution in aid of construction pursuant to the
21 terms of the lease agreement the customer will enter into with the Company for the installation.
22 The lease will have a term of 25 years.

¹ "kw-DC" is an abbreviation for kilowatts measured in direct current, which is the common manner in which solar panels produce electricity.

1 **Q. How did Ameren Missouri decide on the \$2.45/watt-DC limit?**

2 A. \$2.45/watt-DC is the cost Ameren Missouri anticipated spending on its
3 Montgomery County solar generation facility when it conducted the initial cost analysis for that
4 project. The Company believes this pilot offers an important learning opportunity but is also
5 respectful of the fact that other customers will eventually pay rates reflecting the costs of these
6 smaller facilities. The \$2.45/watt-DC limit protects the interests of non-participating customers
7 by ensuring that the amount placed into the Company's rate base is not significantly more than
8 what Ameren Missouri might have spent on a utility scale facility. The \$2.45/watt-DC is the
9 most up to date cost estimate of the Company.²

10 **Q. What costs count toward the \$2.45/watt-DC amount?**

11 A. All direct project costs to install and interconnect the solar facility to the
12 distribution system and all required upgrades to the distribution system that may result from
13 adding the additional capacity at that location on the system will count toward the \$2.45/watt-DC
14 amount.

15 **Q. How will Ameren Missouri determine the cost to construct each facility?**

16 A. Ameren Missouri will not construct these facilities itself. Instead, it intends to
17 solicit bids for the construction of these projects. The Company anticipates that, unlike what
18 happened with its larger O'Fallon solar facility, more of the solar installer firms (versus large
19 construction firms) will submit bids on these projects. Those bids, along with any necessary
20 Ameren Missouri distribution system upgrades, will determine the cost to construct.

² As the Missouri Public Service Commission is aware, Ameren Missouri delayed the construction of its Montgomery County facility. The actual cost to construct the Montgomery County solar facility will likely be different than the \$2.45/watt-DC, but the Company does not know how that cost will change, given the delay in construction.

1 **Q. What happens to the assets at the end of the 25-year term?**

2 A. At the end of the 25-year term, the customer may purchase the facility, renew the
3 lease, or have the facility removed from the property.

4 **Q. Will a participant receive a lease payment for the use of their property?**

5 A. No.

6 **Q. Who receives the Solar Renewable Energy Credits (“SREC”) associated with
7 the Solar Partnership Pilot?**

8 A. As the facility owner, Ameren Missouri will retain all SRECs generated from
9 facilities under this arrangement, benefitting all customers served by the Company.

10 **Q. When does Ameren Missouri expect to make the pilot program available to
11 customers?**

12 A. As soon as the Missouri Public Service Commission grants the Company the
13 requested blanket certificate for these generation sites, Ameren Missouri will begin working with
14 interested customers to determine what properties might be available for this pilot, what the
15 construction costs for each project will be and whether these customers are willing to contribute
16 (if necessary) to the costs of the project. The Company would like to construct at least one
17 facility under this pilot by the end of 2016. The actual timing, of course, depends on whether
18 and when the Company is able to obtain a Certificate of Convenience and Necessity for this
19 pilot.

20 **Q. How does Ameren Missouri plan to communicate the availability of this pilot
21 program to customers?**

22 A. The Company will reach out to individual customers who have expressed interest
23 in this type of a program in the past. In general, Ameren Missouri will roll out a communication

1 plan which is likely to include posting information about this pilot on the renewable page of its
2 website--Ameren.com--and potentially including information on customer bills.

3 **Q. What criteria will be utilized to determine the site(s) for the solar**
4 **installation(s)?**

5 **A.** Ameren Missouri will evaluate the site of each application that is submitted under
6 the program to determine if the location is suitable for solar generation. If multiple sites are
7 submitted under the program that would cause the program budget to be exceeded, Ameren
8 Missouri will evaluate and score each site to determine the best options. The Company will be
9 responsible for determining whether a customer meets the requirements for program
10 participation.

11 **Q. Does that conclude your direct testimony?**

12 **A.** Yes, it does.

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

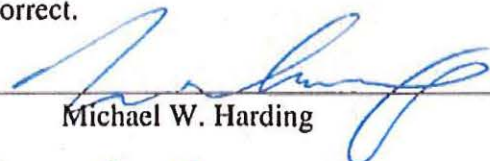
In the Matter of the Application of Union Electric)
Company d/b/a Ameren Missouri for Permission and)
Approval and a Certificate of Public Convenience and)
Necessity Authorizing it to Offer a Pilot Distributed)
Solar Program and File Associated Tariff.)
File No. EA-2016-0208

AFFIDAVIT OF MICHAEL W. HARDING

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

Michael W. Harding, being first duly sworn on his oath, states:

1. My name is Michael W. Harding. I am employed by Union Electric Company, d/b/a Ameren Missouri as General Executive, Renewable Energy.
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company, d/b/a Ameren Missouri, consisting of 5 pages (and Schedules N/A), all of which have been prepared in written form for introduction into evidence in the above-referenced docket.
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.



Michael W. Harding

Subscribed and sworn to before me this 26th day of April, 2016.



Notary Public

My commission expires: 2-21-18

BECKIE J. EAVES Notary Public - Notary Seal State of Missouri Commissioned for St. Louis City My Commission Expires: February 21, 2018 Commission Number: 14938572
