

Exhibit No.:
Issues: LED Street Lighting
Witness: Hojong Kang
Sponsoring Party: MO PSC Staff
Type of Exhibit: Rebuttal Testimony
Case No.: ER-2012-0166
Date Testimony Prepared: August 14, 2012

MISSOURI PUBLIC SERVICE COMMISSION

REGULATORY REVIEW DIVISION

REBUTTAL TESTIMONY

OF

HOJONG KANG

UNION ELECTRIC COMPANY

d/b/a

Ameren Missouri

CASE NO. ER-2012-0166

Jefferson City, Missouri

August 2012

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)
Increase Its Revenues for Electric Service)

Case No. ER-2012-0166

AFFIDAVIT OF HOJONG KANG

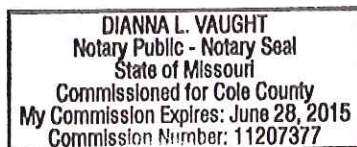
STATE OF MISSOURI)
) ss
COUNTY OF COLE)

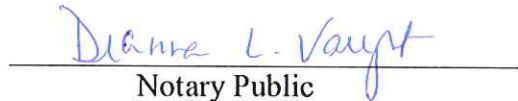
Hojong Kang, of lawful age, on his oath states: that he has participated in the preparation of the following Rebuttal Testimony in question and answer form, consisting of 3 pages of Rebuttal Testimony to be presented in the above case, that the answers in the following Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.



Hojong Kang

Subscribed and sworn to before me this 13th day of August, 2012.





Notary Public

CASE NO. ER-2012-0166

A. In its July 13, 2011 *Report and Order*, the Commission directed “Ameren
uri to either file an LED street lighting tariff by July 31, 2012, or to provide a status

1 report to Staff by that date, indicating when it will be able to file such a tariff.”¹ Further, the
2 Commission emphasized that “...Ameren Missouri does not have to file a tariff until it is
3 appropriate to do so. If its further study of the potential of LED street lighting reveals that
4 such lighting will not be a benefit to its customers, Ameren Missouri may inform the Staff of
5 that conclusion in its status report.”²

6 Q. Did Ameren Missouri file an LED street lighting tariff by July 31, 2012?

7 A. No, it did not. The Company provided a short “*Report to Staff*” on July 31,
8 2012, that is attached to this testimony as Schedule HJK-R1. In its *Report to Staff*, Ameren
9 Missouri stated that it expects the Electric Power Research Institute (EPRI) to publish its
10 nationwide LED street lighting pilot program report in September 2012, which included
11 testing of 11 LED street lights in the city of Ballwin, Missouri. Ameren Missouri also stated
12 that it “...has not determined it is appropriate to offer a LED tariff at this time. There are still
13 a plethora of issues that the Company must resolve before a [LED] tariff can be offered.”³
14 Ameren Missouri’s list of issues includes regulatory framework issues, initial costs, operation
15 issues, procurement issues, lighting types, and cost-effectiveness.

16 Q Did Ameren Missouri describe what it views as the regulatory framework
17 issues?

18 A. No, it did not. Staff has issued a data request for a description of what Ameren
19 Missouri views as the regulatory framework issues for implementation of a LED tariff.

20 Q. Did Ameren Missouri provide information concerning what it views as issues
21 with initial costs, operation issues, procurement issues, lighting types, and cost-effectiveness
22 of a LED street light?

¹ File No. ER-2011-0028, *Report and Order*, p. 94.

² *Id.*

³ *Report to Staff*, p. 1.

1 A. Ameren Missouri provided only very limited information on these issues and
2 concluded with "...while the Company does not yet have a date for filing a LED tariff, [it]
3 will keep Staff informed of its progress on the above listed issues and any target date for filing
4 a LED tariff." ⁴ As a result of the Company's July 31, 2012 *Report to Staff* and its lack of
5 information for the Commission's consideration in this case, Staff submitted its Data Request
6 No. 0476 on August 2, 2012.

7 Q. Does Staff have a recommendation for the Commission regarding Ameren
8 Missouri's response to the Commission's order regarding LED street lighting?

9 A. Staff does not have a recommendation at this time. However, Staff will file
10 surrebuttal testimony on this issue after receiving a response from the Company for its Data
11 Request No. 0476 and make recommendations to the Commission at that time.

12 Q. Does this conclude your rebuttal testimony?

13 A. Yes, it does.

⁴ *Report to Staff*, p. 2.

ER-2012-0028

Report to Staff

As part of case ER-2011-0028, Ameren Missouri was ordered to analyze LED roadway lighting technologies and assess whether the Company would provide a tariff to offer LED lighting to customers. The Commission's Report and Order stated:

The Commission agrees with Staff that LED street lighting is an exciting technology that should be examined and implemented if appropriate. Staff does not ask the Commission to order Ameren Missouri to immediately file an LED tariff and the Commission will not do so. Instead, Staff asks the Commission to order Ameren Missouri to continue examining the potential of LED lighting and to either file a tariff within one year, or file a status report indicating when it will be able to file such a tariff. Staff's request is reasonable and the Commission will direct Ameren Missouri to either file an LED street lighting tariff by July 31, 2012, or to provide a status report to Staff by that date, indicating when it will be able to file such a tariff. The Commission emphasizes that Ameren Missouri does not have to file a tariff until it is appropriate to do so. If its further study of the potential of LED street lighting reveals that such lighting will not be a benefit to its customers, Ameren Missouri may inform the Staff of that conclusion in its status report.

Ameren Missouri has been proactive in monitoring the status of LED technology. The Company engaged the Electric Power Research Institute ("EPRI") to conduct a pilot program, testing 11 street lights in the city of Ballwin, Missouri. This pilot, part of a larger, national effort, provided key insights into the performance of LED roadway lighting technology. The EPRI report is not yet public, and is expected to be published in September 2012. Once Ameren Missouri receives this report, it will file it with Staff.

Ameren Missouri has not determined it is appropriate to offer a LED tariff at this time. There are still a plethora of issues that the Company must resolve before a tariff can be offered.

- **First cost** – this is still a large hurdle to overcome as the initial first cost is roughly 2 – 3 times that of conventional sodium vapor technologies. It involves a significant investment that is expected *but not guaranteed* to pay for itself over time. There are regulatory framework issues that Ameren Missouri and the Commission still have to address.
- **Operational issues** – based on preliminary findings from EPRI, there have been several operational issues associated with LEDs including a 15% failure rate, variable power rate by season, varying power draw from manufacturer claims.

- **Procurement Issues** – Ameren Missouri is yet to develop product specifications that meet required safety, performance, and reliability metrics required of assets put in the field by Ameren Missouri.
- **Other operational issues** – inventory and associated costs, manpower, early replacement and disposal costs.
- **Lighting types** – data is still being gathered on cost and performance data on different wattages of lights. Also, the Company needs to evaluate if the tariff should be restricted to roadway lighting or also include ornamental, post-top lighting.
- **Cost – effectiveness** – Ameren Missouri will complete the cost-effectiveness of the technology using the finalized EPRI results.

Ameren Missouri is taking the desire of its municipal customers for this tariff very seriously, but before the Company commits to offering a tariff, we need to ensure that both customers and the utility will benefit, and at this point, the Company cannot clearly state that as fact. The Company will continue to work on this matter and, while the Company does not yet have a date for filing a LED tariff, will keep Staff informed of its progress on the above listed issues and any target date for filing a LED tariff.