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Issue(s): Renewable Energy Standard
Witness: William J. Barbieri
Sponsoring Party: Union Electric Company
Type of Exhibit: Surrebuttal Testimony
Case No.: EA-2014-0136
Date Testimony Prepared: March 31, 2014

MISSOURI PUBLIC SERVICE COMMISSION

Case No. EA-2014-0136

SURREBUTTAL TESTIMONY

OF

WILLIAM J. BARBIERI

ON

BEHALF OF

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

**St. Louis, Missouri
March, 2014**

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1 renewable department at which time my title was changed to Manager, Renewable Energy. On
2 January 1, 2013 my title was changed to Director, Renewable Strategy, Policy and Generation.

3 **Q. Please describe your duties and responsibilities as Director, Renewable**
4 **Strategy, Policy and Generation.**

5 A. My primary responsibilities are the development of the renewable energy policy,
6 goals and procedures for Ameren Missouri, including all strategy and planning. Of primary
7 importance is ensuring Ameren Missouri is in full compliance with the requirements of the
8 Missouri Renewable Energy Standard (RES). My duties involve leading negotiations related to
9 the acquisition of renewable energy resources in the form of power purchase agreements,
10 Renewable Energy Credit (REC) procurement, and project development resulting in renewable
11 generation facilities owned and operated by Ameren Missouri. I am also responsible for
12 coordinating activities of groups related to research and analysis concerning technology
13 assessments for wind, solar, biomass, landfill gas, hydro and all other renewable resource
14 options. This includes financial feasibility analysis. I am responsible for the preparation of all
15 compliance plans and reports required by the Commission. I also provide support to the
16 regulatory and legislative departments, providing guidance and information on renewable energy
17 issues at both the state and federal level. My department further assists in providing relevant
18 renewable information to customer support groups within Ameren Missouri.

19 **Q. Please describe your qualifications.**

20 A. I received a Bachelor of Science Degree in Business Administration from St.
21 Louis University in 1977, with accounting as my area of specialization. I have been in the
22 energy industry for approximately 34 years, with extensive contract negotiation experience.

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony provided by Martin Cohen on behalf of Earth Island Institute d/b/a Renew Missouri.

CCN Standards

Q. Does Renew Missouri oppose the request by Ameren Missouri to acquire the Certificate of Convenience (CCN)?

A. No. In his opening comments, Mr. Cohen states, “I make no recommendation as to whether the Missouri Public Service Commission (“the Commission”) should approve the Company’s application for the requested CCN.” The position taken by Renew Missouri is that certain conditions should be attached to the CCN if Ameren Missouri's application is approved.

Q. Has any other party opposed Ameren Missouri's request for the CCN?

A. No. In fact, there has been a non-unanimous stipulation filed with the Commission that clearly documents the positions of the other parties, with the exception of Renew Missouri, as either supportive or not in opposition to Ameren Missouri's request.

Q. What do you conclude based on the positions of the parties in this case?

A. It is clear that no party in this proceeding opposes the Company's request and argues that the application for a CCN should be denied; therefore, I recommend the Commission approve the requested CCN. I further recommend the Commission not impose on that CCN any of the conditions requested by Renew Missouri.

Q. If Renew Missouri doesn't take a position on whether the Commission should grant Ameren Missouri's request for a CCN, what is the point of Mr. Cohen's testimony?

A. I suppose that is a question better answered by Renew Missouri, however, it appears that their witness, Mr. Cohen, took a slipshod approach of merely listing various ways

1 that solar generation could be supported without undertaking any analysis to determine if any of
2 the alternatives proposed were legal, appropriate or made economic sense. Some of what is
3 offered may be interpreted as a challenge to the prudence of Ameren Missouri's expenditures on
4 this project, but it is my understanding that prudence issues would be dealt with in whatever rate
5 case Ameren Missouri used to place these costs into its revenue requirement. That certainly is
6 not what is occurring in this case and, as such, an examination of costs is premature and
7 inappropriate. Frankly, I find it puzzling that Renew Missouri, a renewable energy supporter
8 which consistently advocates for solar development in the state of Missouri, would take actions
9 that threaten to stop one of the largest steps forward in solar generation in the state.

10 **Q. Mr. Cohen's rebuttal testimony raises several alternatives to utility scale**
11 **solar generation. Are those alternatives a reason to deny Ameren Missouri's CCN request?**

12 A. They are not. As I stated above, Mr. Cohen's testimony raises issues that would
13 be more appropriately dealt with in a later rate case. Additionally, Ameren Missouri witness
14 William Davis's surrebuttal testimony addresses each one of these alternatives and demonstrates
15 why each is not being pursued by Ameren Missouri at this time.

16 **Q. What issues are appropriate for the Commission to consider in this case?**

17 A. With the caveat that I am not an attorney, there is a statute which sets forth the
18 standard of when the Commission should grant a CCN request. The language in the statute is
19 "necessary and convenient for the public service." I submit that Ameren Missouri's CCN request
20 meets this standard. The RES has a portfolio requirement, a portion of which must come from
21 solar generation. The solar percentage starts at 2% of 2% of Ameren Missouri's retail electric
22 sales (2011-2013), increases to 2% of 5% (2014-2017), increases again to 2% of 10% (2018-
23 2020) and is 2% of 15% thereafter. Accordingly, Ameren Missouri estimates that its need for

1 S-RECs will increase from approximately 15,000 in 2013 to approximately 37,000 in 2014. As
2 the Company stated in the Application in this case, this solar facility will provide approximately
3 9,600 S-RECs annually, which is just under 26% of the total number of S-RECs needed by
4 Ameren Missouri annually to comply with the solar energy provisions of the RES in the 2014-
5 2017 time period.

6 Additionally, the rebuttal testimony of Staff witness Dan Beck sets forth a set of criteria
7 that the Commission has used in the past to determine whether it should grant a CCN request.
8 Those criteria are:

9 (1) Need for the service

10 (2) Qualifications of applicant to provide the service

11 (3) Financial ability of the applicant to provide the service

12 (4) Economic feasibility of the proposal

13 (5) Promotion of the public interest by providing the service

14 The rebuttal testimony of Mr. Beck and Staff witness Kofi Boateng address each criterion and
15 conclude that Ameren Missouri meets each one. I agree with their conclusions.

16 **Q. Does Mr. Cohen's rebuttal testimony set forth a reason to reject Ameren**
17 **Missouri's CCN application?**

18 A. It does not. Nowhere in his rebuttal testimony does Mr. Cohen allege that
19 Ameren Missouri's application fails to satisfy the criteria for a CCN. In fact, it seems that Renew
20 Missouri agrees that there is a need for additional solar resources, as Mr. Cohen states in his
21 testimony, "...I agree that adding significant new solar resources in Missouri at the earliest
22 possible date is a worthy aspiration. Given that the proposed facility will produce 26.9% of the

1 solar requirement in 2016, and approximately 13.5% of the solar requirement under the RES in
2 2018, it is clear that additional solar investment will be needed in coming years¹.”

3 **Ameren Missouri RES Compliance Strategy**
4

5 **Q. What is Ameren Missouri's strategy for complying with the RES?**

6 A. The proposed O'Fallon facility is part of Ameren Missouri's overall compliance
7 strategy. As I see it, there are three basic methods of compliance. Ameren Missouri can retire
8 S-RECs purchased without the associated energy. Usually these S-RECs are not purchased from
9 facilities in Missouri but this category would also include S-RECs purchased from Ameren
10 Missouri's customers who install solar generation on their homes or businesses. Second, Ameren
11 Missouri can purchase energy and associated RECs from renewable sources through a purchase
12 power agreement (PPA). Finally, Ameren Missouri can retire RECs from its own renewable
13 generation. I would include the majority of Mr. Cohen's alternatives in this category as many are
14 just different sizing or different methods for financing utility generation.

15 Ameren Missouri is using a combination of all three of these options in its compliance
16 strategy. We initially complied with the solar portion of the RES by purchasing S-RECs from
17 states where they are plentiful (such as California and Florida) and from our own customers. In
18 fact, Ameren Missouri was the first and only utility in the state to purchase S-RECs from its
19 customers prior to August of 2013 through the Standard Offer Contract, under which it made
20 approximately \$2.5 million in payments to customers. In addition, Ameren Missouri has built
21 small scale solar facilities to test different photovoltaic technologies. Ameren Missouri signed a
22 long term wind PPA which delivers energy and RECs to Ameren Missouri's service territory. In

¹ Rebuttal testimony of Martin R. Cohen, March 17, 2014, p. 15.

1 2012, we constructed a landfill gas facility that generates electricity. Now we are seeking to
2 construct a solar facility in O'Fallon, Missouri.

3 The Company has determined it appropriate to pursue a variety of methods to comply
4 with the RES. For example, the cheapest (solely in terms of dollars) compliance method would
5 be to continue to purchase S-RECs from other states. However, each year for the past several
6 years there have been attempts at the Missouri legislature to prohibit utilities from using RECs
7 unassociated with energy for compliance with the RES. Attempts have been made to make a
8 similar change to the Commission's RES regulations. In fact, a challenge which seeks to impose
9 such a requirement is currently pending at the St. Louis County Circuit Court. Ameren Missouri
10 sees its current compliance strategy as one that balances these risks in an appropriate manner.

11 **Renew Missouri's Proposed Conditions**
12 **to be Applied to Renewable Generation CCNs**
13

14 **Q. Do the conditions raised by Renew Missouri have merit with regard to the**
15 **granting of a CCN?**

16 **A.** No. The criteria proposed by Renew Missouri would be new criteria, as they are
17 not currently required in order to receive a CCN, and would result in imposing a very different
18 standard for granting a CCN for renewable generation than is applied to non-renewable
19 generation. One would presume that Renew Missouri would not intend to make it more difficult
20 to obtain a CCN to construct renewable generation than to obtain a CCN to construct a coal
21 plant, but that could be an unintended consequence of its recommendation.

22 The facts are that the Commission has not seen a need to establish additional or different
23 criteria when considering a CCN application that involves facilities utilizing renewable energy
24 resources. Over the past three years, the Commission has granted two CCN's involving
25 renewable energy facilities (File Nos. EA-2011-0165 and EA 2011-0368). In both cases, the

1 Commission's orders suggested nothing beyond the above-stated criteria as a requirement in
2 granting the CCN.

3 **Q. Did Renew Missouri address the criteria set forth by Staff as part of its**
4 **recommendation in this case?**

5 A. No, based on testimony Mr. Cohen gave during a March 26th deposition in this
6 case, at the time he wrote his rebuttal testimony, Mr. Cohen did not know and made no attempt
7 to discover this Commission's criteria for considering CCN applications². The criteria and
8 conditions that Renew Missouri propose were developed by Renew Missouri's witness on his
9 own and without any basis in Missouri law or Commission practices. Renew Missouri's proposed
10 criteria and conditions deal primarily with the cost of the project and alternative means of
11 meeting the RES. But, as noted previously in my surrebuttal testimony as well as in the rebuttal
12 testimony filed by Staff, neither project costs nor alternative means of complying with the RES
13 are criteria that the Commission has considered in the past with regard to CCN applications
14 generally or, more specifically, with regard to CCN applications that involve technologies
15 utilizing renewable resources.

16 **Q. Why are the conditions proposed by Renew Missouri not pertinent to the**
17 **granting of Ameren Missouri's CCN application in this case?**

18 A. The Commission has established specific venues and procedures to ensure that all
19 matters before it are correctly and adequately vetted and that issues relevant to a particular
20 proceeding or request are considered at the appropriate time. The conditions proposed by Renew
21 Missouri are addressed by the Commission in three separate and appropriate venues, none of

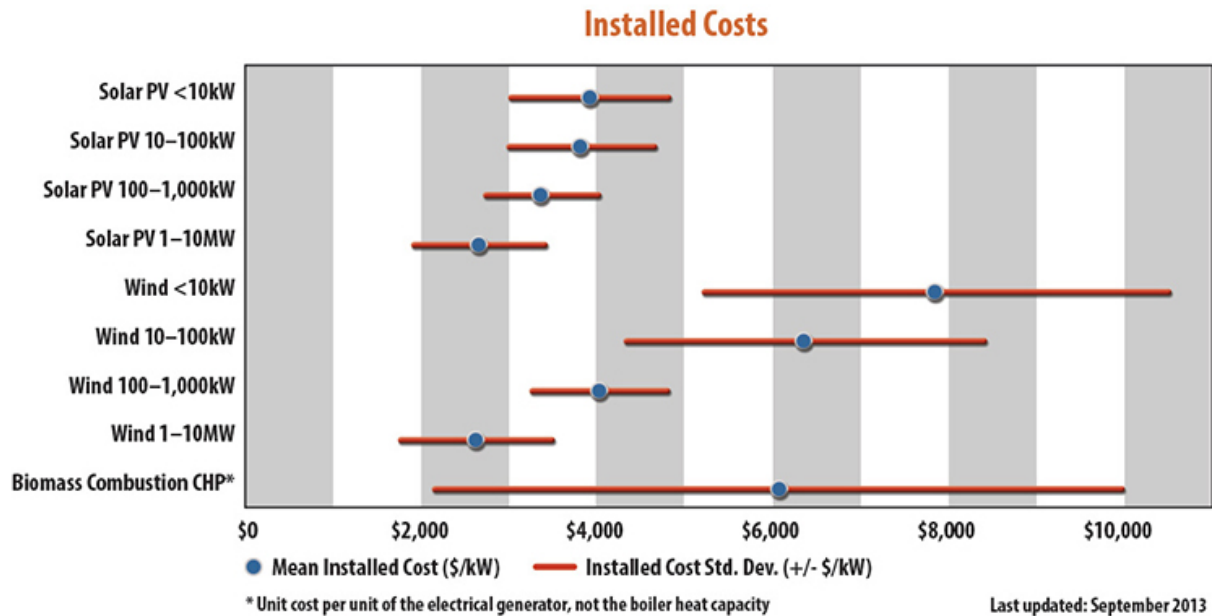
² "Q. Prior to filing your rebuttal testimony in this case did you research the legal and/or regulatory policy standards that govern CCN applications filed with the Missouri Public Service Commission? A. No."
Cohen Deposition, p. 18, l. 2-7.

1 which involve consideration of a utility's request for a CCN. For example, issues of cost
2 prudence related to investments in generating facilities are addressed at the time a utility seeks to
3 include those costs in electric rates – i.e. in a general rate case proceeding. With regard to
4 possible alternative means of complying with the RES, the Commission addresses those issues in
5 each electric utility's annual Compliance Plan and Compliance Report filings, which are filed
6 every April. If Renew Missouri believes Ameren Missouri's Compliance Plan is deficient, it is
7 well aware that the appropriate action is to file a complaint with the Commission to address its
8 concern(s). In addition, the Commission considers the costs of generation, with a focus on cost-
9 effective alternatives including alternatives for compliance with the RES, as part of the
10 Integrated Resource Plan filings that each electric utility is required to file every three years.
11 The Commission should not allow Renew Missouri to circumvent those other proceedings by
12 introducing, in a CCN proceeding, the issues raised in Mr. Cohen's testimony. The purpose of
13 this CCN proceeding is to determine whether the granting of a CCN is "necessary or convenient
14 for the public service." The purpose of this proceeding is not for compliance planning, resource
15 planning or for pre-approval of costs that eventually will be included in rates.

16 **Q. How would you respond to Mr. Cohen's recommendation that the Company**
17 **has to demonstrate why its construction costs are higher than other projects under**
18 **development in Missouri?**

19 A. Mr. Cohen bases his recommendation upon faulty analysis. Comparing the cost
20 of Ameren Missouri's proposed solar project to publicly-available data from both the Department
21 of Energy's National Renewable Energy Lab (NREL) and the Solar Electric Producers
22 Association (SEPA) shows that the total, all-in estimated cost of Ameren Missouri's solar project

is well within the industry average for utility scale projects. NREL's home page lists the average national costs for various-sized solar installations across the country. Figure 1³.



This chart demonstrates that for systems less than 100kW, the installed costs range between \$3,000-\$5,000/kW with a mean cost of \$4000/kW. For utility-scale projects, which range in size between 1MW and 10 MW, the cost range is \$2,000-\$3,500kW, with the mean cost at approximately \$3,000/kW. The estimated cost per kW for Ameren Missouri's proposed solar project falls within these ranges.

With respect to the specific projects under consideration or construction in Missouri, which are cited by Mr. Cohen, Ameren Missouri witness William Davis's surrebuttal testimony demonstrates that the costs of these projects are not directly comparable, if for no other reason than they do not include the cost of the S-RECs associated with the project. If ownership of the

³ http://www.nrel.gov/analysis/tech_cost_dg.html

1 S-REC is not transferred with the energy, Ameren Missouri cannot use that energy to comply
2 with the portfolio requirements of the RES.

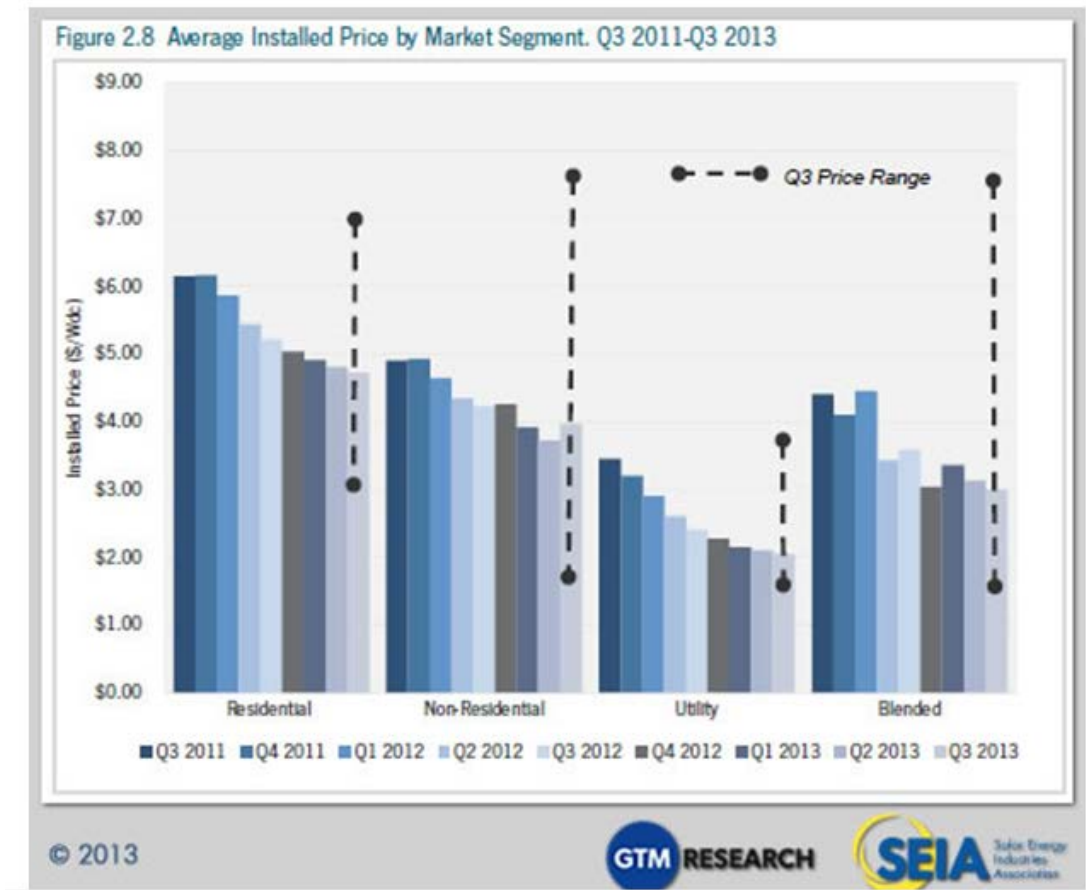
3 Further, representatives from Ameren Missouri (including myself) have had several
4 conversations regarding other utility-scale solar facilities in the country, which included on-site
5 visits to some of those facilities. Information acquired during those conversations and visits
6 confirmed that the proposed O'Fallon project is indeed well within the cost levels that other
7 utilities have actually incurred when all costs are included.

8 **Q. Does the source cited by Mr. Cohen to demonstrate that Ameren Missouri's**
9 **project costs are excessive actually support his claim?**

10 A. No it does not. In addition to the sources I discussed in my previous answer,
11 Mr. Cohen references a document from GTM Research and the Solar Energy Industries
12 Association. I would first note that the full document is only available for \$4,000 (non-member
13 fee), so it is entirely possible that Mr. Cohen only had access to, and therefore only relied on, the
14 summary version that is available on the Internet. The chart below was taken from the same
15 website that Mr. Cohen referenced in his testimony. While Ameren Missouri did not pay the fee
16 necessary to purchase the full report and, therefore, has not thoroughly analyzed the reported
17 average installation price, it is abundantly clear that there are a wide range of prices for utility-
18 scale projects, with some reaching nearly \$4/watt. This data is consistent with NREL's reported
19 range, and, as I mentioned earlier in my testimony, Ameren Missouri's total projected project
20 cost is well within the range of costs presented in the resources Mr. Cohen cited in his testimony.
21 Indeed, the contracted price for the Company's proposed project is near the bottom of the range.
22 In short, there is absolutely no credible evidence that Ameren Missouri's costs are outside any

reasonable bounds. The full chart, from which Mr. Cohen pulls one number, is reproduced below.

Figure 2⁴.



Q. Please respond to Mr. Cohen's recommendation that the Commission require the Company to re-bid the project?

A. Mr. Cohen's recommendation is completely unnecessary. Once again, Mr. Cohen exposes his lack of knowledge regarding both Ameren Missouri's proposal and how the Commission has recently dealt with proposals that utilities be required to engage in a formal competitive bidding process for constructing or refurbishing generating facilities. In its March 5,

⁴ <http://www.seia.org/research-resources/solar-market-insight-2013-q3>

1 2014, *Order Denying Petition for Revision of Commission Rule 4 CSR 240-2.105*, issued in File
2 No. EX-2014-0205, the Commission declined to adopt a proposed change to its rules that would
3 require utilities to competitively bid projects that require CCNs. That decision appears to have
4 been based on arguments made by Staff and the affected utilities that a requirement to impose a
5 formal competitive bidding process on such projects would be inconsistent with the
6 Commission's statutory authority and would impose an unnecessary burden on utilities seeking
7 to construct the facilities. But, even absent the Commission's unwillingness to adopt rule
8 changes requiring competitive bidding, the proposed O'Fallon solar project was indeed
9 competitively bid.

10 **Q. Please explain your statement that the project was competitively bid.**

11 A. Ameren Missouri has specific policies which require competitive bidding. In this
12 case, the initial Request for Proposal (RFP) was sent to seven contractors, each of which already
13 had an existing Terms and Conditions agreement. This limitation was necessary so that we could
14 construct the facility by the end of 2014. Six of the contractors submitted bids (two on their own
15 and four teamed up into pairs, so that Ameren Missouri received a total of four bids). Ameren
16 Missouri was in the process of selecting the top two bids when it was determined that it would
17 need to construct the facility at a different location than was listed in the original RFP. Once the
18 new location was determined, Ameren Missouri chose to limit the response to the top two
19 bidders, who then rebid the project at the new location.

20 **Q. How would Renew Missouri's proposed condition that a utility seeking a**
21 **CCN related to the RES be required to perform an analysis of all other available solar**
22 **options impact the Commission's current process for considering CCN applications?**

1 A. Obviously, if all of the issues raised by Renew Missouri and Mr. Cohen were
2 required to be considered in a CCN proceeding for a RES-related project, the time, effort, and
3 expense required to apply for, consider, and grant a CCN would greatly increase, and it would do
4 so without any real benefit being realized by the parties to the CCN case or by the utility's
5 customers. Moreover, many of the topics considered in such an expanded process would
6 duplicate issues and processes that are already parts of other Commission proceedings, such as
7 general rate cases and triennial IRP filings. In addition, by requiring the Commission to closely
8 scrutinize all cost issues related to projects in a CCN proceeding, Renew Missouri seems to be
9 trying to establish a basis and forum for pre-approval of those costs, which is clearly not the
10 intent of this proceeding. As the Commission is well aware, orders granting CCN requests
11 routinely reserve the Commission the right to consider the ratemaking treatment to be afforded
12 expenditures associated with the CCN, including the resulting cost of capital, in a later general
13 rate proceeding. The Commission should reject Mr. Cohen's proposal to circumvent or duplicate
14 in a CCN proceeding the review of those costs that must occur in a general rate case proceeding.

15 **Q. How would the Commission adopting Renew Missouri's proposed conditions**
16 **impact the proposed solar facility?**

17 A. As the Commission and parties to this case are aware, Ameren Missouri has
18 publicly stated that it will be filing a rate case in July of this year. Presuming that occurs, the
19 true-up period, which updates for rate base additions such as this facility, would likely extend
20 through the end of 2014. Mr. Cohen's proposed CCN conditions, in total, would make
21 completion of the facility by the end of the year impossible. That would then mean Ameren
22 Missouri would be unable to place the costs of this facility into its revenue requirement until the
23 rate case that follows the 2014 rate case, and that would likely mean the Company would suffer

1 multiple years of regulatory lag on these costs. This, alone, could force the Company to
2 reconsider using S-RECs unassociated with energy as a compliance method for some additional
3 period of time and to delay the construction of the solar facility to some later date.

4 **Q. Have any other interveners taken a position similar to Renew Missouri's or**
5 **requested any conditions be attached to a CCN for the O'Fallon solar facility?**

6 A. No. Renew Missouri stands alone. Again, the Staff and all other parties who
7 have intervened in this case either support the granting of a CCN requested by Ameren Missouri
8 or have indicated they do not oppose such action by the Commission. Each of those parties has
9 either signed the Non-Unanimous Stipulation and Agreement or has stated they do not oppose
10 that stipulation.

11 Consequently, because the proposed facility is necessary and convenient for public
12 service, the CCN sought by the Company should be granted – and it should be granted without
13 any of the conditions proposed by Renew Missouri.

14 **Q. Does this conclude your surrebuttal testimony?**

15 A. Yes, it does.

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 Construct, Install, Own,) File No. EA-2014-0136
Operate, Maintain and Otherwise Control and Manage)
Solar Generation Facilities in O'Fallon, Missouri.)

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

1. My name is William J. Barbieri. I am a Director, Renewable Strategy, Policy and Generation for Union Electric Company, d/b/a Ameren Missouri.

2. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

William J. Barbieri
William J. Barbieri

Subscribed and sworn to before me this 31st day of March, 2014.

Tuler Isbey
Notary Public

My commission expires: 1/15/2017

