

PUBLIC VERSION

Exhibit No.:	
Issues:	Certificate of Convenience and Necessity
Witness:	Martin R. Cohen
Sponsoring Party:	Renew Missouri
Type of Exhibit:	Rebuttal Testimony
Case No.:	EA-2014-0136
Date Testimony Prepared:	March 17, 2014

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2014-0136

REBUTTAL TESTIMONY

OF

MARTIN R. COHEN

ON

BEHALF OF

EARTH ISLAND INSTITUTE d/b/a RENEW MISSOURI

March 17, 2014

REBUTTAL TESTIMONY

OF

MARTIN R. COHEN

CASE NO. EA-2014-0136

Q. Please state your name and business address.

A. My name is Martin R. Cohen. I reside at 2633 W. Sunnyside Avenue in Chicago, Illinois.

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

A. I am the sole proprietor of Martin Roth Cohen and Associates, a public policy consulting firm also located at the above address.

Q. Please describe your educational background and relevant employment experience.

A. I received a Bachelor of Arts degree from Washington University in St. Louis in 1973. From 1985 to 2005 I was employed by the Citizens Utility Board (CUB), an organization created by the Illinois General Assembly to represent the interests of residential and small business customers of investor-owned utilities in matters pertaining to the regulation of electricity, natural gas, water, and telecommunications services. I served as CUB's Executive Director from 1991 to 2005. From 2002 to 2005, I also served as an officer of the National Association of State Consumer Advocates. In September, 2005, I was appointed by the Governor of Illinois as Chairman of the Illinois Commerce

Commission, and I served in that capacity until November, 2005. I then was employed in Illinois state government as the Director of Consumer Affairs from January 2006 until February, 2008. I formed Martin Roth Cohen and Associates in March, 2008. My clients include consumer advocacy agencies, environmental groups, and a utility company.

Q. Have you testified in other proceedings in Missouri?

A. Yes, I testified in Case No. ER-2008-0318 on behalf of the Office of the Attorney General of Missouri.

Q. What is the purpose of your testimony today?

A. I address the application by Union Electric Company, d/b/a Ameren Missouri (also referred to hereinafter as “the Company”) for issuance of a certificate of public convenience and necessity (CCN) for the construction and operation of a solar energy facility in O’Fallon, Missouri.

Q. Please describe your testimony and its conclusions.

A. I provide examples of alternative strategies that the Company could pursue to maximize development of solar energy resources in its service territory and fulfill its obligations under the Renewable Energy Standard (RES). I pose the sorts of questions that should be considered when evaluating the relative benefits of RES compliance options. I discuss the projected costs of the proposed project and how they compare to national average costs and to the costs of similar utility-scale solar photovoltaic projects under development elsewhere in Missouri. I provide an option for the Commission to include in

its Order, should it find the projected costs of the project to be excessive.

I make no recommendation as to whether the Missouri Public Service Commission (“the Commission”) should approve the Company’s application for the requested CCN. However, I recommend that, if the Commission approves the application, it should attach certain conditions to its Order that I enumerate later in this Rebuttal Testimony.

Q. Please describe your understanding of the filing under consideration in Case No. EA-2014-0136.

A. The Company requests authorization to construct, own and operate a photovoltaic (PV) energy facility with rated peak output of 5.7 megawatts (MW) and projected annual energy output of 7,700 megawatt-hours (MWh). This project is planned as part of the Company’s compliance with the Missouri Renewable Energy Standard (RES), which calls for a growing portion of electricity to be generated or otherwise procured from renewable sources such as the wind and the sun.

Q. In your professional opinion, should the Commission issue the CCN as requested by the Company?

A. I am not recommending approval or denial of the Company’s application for a CCN. The Commission must make a determination – based on § 393.170, RSMo¹ and its rule at 4

¹ § 393.170.3, RSMo. prescribes the standard by which the Commission may grant a utility approval to build an electric plant: “The commission shall have the power to grant the permission and approval herein specified whenever it shall after due hearing determine that such construction or such exercise of the right, privilege or franchise is *necessary or convenient for the public service*. The commission may by its order impose such condition or conditions as it may deem reasonable and necessary.” (Emphasis added).

CSR 240-3.105 – as to whether or not the Company has presented sufficient evidence to demonstrate that the granting of the Application is required by the public convenience and necessity.

I am not an attorney and am not offering a legal opinion. However, in my professional opinion, the Company has not yet filed information sufficient to establish that: 1) its proposed project is a more cost-effective or otherwise superior option for RES compliance than feasible alternatives, or 2) that the projected costs of the proposed project are reasonable, given the available information about costs of similar projects in Missouri and across the nation.

Q. What information is necessary to evaluate the Company’s application?

A. Under general regulatory principles, it is incumbent on the applicant to demonstrate that a proposed project is the least-cost method of achieving its goals or is otherwise preferable to alternative methods of compliance with statutory mandates. It is the responsibility of the Company to identify feasible alternatives and evaluate each for its costs, benefits, and other relevant attributes. If the least-cost option is not selected, a thorough explanation of the comparative advantage of the chosen option should be provided.

Q. Has the Company identified and evaluated alternative methods of achieving the goals of this solar project?

A. Not to my knowledge. In response to Staff Data Request 0012, which asks the Company to explain its decision process and to identify “all other options considered for

RES compliance and reasoning on why they were not selected,” the Company did not list or discuss other options it may have considered or the reasons why such options were rejected (see attached Schedule A). Renew MO asked the Company a similar question in its Data Request 003: “What specific alternatives to the proposed project has the Company considered? Please list all such alternatives, including the associated costs and any other available details or documentation.” In its Response, the Company provides no description or documentation of costs for alternatives to the proposed project, only the general assertion that “all viable alternatives have been and are being utilized” and a reference to past compliance methods (see attached Schedule B).

Q. What are the sorts of alternatives that the Company might evaluate?

A. There are many ways in which the Company could acquire the solar renewable energy needed for RES compliance. I will list and briefly describe several examples (in no particular order):

- 1) Providing subsidies to customers who install their own solar generation facilities under the existing requirements of HB 142 (enacted in 2013 and codified at § 393.1030, RSMo). Solar rebates have proven popular with customers and have spurred significant private investment and attendant economic benefits. At the levels prescribed in the statute, these rebates appear to be more cost-effective investments than the Company’s proposed project. The statutory rebate amount is set at \$1.50 per watt for systems becoming operational between July 1, 2014 and June 30, 2015. I’ve conducted a simple calculation to estimate the costs per MWh of

output of these rebates over time. A 1 kW PV system would receive a \$1,500 rebate and would produce approximately 1,200 kWh per year.² Over a 10-year period, such a system would produce 12,000 kWh, or 12 MWh. By dividing the \$1,500 cost of the rebate by the 12 MWh produced, I calculate a cost of \$125 per MWh, which is effectively the cost paid for each SREC as these are assigned to the utility for the first ten years of system operation as a condition of receiving the rebate. This amount compares favorably with the estimated levelized cost of * * provided by the Company in response to Renew MO Data Request #0012 (attached as Schedule C), even accounting for the value of energy produced by the proposed project.

- 2) Providing subsidies to customers who install their own solar generation facilities as a program under the Missouri Energy Efficiency Investment Act (MEEIA, 2009).

While I am not offering a legal opinion, a plain reading of the statute suggests that support for customer-owned “behind the meter” renewable generators may qualify as a demand-side program under the statutory definition, inasmuch as they “modify the net consumption of electricity on the retail customer’s side of the utility meter.” § 393.1175(2)(3). In response to Renew MO Data Request 0005 (attached as Schedule D), the company indicates it has begun to consider this option but no conclusion has been reached.

- 3) Investing in utility-owned distributed solar facilities. Solar generation facilities

² This figure is estimated using the National Renewable Energy Laboratory’s PV Watt Calculator, which estimates PV output at any location in the U.S. using the location’s insolation levels and given certain system characteristics.

installed at multiple sites across the service territory would have less variability in aggregated energy output than a single site, as passing clouds would be less likely to cover all facilities simultaneously, and maintenance issues would not likely affect all facilities simultaneously.

- 4) Partnering with customers for installation and ownership of solar facilities on customer premises. The utility and the customer could share the costs and benefits of such facilities through power purchase agreements, SREC assignment to RES compliance, and/or contractual or leasing arrangements for shared value of energy production.
- 5) Inviting customers to co-invest in developing “community solar” facilities. Under such an arrangement, all customers including those who would not be likely to install their own solar generation, such as tenants in multi-unit buildings, building owners with shaded rooftops, customers who do not anticipate remaining very long in their current location, and customers who could not afford a full solar generating system but would want to make a smaller investment and take advantage of scale economies, could co-invest in shared facilities constructed and operated by the utility or another entity and receive proportional energy credits through “virtual net metering” or other mechanisms. The community solar concept is discussed in greater depth by the U.S Department of Energy in a publication of its National Renewable Energy Laboratory, “A Guide to Community Shared Solar: Utility, Private, and Nonprofit Project Development” (Attached as Schedule E and available at <http://www.nrel.gov/docs/fy12osti/54570.pdf>). In response to Renew MO Data Request 0004 (attached as Schedule F), the Company indicates that it has “done

some preliminary review of this potential option but believes there to be considerable regulatory issues involved..." I agree that there are regulatory issues to be addressed, but I believe the Company and the Commission should thoroughly investigate this potentially valuable option.

- 6) Entering into long-term power purchase agreements with solar facilities in Missouri. A project of this type has been proposed for the City of Nixa, Missouri (the proposal for which is attached as Schedule G). A solar developer based in St. Louis has offered to construct and operate a 7.82 MW PV facility, with an anticipated completion date at the end of December, 2014. The costs of energy from the facility are set in a proposed 25-year contract initially at 6.5 cents/kWh (equivalent to \$65/MWh), escalating at 2.5% annually to reach 11.76 cents/kWh (about \$118/MWh) in 2038. Assuming steady output over the life of the unit, the average cost of energy is therefore approximately \$92/MWh. Other solar projects are under development in Springfield, MO and Butler, MO. Each of the methods of compliance described above has advantages and disadvantages. Each of these methods (and others that may be identified) should be evaluated by the Company.

Q. What are the criteria that should be used to evaluate these options?

A. Because customers pay the cost of RES compliance, from their point of view a key driver is cost. As the amount of renewable energy to be acquired under the RES is subject to a statutory rate cap, the goal might best be described as achieving "the biggest bang for the buck." However, cost by itself is not necessarily dispositive because other factors including sustainability, risk, legal implications, incentives, and other social and economic

goals should also be part of a thorough evaluation of compliance options. The core objective should be to maximize the amount of solar energy produced in Missouri, given these factors.

Q. Will you please list the key questions that should be considered when evaluating and comparing methods of compliance with solar RES requirements?

A. Among the key questions to be considered are the following:

- 1) Is the compliance method sustainable at a reasonably projectable and stable annual cost?
- 2) How do the costs compare to alternative means of providing the same level of compliance?
- 3) Can the utility investment be leveraged through customer investment and participation to produce greater solar output for a given level of investment?
- 4) Will the compliance mechanism result in construction of new solar generation facilities in Missouri?
- 5) Is the mechanism eligible for favorable tax treatment and any available subsidies and how do these affect the net costs to customers?
- 6) Does the compliance mechanism provide appropriate incentives for utility performance?
- 7) What risks are associated with the compliance mechanism and who bears them?
- 8) Is the mechanism feasible under applicable current law and rules? If not, what changes would be needed?

Q. Will you please discuss further the concept of leveraging investment and why it is important to the choice of RES compliance method?

A. Resources available for investment in renewable energy facilities by a Missouri utility are limited. At the same time, a significant number of customers are proving willing to invest their own money in renewable energy facilities or otherwise contribute towards renewable energy development. If the utility were to provide opportunities for customers to voluntarily co-invest in solar facilities, the amounts paid by ratepayers would be leveraged to produce more renewable energy, and Missouri would have a better chance of meeting the goals of its RES.

Q. What do you mean by incentives for the utility?

A. One of the incentives I am referring to is the opportunity of the utility to earn a return on investment versus expenditures that are treated as expenses. This is sometimes referred to as the “build or buy” choice. Generally a utility would prefer to earn a return rather than simply record an expense. Another consideration is the treatment of utility disincentives that may be associated with a particular course of action. Under a potential reading of MEEIA, a solar energy program that was offered under that statute could address such disincentives as well as offer the utility full cost recovery as well as additional financial incentives.

Q. Do any of the other methods you listed for meeting RES requirements allow for a utility to earn a return on investment?

A. Yes, potentially so. A utility’s portion of co-investment in community solar facilities or in facilities located on customer premises could be treated in a similar way to its investment in a wholly-owned utility facility. If the Commission found it to be a valuable option, it might also be feasible for utility-provided subsidies to customer-owned and

operated facilities to be capitalized, if that were determined to be lawful.

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Q. Are you advocating that the alternatives you have described be pursued instead of the project proposed by the Company for a CCN?

A. Not necessarily. I am recommending that these other methods of compliance be thoroughly evaluated by the Company and the Commission. If there is insufficient time in the pendency of this proceeding to fully examine and compare these and other feasible means of maximizing solar energy output in Missouri, the Commission should order a comprehensive consideration of such options for future RES compliance efforts to be considered in the Company's next rate proceeding or in a separate proceeding. The Commission should also require that when a utility files an application for approval of a CCN for a project related to RES compliance it must accompany such application with an analysis of all considered options and an explanation of why each was rejected and the selected option was chosen.

Q. Please comment on the projected costs of the project as detailed in the CCN.

A. At * * for initial construction costs (calculated by dividing the *
* referenced in paragraph 9 of the HC application by the 5.7MW output), the projected costs for the proposed project appear to be substantially higher than the national average. In general, the costs of solar facilities have been falling, and according to the "US Solar Market Insight Report" conducted by GTM Research and published by the Solar

Energy Industries Association³, the average cost of a utility-scale photovoltaic system was \$2.04/watt in the 3rd quarter of 2013, a 15% decline from the same period a year earlier. The Company should explain the reasons – if any – why the projected cost of its proposed facilities is almost * * than that reported national average cost per unit of peak output. Furthermore, this apparent discrepancy between the cost of the proposed project and the national average makes it imperative to compare the costs of the project to alternative compliance strategies as discussed above.

Q. Are the projected costs for the proposed project in line with costs for other similar projects in Missouri?

A. No. Contrary to the Company's assertion in response to Renew Missouri Data Request #001, information about such projects is publicly available. I've examined a proposal for a similar utility-scale solar generation project made in response to an RFP by City of Nixa, Missouri. (See Schedule G). The costs of energy from the facility are set in a proposed 25-year contract initially at 6.5 cents/kWh (equivalent to \$65/MWh), escalating at 2.5% annually to reach 11.76 cents/kWh (about \$118/MWh) in 2038. I've also examined a Power Purchase Agreement (PPA) for a 3.0 MW PV facility in Butler, MO (attached as Schedule H). The energy from that project is priced initially at \$63/MWh, escalating to \$138/MWh over a 25-year period (explicitly without SRECs, but with a buyout option commencing in year 7 of the agreement). At a projected cost of * *, the Company should explain in detail why its proposed project has a price tag several times higher than the Springfield project.

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³ See: <http://www.seia.org/research-resources/solar-market-insight-2013-q3>

Q. What are the factors that may have caused the anticipated costs for the proposed project to be far higher than similar projects?

A. First of all, the Company does not acknowledge that the projected costs of its proposed project are significantly higher than other similar projects, as stated in its response to Renew MO Data Request #002 (attached as Schedule I): “There does not appear to be any substantial divergence of cost.” Apparently the Company has done no comparative analysis of the costs of its proposed project with other similar projects. However, it appears that one factor leading to relatively high costs is the lack of an effectively competitive bid process. According to the Company’s response to Staff Data Request 0003, * (see attached Schedule J), which may not be a sufficient number of bids to form an effectively competitive pool of vendors. Lower bids may have been submitted had the Company conducted a public bidding process, which it did not do. (See Schedule K, Response to Renew MO Data Request #0010.)

Q. Could the Commission require the Company to seek a more competitive set of bids for the project?

A. Yes. If the Commission believes that the projected costs of the project are excessive because the bid process was not effectively competitive, it should order, as a condition of granting a CCN, that a new open public bidding process be conducted immediately by the Company.

Q. If the Commission decides to approve the Company’s Application for a CCN,

should it attach additional conditions to its Order?

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A. As stated above, it is the Commission's prerogative to decide whether the Company has presented sufficient evidence to show that the granting of the application is required by the public convenience and necessity (as per § 393.170, RSMo. and 4 CSR 240-3.105) and I am not recommending either approval or denial. The Company seeks expedited approval of its application in order to commence construction as soon as possible and I agree that adding significant new solar resources in Missouri at the earliest possible date is a worthy aspiration. Given that the proposed facility will produce 26.9% of the solar requirement in 2016, and approximately 13.5% of the solar requirement under the RES in 2018, it is clear that additional solar investment will be needed in coming years. If the Commission decides to grant approval of the Company's Application for a CCN, I recommend that the Order include the following conditions:

1) The Company must demonstrate to the Commission's satisfaction why initial construction costs are approximately * * than the national average and costs per unit of output are significantly higher than other similar projects under development in Missouri. If the Commission is not satisfied that the projected costs are reasonable, the Company must reissue the RFP and conduct an open public bidding process.

2) The Company must submit to the Commission, either in its next rate proceeding or in a separate proceeding allowing for full participation by interested parties, a comprehensive set of alternative solar compliance methods, accompanied by an analysis of their comparative costs, benefits,

legal ramifications, and other attributes.

3) The Company must include these options in its RES Compliance Plan and explain why certain options are chosen for implementation and others are not.

4) The Company must include its then-current analysis of such compliance options in any future applications for a CCN for solar energy investment.

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 Permission and Approval)
and a Certificate of Public Convenience and) **File No. EA-2014-0136**
Necessity Authorizing it to Construct, Install, Own,)
Operate, Maintain and Otherwise Control and)
Manage Solar Generation Facilities in O'Fallon,)
Missouri)

AFFIDAVIT OF MARTIN ROTH COHEN

STATE OF ILLINOIS

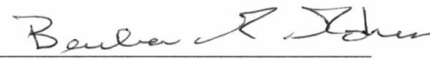
COUNTY OF COOK

Martin R. Cohen, being first duly sworn on his oath, states:

1. My name is Martin Roth Cohen. I work in the City of Chicago, Illinois, and I am employed by Martin Roth Cohen and Associates as Principal and consultant.
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Earth Island Institute d/b/a Renew Missouri which has 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.

/s/ 
Martin Roth Cohen

Subscribed and sworn to me this 17 day of March, 2014


Notary Public

My commission expires: May 17, 2014

