Exhibit No.: _____

Issue: MOSEIA's Expert Report in Opposition to: KCP&L-GMO's Motion to Approve Its Tariff to Suspend Payment of Solar Rebates and Motion to Expedite Its Treatment

Witness: Dr. Ezra D. Hausman, Ph.D

Type of Exhibit: Direct Testimony

Sponsoring Party: Missouri Solar Energy Industries Association

Case No.: EO-2013-0505

Date Testimony Prepared: July 30, 2013

STATE OF MASSACHUSETTS)
) ss.
COUNTY OF MIDDLESEX)

Before me, the undersigned Notary Public, personally appeared Ezra D. Hausman, a person known to me, who, on this 29 day of July, 2013, acknowledged under oath that the following is true and correct to the best of his personal knowledge and belief.

7/29/13

JANICE CONYERS
Notary Public
Commonwealth of Massachusetts
My Commission Expires
July 27, 2018

Synapse
Energy Economics, Inc.

485 Massachusetts Avenue, Suite 2
Cambridge, MA 02139
Tel 617 661 3248 F 617 661 0599
www.synapse-energy.com

Testimony of Ezra D. Hausman, Ph.D.

On Behalf of Missouri Solar Energy Industries Association (MOSEIA)

My name is Ezra D. Hausman, PhD, and I am Vice President and Chief Operating Officer of Synapse Energy Economics, Inc. ("Synapse"). Synapse is a research and consulting firm, located in Cambridge, Massachusetts, specializing in energy, economic, and environmental issues. Our work covers various related topics, including integrated resource planning, rate design, energy efficiency policies and incentives, renewable technologies and costs, market monitoring, market design, rate impacts associated with energy policies, transmission expansion planning, load response, revenue requirements, and more.

I have worked for more than 15 years as an electricity market analyst, performing a wide range of analyses and studies for clients in the public, private, and non-profit sectors. As part of this work, I frequently evaluate resource planning materials including utility integrated resource plans, procurement practices, and rate filings; conduct economic analysis of environmental regulations in electricity markets; quantify the economic and environmental benefits associated with energy efficiency and renewable energy; apply industry standard computer simulation models to assess and analyze alternatives to various resource scenarios; and conduct numerous other analyses related to electric power market issues.

I have testified or appeared before public utility commissions and/or legislative committees in Arkansas, Arizona, Iowa, Kansas, Louisiana, Massachusetts, Maryland, Mississippi, Missouri, Nevada, New Hampshire, South Dakota, Vermont, and Washington State, as well as at the federal level. While my testimony has typically centered on issues related to electricity market economics, I have also brought my background as a climate scientist to bear on numerous cases involving greenhouse gas mitigation in the electric sector.

In addition to expert witness services, I have led stakeholder processes and working groups, presented at industry conferences, participated on panels, authored more than 30 reports for government and environmental clients, and provided other consulting services related to electricity market economics and climate science.

I hold a PhD in atmospheric science from Harvard University, an SM in applied physics from Harvard University, an MS in environmental engineering from Tufts University, and a BA from Wesleyan University.

I. Introduction

I have been retained by MOSEIA, the Missouri Solar Energy Industries Association, to provide an expert opinion on KCP&L's *Motion to Suspend Payments of Solar Rebates and Motion for Expedited Treatment* under File No. EO-2013-0505.

In order to provide this opinion, I have reviewed the company's filing, along with its *2013 Annual Renewable Energy Standard Compliance Plan* Dated May 28, 2013, and the *Staff Report on Company's Calendar Year 2012 Res Compliance Report* under File No. EO-2013-0504. I have further reviewed the legislation governing both the RES and the solar rebate program (Missouri Revised Statutes 393.1030) and Rule 4 CSR 240-20.100. I have also reviewed House Bill 142, which, among other modifications to the law, reduces payments for solar rebates in future years and finally phases them out for systems that do not become operational by June 30, 2020.

I was also provided with and reviewed KCP&L's Highly Confidential (HC) worksheets used for implementing its rate impact calculation. However, I have not referred to the contents of those worksheets in this statement.

II. Summary of my opinion

Based on my review of the materials listed above, and on my own professional experience reviewing utility resource plans and associated state laws and policies (including policies governing the acquisition of renewable resources) and with the interpretation of renewable portfolio laws and rules in other regions of the United States, I conclude the following:

1. That neither 393.1030, RSMo, nor 4 CSR 240-20.100 support the inclusion of the cost of solar rebates in calculating the 1% rate impact;

2. That costs incurred in providing solar rebates are not "directly related to compliance with the Renewable Energy Standard" as described under 4 CSR 240-20.100 (1)(N), and thus should not be included in calculation of RES compliance costs;

3. That to the extent that solar rebates are considered part of resource acquisition for a utility such as KCP&L, standard utility accounting practice dictates that such costs should be amortized over the useful life of the resource (20 or 25 years);

4. That, as an alternative to such amortization, 4 CSR 240-20.100 (5) (A) directs that retail rate impacts of RES compliance costs (although not solar rebate costs) be averaged over a 10-year period;

5. That because KCP&L has neither amortized the cost over the useful life of the resource, nor have they averaged costs over a 10-year period, they have clearly erred in accounting for the cost of such rebates to ratepayers;

6. That, had KCP&L employed either of the accounting approaches referenced above, and had they taken into account the diminution and phase-out of solar rebates under House Bill 142, they would have calculated a much lower annualized cost of solar rebates to ratepayers;

7. That because of the foregoing, KCP&L's solar rebate payments are neither subject to nor in exceedance of any statutory or regulatory rate impact limitation, and the commission should deny the company's petition to suspend payments of solar rebates.

III. Treatment of renewable energy costs under Missouri law

The Missouri renewable portfolio standard (RPS) is set forth in Missouri Revised Statutes 393.1030. This statute establishes annual renewable energy requirements [393.1030.1], and it further sets forth a cost limitation mechanism associated with these requirements:

> *The commission, except where the department is specified, shall make whatever rules are necessary to enforce the renewable energy standard. Such rules shall include:*

(1) A maximum average retail rate increase of one percent determined by estimating and comparing the electric utility's cost of compliance with least-cost renewable generation and the cost of continuing to generate or purchase electricity from entirely nonrenewable sources, taking into proper account future environmental regulatory risk including the risk of greenhouse gas regulation; [393.1030.2]

Following the discussion of the RPS and the associated rate impact limitation, in section 393.1030.3 the statute directs utilities to make certain rebates available to customers for new and expanded solar electric systems:

Each electric utility shall make available to its retail customers a standard rebate offer of at least two dollars per installed watt for new or expanded solar electric systems sited on customers' premises, up to a maximum of twenty-five kilowatts per system, that become operational after 2009.

There is no indication in the law that the cost limitation in section 393.1030.2 applies to the solar rebate program established in section 393.1030.3; in fact, section 393.1030.2 may be read as specifically precluding consideration of the cost of solar rebates in the calculation of the rate increase, to the extent that they are not part of "the electric utility's cost of compliance with least-cost renewable generation." There is no provision anywhere in section 393.1030 to connect amounts paid by a utility in solar rebates to the utility's "cost of compliance with least-cost renewable generation" for purposes of calculating the cost limitation.

4 CSR 240-20.100 (4), which concerns the solar rebate program, includes section (4)(L) on the applicability of the rate impact limitation:

If the solar rebate program for an electric utility causes the utility to meet or exceed the retail rate impact limits of section (5) [Retail Rate Impact] of this rule, the solar rebates shall be paid on a first-come, first-served basis, as determined by the solar system operational date.

The retail rate impact in section (5) reads as follows:

(A) The retail rate impact, as calculated in subsection (5)(B), may not exceed one percent (1%) for prudent costs of renewable energy resources directly attributable to RES compliance. The retail rate impact shall be calculated on an incremental

basis for each planning year that includes the addition of renewable generation directly attributable to RES compliance through procurement or development of renewable energy resources, averaged over the succeeding ten (10)-year period…

(B) The RES retail rate impact shall be determined by subtracting the total retail revenue requirement incorporating an incremental non-renewable generation and purchased power portfolio from the total retail revenue requirement including an incremental RES-compliant generation and purchased power portfolio…The RES-compliant portfolio shall be determined by adding to the utility's existing generation and purchased power resource portfolio an amount of renewable resources sufficient to achieve the standard set forth in section (2) of this rule and an amount of least-cost nonrenewable resources, the combination of which is sufficient to meet the utility's needs for the next ten (10) years.

In summary, both section 393.1030.2 and section (5) of the rule provide that costs subject to the 1% rate cap are limited to those that are "directly attributable to RES compliance." Section 5(B) further clarifies that these costs are based on procurement of "an amount of renewable resources sufficient to achieve the standard set forth in section (2) of this rule"—Section (2), which sets forth the renewable energy requirements as a percent of total retail electric sales of the electric utility [4 CSR 240-20.100 (2)(C)], and makes no reference whatsoever to solar rebates.

I conclude that KCP&L misinterprets both the governing law and the commission's rule in including the cost of solar rebates when applying 1% rate limitation.

IV. Appropriate rate treatment of RES compliance costs

In calculating the appropriate rate treatment of costs incurred for compliance with a renewable portfolio standard (including the RES as defined under 4 CSR 240-20.100 (1)(L)) it is useful to consider the available approaches for meeting such a requirement.

In general, there are four ways to meet a portfolio standard requirement, all of which are available to KCP&L and other Missouri utilities.

1) The utility may use RECs produced by existing qualifying renewable resources in its portfolio, assuming these RECs have not been sold to or retired by any other party;

KCP&L is partly relying on this approach, using the Spearville facility, for the non-solar portion of its RES requirement.[1]

2) The utility may self-build qualifying renewable resources, and retire the RECs produced by these new resources.

3) The utility may enter into a long-term power purchase agreement with a new or existing qualifying resource owned by third parties, with the stipulation that the purchasing party assumes ownership of the associated RECs. KCP&L is also relying on this approach for compliance with the Missouri RPS[2]

4) The utility may purchase RECs from other renewable energy producers of third parties independent of any energy purchases. KCP&L is largely relying on this approach to meet the "solar carve-out" requirement.[3]

Under each of these standard approaches, the cost of the RECs is appropriately passed directly through to ratepayers much as annual fuel costs are. However, this cost (the cost of RECs) reflects the *annualized* cost of each resource; under a purchase power agreement, for example, the seller expects to recover the capital cost of the resource, with a reasonable return on equity, over the lifetime of the resource. If a resource produces energy and RECs over a twenty year period, it would be unreasonable to ask ratepayers to bear the entire cost of that resource in the first year of its operation, and no commission would allow this sort of treatment in rates. Instead, the company would be required to pass through to ratepayers the cost of the energy and RECS used each year; in the case of a resource built and owned by the utility, the company would be required to finance the capital costs of the resource and pass through the amortized capital cost, along with the operating costs, over the useful life of the resource.

Indeed, 4 CSR 240-20.100 (1)(P) defines the "RES revenue requirement" as, "2. The costs (i.e., the return, taxes, and depreciation) of any capital projects whose primary purpose is to permit the electric utility to comply with any RES requirement." This affirms not only that the commission intended RES costs to be limited to those for projects whose primary purpose is RES

[1] KCP&L 2013 Annual Renewable Energy Standard Compliance Plan, paragraph 2.1.1.
[2] Ibid.
[3] Ibid, paragraph 2.1.2.

compliance, but also that these involve capital assets the cost of which should be treated as depreciable for rate calculation purposes.

As stated above, my opinion is that solar rebate costs should *not* be considered "RES compliance costs" under Missouri law. However, were they hypothetically to be included in these costs, it would be appropriate to give them similar rate treatment as any other RES-compliant resource. In other words, because this cost is associated with a resource that produces energy and solar RECs (S-RECs) over a lifetime of 25+ years, it would be most reasonable to finance and amortize the cost of these payments over 20 or 25 years. (Alternatively, if the commission deems the useful life of this resource to be 10 years as suggested under 4 CSR 240-20.100 (4)(C), an amortization period of 10 years could be used. However, a 20 or 25 year period is more consistent with the minimum expected useful life of small-scale solar energy resources.)

V. KCP&L's treatment of solar rebate costs

It is difficult to determine exactly how KCP&L's solar rebate costs are calculated, because the company provided no supporting formulas or explanation to substantiate these costs or to put them into an appropriate context.[4] However, based on the evidence I have seen I believe that the company has done nothing more than to project the direct cost of solar rebates, and to assume that they, along with associated administrative costs, would be included in rates in each year in which they were incurred. In fact, because there is no reduction in the cost of solar rebates through 2024 shown in the company's calculations, I conclude that it has not even taken into account the reduction in annual payments to be expected under House Bill 142. Finally, I see no evidence that the company has considered potential cost *savings* associated with distributed solar resources—such as reduction in peak load requirements for conventional resources, or reductions in transmission/distribution congestion—that might accrue as a result of this rebate program.

This treatment of rebates may be appropriate for the traditional policy purpose of instruments such as solar rebates—that is, to share the cost for homeowners and businesses to install distributed renewable generation, to nurture the solar industry and create jobs in Missouri, and to

[4] MOSEIA has requested additional detail from KCP&L, including in-tact formulas, supporting this calculation under discovery; however, I have seen no response to this request as of this writing.

obtain reliability benefits from distributed solar resources. Such treatment is wholly inappropriate if these costs are being treated as procurement costs for energy and REC resources, and are then compared to the cost of other resources that would invariably be amortized and annualized.

Were the company to amortize the cost of solar rebates over a 20 or 25 year period (as I believe would be appropriate if they are being treated as a supply resource) then the annualized cost would be much lower in the early years, when the financing cost of only one or two year's rebates would be due. If the phase-out under HB 142 is considered, the cost would never rise particularly high because the total number of solar rebates, and the average cost of the rebates, would be much smaller.

Similarly, were the company to average the cost of the rebates over ten years consistent with the language of 4 CSR 240-20.100(5)(A) for treatment of RES costs, the annual cost to ratepayers would be diminished in particular by the phase-out under HB 142.

As noted earlier, I see no evidence that the company applied any kind of amortization or 10-year averaging in its treatment of solar rebate costs. In fact, the company does reference 10-year averaging in its RES compliance plan, for example in Section 3.1: "For each year of the 2013-2015 RES Compliance Plan period, the annual retail rate impact is limited to a maximum of 1% of the 10-year average non-RES compliant revenue requirement." This implies that the company has misinterpreted the discussion of 10-year averaging in the rule to apply to averaging of total (or non-RES-compliant) revenue requirements. I find no support for this interpretation in the rule; in fact, as cited above, 4 CSR 240-20.100 (5)(A) clearly applies the 10-year averaging to the "addition of renewable generation directly attributable to RES compliance." The fact that the company provides this misinterpretation, but is silent on averaging of rebate costs, further supports my contention that the company is neither amortizing nor averaging these costs.

Thus, while I cannot determine with certainty how the company calculated its solar rebate costs, I conclude that to the best I can determine the company failed to either amortize the cost of these rebates as would be appropriate for a supply resource, or to average them over ten years as suggested for RES cost calculation under 4 CSR 240-20.100. The company further failed to take into account the reduction in cost and ultimate phase-out of the rebates under HB 142. For both of these reasons, the company's calculation of the total cost of solar rebates to ratepayers is

inconsistent with both standard utility accounting practices for supply resources (including RPS-eligible resources) and with Missouri commission rules governing treatment of RES costs and the impact on ratepayers is significantly overstated.

VI. Conclusions

I conclude that KCP&L has misinterpreted the cost limitation under 393.1030 RSMo and under 4 CSR 240-20.100 to apply to solar rebates, even though these are not costs "directly attributable to RES compliance" (4 CSR 240-20.100 (5)(A)). The company has further treated these costs in a way that is inconsistent with the standard treatment of supply resources, including resources whose purpose is for REC compliance—and in so doing, it has made compliance with the solar rebate requirements in 393.1030 RSMo (and especially in HB 142) falsely appear to cause RES compliance costs to exceed the 1% rate impact limitation.

In effect, the company is playing a shell game—it is taking costs that are incurred for one policy objective, treating these costs in a way that is perhaps appropriate for their original objective, and using these costs to avoid responsibility for requirements under a different policy objective for which the appropriate rate treatment would be very different. The commission should not allow Missouri ratepayers to be denied the solar rebates they reasonably expect under the law because of KCP&L's misinterpretation of the law and inappropriate treatment of solar rebate costs. As a result, KCP&L-GMO's motion to suspend rebates should be denied.