File No. EW-2009-0324

MISSOURI RENEWABLE ENERGY WORKSHOP

COMMENTS OF SUNEDISON, LLC REGARDING
THE PROPOSED RULES RELATED TO THE RENEWABLE ENERGY STANDARD
June 22, 2009

Introduction

SunEdison, LLC (SunEdison) is pleased to have an opportunity to provide comments on the proposed rules related to the Renewable Energy Standard in Missouri. Founded in 2003, SunEdison has grown to become the largest solar energy service provider in North America for commercial businesses, government institutions and utility providers. We have more than ten offices in the U.S. with headquarters in Maryland. Financing strategies pioneered by SunEdison and now used by many renewable energy providers have lowered the cost and simplified the installation of renewable energy systems.

SunEdison has been engaged in solar policy development since its inception and has played a prominent role in the development of statutory and regulatory policy in many states. Notably, we have been deeply engaged in the rules related to the renewable energy standard in Colorado, originating with Amendment 37 in 2004. Missouri's Proposition C was a similar measure and may benefit from the experience Colorado has had with its policy and rule development over the past four and one-half years.[1] Missouri has very good solar resources

[1] The Colorado Rules, 4 CCR 723-3, can be found at http://www.dora.state.co.us/puc/electric/ElectricRules.htm. The Renewable Energy Standard rules run from 3650 through 3665. It should be noted that there is an open

and we would like to help the state capture and develop these resources in ways that provide jobs, reduce reliance on volatile fossil fuels, and reduce its carbon footprint.

Substantive Issues

Small Customer-sited System Development Issues

One of the issues Colorado stakeholders emphasized was to simplify and streamline the administrative burdens for customers associated with the development of customer-sited solar systems. Few residential customers for example have the wherewithal to wade through lengthy forms, agreements, contracts, and so forth to put a small, under 10 kW, system on their home. Moreover, it was deemed to be unnecessary to create such requirements in that the risk was low that residential customers would attempt to game the system. We believe Missouri will find the same result and urge the Commission to establish rules that streamline the administrative process for small customer-sited system development. Specifically, the draft rules in several places (pages 2 and 4) require attestation of SRECs for small systems and separate metering for small system generation among other things. Such requirements only add costs to the development of small systems without providing a measurable benefit. We urge simplification of these requirements.

Rebate and Incentive Issues

Proposition C requires a $2.00 per Watt rebate up to maximum of 25kW for customer sited solar systems. Experience in other states suggests that a rebate of this amount by itself will not

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rulemaking docket (08R-424E) that is likely to modify these rules. The recommended decision in this docket can be found at http://www.dora.state.co.us/puc/DocketsDecisions/HighprofileDockets/08R-424E.htm.

be sufficient to promote a significant level of development. Thus, this rebate should be seen as a base upon which to build an incentive program across all market segments. The second component of the incentive structure should be a payment for Renewable Energy Credits (RECs) generated by the customer-site solar system and needed by the utility for compliance with the renewable energy standard.

Many states, including Colorado, have found that up-front payments work best for small systems – particularly for systems smaller than 10 kW. Since the cost of these systems tends to be somewhat higher on a $/Watt basis, customers generally prefer an incentive that reduces the initial cost. For larger systems, especially those greater than 25 kW, businesses tend to have adequate access to sufficient capital either themselves of through third party developers to utilize an incentive program that spreads payments over time and is tied to system performance. These performance-based incentives, or *PBIs,* are tied to actual metered generation by the larger customer-sited system. For medium-sized systems in the 10 kW to 25 kW size range, the base $2/W rebate is required by law, and the Commission has the discretion to add additional up-front payments or to supplement it with a PBI. Colorado uses a PBI in combination with the base $2/W rebate, but Arizona provides its incentives fully in an up-front payment. The Commission may want to provide flexibility to the utilities to develop their own programs for this size range, as it is the utilities that are required to comply with the standard, and refine programs over time.

The goal of the solar program should be to establish a long-term market. A stable, consistent and viable distributed solar installation market allows solar companies to plan for the longer term by using more full-time design, engineering, procurement, and construction staff, and making longer term commitments to suppliers. Inconsistent on-again off-again solar markets

require the local industry to be rebuilt multiple times, redevelopment of supplier pipelines, greater use of temporary help, and additional and repetitive training for competent technicians. Inconsistency and instability assure that distributed solar electric resources will remain an expensive resource option far longer than necessary.

Lawrence Berkeley National Laboratory (LBL) released a comprehensive report earlier this year summarizing trends in the installed cost of grid-connected photovoltaic (PV) systems in the United States from 1998 through 2007.[2] This comprehensive report is based on an analysis of installed cost data from nearly 37,000 residential and non-residential PV systems, totaling 363 MW of capacity, and representing 76% of all grid-connected PV capacity installed in the U.S. through 2007. The key takeaways from this report are (1) the cost of customer-sited solar PV has been declining and is expected to continue to decline, (2) most of the decline in costs is derived from reductions in non-module costs, and (3) significant economies of scale exist between small and large systems. Indeed, the Department of Energy and others predict that within the next decade, the cost of electricity generated on a customer's site will be approximately the same as that available through the utility grid – a situation generally called "grid-parity."

Customer-sited solar will provide benefits to those that locate it on their premises, to the local utility, and to all citizens of Missouri. While Missouri is unlikely to drive global demand or supply of PV modules, it can have an impact on the necessary in-state infrastructure for widespread solar deployment through market consistency. Missouri needs to ensure that developers, financiers, installation crews and suppliers have ongoing work, so as to deflect attempts to attract its trained workforce to other states. The price that consumers pay for solar

[2] http://eetd.lbl.gov/ea/ems/re-pubs.html

electric power located on-site is driven by the demand/supply balance, enhancements and efficiencies in local markets, and competition among suppliers. These are important considerations in the development of incentive policy in Missouri, so that the state can maximize its customer-sited solar resource development infrastructure in preparation for grid-parity.

Next, it is important for the Commission to consider whether the goal of the program is to (1) maximize the *number* of systems installed, (2) to maximize the *MWs* of solar installed, or (3) to strive for a balance of the two. We believe it is important for all market segments to be able to take advantage of solar resources. Achieving the desired goals given the diverse market requires recognition of segment characteristics and a logical, fair, and transparent means for spreading available incentive funding to segments. Two tenets for consideration when developing a structured incentive program are to ensure that, to the extent possible, (1) all customers should have access to an on-site solar electric system, recognizing not all customer facilities are suitable for such development, and (2) cross-subsidization of one group of customers by another should be avoided. In other words, funds contributed by residential customers should be used for residential customer incentives, and funds contributed by non-residential customers should be reserved for non-residential customers. This is particularly important when market segments display divergent characteristics such as economies of scale, project development time, incentive type, and rate structure.

Another consideration is the nascent solar market in Missouri. The Commission must consider how to develop the market quickly and efficiently in order to install some 15 MW of distributed solar by 2011 and over 40 MW by 2014, especially given the fairly low 100 kW limit on net metered systems. Encouraging a vibrant solar market while casting an

appropriate balance of market segments and associated incentives will be a key task for the Commission over the next couple of years.

Finally, utilities should not be precluded from owning behind-the-meter customer-sited resources but only if the subject utility provides fair and open access to all providers of solar electric services. This requires best practice net metering and interconnection policies, and incorporation of market discipline through competitive procurement. The benefit to Missouri is that customers will receive the best-priced solar systems, and incremental costs will be kept to a minimum.

Solar Renewable Energy Credit (S-REC) Issues

Effective net metering and interconnection policies are key to establishing a viable market. Net metering governs the economic transaction between customer and utility, while interconnection standards address safety and reliability issues. Together these policies provide fair and equal access to the grid. The proposed rules assure that S-RECs are not transferred as a condition of interconnection. We urge the Commission to similarly preclude any requirement to transfer S-RECs in return for net metering.

Establishing a value for S-RECs will be a challenge, particularly in a young market. Even in states where the solar market has existed for some time, the S-REC market is far from mature. Thus, the most effective means to determine an appropriate S-REC value is to base it on competitive procurement. For larger systems (>25 kW), utilities should competitively procure S-RECs through solicitations (Colorado model) or reservation requests (Arizona

model) at least annually. The utility can then report the average S-REC price paid to the Commission for use in determining penalties.

Renewable Energy Standard Rate Adjustment Mechanism (RESRAM) and cost cap issues

The retail rate impact component of Colorado's renewable energy standard has been among the most complex and resource intensive elements of the policy. While it is tempting to use a simplified approach to determining the effect on rates of the RES, it is difficult to come up with such an approach that makes sense and is fair. Conversely, the full and detailed modeling required to accurately portray incremental costs and savings to the utility system is daunting and results in complex regulatory proceedings. As always, the regulator must strike an appropriate balance in this important topic area. Based on experience in other states, we here identify suggested guidelines for cost cap implementation.

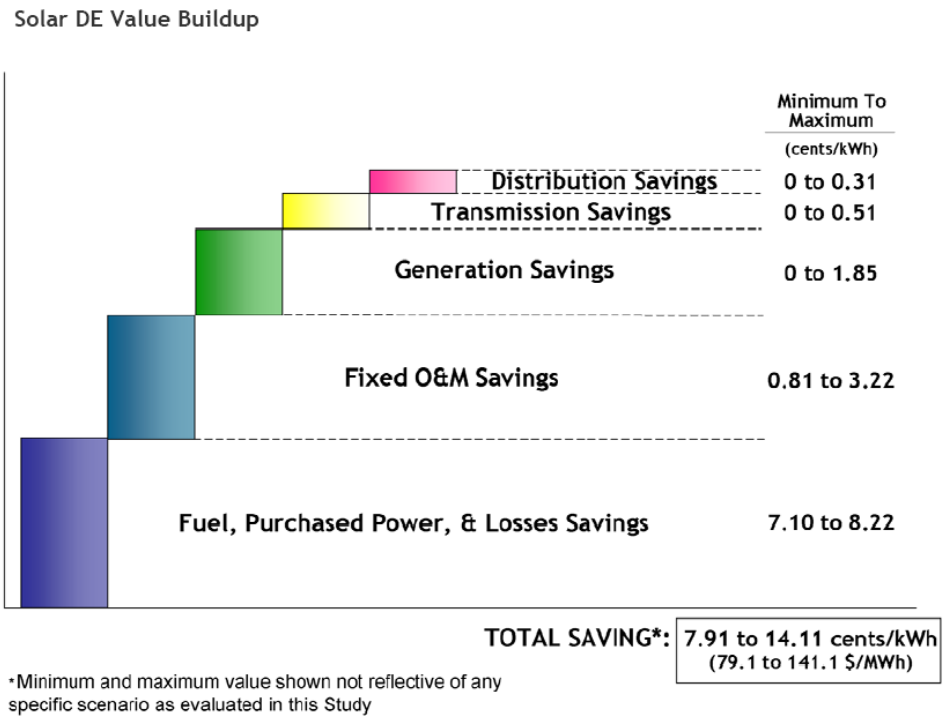
- The eligible resources used for compliance purposes should be the same resources used for the cost cap. All costs and all benefits need to be incorporated (see discussion of APS study below). Some of these resources will have a positive rate impact, i.e. increasing costs, and some will generate savings for customers, i.e. a net reduction in costs;
- The method of calculation should be transparent and all assumptions and data inputs should be consistent with the utility's most recent resource plan;
- To the extent that utilities own eligible resources, the full utility cost of service associated with such resources should be reflected;
- Eligible resources may be acquired by a QRU prior to the time needed for compliance for a number of reasons. The QRU should not be penalized for acquisition strategies that are in the best long-term interests of its customers;
- Since the RESRAM cannot exceed 1%, there may need to be another mechanism to account for the non-incremental costs of eligible resources. In Colorado the ECA (fuel clause) is utilized;
- To the extent that the cost cap is reached, there should be proportionality maintained among the requirements. For example, utilities should not be allowed to stop acquiring eligible solar resources because they have expended the full incremental 1% on non-solar

- RESRAM undercollections and overcollections should be given the same treatment.

Value of Distributed Solar Resources to the Utility System

There is often controversy surrounding distributed solar resources, net metering policy, and concerns regarding cross subsidization. In our view, customer-sited solar electric resources provide benefits to the customer through electric bill savings, price stability and reduced carbon footprint. These resources will also provide benefits to the citizens of Missouri through reduced emissions and a reduced need for transmission facilities by locating energy resources at or near the load being served. Not widely recognized however, is that customer-sited solar resources provide documented benefits to the host utility, and hence non-participating customers. For example, Arizona Public Service (APS) in January 2009 completed a study entitled *Distributed Renewable Energy Operating Impacts and Valuation Study*.[3] About one year ago, APS engaged a group of consultants, led by R.W. Beck, to determine the potential value of distributed solar energy technologies for its electrical system, and to understand the likely operating impacts. The following chart summarizes the benefits to the APS system reflected in the study. As a point of comparison, APS's standard residential "energy-only" rates range from about 8¢ to about 14.5¢.[4]

[3] Source: www.aps.com/solar
[4] May to October - $0.08570/kWh for the first 400 kWh, 0.12175/kWh for the next 400 kWh and 0.14427/kWh for all additional kWh; and November to April - $0.08327/kWh for all usage.



In conclusion, we thank the Commission for the opportunity to submit comments regarding the proposed rules implementing Proposition C in Missouri. This is an exciting time for the state as it embarks on a path of cleaner, more sustainable renewable resources.

Respectfully submitted on behalf of SunEdison, LLC this 22nd day of June, 2009.

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