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BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER FOR APPROVAL OF CHANGES TO RENEWABLE AVOIDED COST METHODOLOGY FOR QUALIFYING FACILITIES PROJECTS LARGER THAN THREE MEGAWATTS	**Docket No. 12-035-100** **POST-HEARING BRIEF OF SUNEDISON, LLC**

Introduction.

SunEdison LLC ("SunEdison") appreciates this opportunity to provide closing comments related to Rocky Mountain Power's ("RMP" or the "Company") Application for Approval of Changes to Renewable Avoided Cost Methodology for Qualifying Facilities Larger than Three Megawatts. SunEdision respectfully submits that sustained deployment of cost-effective Qualifying Facilities ("QFs"), and particularly solar QFs, is critical to managing Utah ratepayers'

current and future exposure to volatile fossil fuel pricing and environmental risks, and to maintaining a healthy and diverse resource portfolio.

As mandated by the federal government pursuant to the Public Utility Regulatory Policies Act of 1978 ("PURPA"), and by the Utah Legislature in the Utah Code, and under the guidance and authority of the Utah Public Service Commission ("Commission"), all QFs must be fairly and fully compensated for all costs avoided by QFs.[1] SunEdison provides these comments specific to solar QFs and in support of its comments filed on May 15, 2013, and the testimony of Maura Yates provided at the hearing in this docket.[2]

The avoided cost methodologies supported by the Company and certain other parties fail to adequately recognize or compensate for the risks and associated costs actually avoided by solar resources. Many of the solar issues being debated in this docket result from a lack of relevant, real RMP solar data on the Company's system. More cost-effective solar resources must be deployed in Utah in order to refine models, better integrate intermittent solar generation into RMP's resource portfolio, and provide actual and measurable data as the foundation for making changes to the Schedule 38 tariff. In an effort to acquire this type of critical information through cost-effective solar resource acquisition, SunEdison proposes the implementation of a three-year, capped Schedule 38 solar pilot program (the "Pilot"), to be implemented generally

[1] 18 C.F.R. §§, 292.101(b)(b), 292.304; Utah Code §§ 54-12-1, 54-12-2.
[2] Utah Public Service Commission, Docket No. 12-035-100, Hearing Proceedings Transcript, June 6, 2013 ("Transcript") at pgs. 211-219.

consistent with the methodologies proposed in the Company's Application,[3] but with several modifications as described below.

Details of Proposed Pilot.

1. The Pilot should run through 2016 -- when the current federal Investment Tax Credit for Solar resources is scheduled to expire -- or until a maximum of 320 MW of solar resources have been acquired under the Pilot. If the 320 MW cap is reached during the 3-year Pilot, absent a contrary Commission order, additional solar QF resources should be acquired based on other approved Schedule 38 processes and prices.
2. The capacity value for Solar QFs should be calculated based on the Capacity Factor Approximation Method ("CFAM"). Hearing testimony strongly supports the use of an industry-standard methodology such as the CFAM, as both appropriate and fair in determining the capacity value and contribution of a solar resource.[4] The CFAM produces an average annual capacity value of sixty-one to eighty-two percent (61-82%), depending on the type of technology installed.[5] Similarly, hearing testimony confirms that the Company's proposed use of a statistical approach, and particularly a ninety-

[3] Utah Public Service Commission, Docket No. 12-035-100, Rocky Mountain Power Request for Approval of Changes to Renewable Avoided Cost Methodology, October 9, 2012.
[4] E.g., Transcript at pg. 213, line 10 – pg. 218, line 5 (Yates); pg. 171, line 11 – pg. 172, line 11 (Abdulle); pg. 192, line 17 – pg. 193, line 1 (Falkenberg); pg. 233, lines 1 – 10 (Wright).
[5] 61.0% for fixed-axis; 78.7% for single-axis tracking; and 82.2% for dual-axis tracking based on the Effective Load-Carrying capability (ELCC) method for Salt Lake City, Utah, "*Comparison of Capacity Value Methods for Photovoltaics in the Western United States*", Madaeni, Sioshansi & Denholm, July 2012, pg. 14, http://www.nrel.gov/docs/fy12osti/54704.pdf.

percent exceedance probability ("P-90"), does not fairly or accurately capture an intermittent resource's capacity value.[6]

3. Capacity payments should be paid to solar QFs beginning upon commercial operation rather than on the claimed deferral date of the next power plant. The Company is capacity deficient in virtually every year, and solar resources differ significantly from front office transactions ("FOTs") in their system contributions and values. Solar resources supply long-term capacity and hedge values in all years of generation, which values are not captured by the Company's methodology.

4. In the alternative to the payment of a capacity value beginning upon commercial operation, if adequate data existed, all of the risks/costs avoided by a solar QF could be monetized and paid -- including the long-term hedge value against known and existing fossil fuel price volatility and environmental risks. These risks inherently leave ratepayers exposed to significant increased costs both during and after the resource planning horizon. Given the current lack of adequate data to make these avoided cost calculations, a workgroup should be tasked during the Pilot with determining what information is needed and what pricing methodologies are appropriate for determining the full and fair value of all such avoided risks/costs.

5. No solar integration fees should be charged until RMP has greater penetration of solar resources and has completed a meaningful study to determine actual integration costs.

[6] E.g., Transcript at pg. 213, line 15 – pg. 215, line 11 (Yates); pg. 171, line 16 – pg. 172, line 2 (Abdulle); pg. 262, lines 4 – 13 (Resta).

Again, a workgroup should be tasked during the Pilot to evaluate solar integration costs, as has been done for wind integration costs.

6. The PDDRR methodology appears to be a reasonable method for calculating avoided energy prices.

The proposed Pilot will facilitate greater solar QF penetration in Utah, and will provide the Commission, the Company and others with clear and measurable solar data to permit more accurate calculations of avoided costs and solar integration costs associated with solar QF resources going forward. SunEdison submits that the conditions of its proposed Pilot are limited, reasonable, consistent with PURPA, Utah State law and industry standards, and in the public interest.

Capacity Values

The Company's modeling of solar capacity value contains inappropriate, erroneous data and grossly underestimates the value of solar to the RMP system during high system load hours.[7] For example, the Company mismatched system load and PV production data, could not confirm whether or how the data was adjusted for daylight savings time,[8] and used approximated data for

[7] Transcript at pg. 43, lines 7-21.

[8] Transcript at pg. 53, line 1 – pg. 54, line 12; In fact, SunEdison's modeling of data included in the Duvall original solar capacity value study worksheets compared to average output for a SunEdison single-axis tracking system using the same data appears to confirm that, while the Company may have adjusted its load data for Pacific Prevailing Time, the data was not adjusted for daylight savings time. PacifiCorp failed to demonstrate or confirm the propriety of its calculations, making any reliance upon them suspect and unreliable.

solar production that was unrealistic based on the nature and location of likely Schedule 38 solar facilities in Utah.[9]

The Company suggests the use of a P-90 statistical approach, despite no knowledge of any other utility using a similar statistical approach to determining solar capacity value, and proposes to restrict its analysis to the top 100 high load hours, even while acknowledging that solar resources provide value outside of those hours.[10] The Company's proposed methodology is unfair to developers and ratepayers alike, and fails to produce realistic or supportable capacity values.

Due to erroneous, irrelevant, unsupported and approximated data, along with a misapplication of the P-90 methodology to estimate capacity value for solar projects, the Company's proposal should be rejected and the NREL capacity value measurements (61-82%) should be used until further study and measurements can be performed under the proposed Pilot.

Capacity Payments

Mr. Duvall testified for the Company that the capacity contribution of solar QF resources during years of so-called capacity "sufficiency" is adequately captured in GRID through deferral of FOTs.[11] However, the record contains no evidence that FOTs include any particular capacity value, and it is indisputable that relatively short-term FOTs do not and cannot reflect the long-term capacity value of a QF resource. The Company's proxy calculation results in an energy-

[9] Transcript at pg. 72, lines 13-24.
[10] Transcript at pg. 35, lines 9-12; pg. 40, lines 4-10.
[11] Transcript at pg. 67, line 6 – pg. 68, line 24.

only payment that does not compensate for long-term avoided capacity costs of a QF resource. A capacity value should be paid to solar QFs beginning with the first year that *any* capacity shortfall is offset, including a capacity shortfall that is assumed to be met with hoped-for, but un-executed and non-guaranteed, contracts for FOTs. It is indisputable that long-term QF contracts for solar resources avoid risks and costs beyond those reflected in the avoided energy and capacity costs calculated by the Company and other witnesses. Indeed, Mr. Duvall admitted, "there's value in terms of [rate] stability" that solar QFs provide.[12] Under the methodology supported by the Company and others, however, Solar QFs would not receive any payment or credit for these other avoided risks/costs. Some witnesses acknowledge the additional value of QF resources, but conclude that adequate data is not currently available to measure these avoided cost components. SunEdison submits that the most fair and reasonable solution to this conundrum is a short-term, capped Pilot program that includes a capacity payment from the beginning of the Solar QF contract, along with a workgroup tasked with identifying and evaluating necessary data and pricing methodologies going forward.

Solar Integration Fees

It is widely acknowledged that very little is known about solar integration costs or impacts on PacifiCorp's system.[13] Because so little solar has been integrated into Rocky Mountain Power's grid, the Company has almost no relevant data on its impact on the system

[12] Transcript at pg. 57, line 22 – pg. 58, line 4.
[13] E.g., Transcript at pg. 82, lines 7-9 and pg. 107, line 18 – 108, line 8 (Duvall); pg. 184, line 12 – pg. 186, line 17 (Abdulle); pg. 192, lines 10-15 (Falkenberg); and pg. 218, line 20 – pg. 219, line 19 (Yates).

and necessary reserve and planning measures. Most parties, including the Office of Consumer Services, Scatec Solar North America, Inc., the Division of Public Utilities and Utah Clean Energy agree that solar QF integration fees warrant further analysis and study. Until such a study can be performed, no solar integration fees should be imposed. A comprehensive study of integration costs and benefits associated with solar QFs should be conducted with input from industry stakeholders, as was done with wind integration costs before such costs were imposed.

Conclusion

Solar is an important and necessary component of a balanced generation portfolio for a Utah utility, as it provides critical peak capacity and energy that is not subject to the risks and costs of fossil fuel volatility or environmental regulations. Further, the solar industry is poised to offer significant contributions towards a new and significant energy economy for Utah, given numerous prime solar locations available in this State. In order to permit and facilitate cost-effective deployment of solar resources while the existing Investment Tax Credit is still available, all aspects of avoided costs for solar QF projects should be valued and paid.

SunEdison respectfully submits that approval of its proposed Pilot would be consistent with sound Utah public policies.[14] In contrast, a failure to implement such a Pilot, or otherwise to calculate avoided costs in a manner that properly recognizes and values all of the many risks/costs avoided by solar resources, would almost certainly halt nearly all future solar

[14] Among the many Utah statutes that express Utah public policies and support the proposed Pilot are Utah Code Sections 54-12-2 (4); 54-12-1; 54-17-603 (10) and 54-17-601 (11).

development in this State for a prolonged period. Such a result would be inconsistent with the Utah public interest in both the near term and the long term.

SunEdison appreciates the opportunity to present its testimony and this brief in an effort to aid the Commission in its determination of proper and supportable renewable cost methodologies and avoided cost prices for larger solar QF projects in this State.

DATED this 27th day of June, 2013.

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was served by email this 27th day of June, 2013, on the following:

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