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February 11, 2014

Honorable Ramón Luis Nieves
President
Committee on Energy Affairs and Water Resources
Senate of Puerto Rico
San Juan, PR
RE: In Support of S. 840 "To amend the Puerto Rico Net Metering Program Act"

Honorable Ramón Luis Nieves,

Thank you for the opportunity to comment on behalf of SunPower Corporation in support of Senate Bill 840, an act to amend the Puerto Rico Net Metering Program. My name is Rob Martine and I am in the commercial group at SunPower Corporation. SunPower Corporation (NASDAQ:SPWR) designs, manufactures and delivers the highest efficiency, highest reliability solar panels and systems available today, with guaranteed performance. Headquartered in San Jose, California, SunPower has over 5,000 employees globally and 1,100 direct employees in the United States. SunPower has deployed 3.5 GW of solar over the past 25 years in over 20 countries. In the U.S., SunPower has the greatest market share of residential and commercial solar panels installed. SunPower also partners with many installer companies, including over 400 in the U.S. helping to support their 7,500 employees. SunPower has been engaging in project development activities in Puerto Rico for three years.

There are many benefits that solar can bring to Puerto Rico. Solar provides a reliable electricity resource that helps businesses lower and stabilize their electric costs. This is a critical benefit to the industrial and commercial sectors who are striving to improve their competitiveness and increase employment in spite of high and rising electricity bills. By entering into a long-term pricing agreement for power from a solar system, they can plan better for their future costs. A vibrant solar sector will also bring significant economic development and local job creation to Puerto Rico. The solar industry in the United States alone employed 143,000 solar workers in 2013 and added jobs at a rate ten times the national average rate for job gains.¹ Finally, solar energy can help Puerto Rico reach its goals of energy diversification and energy independence.

The Puerto Rican Legislature has already taken a number of important steps to promote solar energy. On August 16, 2007, it created the Net Metering Program through the enactment of Act No. 114-2007. Net metering is a cornerstone of solar policy that allows solar generators to be fairly compensated for the energy that they deliver to the grid during times when they are generating more power than they use. Net metering, which has been adopted in 43 U.S. states, has helped to grow the U.S. distributed solar market to one of the largest in the world. Act No. 114-2007 also provided for the interconnection of residential, commercial, and industrial customers that use renewable energy generation systems to the grid. On June 2, 2012, the Legislature unanimously voted to strengthen the Net Metering Program through the creation of Act. No. 103-2012, which amended Act No. 114-2007 to increase from 1 megawatt (MW) to 5 MW the maximum generating system size for commercial and industrial customers under the Net Metering Program.

¹ The Solar Foundation 2013 National Solar Jobs Census

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The success of these net metering laws has unfortunately been hindered by PREPA's subsequent adoption of the Regulations Governing the Interconnection of Generators for the Net Metering Program, Department of State Regulation No. 8374 more than a year after Act No. 103-2012 was issued. These regulations, among other things, require all generators between 1-5 MW to comply with Additional Technical Requirements (ATRs). The ATRs seriously impede solar development in a number of ways. Firstly, they require compliance with the ATRs for all projects with a nameplate capacity of 1 to 5 MW, regardless of the actual impact to PREPA's system reliability. Overly restrictive ramping requirements for generators in the ATRs necessitate the expensive installation of an energy storage system. The cost of an energy storage system would ultimately fall on the commercial or industrial host customer, requiring money they could otherwise be used to hire more employees. Another issue is that the interconnection agreement is only provided once the project is built which makes it difficult to determine the cost of a system before it is finished and then only for a term of 5 years and PREPA can terminate the agreement at any 5-year renewal period thereafter. The cost of such a generating system requires a long-term contract to allow for the amortization of the investment and this provision makes a long-term contract impossible to finance. Finally, PREPA may immediately disconnect the system upon breach without notice to the generator.

SunPower fully supports PREPA's need to safely and reliably operate Puerto Rico's electrical grid. The ATRs, however, are unnecessarily stringent. The main premise of the ATRs, that they solve perceived reliability issues related to solar energy, has not been supported by research or evidence at the technical level. In fact, multiple studies have shown that ATRs are not necessary for PREPA to operate the grid safely and reliably. Two studies in particular, one by Sandia National Laboratories² and one by the Energy Cluster Interconnection Committee³, demonstrate that the ATRs fail to address what they claim is their core issue: aggregate ramp control. The conclusions of both these studies are that having more solar systems in more places, or the Diversity Effect, considerably mitigates ramp down concerns. These studies are supported by the experience of other islands such as Hawaii. Hawaii has installed over 300 MW of solar on a grid with one third of the capacity of Puerto Rico and has not experienced reliability issues. PV grid saturation has even reached 75% of minimum daytime load or higher in nearly 40% of all distribution circuits on Hawaii. In summary, the ATRs not only hinder economic development, they are also not supported by technical evidence.

S. 840 would require PREPA to replace the current regulation with a widely accepted standard for interconnection that will allow solar to thrive in Puerto Rico. S. 840 requires PREPA to file new net metering regulations for systems under 5 MW that follow the Federal Energy Regulatory Commission (FERC) Small Generator Interconnection Agreements and Procedures (SGIA & SGIP). The SGIA & SGIP, issued by FERC in 2005, contain the technical procedures to be followed when evaluating an application for the interconnection of a small generating facility to an electrical grid in order to ensure that the proposed interconnection does not jeopardize the safety and reliability of grid. These standards have been used as the basis of interconnection standards in multiple U.S. states. S.840 would also require PREPA to approve an expedited process for smaller systems less than 2 MW. SunPower has experience installing systems in jurisdictions that rely on the SGIP & SGIA and they provide for a much faster and

² A wavelet-based variability model (WVM) for solar PV power plants. M. Lave, J. Kleissl, J.S. Stein. IEEE Trans. Sustain. Energy (2012). <http://dx.doi.org/10.1109/TSTE.2012.2205716>.

³ Interconnection Committee, Ramp Rate Aggregation Analysis Based on Full Year of Performance Data from Puerto Rico Solar Systems, March, 2013

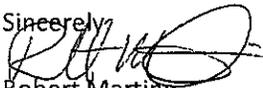
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cheaper interconnection process. SunPower supports the adoption of the SGIP & SGIA standards in Puerto Rico because they employ strong scientific and technical procedures to promote grid reliability.

SunPower is prepared to make significant investment in Puerto Rico with the right interconnection rules. The passage of S.840 will create exponentially more solar and economic development in Puerto Rico at no cost to the utility or the government. S.840 is one of the only energy bills proposed this session that would help reduce businesses energy costs today and not just in the long term. Adopting the SGIA and SGIP models will eliminate most of the obstacles currently found in the existing interconnection process but still ensure a reliable and safe interconnection. These new standards will help Puerto Rican businesses and industries to reduce their energy costs and invest their savings in expanding their operations. Finally, passing S.840 will enable Puerto Rico to continue on its mission to diversify its energy mix towards renewable, sustainable energy resources.

Thank you very much for the opportunity to comment and for your consideration.

Sincerely,



Robert Martine

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