

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding  
Policies, Procedures and Rules for the  
California Solar Initiative, the Self-  
Generation Incentive Program and Other  
Distributed Generation Issues.

Rulemaking 12-11-005  
(Filed November 8, 2012)

**OPENING COMMENTS OF SUNVERGE ENERGY, INC. ON THE  
ASSIGNED ADMINISTRATIVE LAW JUDGE'S PROPOSED  
DECISION REGARDING NET ENERGY METERING  
INTERCONNECTION  
ELIGIBILITY FOR STORAGE DEVICES PAIRED WITH NET ENERGY  
METERING GENERATION FACILITIES**

May 5, 2014

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Director of  
Regulatory & Energy Services

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**I. SUMMARY**

Sunverge Energy, Inc. (“Sunverge”) hereby provides the following comments pursuant to *Assigned Administrative Law Judge’s Proposed Decision Regarding the Net Energy Metering Interconnection Eligibility for Storage Devices Paired with Net Energy Metering Generation Facilities* issued April 15, 2014. In general we strongly support the proposed decision (PD), though we do disagree with some portions and ask further clarification as follows:

1. We strongly agree that “Qualifying energy storage devices paired with Net Energy Metering (NEM)-eligible generation facilities that meet the Renewables Portfolio Standard Guidebook requirements

shall be exempt from interconnection application, supplemental review, distribution upgrade, and standby charges as additions or enhancements to NEM-eligible systems under the current NEM tariff.”

2. We strongly agree that “Net Energy Metering (NEM)-paired storage systems with storage devices sized at 10 kilowatts alternating current or smaller shall have no requirement to be sized to the customer demand or the NEM generator.”
  
3. We disagree that “For Net Energy Metering (NEM)-paired storage systems with storage devices larger than 10 kilowatts alternating current, a) the discharge capacity of the storage system shall not exceed the NEM generator’s maximum capacity, and b) the maximum energy discharged by the storage device shall not exceed 12.5 hours of storage per kilowatt.” For single-inverter systems, we propose the storage inverter continuous alternating current dispatch capacity be eligible up to 50% larger than the NEM generator’s maximum direct current capacity.
  
4. We strongly agree that “Net Energy Metering-eligible generating facilities with storage devices sized at 10 kilowatts alternating current or less and that have a single inverter must utilize the storage device’s data acquisition system to measure the total (grid) energy drawn into the storage device against the total energy dispatched by

the storage device on an annual basis to determine a de-rate factor...”. We also strongly agree that “Customers shall receive 100% of annual Net Energy Metering credits where the annual de-rate factor is 95% or higher.”

5. We ask for further clarification as to how the ruling “...Fees associated with the metering required shall be no more than \$500...” will be evaluated and what documentation will be required. We also propose placing a cap on the “\$500” exemption such that it does not apply to systems larger than 40 kW alternating current.
  
6. We agree that “The expiration date for affected Self-Generation Incentive Program projects to file applications to claim incentives shall be extended to 120 days after the revised Net Energy Metering tariffs, described in Ordering Paragraph 7, are approved by the California Public Utilities Commission.” We also propose that any affected Self-Generation Incentive Program (SGIP) storage projects that have also reserved incentives from the California Solar Initiative be allowed to also extend the expiration date of those associated reservations.

The following sections discuss the aspects of the PD that we disagree with, request clarification on, or make proposals to amend in more detail.

## **II. THE PD SHOULD ALLOW THE CONTINUOUS AC DISPATCH CAPACITY OF STORAGE DEVICES LARGER THAN 10 KILOWATTS ALTERNATING CURRENT TO BE SIZED UP TO 50% LARGER THAN THE NEM GENERATOR'S MAXIMUM DIRECT CURRENT RATING**

In the case of Sunverge's single-inverter system, photovoltaic (PV) solar sends direct current (DC) power to the battery and system inverter through a DC-to-DC solar charge controller. The solar charge controller's technical specifications are different from the system inverter used to exchange alternating current (AC) power with the site. As such, the maximum PV DC capacity connected to our system is constrained by the solar charge controller's maximum DC charging power – more specifically, the solar charge controller DC capacity is up to 70% less than the shared inverter's AC dispatch capacity. Under the proposed decision, single-inverter systems such as ours would be required to install second charge controller with each system for a total battery charging DC capacity that is 40% larger than the single-inverter AC capacity simply to connect PV capacity equal to our single-inverter's AC capacity to be eligible to discharge our battery at full inverter AC capacity. The rule, as written, would burden our single-inverter system with cost, operational complexity, and up to 40% of excess solar charging capacity that will never be fully utilized.

Additionally, some inverters have both "continuous" and "surge" dispatch capacity ratings. The maximum continuous dispatch rating is used to apply for interconnection and the surge dispatch capacity is used to meet power needs of a variety of home equipment during a grid-outage.

For example, air conditioners and microwaves require a surge of power before leveling back out at a continuous operational power draw. The Sunverge system inverter is capable of supplying critical loads with a surge of power that is twice the continuous inverter power rating for up to 20 seconds. We therefore propose the use of the term “continuous” when referring to the dispatch capacity used to apply for interconnection.

Therefore, we find it both costly and technologically burdensome to limit the battery system discharge capacity to the NEM generator’s maximum AC power rating. For renewable power integrated single-inverter battery systems, we propose the continuous AC dispatch capacity of the inverter be eligible up to 50% larger than the NEM generator’s maximum continuous DC charging capacity.

### **III. THE PD SHOULD CLARIFY AND AMEND NEM METERING COST CAP REQUIREMENTS FOR SINGLE-INVERTER SYSTEMS LARGER THAN 10 KILOWATTS (AND 40 KILOWATTS OR SMALLER)**

In line with the commission’s proposed decision to allow renewable generator facilities (GF) (including storage devices) greater than 10 kW an exemption from metering requirements should the equipment and installation costs exceed \$500, we request clarification on the process and documentation materials an interconnection applicant must provide to qualify such costs for exemption. Additionally, such costs become less significant for GFs larger than 40 kW, but contribute more significantly to installation cost for GFs nearer to 10 kW. Therefore, we propose

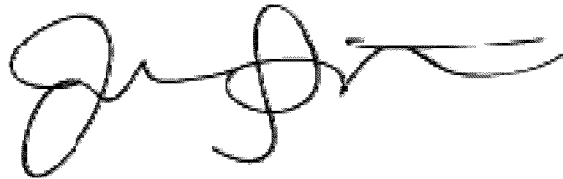
eliminating the cost exemption for GFs larger than 40kW. Pertaining to single-inverter GFs, in cases where the installation of a bi-directional NGOM meter is expected to cost greater than \$500 it is reasonable to allow the same de-rate method proposed for single-inverter systems 10kW and less.

**IV. THE PD SHOULD ALLOW SGIP RESERVATION INCENTIVE CLAIM EXPIRATION DATE EXTENSIONS TO APPLY IN KIND TO ALL OTHER RELATED INCENTIVE PROGRAMS RESERVATIONS**

Some Sunverge reserved SGIP projects also have California Solar Initiative incentive reservations that are directly impacted by the proposed decision. We ask the Commission direct the California Solar Initiative Program Administrators to extend the expiration date of any CSI solar incentive reservation that also has an affected SGIP reservation by the same 120 days.

Executed on May 5, 2014 in Stockton, CA

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Jon Fortune', with a long horizontal flourish extending to the right.

Jon Fortune  
Director,  
Regulatory & Energy Services  
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