

STATE OF NEW HAMPSHIRE**Inter-Department Communication****DATE:** February 15, 2017**AT (OFFICE):** NHPUC

FROM: Barbara Bernstein, Energy Analyst 

SUBJECT: REC 16-727 SolarEdge Technologies, Inc. Request for Waiver of Puc 2505.09(i)(1), Puc 2505.09(a), and Puc 2505.09(g) On-Site REC Meter Inspection Requirements for Independent Monitors

TO: Martin P. Honigberg, Chairman
Robert R. Scott, Commissioner
Kathryn M. Bailey, Commissioner
Debra A. Howland, Executive Director and Secretary

CC: Karen Cramton, Director, Sustainable Energy Division 
David K. Wiesner, Staff Attorney

On July 6, 2016, the Commission received an application from SolarEdge Technologies, Inc., (SolarEdge) requesting approval as an independent monitor under the Puc 2500 rules regarding the Renewable Portfolio Standard (RPS). SolarEdge proposes to implement a remote monitoring and reporting process that varies in certain respects from the process contemplated by the Puc 2500 RPS rules. Staff reviewed the application and recommended that SolarEdge provide a letter requesting waiver requests for specified rules as discussed in more detail below. SolarEdge submitted their letter requesting waivers from three specific rules on October 28, 2016 and provided additional clarifications in a letter received on December 15, 2016. The rule waiver requests have been docketed and Staff recommends that rule waivers be granted for all three requests to permit SolarEdge to implement its remote electronic monitoring process in New Hampshire.

SolarEdge Independent Monitoring Model

SolarEdge states that their company is a market leader in photovoltaic inverters and inverter solutions for residential and commercial systems in North America. SolarEdge provides equipment, renewable energy production verification and reporting services; their inverters (optionally) and monitoring applications automatically collect data from the optionally integrated revenue grade meter installed on each site and report quarterly production data directly to the NEPOOL GIS. SolarEdge states that the system reports the serial number of the production meter to the monitoring application which verifies that the registered meter at the location is the production sending data. In addition, SolarEdge states the company has remote servicing capabilities, field teams, and a call center to provide support to installers and home owners. Company representatives verified in an email received on November 29, 2016, and in the letter received December

15, 2016, that actual reported monthly production data is checked against the expected generation (by kWp DC) to insure it is within acceptable boundaries. Production meter data are also compared with inverter data and module production as references. The SolarEdge system is currently certified for reporting generation by PTS, GATS, and CT Green Bank, as well as Massachusetts.

Rules Waiver Requests for RPS Independent Monitor Approval

Puc 2505.09(i)(1) - the duties of the independent monitor shall be to perform an initial inspection of the source's meters for accuracy and capability to measure the electricity or useful thermal energy produced, unless the meter is owned by a distribution utility that has already inspected it pursuant to Puc 305.

This rule states that one of the duties of the independent monitor is to perform an initial inspection of the installed meter to confirm its accuracy and verify that it is capable of measuring production. The initial on-site inspection is intended to confirm that the meter has been installed properly and to verify that the data to be provided to NEPOOL-GIS will be accurate. According to SolarEdge, the company sells integrated inverters and revenue grade meters that display both the inverter serial number and the meter serial number. The production meter and the inverter are assembled together on a production line, and are tested and validated. SolarEdge production meters begin reporting to the SolarEdge Monitoring Portal through cellular or LAN connection once the inverter and production meter are installed; therefore, SolarEdge has the ability to accomplish these assurances through electronic communication without doing on-site inspections. Each inverter/production meter is assigned a unique serial number which the installer or developer is required to enter when registering the inverter and location in the SolarEdge Monitoring Portal. Solar Edge is assured of proper installation once the production meter appears in the SolarEdge monitoring portal and begins reporting. The SolarEdge Monitoring Portal detects system anomalies and notifies the installer of any system faults. SolarEdge technical support can be available by phone if an installer has a question about meter data validation in the course of installation. SolarEdge is able to continually conduct reasonable data validation with the expected power generation through satellite weather data and through site clustering.

SolarEdge company representatives state that the company sells inverters with fully integrated meters that are ANSI C12.20 certified, +/- 0.5% accuracy and revenue grade. The meters are specifically designed for remote monitoring and are installed at the same time as other solar PV equipment. All SolarEdge inverters with integrated revenue grade meters include remote electronic system production monitoring and reporting services when sold and installed together with a complete PV system. According to SolarEdge, it would be inapplicable for SolarEdge representatives to physically complete an on-site inspection when the installation context often does not offer physical access by a third party.

Staff's review has determined that the SolarEdge system installation procedures and electronic tracking process provide an adequate alternative to the initial on-site

inspection required under the rule. Staff therefore recommends that the Commission approve the SolarEdge request for this rule waiver.

Puc 2505.09(g) - No customer-sited source or source producing useful thermal energy shall use an independent monitor who is a member of the immediate family of the owner of the source, holds a direct or indirect ownership interest in the source, or who sold or installed the renewable energy system and associated equipment;

This rule requires that the independent monitor have no vested interest in the production of renewable energy certificates (RECs) from any monitored renewable energy source. SolarEdge sells revenue grade ANSI C12.20 certified meters that are optionally integrated with the SolarEdge PV inverter. SolarEdge does not receive compensation or otherwise has a financial interest in any renewable energy source using the SolarEdge system that is a function of the production of REC's by that source.

Staff recommends that the Commission approve the SolarEdge request for a waiver of this rule because the mere fact of its sale of certain facility equipment seems unlikely to compromise its independence with respect to the production monitoring and reporting functions it performs remotely.

*Puc 2505.09(a) - An independent monitor shall verify the electricity production of a customer-sited source or the production of useful thermal energy from an eligible source and report such production and REC calculation to the GIS. A customer-sited source or a source producing useful thermal energy shall **retain the services of an independent monitor directly.***

This rule requires that the customer-sited renewable energy source owner retain the services of an independent monitor directly. In the case of SolarEdge, the commitment to provide remote electronic system production monitoring and reporting services is packaged with the sale of the SolarEdge monitoring equipment (i.e., the integrated inverter and production meter), which is installed together with the complete PV system. The SolarEdge independent monitoring commitment through its monitoring portal is provided to the facility at no cost for 25 years. The integrated revenue grade meter reports the energy generation readings to the SolarEdge monitoring platform, which in turn reports at least quarterly to NEPOOL GIS. The waiver request letter states that SolarEdge can do an ongoing validation by comparing production meter data with secondary data sources, such as the expected power generation based on weather data and site clustering.

This transactional model provides PV system owners a reasonable alternative means of obtaining independent monitoring services to measure, verify, and report their PV system production to create RECs. Electronic systems serve to reduce or eliminate potential data entry errors and improve reporting efficiency. Given the accuracy improvements through automation and SolarEdge's ability to offer customer support through its remote servicing capabilities, field teams, and call center, substantial benefits are provided to renewable energy source owners for no extra charge and without the need

for a direct contractual relationship with SolarEdge. Staff therefore recommends that the Commission also approve the SolarEdge request for a waiver of this rule provision.

Staff further observes that, if the Commission were to approve the aforementioned rules waivers, it would be more likely that the State can attract additional independent monitors who also utilize electronic monitoring platforms. An increase in approved and active independent monitors would help alleviate the current shortage in qualified and active independent monitors. Staff understands that such electronic monitoring is prevalent in neighboring states where similar data verification is required.

In conclusion, Staff recommends that the Commission grant the requested rules waivers under Puc 201.05, based on a finding that the waivers will not disrupt the orderly and efficient resolution of matters before the Commission and will serve the public interest, where compliance with the rules would be onerous given the circumstances of the affected person and the purpose of the rules would be satisfied by the alternative method proposed.

SERVICE LIST - EMAIL ADDRESSES - DOCKET RELATED

Pursuant to N.H. Admin Rule Puc 203.11 (a) (1): Serve an electronic copy on each person identified on the service list.

Executive.Director@puc.nh.gov

amanda.noonan@puc.nh.gov

barbara.bernstein@puc.nh.gov

david.shulock@puc.nh.gov

karen.cramton@puc.nh.gov

legal@solaredge.com

sandy.deno@puc.nh.gov

Docket #: 16-727-1 Printed: February 15, 2017

FILING INSTRUCTIONS:

- a) **Pursuant to N.H. Admin Rule Puc 203.02 (a), with the exception of Discovery, file 7 copies, as well as an electronic copy, of all documents including cover letter with:**
- DEBRA A HOWLAND
EXECUTIVE DIRECTOR
NHPUC
21 S. FRUIT ST, SUITE 10
CONCORD NH 03301-2429
- b) **Serve an electronic copy with each person identified on the Commission's service list and with the Office of Consumer Advocate.**
- c) **Serve a written copy on each person on the service list not able to receive electronic mail.**