BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of: the Notice of Proposed New Rule 746-700, Standards for Interconnection of Electrical Generating Facilities to Public Jurisdiction Under the Public Service Commission	Docket No. 09-R312-01

Comments of Utah Clean Energy
Submitted October 1, 2009

A. Background

Utah Clean Energy, a 501(c) (3) non-profit public interest organization working to advance energy efficiency and renewable energy in Utah, has been engaged on the matter of interconnection standards since 2006, when the Public Service Commission began addressing the revised PURPA standards under the EPACT 2005 through technical conferences and workshops held with participating stakeholders. The Commission and involved parties have put forth a significant amount of time and effort to address Utah's interconnection standards, and we appreciate the opportunity to submit the following comments on the proposed revised standards (hereafter referred to as "Draft Rule") in Docket No. 09-R312-01. Questions regarding these comments can be directed to Sara Baldwin, Senior Regulatory & Policy Associate with Utah Clean Energy (contact information provided below).

B. Support for Draft Rule

Utah Clean Energy supports the proposed rule for interconnection standards, with some recommendations and minor changes provided herein. The Draft Rule reflects a notable improvement over Utah's prior interconnection standards and procedures; and, if adopted with some minor revisions, will serve to remove barriers to and help streamline the adoption of distributed renewable energy technologies. The Commission's Draft Rule effectively addresses the complex issues raised during the workshops, addresses safety and technical feasibility

concerns of interconnected facilities, and reflects the national best practices for interconnection.[1]

We strongly agree with the statement issued by Commissioner Boyer on page 3 of 4 of the Notice of Proposed New Rule:

> *The proposed rule established greater uniformity in the process and the means through which electricity generating resources, not owned by a public utility, may be connected with a public utility's electricity distribution system. It follows existing practices of affected utilities, the requirements of the federal regulatory commission, or processes and procedures reasonably expected for safe and efficient interconnection of the size of resources subject to the proposed rule. As it provides for greater consistency on the terms and conditions for interconnection, it is expected to reduce transactions costs associated with interconnecting these types of facilities and represents a reasonable balancing of the interests those individuals who wish to interconnect their facilities and public utilities with whom interconnection is sought.*[2]

Specifically, Utah Clean Energy supports the following provisions in the Draft Rule:

1. The three proposed interconnection levels logically coincide with the state's recently adopted net metering limits of 25 kW (Level 1) and 2 MW (Level 2), and large exporting distributed generation systems outside of FERC jurisdiction (< 20 MW, Level 3). However, Utah Clean Energy recommends adding a 4th level to accommodate for certain non-exporting systems (described further in Section C.5 below).

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[1] Accepted best practices for interconnection can be found in: *Freeing the Grid: Best and Worst Practices in State Net Metering Policies and Interconnection Standards, 2008 Edition.* Interstate Renewable Energy Council. October 2008. URL: http://www.newenergychoices.org/uploads/FreeingTheGrid2008_report.pdf - and - Sheehan, Michael, P.E., *Utility External Disconnect Switch: Practical, Legal, and Technical Reasons to Eliminate the Requirement.* Solar America Board for Codes and Standards. September 2008. URL: http://www.solarabcs.com/utilitydisconnect/ABCS-05_studyreport.pdf - and - Coddington, M.H, Margolis, R.M., and Aabakken, J. *Utility-Interconnected Photovoltaic Systems: Evaluating the Rationale for the Utility-Accesible External Disconnect Switch*. National Renewable Energy Laboratory. January 2008. NREL/TP-581-42675.

[2] Department Head Comments, Notice of Proposed New Rule, Utah Public Service Commission, Docket 09-R312-01, 13 August 2009.

2. Given that most residential and small commercial scale systems fall into Level 1, the more simplified review process with no additional fees for these systems will help remove barriers to the adoption of renewable energy across the state. Utah Clean Energy suggests some slight adjustments to timelines for the Level 1 review process (described further in C.2 below) to further simplify and expedite this process.
3. Utah Clean Energy supports the exemption of an insurance requirement for systems up to 2 MW, as this will remove an unnecessary and potentially costly barrier for residential and commercial systems.
4. Utah Clean Energy supports the reasonable disconnect switch provisions and protocol for utilities who elect to adopt the disconnect switch requirement for larger systems. However, we suggest these provisions be extended to include all Level 1 systems (see Section C.6 below).
5. We support the provisions for a timely and reasonable dispute resolution process by the Commission.
6. We support the provisions allowing for aggregation of meters, which will help accommodate customers with multiple meters and allow for new opportunities for the adoption of distributed generation.

C. Recommendations

Utah Clean Energy recommends the following changes to help clarify and/or further improve the effectiveness of the rule:

1. Revise the definition of a "Generating Facility" (Rule 746-312-2(11)) to clarify that a generating facility can include the interconnection customer's "equipment package," as defined in (Rule 746-312-2(7)).

2. With respect to the Level 1 Interconnection Review, Utah Clean Energy recommends changing/adding the following provisions to expedite the time frame for Level 1 projects without causing any undue burden on the utility:
    a. Encourage utilities to offer an electronic application submittal process, and change the time frame for the public utility to acknowledge receipt of the

electronic submission to *one* business day after receipt (Rule 746-312-8 (2)(b)). This could also be in the form of an auto-mated response. This comment also applies to proposed Levels 2 and 3.

b. Allow five (instead of ten) business days for a utility to send notification to the interconnection customer whether the interconnection request is complete (Rule 746-312-8 (2)(c)). Shortening this time frame could help mitigate unnecessary and costly delays to interconnection, and allow distributed electricity to come on-line sooner, providing dual benefits to the customer and utility. Given the relative simplicity of the application, this change should be reasonable to accommodate.

3. Utah Clean Energy recommends that a cap be placed on the total cost incurred by the customer for the feasibility and impact studies for Level 2 and 3 interconnection (Rule 746-312-9 (2)(e)(ii) and Rule 746-312-10(2)(e)(ii)). We suggest a cap of 125% of the estimated cost of the studies, or some other mutually agreed upon amount, which will still allow the utility to recover their costs, while providing added customer protection against potentially exorbitant/unlimited costs. We also suggest adding a provision to allow for the utility and customer to make necessary financing arrangements in the event the costs are higher than the customer is able to pay for up front (i.e. invoices as costs are incurred by the utility). It is our understanding the Interstate Renewable Energy Council is updating their Model Interconnection Standards to reflect this issue; as such, the Commission could refer to this language for guidance on this matter.[3]

4. In Section 746.312.7(1)(J), remove the word "smaller" since only one option is provided.

[3] Personal communication with Jason Keyes, Keyes & Fox, LLC, representing the Interstate Renewable Energy Council. September 2009. The model interconnection standards will likely be available on-line at www.irecusa.org in October 2009.

5. Utah Clean Energy recommends that a fourth level of interconnection review be added to this rule to accommodate for large, non-exporting distributed generation systems that will not supply any generation to the grid. For example, across the country, large commercial and industrial customers are installing distributed generation on-site as a means to reduce their load and minimize their energy footprint; however, they are not generating enough electricity to provide excess to the grid at any time, given their large base load (i.e. the output of the system will never exceed their minimum electricity requirement). These systems are inherently distinct from exporting systems in that they do not have the same impacts on the distribution system – with appropriate equipment to assure no energy is exported, there is no concern that these facilities will back-feed and potentially damage the distribution system. As such, it makes sense that these types of systems can feasibly interconnect with a different level of review. Rather than require that these customers go through the costly and time-consuming studies and analysis required of exporting generation systems (Level 3), a more logical approach is to provide these systems with their own level of review. This issue will also be addressed in the IREC's Model Interconnection Standards referenced above.

6. Utah Clean Energy appreciates the provisions for the disconnect switch in the Draft Rule and would like to see the exemption for disconnect switch requirement be extended to all inverter-based Level 1 interconnection systems (systems up to 25 kW). A recent report issued by the Solar America Board of Codes and Standards (Solar ABCs) and the Interstate Renewable Energy Council (IREC) - with support from the U.S. Department of Energy - found the following concerning utility external disconnect switch (UEDs):

> *[T]housands of PV systems in many jurisdictions have been connected to the utility grid both safely and effectively without a Utility External Disconnect Switch (UEDS). Indeed, there is increasing evidence that UEDSs are seldom, if ever, used. The history of safety recorded from these jurisdictions demonstrates that when PV hardware meeting Underwriters Laboratories (UL) and Institute of Electrical and Electronic Engineers (IEEE) standards is installed in compliance with the National Electrical Code® (NEC)*

and operated according to procedures mandated by OSHA and in accordance with recognized Best Practices, the UEDS is not needed to ensure safe operation of a PV system. In fact, for properly designed and installed Code compliant PV systems, the UEDS provides little, if any, additional safety, beyond what is already present. Indeed, utilities increase their risk of liability when they require the UEDS for safety during maintenance or emergency.

--and--

[T]he UEDS fails to provide the "fail safe" protection that is its justification, is functionally redundant to the traditional practice of "pulling the meter," and adds unnecessary cost to a PV system.[4]

In light of the report findings, a few states and several utilities have recently elected to remove the disconnect switch requirement for inverter-based systems greater than 10 kW, providing they comply with IEEE 1547 and UL 1741, such as Delaware (up to 25 kW), New Hampshire (up to 100 kW), and New York (up to 25 kW).

Utah Clean Energy recommends that the Draft Rule follow this example and extend the proposed disconnect provisions for all inverter-based systems up to 25 kW. In line with accepted best practices and growing adoption across the country, this would help remove an additional barrier and expense to distributed generation, without compromising the safety or technical operation of the interconnected system.

D. Conclusions

Utah Clean Energy commends the Commission for the provisions proposed in the Draft Rule and for all their work on interconnection over the past few years. We appreciate the opportunity to be involved in this important process.

[4] Sheehan, Michael, P.E., *Utility External Disconnect Switch: Practical, Legal, and Technical Reasons to Eliminate the Requirement*. Solar America Board for Codes and Standards. September 2008. Executive Summary, page 5. URL: http://www.solarabcs.com/utilitydisconnect/ABCS-05_studyreport.pdf.

Respectfully,

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