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 THE
INTERSTATE RENEWABLE ENERGY COUNCIL

The Interstate Renewable Energy Council (IREC) submits these comments pursuant to Section 12 of the "Notice of Proposed New Rule" of August 13, 2009 in the above-captioned docket. IREC was an active participant in the interconnection workshops held by the Public Service Commission (Commission) and appreciates the opportunity to submit comments on the Commission's proposed new rule (Draft Rule).

For over two decades, IREC has worked as a non-profit organization to accelerate the sustainable utilization of renewable energy resources. IREC is supported by the U.S. Department of Energy to participate in net metering and interconnection rulemakings and has been involved in more than twenty state utility commission rulemakings in the past two years. IREC publishes model net metering and interconnection procedures, both of which have just been updated and will be available at www.irecusa.org in the coming week.

The Draft Rule includes many of the features of the IREC model and would effectively remove barriers that have hindered renewable energy deployment in many states. Using the grading criteria for interconnection procedures used in *Freeing the Grid 2009*[1], the Draft Rule would be among the best in the country. Thoughtful review by the Commission has resulted in a

[1] *Freeing the Grid 2008* is available at www.newenergychoices.org; the 2009 edition will be available in the coming month. IREC is part of the team that develops this document.

Draft Rule that appears to improve upon the already strong Oregon procedures that were thoroughly reviewed in the Utah workshops. IREC commends the Commission on its Draft Rule and comments below on only a few points.

In the comments below, IREC suggests that: (1) the Draft Rule incorporate a fourth level for customers that install devices to make it impossible to export energy to their utility; (2) study costs be capped at 125% of estimated cost; (3) the waiver of the disconnect switch apply to all Level 1 generating facilities; and (4) timelines for review be modified. In addition, a few minor edits are suggested.

I. Use of a Separate Level for Non-Exporting Systems

IREC has suggested for years that generating facilities that cannot export power should not be subject to an important limitation imposed on standard generating facilities. Draft Rule 746-312-7(b) provides that for facilities interconnecting to a radial distribution circuit, the aggregate generation on the circuit cannot exceed 15% of the circuit's peak load, but this rule only makes sense in the context of facilities that can export.

The purpose of the screen capping generation at 15% of peak load is to assure that generation does not exceed load on the circuit at any time, given the possibility that power fed back through a substation transformer might cause damage. A more straightforward screen would limit generation to annual minimum load on the circuit, but annual minimum circuit load is typically not tracked. Based on the typical ratios of maximum circuit load to minimum circuit load, the federal procedures adopted the 15% screen.

For non-exporting facilities, the screen is not necessary. These facilities do not feed power onto the circuit, and therefore there is no concern that power will be fed from these

facilities back through the substation transformer. At the most extreme, imagine a circuit with ten megawatts (MW) of annual peak load populated entirely by low load factor industrial customers with non-exporting solar energy facilities. Each customer might install a solar array sized at the customer's approximate daytime minimum load, and install minimum import relays to assure that no power can be exported. With that scenario, the aggregate generating capacity might be 50% or more of the circuit annual peak load, but there is no potential to feed power back to the substation.

Without a separate level for non-exporters, such facilities will fail the 15% of circuit peak load screen, potentially shifting them into the Level 3 study process with additional cost, unnecessary delay, and uncertainty that approval will be forthcoming. As well, non-exporting facilities over 2 MW would not qualify given the cap on the Level 2 process. The practical result in most cases is that facilities that could have been installed will not be installed.

A non-exporting level has been implemented in both Maryland and Illinois. Both states have rules very similar to the Draft Rule, because all three have their genesis in the MADRI Model, with substantial improvements.[2] In Illinois, the non-exporting level covers facilities up to 10 MW, though it does not waive the 15% of circuit peak load limitation.[3] In Maryland, the same process is used, and the percentage of circuit peak is capped at 25% instead of the 15% cap used in Level 2.[4]

Ideally, the Draft Rule would include a Level 3 for non-exporting facilities up to 10 MW, using the simple provisions of IREC's model rule, cited above. In the process, references to the existing Level 3 would need to be relabeled as Level 4. A simple alternative would be to allow

[2] The Mid-Atlantic Demand Resource Initiative Small Generator Interconnection Procedures (MADRI Procedures), available at www.energetics.com/madri/pdfs/inter_modelsmallgen.pdf.
[3] 83 Ill. Adm. Code, Part 466. Non-exporting facility provisions at Part 466.1110.
[4] COMAR 20.50.09 Small Generator Interconnection Standards. Non-exporting facility provisions at Part 20.50.09.11(D)(2), available at http://www.dsd.state.md.us/comar/getfile.aspx?file=20.50.09.11.htm.

in the Level 2 procedures that aggregate generation on a circuit is the total of all facilities capable of export. While this would not permit non-exporting facilities over 2 MW, it would address the problem for non-exporting facilities on circuits that are approaching the 15% cap.

II. Capping Study Costs

Under Level 3 of the Draft Rule, when the interconnection customer agrees to a feasibility, impact, or facilities study, the customer agrees to pay the estimated cost of the study up front and any additional actual cost after study completion. Without a limitation, this presents the potential for substantial cost overruns. A simple approach is to cap the total cost at 125% of the estimated cost unless the parties agree otherwise. The intent is to assure that the utility recovers its costs while giving the customer some certainty.

Recognizing that a study may require more time than envisioned and that the interconnection customer is likely to still want a completed study, the Draft Rule can provide that the utility may bill for up to 50% of the original estimated cost for an incomplete study if the interconnection customer does not agree to the revised estimated cost. Presumably, the utility should be able to recognize a looming substantial cost overrun prior to spending half of the study budget. Various alternatives are possible, and IREC suggests that any limitation would be preferable.

Finally, IREC suggests that greater elaboration would be helpful regarding payment for interconnection facilities and upgrades. This cost may eclipse the cost of all of the Level 3 studies, but it is only briefly referenced in Draft Rule 746-312-10(2)(g)(iv), which says the utility shall approve the interconnection request after the customer agrees to pay for the utility's costs. For a large facility, there may be costs extending over many months and it would be appropriate

to bill the customer for these costs as they are incurred by the utility rather than entirely up front. The IREC model or the Illinois rule provide examples of how this can be achieved.

III. Waiving the Disconnect Switch for Level 1

The utility external disconnect switch was discussed at length in the Utah workshops, and the Draft Rule 746-312-4(2) waives the disconnect switch requirement for inverter-based systems under 10 kW. As the Utah workshops came to a close, two peer-reviewed studies of the need for the switch were completed, indicating that a higher cutoff is safe.[5] In light of these reports, New York established a 25 kW cutoff and New Hampshire established a 100 kW cutoff within the past year. As well, San Diego Gas & Electric has recently proposed waiver of the requirement for facilities under 30 kW.

Given the growing recognition that a disconnect switch is unnecessary for systems at least somewhat larger than 10 kW, IREC suggests that the waiver be increased to 25 kW in the Draft Rule.

IV. Updating Timelines

In several respects, the Draft Rules can speed the review process and clarify the order of events without adding a burden to the utility. IREC has four separate suggestions:

(a) Require that the utility accept interconnection requests on-line or via email, in addition to mailed or hand-delivered requests. By doing this, the utility can automatically generated the notice that the request has been received, allowing the Level 1 notice

[5] (1) National Renewable Energy Laboratory, January, 2008. Utility-Interconnected Photovoltaic Systems: Evaluating the Rationale for the Utility-Accessible External Disconnect Switch. Technical Report No. NREL/TP-581-42675. Available at http://www.nrel.gov/docs/fy08osti/42675.pdf; and (2) Solar America Board for Codes and Standards, September, 2008. Utility External Disconnect Switch: Practical, Legal, and Technical Reasons to Eliminate the Requirement. Available at http://www.solarabcs.org/utilitydisconnect/ABCS-05_studyreport.pdf.

requirement in Draft Rule 746-312-8(1)(b) and similar provisions for Levels 2 and 3 to be set at a single day rather than three days for requests sent electronically.

(b) Speed the review process for Level 1. Draft Rule 746-312-8(1)(c) gives the utility 10 business days to determine whether a request is complete. The request is a two page form; reviewing for completeness is a five minute process of checking that the blank lines have something legible written on them. Five business days for notification is ample. Draft Rule 746-312-8(1)(d) provides that the utility has 10 business days after issuing the notice of completeness to actually review the application for approval. While 10 business days is a reasonable timeframe for review, the rule gives the utility a full 20 business days for review if you include the time for the completeness review. IREC proposes that the 10 day period for review begin with receipt of the complete request, rather than when the utility sends the acknowledgement that the request is complete. Along with these timelines, Draft Rule 746-312-8(2)(f) should be shortened to a 20 business day window in which the utility must complete its review or else approve the request by default.

(c) Allow the witness test to precede receipt of the electrical inspector's documentation. The Level 1 process in Draft Rule 746-312-8(4) and similar provisions for Levels 2 and 3 provide that the utility has ten business days after receipt of "all required documentation" including "documentation of satisfactory completion of inspections by non-company personnel". While an electrical inspection should be required, it is not necessary for that inspection to precede the witness test by the utility. By requiring sequential approval, a customer is likely to be delayed by a full two weeks from interconnecting a new facility. The clean renewable energy that could have been generated in that period will be lost and the customer will be frustrated by the delay.

(d) Review the Level 3 study sequence to assure that any number of studies may be done. For example, Draft Rule 746-312-10(2)(d)(ii)(A) correctly notes that the parties can agree to not perform any of the studies, but part (d)(iii)(B) says that if the parties waive a feasibility study, the utility will provide a system impact study agreement. That should not be a requirement, since the parties may agree that no system impact study is needed.

V. Minor Edits

Minor edits are proposed below, with a separate paragraph for each item.

The definition of a Generating Facility in Draft Rule 746-312-2(11) states that a generating facility does not include "the interconnection customer's interconnection facilities." That would seem to exclude the interconnection customer's equipment package from the definition, but that term notes that an equipment package can include a generator. Thus, excluding the equipment package from the generating facility could result in a generating facility with no parts. As used throughout the Draft Rule, the generating facility appears to contemplate that the equipment package is included, and the definition should be changed. Various references to the "generating facility and the equipment package" would need to be revised as well.

The definition of Generation Capacity in Draft Rule 746-312-2(12) is based on the "nameplate capacity of the power generating device(s)", implying that solar module DC-rated capacities would be used. It is typical for the AC-rating of the inverter to be used instead. The definition can then exclude the qualifier that generation capacity does not include the effects caused by inefficiencies of power conversion or plant parasitic loads."

Remove "the smaller of" from Draft Rule 746-312-7(1)(j); only one option is presented.

VI. Conclusion

IREC appreciates the opportunity to provide these comments and welcomes any inquiry by Commission Staff or other interested parties.

On behalf of the Interstate Renewable Energy Council,

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