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**General comments on proposed rulemaking and current draft version**

The purpose and intention of this rulemaking appears to be somewhere between compliance with the Energy Policy Act of 2005 (Section 1254(a)) order for state regulatory authorities to establish a standard for interconnection, and an accommodation of public input for compliance with the order. Unfortunately, it does not appear to be a thoughtful and independent approach toward facilitating the interconnection of distributed generation in Washington State. I hold this opinion primarily because the development of the proposed rulemaking has been a relatively closed proceeding (when compared with other states that have developed stakeholder working groups – including members that do not represent electric companies), and still does not ensure that an applicant will be successful in their attempt to interconnect a generator to the electric company's system, even if they meet all required safety and technical standards outlined in WAC 480-108-020. For both groups of generators (under 300kW, and 300kW – 20MW), the current draft version establishes some uncommon requirements for interconnection, including a customer responsibility to provide and pay for a remotely accessible production meter, the inability to export electricity into a network grid, and customer responsibility for changes to the electrical company's system. The proposed rule also includes an additional layer of compliance with an individual electric company's electrical service requirements (the document where interconnection procedures are found) before approval is granted. If each individual electric company develops, or has developed, its own requirements for interconnection then there is no true "state standard".

As evidenced in the Public Power Ad-Hoc Interconnection Standards Committee (PPAISC), most electric companies believe that their system is 'unique' and 'different' than others in the State and in the Country. This mentality will eventually lead them to develop their own, separate electrical service requirements. While the 'different system' mentality is true to some degree, there are many instances where it is not. If a customer

is able to use a UL-certified 1kW vacuum cleaner intermittently (and without advance notice) in any electrical company's service territory in the State, why is a 1kW solar photovoltaic generator (also with UL-certification) treated any differently? The current draft version assumes that *generation* of electricity creates more adversity than *consumption* of electricity, on any scale or size. This is not true, and there are many examples where a large industrial customer (under 20MW of electric-load) has more adverse effects on a distribution system than a small generator (under 100kW) does. Why then is the generator treated so differently, especially when distributed electrical generation into a local distribution system can have positive effects on power quality, reliability, and resource adequacy? In the case of a combined heat and power (CHP) project, interconnection will be required for an onsite generator - yet CHP on a whole has been determined to be an 'energy efficiency tool', as defined in Initiative 937. This varying treatment of generation versus conservation (in the case of CHP) is confusing to both equipment manufacturers and interconnection applicants alike.

Other states (Texas, Hawaii, California, Oregon, others) have determined that interconnected distributed generation holds positive attributes for the electric grid, and for our society – in general (the State of California has identified 17 benefits[1]). It is clear from this current draft version that Washington State has not yet taken a position on distributed generation. This draft does not facilitate the interconnection of distributed generation, and instead puts the matter into the hands of each individual electric company to decide if they 'want to', or not. Due to the monopolistic nature of electric companies within the electric power industry and their historical resistance toward risk, something must be done to facilitate a paradigm shift that can help us achieve the proven benefits of distributed generation. The citizens of Washington State look to the UTC to facilitate this transformation.

The past few versions of this rulemaking have followed a common pattern. A draft is issued, comments are received, the comments are either accepted or rejected, and then another draft is issued based on these comments and other minor changes. This latest version, however, has taken drastic turn away from this pattern and has somehow incorporated a wide range of verbiage and thought patterns that cannot be attributed to the public comments on record. Because of this, it leaves one to wonder where some of the verbiage and thought patterns have emerged from, if not from the transparent public venue. In addition, advocates for distributed generation are continually 'playing defense' due to comments injected by the electrical companies at the 'final hour' that add discriminatory and unjustifiable requirements for interconnection applicants.

State and National stakeholders look toward the leaders of Washington State to continue the progressive march toward transforming the electric grid to create a more reliable, more cost-effective means of generating and delivering electricity to its citizens.

[1] State of California, California Energy Commission: "Distributed Generation Costs and Benefits Issue Paper". Rawson, M., July 2004

**Specific comments on proposed rulemaking and current draft version**

480-108-020 "Technical standards for interconnection"
Section 1; part (i) "Code and standards" – page 14

*Current language*
"All interconnections must conform to all applicable codes and standards for safe and reliable operation. Among these are the National Electric Code (NEC); National Electric Safety Code (NESC); the ~~((Institute of Electrical and Electronics Engineers (IEEE), American National Standards Institute (ANSI), and))~~ standards of the North American Electric Reliability Corporation (NERC); the standards of the Western Electricity Coordinating Council (WECC); American National Standards Institute (ANSI); Underwriters Laboratories (UL) standards; local, state and federal building codes, and the electrical company's written electric service requirement, if any."

*Proposed Language*
"All interconnections must conform to all applicable codes and standards for safe and reliable operation. Among these are the National Electric Code (NEC); National Electric Safety Code (NESC); the Institute of Electrical and Electronics Engineers (IEEE), ~~American National Standards Institute (ANSI), and~~ standards of the North American Electric Reliability Corporation (NERC); the standards of the Western Electricity Coordinating Council (WECC); American National Standards Institute (ANSI); Underwriters Laboratories (UL) standards; local, state and federal building codes, and the electrical company's written electric service requirement, if any."

*Comments*
IEEE is struck as a general compliance measure, yet is referenced as a specific compliance measure in:
Pages 8, 11, 12 (Note #6), 14, 16, 17, 18, 34, 39,
IEEE is also used as a literary reference in:
Pages 44, 45, 46
We will assume that this was an error and we hope it will be corrected in the next draft version. If not an error, then there are inconsistencies within this rulemaking that make it difficult (if not impossible) to comply with.

480-108-020 "Technical standards for interconnection"
Section 1, part (i) "Code and standards" – page 14

*Current language*
"All interconnections must conform to all applicable codes and standards for safe and reliable operation. Among these are the National Electric Code (NEC); National Electric Safety Code (NESC); the standards of the North American Electric Reliability Corporation (NERC); the standards of the Western Electricity

Coordinating Council (WECC); American National Standards Institute (ANSI); Underwriters Laboratories (UL) standards; local, state and federal building codes, and the electrical company's written electric service requirement, if any. Electrical companies may require verification that an interconnection customer has obtained all applicable permit(s) for the equipment installations on its property."

*Proposed language*
"All interconnections must conform to all applicable codes and standards for safe and reliable operation. Among these are the National Electric Code (NEC); National Electric Safety Code (NESC); the standards of the North American Electric Reliability Corporation (NERC); the standards of the Western Electricity Coordinating Council (WECC); American National Standards Institute (ANSI); Underwriters Laboratories (UL) standards; local, state and federal building codes~~, and the electrical company's written electric service requirement, if any~~. Electrical companies may require verification that an interconnection customer has obtained all applicable permit(s) for the equipment installations on its property."

*Comment*
WAC 480-108 is supposed to, through Section 1254(a) of the Energy Policy Act of 2005, establish common and standardized interconnection procedures across all electrical companies in the State. It should not defer to the individual electric company's requirements for interconnection. The current language diminishes the importance of a State 'standard', and leaves each applicant to deal with varying degrees of electrical service requirements across multiple electrical companies in the State. There should be standardized safety and technical requirements across all electrical companies in the State that are separate from interconnection procedures. Unfortunately, the current draft leaves an 'open door' for each electrical company to develop interconnection procedures within their electrical service requirements.

480-108-020 "Technical standards for interconnection"
Section 2, part (e) – page 16

*Current language*
"The electrical company must verify on the basis of evidence provided by the interconnection customer that the generating facility will never cause reverse current flow through the electrical company's network protectors."

*Proposed language*
"The electrical company must verify on the basis of evidence provided by the interconnection customer that the generating facility will never cause reverse current flow through the electrical company's network protectors, unless



approved by the electrical company through Net Metering or some other Commission-approved power exchange contract."

*Comment*
The current language is too prohibitive and does not reflect the cases where the electrical company has approved a grid or spot network interconnection, as well as a power exchange contract that allows export of electrical power into a grid or spot network distribution system.

480-108-020 "Technical standards for interconnection"
Section 4 – page 17

*Current language*
"In addition to the requirements in subsections (2) and (3) of this section, all noninverter-based interconnections and all inverter-based interconnections failing to meet the requirements of subsection (3) of this section may require more detailed electrical company review. Electrical companies may require interconnection customers to pay for testing and approval of the equipment proposed to be installed to ensure compliance with applicable technical specifications, in their most current approved version…."

*Comments*
In the interest of simplifying (to reduce time and cost of the application process) and defining 'acceptable' and 'not-acceptable' equipment for interconnection, an "equipment pre-certification" list should be developed by either a technical standards working group, comprised of various stakeholders in the State, or by a State-sanctioned third party. The advantage of equipment pre-certification is that a working group, or some other third-party, performs a defined series of tests on a sample of a device and the results can be used repeatedly by different installers at different sites and utilities. The advantage to the equipment manufacturer is that they only have to pay for the test one time; for the utilities the advantage is that they don't have to endlessly perform equipment type tests and someone else has assumed the responsibility for ensuring that the equipment does what they say it will do.
This approach has worked quite well in Texas and California, and has created a better understanding of which equipment is "acceptable", and which ones "require more information". This pre-certification list helps to define which applications should go through the "Simplified review process" and which go through the "Supplemental review process", as defined in WAC 480-108-035.
Part of the process of developing a pre-certification list will be to review new technology types and manufacturers on an ongoing basis. This ongoing review will ultimately take the burden away from applicants to determine compliance with applicable technical specifications for interconnection. If an electric company and/or applicant embarks on an investigation to determine compliance for specific equipment, the results should be posted on a common and non-

partisan website (or similar), so that the same studies are not done repeatedly on the exact same equipment type or manufacturer. This working group would also be responsible for keeping current with any changes that may occur in the organizations that create safety standards (IEEE, UL, ANSI, etc), so that they are not pre-certifying equipment that is inconsistent with national safety standards.

WAC 480-108-035 - "Model interconnection agreement, review, and acceptance of interconnection agreement and costs."

Section 5 – pages 23-24

*Current language*

"The electrical company will provide the interconnection customer with the results of the studies conducted under subsection (4) of this section. If the studies determine that the interconnection is not feasible, the electrical company will provide notice of denial to the interconnection customer and the reasons for the denial."

*Comment*

All generator interconnection requests under 20MW are 'feasible'. Necessary studies and costs are to be detailed through the "Supplemental review process" in WAC 480-108-35, Section 4, and if the applicant chooses to continue with the interconnection then they are free to do so. Some interconnection applications require more stringent engineering studies and examination than other projects, and the language should be changed to reflect such. The choice should ultimately be left up to the applicant as to whether to pay the costs and do the necessary studies.

WAC 480-108-040 - "General terms and conditions of interconnection"

Section 7, part (b) - "Production metering" – page 28

*Current language*

"The electrical company may require separate metering, including metering capable of being remotely accessed, for production. This meter will record all generation produced and may be billed separately from any net metering or customer usage metering. Costs associated with production metering will be paid by the interconnection customer."

*Proposed language*

"The electrical company may require separate metering~~, including metering capable of being remotely accessed,~~ for production. This meter will record all generation produced and may be billed separately from any net metering or customer usage metering. Costs associated with production metering will be paid by the electric company ~~interconnection customer~~. The electric company may waive the requirement for a separate production meter if the applicant can show that their generator is metered in an acceptable manner."

*Comments*

1. Discriminatory

The requirement for applicants to install a production meter capable of being remotely accessed is discriminatory and costly. Customers engaging in stringent electrical conservation projects are not required to install a remotely accessible production meter, nor are new customers that apply for basic electrical service. The electrical companies are not retrofitting all of their existing meters to be remotely accessible, and there is no standard in the State that references any requirement for a remotely accessible production meters for all customer classes.

2. Costly

Remotely accessible production meters are costly (often 10-20 times more than a traditional electrical consumption meter), and require more maintenance than traditional (non-remotely accessible) meters. Because this is a requirement of the electric company, they should bear the costs associated with it – unless an alternative method for production metering can be agreed to.

3. No alternative method offered

Inverters and software programs are often deemed an 'acceptable' method of production metering, and so some alternative method of production metering should be offered in the draft language to accommodate those applicants that are interested in pursuing it. While there is certainly value in production metering in general, having a meter that is remotely accessible is not necessary for safe interconnection.

WAC 480-108-040 - "General terms and conditions of interconnection"

Section 14 – pages 31-32

*Current Language*

"The interconnection customer is responsible for costs associated with future upgrades or modification to its generating facility or interconnection facilities made necessary by modifications the electrical company makes to its electrical system."

*Proposed Language*

"The interconnection customer is responsible for all costs associated with future upgrades or modification to its generating facility or interconnection facilities ~~made necessary by modifications the electrical company makes to its electrical system~~. If there are modifications to the electrical system that necessitates an upgrade or modification to the generating facility or interconnection facilities, then the electrical company and interconnection applicant shall share the costs required to make those modifications.

*Comments*

The proposed language is discriminatory toward interconnection applicants because it does not apply to existing customers of an electrical company. The

applicant should only be responsible for changes that are made to their facilities as a result of modifications or changes the applicant chooses to make. If an electrical company makes changes to their system, are all customers currently required to make changes to their own facility in order to comply with the changes made by the electrical company? If the answer to this question is 'no', then it should not apply toward interconnection applicants either.
The current language has the potential to create a 'cat and mouse game' between the electrical company and the interconnection applicant, based on a recurring series of changes made by the company and the requirement for the applicant to bear all costs for compliance.

WAC 480-108-080 "Interconnection service tariffs"
Section 1

*Current language*
No later than December 31, 2007, each electrical company over which the commission has jurisdiction must file an interconnection service tariff for facilities with nameplate generating capacity greater than 300kW but no more than 20MW.

Comment
As mentioned in the 'general comments' section above, separate interconnection procedures developed by individual electric companies do not comprise a "state standard". The Energy Policy Act of 2005 Section 1254(a) is intended to develop a consistent standard across multiple electric companies in a state and region.

I would like to specifically thank UTC Chairman Mark Sidran and the UTC Commissioners for extending the public comment period so that I, and others, have ample opportunity to provide our thoughts and suggestions toward the proposed rulemaking. Please don't hesitate to contact me for further explanation or clarification of my comments.
Sincerely,

Chuck Collins