

Peak Electrical Services, Inc.
14972 Lincoln St.
Anacortes, WA 98221
360-588-8706

December 5, 2005

To: Dick Byers, Washington Utilities and Transportation Commission

Re: **Customer-owned generation interconnection standards Docket # UE-051106**

Mr. Byers,

Thank you for allowing me to comment at the Friday 12/2/05 hearing/workshop in the above matter. I realize as Representative Morris noted that these standards are being developed to apply to all customer-owned generation not just Photovoltaic (PV) systems, but my comments primarily relate to photovoltaics.

I am writing today to confirm my comment at the hearing. In specific, it relates to the utility application process. As I noted our company is a Washington State signatory electrical contractor and has five years of experience in the installation and maintenance of Photovoltaic systems. As the details of how SB5101 (Photovoltaic and other renewable energy production credits) are being worked out by the utilities it appears they have come up with a uniform application document that is to be processed to them for each system installation (Appendix B Example 2 of 2).

We must hope that the majority of building owners who choose to install PV systems have them installed by licensed electrical contractors. Even licensed electricians will require specialty electrical training to safely and competently install these systems. In an effort to prepare for this event, several Joint Apprentice Training Centers (JATC) operated by both employers and union electricians already teach Grid Tied Photovoltaics courses. My experience in dealing with these systems in the field is such that I feel that this should be the minimum standard of training required for persons installing these systems. Proof of training in the above course should be made part of the utility application process.

This brings me to my second point. I am well aware that Washington State law allows for a building owner to install wiring on residential facilities that they own and reside in. The proposed utility application has a portion where a residential building owner can check a box noting that they are the installers. This has two problems associated with it. First, if the building owner is truly performing all aspects of the application process, design, purchase, installation and commissioning of their system, where is it that they got there specialty training? If this is new and specialized technology for licensed electrician's to understand, how is it that the average homeowner will possess the required skills to connect live, several hundred volt DC systems on their rooftops, then connect these generating systems to the electrical power grid. Those of us that have observed the average homeowner on a Saturday morning in a Lowes or Home Depot store struggling to find components to install or modify their home wiring systems understand this peril.

The second component that I find troubling about the building owners claiming to be installing their own PV systems is this: There has been an underground and

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un-licensed installer business operating in Washington state for many years. The process works in a way that the building owners personally purchase the required electrical permits for the electrical work being done (in this case PV system install). The system is then installed by the un-licensed or improperly licensed installer. I have heard of PV systems and small wind systems even being installed by solar hot water licensed contractors. Coincidentally, during the hearing on Friday 12/2/05 one such party was sitting at the main hearing table. A fellow named Chris Herman testified several times to the fact that he “had just recently sold several PV systems”. Mr. Herman has neither an electrical engineers license nor an electrical contractors license in Washington State.

In summary, licensed electricians will require additional training to properly install PV systems. The JATC training centers can provide this training. In addition, some type of safeguard process must be designed if the homeowner will be expected to competently install their own systems. I propose to the utilities that documentation of training is tied to the application process and the receipt of production credits from their systems.

Regards,

Brian Ugi
President, Peak Electrical Services, Inc.
bugi@fidalgo.net

cc: Representative Jeff Morris
Ron Fuller, Department of Labor & Industries