U.S. DEPARTMENT OF ENERGY
Northwest Clean Energy Application Center

Promoting CHP, District Energy, and Waste Heat Recovery
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Docket UE-110667

Additional Questions from the Washington Utilities and Transportation Commission

Introduction - On July 29, 2011, the Washington Utilities and Transportation Commission (WUTC) asked additional questions relating to Docket UE-110667: Study of the Potential for Distributed energy in Washington State. The following responses are made:

Initial comments:

The WUTC study title correctly uses the broadly inclusive language "distributed energy" as opposed to the significantly more narrow language "distributed generation". This is especially true when examines the definition found in RCW 19.285.030 (9). Of the over 4,000 MW of baseload distributed energy technical potential in the state, only about 10 percent of the potential would fall into this very narrow definition. Over 3,600 MW of baseload technical potential would be missed. Detailed responses to the new questions are below.

Specific Questions:

Question 1: How the Commission should define distributed generation for the purpose of the study, and whether the Legislature should define distributed generation differently than in RCW 19.285.030(9);

Answer: The Commission should broadly and inclusively define distributed generation for purposes of the study (distributed energy is the preferred terminology). No customer class, size of on-site generation or type of technology should be excluded from the study. Nor should limits be placed on on-site generation to match but not exceed on-site electrical load. For example, high temperature/high quantity of thermal energy industrial processes may have lower power needs and excess waste heat energy that could be placed on the grid. These opportunities to be included in the study should not be missed. The comprehensive/composite view will provide a more comprehensive picture of opportunities barriers and needed policy and regulatory adjustments.

RCW 19.285.030 (9) focuses on a subset of renewable energy of not more that 5 MW (a size limit) intended to provide double renewable energy credits to encourage smaller systems (see

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RCW 19.285.040 (2) (b). It should not be more broadly applied. It is one of two places in the Energy Independence Act (I-937) that identifies distributed energy. The other place in I-937 is found in RCW 19.285.040 (1) (c). It involves high efficiency co-generation as is quoted as follows:

> "High-efficiency cogeneration is the sequential production of electricity and useful thermal energy from a common fuel source, where, under normal operating conditions, the facility has a useful thermal energy output of no less than thirty-three percent of the total energy output. The reduction in load due to high-efficiency cogeneration shall be: (i) Calculated as the ratio of the fuel chargeable to power heat rate of the cogeneration facility compared to the heat rate on a new and clean basis of a best-commercially available technology combined-cycle natural gas-fired combustion turbine; and (ii) counted towards meeting the biennial conservation target in the same manner as other conservation savings."

State law recognizes the combined heat and power/co-generation has an energy efficiency aspect as well as a power generation aspect. The WUTC should not exclusively focus on just the one definition intended for a specifically targeted purpose.

Regarding whether the Legislature should define distributed generation differently than in RCW 19.285.030(9), the definition of distributed generation has embedded in it the definition of "renewable resource" in RCW 19.285.030 (18). Emerging technologies such as medium and high solids digesters using food waste and yard waste are excluded from the definition. Silence in the law means your excluded. A broader definition would enable food processing facilities and compost facilities to produce renewable power. The current definition blocks at least 20 MW of technical market potential. Food waste and green waste should be added to the list of renewable energy. In a similar fashion, Washington law encourages recycling of materials. There is one exception: Recycling of spent pulp and paper liquor. See RCW 19.285.030 (18). The wood lignin is burned to recover the chemicals. Spent liquor should be added to the list renewable energy. This has impacted Longview Fibre's major rebuild and repowering of its facility. See I-937 Technical working Group response http://www.commerce.wa.gov/DesktopModules/CTEDPublications/CTEDPublicationsView.aspx?tabID=0&ItemID=9632&MId=863&wversion=Staging .

Question 2: The purpose or goal of distributed generation in Washington, particularly in areas of the state served by investor-owned utilities, and how the goal or goals should assist the Commission and the Legislature identify appropriate administrative or legislative proposals to encourage distributed generation.

Answer: Washington policy goals do not individually hang in a separate vacuum. A number of goals function together as an integrated whole. Energy, economic development/job preservation and competitiveness, and environmental concerns all interact. This integrated interaction is found in RCW 43.21F.088 (1) sets forth guiding principles to develop and implement state energy strategy. This law serves as an excellent guidance for the WUTC. An example of how multiple goals can or cannot be implemented in utility commission proceedings can be seen by comparing the approach of two utility commissions (New York and Connecticut) have taken to

cost-effectiveness tests/total resource cost tests. In this case similar grocery store CHP systems had opposite results. Connecticut approved the CHP systems. New York did not.

In addition, it should be remembered that on-site generation does not have transmission and distribution line losses (Not all MWs are created equal). For example, the Bonneville Power Administration in its Energy Efficiency Implementation Manual adds an additional 9.056% above the on-site energy savings. This is called "busbar energy savings" (see definitions page viii). This compensates for transmission and distribution losses.

Thank you for the opportunity to respond to additional questions.

Submitted by

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