ENERGY & ENVIRONMENT

November 2, 2016

Dave Danner, Ann Rendahl, Philip Jones
Commissioners - Washington Utilities & Transportation Commission
Olympia, WA

Commissioners Danner, Rendahl, and Jones,

I am writing on behalf of UMC Energy & Environment and Enwave Seattle as it relates to docket UE-161024. This regards Integrated Resource Plans (IRPs) and utility bidding process responsibilities to keep pace with recent trends in the industry.

Through a range of active development projects we are communicating with both private and public utilities that provide electricity and/or gas as well as transmission and/or distribution services. We have also participated in IRP planning in the advisory group with PSE, the WUTC, and stakeholders engaged in the process.

We are working with a number of district (thermal) energy providers such as Enwave Seattle, the Washington State Capitol, and Seattle Center who own and operate utilities that produce and distribute thermal energy. There are scores of similar systems at commercial, industrial, military, and institutional campuses across the state. We note because these heat sinks are fundamental to the application of cogeneration (CHP) and beneficial integration with the electric grid.

UMC is particularly interested in helping shape the appropriate treatment of CHP in the IRP process. This was a topic of discussion in a meeting with the WUTC earlier this year that included UMC, the WA Dept. of Commerce, and GridCraft. The treatment we envision includes the contribution of CHP as a least cost resource when considered with the avoided cost of other alternative combinations in a portfolio that meet utility regulatory requirements. This is more important than ever as the region considers appropriate alternatives to displace existing generation resources, integrate more renewables, maintain low energy rates, and harden the grid.

CHP is already in Washington State law. High-efficiency cogeneration qualifies as a conservation resource under I-937. CHP generates emission reduction units (ERUs) under the new Clean Air Rule. It can be either a supply-side or distributed energy resource and used to firm and shape intermittent renewables. CHP can be dispatched for the same effect as a demand response asset and also provide local resilience in the event of a disaster. Paired with electric boilers it can be used as a generate district heat or for industry when there is surplus electricity. CHP can be a baseload resource or dispatched strategically to provide ancillary services of value to the grid, just like electric batteries.

As you may know the Washington Department of Commerce is required to report to the Legislature about the treatment of CHP in the IRP planning process for both public and private utilities. As such, we believe notable trends affecting the public, ratepayers, and utilities in Washington are inter-related and noteworthy and include the following.

1) Growth of distributed energy resources including conservation and rooftop solar is flattening electric load growth. This could stay flat with further penetration of electric vehicles and storage.

2) Steady increase in intermittent electric renewables such as wind, solar, and micro-hydro as well as emerging intermittent resources such as offshore wind, tidal power and waste heat to power.

3) Advancement and integration of thermal and electric storage technologies applied upstream and downstream of electric transmission and distribution. Growing appreciation of locational value and T&D benefit.

4) Regional resource adequacy concern with accelerated retirement of various coal, hydropower, and nuclear generating assets driven by climate, fish protection, safety, and political pressure.

5) Disaster planning related to energy resilience and investment to mitigate risk. Cascadia subduction zone or Seattle Fault earthquakes, extreme weather events, drought and wildfires, cyber-terrorism, global warming.

6) Pressure to find both least cost and environmentally responsible strategy to displace baseload coal and retain customers in the market.

7) Carbon emissions pricing and regulatory drivers for emission reduction combined with inexpensive shale gas.

8) Emergence of pipeline grade renewable gas and other renewable fuels in the region including digester gas and torrefied biomass.

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We offer the following input for consideration as it relates to CHP in IRP planning based on our participation with PSE, WUTC, and the public in their current process. The same should apply to public utilities.

1) **Supply-side.** Define combinations using intermittent renewables integrated with batteries, pumped storage, and/or CHP to achieve 100% capacity credit. This enables a fair economic comparison of firm power strategies that can used to displace baseload coal and address regional resource adequacy requirements.

2) **Demand-side.** Create a section for distributed energy resources (DER) that includes demand response (DR), direct load control (DLC), distributed generation (DG), thermal energy storage (TES) and batteries. Include CHP in the DG resources. Use metrics that quantify the locational value of services provided including flexibility, resilience, T&D deferral, peak demand reduction including peak losses.

3) **Gas distribution.** Evaluate the injection of pipeline grade renewable gas among the range of natural gas distribution and storage alternatives as a means to offset capacity investments and to deliver renewable fuel for power generation.

4) **Conservation.** Broaden the use of CHP as a conservation resource to include any electric only, gas only, gas & electric, or gas distribution customer. Enable the power and heat to be used with any customer and count as conservation eligible for rebate.

5) **Voluntary Programs.** A Washington state law was passed that required utilities to expand their voluntary green power programs to include investments in renewable thermal projects. To date there have been no regulated private or public utilities that have complied with this requirement. Waste heat integration, renewable thermal generation, and heat recovery should be included.

6) **Decremental Power.** Make it possible for customers who install CHP and/or batteries to also purchase surplus intermittent renewables (non-firm) from wind, solar, hydropower, and other resources at pass-thru wholesale market rates. This enables customers and independent power producers to better make investments to receive surplus power, reduce renewable curtailment, and lower carbon emissions.

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Our team and its key stakeholder clients are interested in gathering in Olympia with the WUTC and the Washington Department of Commerce to discuss this input. Please let me know when we might have the opportunity this fall.

Thanks and regards,

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