

September 24, 2015

Washington Utilities and Transportation Commission
P.O. Box 47250
1300 S. Evergreen Park Dr. SW
Olympia, WA 98504-7250

**RE: Modeling energy storage in integrated resource planning
Docket UE-151069**

Chairman Danner and Commission Members;

We welcome the opportunity to comment on UE 151069 Modeling Energy Storage in Integrated Resource Planning. We agree with the Commission that the many benefits of energy storage should be fairly and fully reflected in utility IRPs and resource procurement efforts.

The NW Energy Coalition has been active in IRP planning cycles over the years, most recently Puget Sound Energy's IRP process, and attended the workshop on storage hosted by the Commission. We think that guidance from the Commission is needed to ensure the modeling used in the IRP process more accurately and consistently values the various benefits of energy storage. The Commission requested responses to specific questions, which we are happy to provide.

A) How should a utility model potential uses, benefits or "value propositions" of storage in an IRP or resource procurement?

We encourage the Commission to look at storage comprehensively. Rather than just model each potential benefit individually, the various benefits should be evaluated as a package, as many of the benefits are in play at the same time (for example, while storage may be installed primarily to mitigate outages, the storage system can also shave peaks and be located and dispatched to defer transmission upgrades).

The list of benefits from storage identified by staff should also be expanded to capture larger benefits, such as reducing carbon emissions and integrating renewable resources. Evaluating new variable generation bundled with storage may well show the "whole" as being greater than the sum of its "parts", as in the situation where energy from renewables is stored in batteries to provide peak capacity at another time, deferring the acquisition of another generation facility.

As to modeling, the Battery Storage Evaluation Tool (BSET) presented by the Pacific Northwest National Lab at the August 25th workshop can model bundled services, which would capture more of the values of storage than typical cost analysis does. If another tool is used, it should also be equipped to handle multiple values in the same analysis.

B) How should storage values modeling be incorporated into resource plans and procurement processes?

Whenever a need for capacity is identified in an IRP process, the Commission should require any utility to consider bids for storage along with all other typical resources. If the storage option can fulfill the capacity needs, then other values from storage (e.g., peak shaving, system balancing) should also be incorporated into the evaluation through a tool like BSET. Likewise, utility RFPs issued to procure capacity should be open to storage projects and their bundled benefits as well.

C) Storage and Ancillary Services

Functionally situated between generation facilities and load, storage can provide a number of ancillary services, such as frequency response and voltage control in place of generators. Staff's recommendation that the utilities file an "Avoided Ancillary Services Cost" tariff is a sensible approach for establishing a value for each benefit or service storage can provide. Those costs could then be applied to planning or evaluating RFPs.

It is not clear where values such as portability or the ability to expand a storage resource over time to respond to changing load would be considered, but that kind of flexibility benefit should not be left on the table.

D) Other issues

Life cycle costs should be calculated for storage projects as well as for other generation resources. Life cycle costs should include costs of decommissioning and disposal/recycling at the end of useful life of the projects components. Further, all utilities should address potential issues related to habitat destruction, clean air and water pollution posed by a storage project.

To recap, we support the Commission in its effort to provide guidance on how the value of storage is calculated and how those values are used in an IRP or an RFP procurement process. Requiring an Avoided Ancillary Services Cost tariff will bring consistency and clarity as well.

Thank you for the opportunity to respond,

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