BEFORE THE WASHINGTON STATE
UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Washington Utilities and Transportation Commission's Investigation into Energy Storage Technologies	]]]]]]]]]	DOCKETS UE-151069 and U-161024 COMMENTS ON DRAFT REPORT AND POLICY STATEMENT ON TREATMENT OF ENERGY STORAGE TECHNOLOGIES IN INTEGRATED RESOURCE PLANNING AND RESOURCE ACQUISITION

COMMENTS OF ALEVO USA INC.

Alevo USA Inc. ("Alevo") thanks the Washington State Utilities and Transportation Commission for the opportunity to comment on the Commission's Policy Statement on Treatment of Energy Storage Technologies in Integrated Planning and Resource Acquisition. Alevo applauds the Commission for a successful stakeholder process that has identified the level of detail required to objectively evaluate and understand the benefits of energy storage technologies, a move that will enable utilities to leverage these resources for the benefit of their customers. The policy statement recognizes the variety of services energy storage can provide to the grid and correctly states that traditional utility analytics need to evolve. Alevo is pleased to submit its comments regarding the policy statement issued in the above captioned dockets.

ABOUT ALEVO

Alevo is a U.S.-based manufacturer, project developer and systems integrator of lithium-ion batteries with experience installing grid-scale battery projects in the United States. Alevo employs

more than 200 at its Concord, North Carolina, factory. Alevo's corporate office is in Switzerland and manages research and development in Germany.

CONTACT INFORMATION

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COMMENTS

1. **POLICY STATEMENT: It is therefore the policy of this Commission that energy storage is a key enabling technology for utilities to comply with the state's energy policies, and that Washington's investor-owned utilities should be diligently working to identify and pursue cost-effective opportunities to incorporate energy storage into their systems.**

With this policy statement, the Commission is correctly filling the gap between how utilities make investment decisions (e.g. the IRP process) and how utilities actually operate the grid. The traditional IRP process, for example, is a complicated but largely linear analysis of capacity needs based on expectations of load, unit retirements and available generation capacity. Planners solve this equation by identifying the necessary capacity for the most constrained hour of the day, plus a reserve margin, using the output to justify investments in incremental generation assets. This is not, however, how utilities actually operate the grid. In addition to being a function of generation availability and capacity, real-time operation of the grid is also a function of transmission capacity or constraints as well as distribution capacity or constraints. Transmission and distribution is typically separate from the generation-planning process.

The Commission correctly notes that advances in technologies such as energy storage render the IRP process an anachronism because the IRP process as described above does not assign values to a resources' transmission and distribution grid. This is important for energy storage because it can deliver benefits similar to generation, transmission and distribution depending on the needs of the grid. Demonstrating this value requires more advanced and granular analytics so that regulators, utilities and other stakeholders can understand and see it. Alevo therefore fully supports the Commission's policy statement and the Commission's desire to ensure that, for the benefits of their customers, utilities evaluate energy storage resources in an objective manner. More than anything else, this policy statement is a significant step forward to have utilities and their stakeholders evaluating investment decisions based on how electric grids actually operate.

2. **POLICY STATEMENT: We adopt the general framework put forth by many parties to these proceedings, elucidated as the "net cost" method in ESA's initial comments in the IRP rulemaking docket. Under this approach, we expect utilities to use an external model capable of modeling the sub-hourly benefits of storage over the resource's useful life, including transmission and distribution benefits, then calculate the net present value of those benefits and deduct that value from the resource's modeled capital cost in the IRP.**

Alevo supports the net cost approach proposed by the Energy Storage Association and endorsed by the Commission in this policy statement. By requiring this method, the Commission correctly requires utilities to identify cost savings from the technology so that it can be evaluated in a more objective manner alongside other assets. Going forward, Alevo recommends that the Commission standardize utility reporting requirements for energy storage analysis. The Commission should, for example, require that utilities explicitly identify the value streams that energy storage resources can deliver. Having specific, standardized categories will streamline regulator review and make it easier for stakeholders to communicate and understand model outputs. Alevo accordingly

recommends that the Commission require utilities to use the following framework used by the state of Massachusetts in its state-wide energy study, *State of Charge*[1]. For each energy storage analysis, the Commission should require that utilities report benefits and savings using the following categories:

- Savings from Time Shifting of Energy
- Savings from a Reduced Need for Peaking Power Plants
- Ancillary Services Cost Reduction
- Savings from Reduced Power Plant Ramping
- Savings from Avoided T&D Investment, Including Locational Benefits[2]
- Savings from Improved Renewables Integration

The above framework is not exhaustive, but should be considered a starting point for stakeholder conversations going forward. Other, more qualitative factors such as improved power quality, resiliency, and black start capability, should also be evaluated. Alevo acknowledges that the Commission indicated that these values, too, can be included, so long as the energy storage resource proposal at a holistic level is "reasonably competitive."[3]

Looking at the other side of the net cost equation, the Commission should also standardize how utilities calculate the cost of an energy storage resource. The Commission should do this because the energy storage industry has yet to agree on a standardized way to calculate the cost of an energy storage resource, and different chemistries have different prices and different useful lives. Alevo recommends that the Commission focus on the cost of the energy storage resource over its useful life, not just the initial capital investment. One way to do this would be to focus on cost per cycle (i.e. a levelized cost per cycle) or another metric that could be used to standardize technologies so that they can be evaluated on an apples-to-apples basis.

[1] See http://www.mass.gov/eea/docs/doer/state-of-charge-report.pdf, page xii

[2] Adapted from State of Charge to acknowledge the Commission's specific request to evaluate the locational benefit of energy storage resources.

[3] Policy Statement page 15

3. **POLICY STATEMENT: Utilities seeking a prudence determination for any new resource acquisition must be able to demonstrate that their analysis of resource options included a storage alternative. This policy applies to investments in generation and distribution projects, as well as transmission projects that have not been selected in a regional transmission planning process.**

Alevo supports the requirement that utilities seeking a prudence determination to invest in certain assets must also consider an energy storage solution. Alevo recommends, however, that the Commission add further detail to this requirement, picking up on the savings categories identified in Section 2 above. For example, a decision to invest in a substation should compare the cost of the substation to the full benefits and cost energy storage resources can deliver. One way to do this would be to have a side-by-side analysis of each asset based on the categories outlined in Section 2 above.

Alevo also recommends that the Commission explicitly state that energy storage assets should be utility-owned, because optimal operation of these assets requires specific knowledge and understanding of the electric grid and the it operates. Utility-ownership also ensures that the Commission maintains oversight of these resources.

4. **POLICY STATEMENT: While it would be unreasonable to expect a detailed analysis of every possible storage technology and configuration, we expect utilities to work with their advisory groups to identify and analyze a reasonable, representative range of storage technologies and chemistries.**

Alevo agrees that evaluation of energy storage resources should be technology agnostic and supports the Commission's recommendation that utilities evaluate a range of storage technologies and chemistries for each proposal. The usefulness and cost-effectiveness of chemistries varies by use-case, so it is prudent that utilities evaluate a variety of options in determining the optimal energy storage resource for the problem they are trying to solve.

As part of this analysis, Alevo recommends that the Commission require that utilities evaluate energy storage technologies and chemistries based on their flammability. This is important because of the likelihood that batteries are installed in urban population centers, adjacent to critical infrastructure, and even within buildings themselves. The Commission should keep in mind the well-documented flammability risks of certain battery chemistries, particularly in light of the recent, high-profile recalls of certain consumer electronics and personal transportation devices due to battery fires.

CONCLUSION

Alevo thanks the Washington State Utilities and Transportation Commission for the opportunity to comment on the above-captioned policy statement. The statement is a positive development because it provides a needed set of guidelines that can speed up the deployment and utilization of energy storage resources for the benefit of electric customers in Washington. As a next step, Alevo recommends that the Commission hone in on a standardized framework to evaluate the benefits and costs of energy storage resources. Doing that will streamline the stakeholder process and reduce the administrative burden of evaluating projects as they come before the Commission.

Please feel free to reach out with further comments or questions.

Sincerely,

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