

BEFORE THE PUBLIC UTILITIES COMMISSION OF OREGON

Implementing Energy Storage Program)
Guidelines pursuant to House Bill 2193) **Docket No. UM 1751**
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I. INTRODUCTION

Since its inception 26 years ago, the Energy Storage Association (“ESA”) has promoted the development and commercialization of safe, competitive, and reliable energy storage delivery systems for use by electricity suppliers and their customers. ESA’s over 200 members comprise a diverse group of electric sector stakeholders, including electric utilities, energy service companies, independent power producers, technology developers—of advanced batteries, flywheels, thermal energy storage, compressed air energy storage, supercapacitors, and other technologies—component suppliers, and system integrators.

ESA submits this filing to the Oregon Public Utilities Commission (“Commission”) to inform the incorporation of energy storage into Oregon utilities’ resource planning and procurement, pursuant to HB 2193. Specifically, ESA appreciates the opportunity to provide industry feedback on the development of guidelines for procurement and deployment of energy storage systems (“ESS”) across the grid in Oregon, per Section 3 of HB 2193. ESA has worked with the Oregon Legislature, Public Utilities Commission, and associated stakeholders – mostly closely with Renewable Northwest in this process. ESA will specifically endorse a number of comments made by Renewable Northwest in this comment opportunity. ESA looks forward to providing industry best practices, data, and perspectives throughout the regulatory implementation process of HB 2193 in UM 1751.

II. COMMENTS

Section 1: What guidance should the Commission provide on the storage potential analyses?

In the near-term, ESA recommends that the Commission direct utilities to make available system information to assist developers in offering appropriate and cost-effective project proposals. Utilities should start by listing already-identified system needs for resource adequacy and reliability through 2020, with as much locational specificity as possible. Doing so will guide developers to propose specific solutions to those needs, independent of an overall system evaluation. Additionally, utilities should make available the data they plan to use in their system evaluations—such as system load duration curves, load profiles on transmission and distribution lines, substation loading levels, historical data on distributed energy resource (“DER”) penetration, historical outage data, and so forth—to enable companies to respond with novel solutions that integrate appropriate technologies and provide the highest value to customers at least cost. This will also allow the Commission to evaluate alternatives to utility capital expenditure on generation, transmission, and distribution assets, serving the interest of customers to pursue least-cost solutions.

With regard to the need for utilities to provide proposals on the potential of ESS on their systems, ESA urges the Commission to allow utilities offer a provisional, general evaluation of energy storage potential, which may be updated with greater detail upon final filing. A provisional, general evaluation would allow utilities to make available first-order approximations of ESS potential that informs proposal development while also providing an opportunity early in

the process for stakeholder input. Utility evaluations should be offered as early as possible to ensure that there is sufficient time for Commission and stakeholder input into numerous iterations of these evaluations.

ESA also respectfully recommends that the final filing of such evaluations, in addition to describing how energy storage complements existing utility plans, also specifically include a description of how utility integrated resource plans will henceforth incorporate consideration of energy storage as an investment option and inclusion into future planning proceedings.

Additionally, if utilities issue requests for information (RFIs) to test vendors and projects, the results of those RFIs should not be publicly reported. Utilities will get more accurate and full information if vendors and developers know that the information they submit will be treated confidentially. Given that there is value in regulators understanding the state of the energy storage industry as well, the Commission should be allowed to review RFI submittals, provided that they are handled as confidential business information.

Finally, ESA would like to echo and endorse Renewable Northwest's comments recommending a data-driven process for developing utility evaluations of ESS potential, on the need for early and iterative submission of evaluations, and a two step reporting process, per Commission question number five.

Section 2: Should the Commission consider setting guidelines for competitive bidding?

ESA believes that in order for guidelines to serve a productive role, storage-specific guidelines would be necessary. While independent evaluators have served productive roles in California's implementation of AB 2154, most independent evaluators used in UM 1182 guidelines in

Oregon do not likely have sufficient experience with storage technologies. Also echoing Renewable Northwest in this section, ESA agrees that, should storage-specific competitive bidding guidelines not be instituted, at a minimum a process for vendor selection should include stakeholder, Staff, and Commission engagement. Factors such as validation of pricing proposals, ability to appropriately model storage solutions based on system need, and the vendor's credentials should be subject to some form of external or peer input and oversight.

Section 3: How should the Commission encourage diversity among projects?

Section 3.1.b of HB 2193 directs the Commission to consider ways in which to encourage utilities to invest in different types of energy storage systems. ESA acknowledges that diversity is important for utility and regulatory learning-by-doing. Given the modest capacity of utility procurements enabled in this process, ESA believes this policy objective should be secondary to proving out competitive, economic energy storage procurement methods in order to provide the greatest benefit to ratepayers. As also noted in Section 5 below on proposal evaluation criteria, utilities should be encouraged to undertake a portfolio approach to procurement that allows recognition of the value of project diversity, rather than adhere to a regulatory requirement to procure a certain amount of storage by technology, application, or level of interconnection. This approach can balance the goals of promoting project diversity and learning-by-doing with overall cost-effective procurement.

ESA strongly recommends against using this procurement to pursue "technology pilots." That role is better filled by the Oregon Department of Energy, which undertakes such efforts. Utilities and ratepayers will be provided the greatest benefit by deploying ESS in first procurements using

technically proven technologies. Other parties, including Renewable Northwest have also made this point.

Section 4: What information should utilities include with a proposal?

ESA's comments on Section 4 will focus on cost effectiveness questions 18-20.

ESA believes utilities should include cost-effectiveness determinations relative to alternatives and include benefits other than direct service values. The best measure of cost-effectiveness of a storage project is whether it costs less than a traditional solution and/or other alternatives to that solution—including the alternative of the status quo. For example, utilities may incur costs for ongoing congestion when traditional solutions are not economically or technically viable. In some cases, an ESS can provide multiple benefits otherwise provided by multiple traditional solutions, rendering one-to-one comparison inappropriate. Alternatively, a proposed project can list out benefits and costs with dollar values, similar to a standard benefit-cost analysis, in the absence of available information on traditional solutions or other alternatives.

In all instances, storage project proposals – both individually and as a portfolio – should take into account the myriad benefits that ESS can offer in cost effectiveness measurements. Other benefits than direct service value should be taken into account and include flexibility, optionality, resiliency, and environmental benefits.

- The flexibility of a storage project can optimize the use of other system assets, such as by reducing generator cycling and increasing circuit-hosting capacity. However, those operational efficiencies may not be properly included if they accrue to the system as a whole, rather than the storage project itself.

- The optionality of a storage project helps manage planning uncertainty, reducing the risk of unrealized benefits and stranded assets and/or additional costs to meet unanticipated needs.
- Storage projects may also provide resiliency benefits not considered as a part of utility service, such as local emergency power or maintenance of critical infrastructure loads.
- Finally, storage projects may provide environmental benefits through reduced resource use, such as lack of water use, as well as reduced emissions.

An indicative list of benefits is included below:

- System optimization benefits
 - Greater grid flexibility
 - Improved system efficiency
 - Improved generator utilization/efficiency
 - Increased circuit hosting capacity
- Planning and risk management benefits
 - Optionality/modular scalability of storage deployments
 - Fuel and resource diversity
 - Ease of siting/permitting
- Resiliency benefits
 - Maintenance of critical infrastructure loads
 - Power islanding
 - Local emergency power
- Environmental

- Reduced resource use (water, land)
- Reduced Emissions

While not all of these values may be quantified, their inclusion is significant, particularly if utilities take a portfolio approach to their procurements.

Section 5: How should the Commission evaluate proposals?

The Commission should take a portfolio approach to evaluating projects, with an eye to meeting multiple use cases. While the Commission should give greatest weight to high benefit-cost ratios, taken together all projects in a utility's procurement plan should be allowed to comprise a range of benefit-cost ratios evaluated over their expected lifetimes. Additionally, the Commission may choose to require that the portfolio meet an adequate benefit-cost target on the whole, such as calculated as a capacity-weighted average. Doing so will allow the Commission to take into account project diversity by use case, ownership model, level of interconnection, and other characteristics, as well as aforementioned benefits that are difficult to quantify. Moreover, should the Commission determine that its goals of learning from project diversity are not being met by a given procurement, it can review and request utilities modify portfolio selections while still achieving cost-effectiveness goals.

Additionally, as in noted in multiple sections of these comments, inclusion of stakeholder input throughout the process will be critical. Stakeholder input in each phase, from system evaluation to project proposal, will ensure that the best selection of projects and full valuation of system benefits in the procurement process.

III. CONCLUSION

ESA looks forward to working with the Commission to develop a proposal on energy storage valuation and procurement methods that ensures Oregon and its utilities can realize the full benefits of energy storage to improve reliability, reduce costs to customers, and enable system transformation. ESA thanks the Commission for the opportunity to provide comment and looks forward to further participation in this proceeding.

DATED June 22, 2016.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. Burwen', with a long horizontal flourish extending to the right.

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