

**BEFORE THE PUBLIC UTILITIES COMMISSION OF OREGON**

UM 1751

In the matter of

PUBLIC UTILITY COMMISSION OF OREGON

Implementing Energy Storage Program  
Guidelines Pursuant to House Bill 2193

**Background**

Renewable Energy Systems Americas Inc. (“RES”) provides services in development, engineering, construction and operations for the energy storage, solar, wind and transmission industries. RES is considered an industry leader in energy storage, and has had a role as the developer and/or construction contractor on over 100 MW of energy storage projects in the United States.

**Introduction**

RES appreciates the ongoing opportunity to provide expertise and information to the State of Oregon in this important proceeding. Oregon leadership has taken a significant step in the modernization of electric supply and operations by taking a close look at the potential of energy storage as a grid resource. This proceeding is important to the entire storage industry, as success in the deployment of energy storage in this effort will further prove the effectiveness and economic viability of the platform.

RES encourages the Commission to consider the impact and influence the results of this initiative will have on the future of energy storage. By ensuring qualified entities are proposing technically and financially appropriate storage projects, the Commission

will warrant the best opportunity for program success and maximize benefits to ratepayers.

While RES recommends certain specific guidelines for the implementation of Oregon's Energy Storage Program, RES also cautions the Commission over being too prescriptive with certain Program parameters such as required use cases and points of interconnection for storage projects. RES asserts that the project study process will identify storage plants with the greatest potential benefit.

RES offers the following answers to the questions put forward by the Commission in the June 1, 2016 Request for Comments.

### **Answers to Commission Questions**

#### **What guidance should the Commission provide on the storage potential analyses?**

RES recommends a three-step process for the analysis of the potential of storage on the Oregon grid. The first step of the process would be a Request for Information (RFI) conducted by participating Oregon utilities that would serve as vendor qualification for entities looking to develop and propose storage projects. It is imperative that commercial participants in this solicitation are fully capable of actual storage modeling, have access to real market pricing, and are fully qualified to develop and construct storage plants interconnected to the grid. If a participant is not able to show these capabilities, then the participant should be able to show an established partnership with a qualifying entity in the participant's response to the RFI.

In a separate but parallel step, utilities should conduct a needs assessment of their respective transmission and distribution systems to identify areas where energy storage may be able to provide a benefit. Such benefits may include but are not limited to operational, cost offset, public policy, or customer service and engagement. Utilities may suggest the actual services to be provided by a storage plant associated with a particular need, but a final determination of such services will be an output of the developer modeling step. Utilities may also rank the points of need based on quantified or qualified drivers, but final proposal ranking should incorporate the feasibility and cost effectiveness of the solution as described below.

Utilities will release information resulting from the needs assessment to approved developers in this proceeding. Information from the utilities should include, for each specific issue, the location on the system and associated data required for solution modeling; this data would include information such as load flows, time series, or contingency scenarios. The third and final step of the procurement process will be a Request for Proposals (RFP) issued by participating utilities for solutions to meet the identified system needs. Approved storage developers will execute robust storage modeling to identify specific storage projects that will provide a technically impactful and economical solution to the site-specific issue(s). These solutions will be proposed to the utility for evaluation and ranking.

All three of the above-described steps should conclude with a report to the Commission. These reporting and approval processes do not need to be, and in some instances should not be, fully public so as to protect sensitive utility data and competitive

information or other intellectual property of developers. It may also be appropriate or even necessary for a third-party evaluator to assist a participating utility in executing the system needs assessment as well as determining the viability of submissions to the RFP.

**Should the Commission consider setting guidelines for competitive bidding?**

Guidelines that could be put in place by the Commission for project review and selection have been captured above. It should be the objective of the Commission to ensure that:

- Commercial participants and respondents to the RFP are fully qualified and capable of bringing forward technically feasible and financially representative projects. Proposals that do not meet these requirements could result in development and deployment delays, cost overruns, an overall poor reflection of storage in this effort, and a setback to the storage community at-large.
- This proceeding relies on the expertise of qualified storage developers to assess the actual potential of energy storage. RES respects the sensitivities in terms of security and privacy related to utility system data. However, developers require a certain level of detail to properly model and propose impactful and economical storage plants to address specific system needs.
- Proposed projects and associated timelines are real and viable. Developers should be able to display robust, storage-specific modeling processes as well as pricing that reflects actual market rates. This information can be highly commercially sensitive and may have to be protected by the Commission but should nonetheless be part of the project proposal by participants.

The Commission should otherwise not be overly prescriptive in formalizing guidelines to be followed in this proceeding and solicitation. The Commission should avoid creating “buckets” in an effort to categorize storage projects in terms of point of interconnection or service offering. Utilities should collect and rank project proposals, and if after this point the Commission feels that there will not be enough knowledge-gain due to a limited breadth of plants to be deployed, then the Commission, along with the utilities, can make more qualified selections of proposed projects at that time. This is a critical parameter in such a proceeding, as forcing certain types of storage projects without first evaluating the technical and economic merits can result in projects that misrepresent the advancements made in the industry and reflect poorly upon the potential impact of energy storage for utilities across the country.

**How should the Commission encourage diversity among projects?**

As reflected above, the Commission should not set parameters that could favor uneconomic or technically inappropriate storage plants. The Commission should let the three-step process of vendor qualification, utility needs assessment, and developer modeling proceed without bias. Once the Commission has a list of viable storage proposals to review, the Commission and utilities can collectively decide whether the suite of proposals will provide enough education to the State to adequately assess the potential of energy storage and inform future development.

RES recommends that the Commission consider the differences between a technology pilot and a proof-of-concept study. In a pilot, storage technologies are tested to the point of failure, as this is how one determines the operating capabilities and parameters of a

given storage mechanism. Utilities cannot test the failure limits of a technology, though, while also ensuring the reliability of their respective supply systems. While some flexibility will be required even for a proof-of-concept study, utilities should be identifying areas of real need on their respective systems and selecting plants that will address these needs, improving system operations and service to utility customers.

RES does note that in a proof-of-concept study, utilities are deploying reliable and proven technology platforms to learn how to operate and incorporate these systems into standard processes. However, this will be a learning process, so utilities should be assured that there will be “metrics of acceptable failure” where utilities will not be penalized or criticized for operational corrections that will surely need to be made along the way.

RES is not a technology manufacturer. RES only benefits from more and better storage mechanisms from which to choose for every project developed; RES fully supports the testing of new platforms. However, technology pilots should be reserved for true testing environments that do not put utility safety and reliability at any significant risk.

### **What information should utilities include with a proposal?**

Utilities should include results of the vendor qualification (RFI), system needs assessment, and RFP. The details of these reports have been captured above.

A sound starting point to assess the cost-effectiveness of a storage proposal is a comparison with a traditional solution to the system need. Traditional solutions can

include the construction of standard infrastructure such as lines and substations or the deployment of new fossil-fired generation plants. Such comparisons should extend beyond simple dollars, though, and include metrics such as time to construct, ease of siting and permitting, optimization of overall fleet performance, and flexibility in terms of incremental deployment, use-case potential, and facility relocation. Finally, the Commission should consider other societal benefits such as less hardware in the ground, less redundancies on the system, and less risk of stranded assets.

**How should the Commission evaluate proposals?**

Project benefits should be valued over the life of the project. Even with immediate benefits, a project that ultimately results in long-term cost increases to ratepayers will not favorably or accurately reflect the gains made in the storage industry. The benefit-to-cost ratio of a specific plant should be the primary metric by which to assess value to ratepayers, but a comparison to the other parameters of traditional or alternative solutions as captured above can also be incorporated as evaluation standards.

RES again thanks the Commission for the opportunity to provide feedback in this proceeding and looks forward to continued interaction with interested parties.

Respectfully submitted June 22, 2016

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