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 OF THE INTERSTATE RENEWABLE ENERGY COUNCIL, INC. ON THE DRAFT REPORT AND POLICY STATEMENT ON TREATMENT OF ENERGY STORAGE TECHNOLOGIES IN INTEGRATED RESOURCE PLANNING AND RESOURCE ACQUISITION

Pursuant to the Commission's request for comments issued on March 6, 2017 in the above-captioned proceedings, the Interstate Renewable Energy Council, Inc. ("IREC") hereby submits its responses to the Commission's Draft Report and Policy Statement on Treatment of Energy Storage Technologies in Integrated Resource Planning and Resource Acquisition ("Draft Policy Statement").

IREC is a 501(c)(3) non-partisan, non-profit organization working nationally to expand and simplify customer access to reliable and affordable distributed clean energy by: (1) developing and advancing regulatory policy innovations that empower consumers and support a transition to a sustainable energy future; (2) generating and promoting national model rules, standards, and best practices; and (3) providing workforce training, education, and credentialing. The scope of IREC's work includes incorporating distributed energy resource growth into utility distribution system planning and operations. IREC is currently participating in energy storage and grid integration related proceedings in California, Oregon, Nevada, New York, Massachusetts, and Minnesota. In 2015 IREC published a report on energy storage designed to assist public utilities commissions in identifying key regulatory considerations that

need consideration to maximize the benefits of energy storage.[1] Building on this work, in April 2017 IREC will release a new report, *Charging Ahead: An Energy Storage Guide for State Policymakers*, in which we discuss states' recent progress in developing policies to stimulate the integration of energy storage systems onto the grid, and recommend four policy "foundations" that states can implement to realize the value of energy storage resources.

From IREC's perspective, one of energy storage's high-value services derives from its ability to help integrate higher penetrations of customer-sited distributed renewables, like residential and commercial solar PV systems, with the electric distribution grid.[2] For example, customer-sited storage can help smooth over fluctuations or interruptions in generation that may be associated with like solar PV and wind, and it can help increase the capacity for the system to host additional renewable generation without requiring distribution system upgrades. And because customer-sited storage enables consumers to rely more on localized electricity generation, it gives them greater ability to control electricity costs, enhance the reliability and quality of their electricity service, and reduce their energy demand. Under the right conditions, customer-sited storage can provide other grid-specific benefits, such as grid congestion relief and deferral or avoidance of grid upgrades. And because it is sited further downstream from bulk storage, customer-sited storage can provide additional benefits, including serving as a source of residential or commercial backup power, and increasing use of self-generated electricity in a manner that has the potential to reduce overall costs of maintaining the electric system (particularly when proactively planned for and integrated). Thus, distributed energy storage

[1] Sky Stanfield, et al., *Deploying Distributed Energy Storage: Near-Term Regulatory Considerations to Maximize Benefits*, Interstate Renewable Energy Council, Inc., February 2015, available at: http://www.irecusa.org/publications/deploying-distributed-energy-storage/ [hereinafter *Deploying Distributed Energy Storage*]

[2] *See id.* at 9-18 (discussing the role that ESS can play in integrating renewables and offering other customer benefits and describing its various applications and benefits).

provides an important range of benefits and services that warrant their full consideration in a regulatory and utility planning context.

IREC recommends that energy storage, including customer-sited, distributed storage, be included for consideration and modeling as part of the Washington investor owned utilities' Integrated Resource Plans (IRP). Proactive consideration of energy storage in the IRPs will ensure that electricity customers have access to a broader range of beneficial and cost-effective energy resource solutions and services to meet existing and future demands .

To date, a few utilities and commissions in other states have begun updating their resource planning processes to accurately model advanced storage. For example:

- In **Oregon**, the commission ordered utility Portland General Electric to address storage in its 2016 IRP, partly to meet the utility's requirement to procure 5 MWh of energy storage under Oregon's storage procurement mandate. The IRP seeks to add an average of 135 MW of energy efficiency, 77 MW of demand response programs, and 175 MW of renewable energy in each of the next four years. The IRP also includes a valuation framework that Portland General Electric can apply to future energy storage procurement decisions, consisting of five key energy storage value streams: (1) energy shifting or arbitrage; (2) ancillary services; (3) avoided renewable curtailment; (4) system peaking or capacity value; and (5) locational value.[3]

- In 2015, **Missouri's** utility commission required Kansas City Power and Light Company's IRP to "review the impact of foreseeable emerging energy storage technologies throughout the 20-year planning period." The utility's submitted IRP report includes the required discussion of storage potential, including a smart grid demonstration project with a storage component.[4]

- In **Hawaii**, following input from utility commission workshops, utility Hawaiian Electric Company updated its Power Supply Improvement Plan with recent estimates of energy storage cost and performance data and accounting for ancillary services

[3] *See* Portland General Electric, *2016 Integrated Resource Plan*, at 235, 2016, available at: https://www.portlandgeneral.com/our-company/energy-strategy/resource-planning/integrated-resource-planning.

[4] Missouri Public Service Commission, Docket No. EO-2016-0232, *In the Matter of the Resource Plan of Kansas City Power & Light Company*, 2016.

benefits.[5] As a result, the utility's new plan included more than 150 MW of additional storage projects through 2022.

IREC strongly supports the Draft Policy Statement's vision that Washington State utilities must move beyond a "historical" view of energy storage and instead adopt planning practices that break down "artificial barriers" of traditional resource planning. To realize the benefits of incorporating energy storage into IRPs, the Commission should require utilities to undertake an evaluation of storage resource options using the most accurate and up-to-date cost and performance data. The Commission's review should determine whether an IRP considers the full range of energy storage's potential services, rather than limiting the consideration to only a subset of the services, which would impact the full value of energy storage. Incorporating energy storage into IRPs, and guaranteeing Commission and stakeholder input on these plans, would enable Washington State utilities to strengthen their planning for future growth of DERs and consider how strategic deployment of energy storage resources can offer the greatest benefits to the grid and to customers.

IREC applauds the inclusion in the Draft Policy Statement of guidance for utilities to model energy storage at a "sub-hourly" level for resource planning purposes, and to use publicly available modeling tools (where available) so that modeling assumptions and results may be shared with stakeholders. Until recently, most utility resource planning has relied on methods that do not adequately model advanced energy storage resources. Yet, a well-managed portfolio of resources includes distribution, generation and demand management capabilities (in order to defer transmission and distribution upgrades and for other valuable, locational services), all of which energy storage is able to provide. Utilities cannot rely on outdated modeling tools to

[5] Hawaii Public Utilities Commission, Docket No. 2014-0183, *In the Matter of Instituting a Proceeding to Review the Power Supply Improvement Plans for Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc., and Maui Electric Company, Limited*, Dec. 23, 2016.

assess energy storage, which may not be granular enough or have accurate or up-to-date cost and performance data for these new technologies, and the Commission may need to guide these efforts to ensure appropriate consideration.[6] In addition to uncertainty around how to model the economic costs and benefits of storage, utilities may lack sufficient information about the potential operating capabilities of storage systems.[7] The Commission can help to resolve these concerns by requiring utilities to demonstrate how and where they considered energy storage and by allowing outside stakeholders to help ensure that the proper cost and performance data is being utilized.

While consideration in IRP proceedings will help guide utilities toward energy storage investments, these proceedings tend to favor large-scale resources and can be focused on utility-driven energy storage procurement. Since much of energy storage's potential lies in its ability to offer services at customer sites and to help integrate distributed renewables, there are also hurdles at the *distribution* system that need to be addressed from a planning standpoint. IREC therefore commends the Commission for its guidance in the Draft Policy Statement for utilities to evaluate distribution system projects on a more granular basis. The Commission should require the utilities to prepare an objective analysis of optimal locations on the distribution system for deployment of utility and customer sited storage and other distributed energy resources (DER). This analysis would provide utilities and stakeholders with an early-stage planning opportunity for pinpointing locations on the electric system to optimize the value of

[6] For further discussion of how to consider energy storage in IRP proceedings, *see* Jason Burwen, *Including Advanced Energy Storage in Integrated Resource Planning: Cost Inputs and Modeling Approaches*, Energy Storage Association, Nov. 2016, available at: http://energystorage.org/IRP (accessed Mar. 20, 2017).

[7] The recent decision by the Oregon Commission adopting guidance for the energy storage procurement target recognizes the need for utilities to seek out information from the stakeholder community in order to ensure they are operating with the most up-to-date information about storage capabilities and costs. OR PUC, Order No. 16-504, *Guidelines And Requirements Adopted To Implement HB 2193*, at 11, Dec. 28, 2016.

energy storage's various applications.[8] Storage's value depends on the services it provides, which in most cases will depend on the physical location of the storage facility. Thus, evaluation of storage deployment should be location-specific and cannot be done without increased transparency about the distribution system. With this information, the Commission can consider further steps to proactively direct and enable the deployment of storage systems.

This analysis of optimal locations must furthermore take into account two categories of energy storage benefits. The first category are those that benefit the distribution grid and ratepayers as a whole and include such services as frequency and voltage regulation, peak demand reduction, and renewable energy variability management, among others. In addition to considering the locations where storage can offer valuable grid services, the analysis of energy storage services should also include customer specific benefits, such as energy arbitrage, customer energy management, and increased reliability or back-up of electric service. These services are important to the "stacking" equation and should not be left out of the utilities' analysis of where storage can be optimally deployed.

Finally, as an additional matter not presently addressed in the Draft Policy Statement, IREC urges the Commission to consider whether Washington State's interconnection regulations are adequate to handle any investments in storage that result from the IRP process envisioned in the Draft Policy Statement. Although this would not necessarily happen in an IRP proceeding itself, IREC encourages states to consider this question early so that the structures are in place at the time investments begin. In order for storage projects to be successful there needs to be a clear and efficient path to interconnection. Without an early evaluation of existing regulations, there is

[8] See *Deploying Distributed Energy Storage*, at 36 ("Starting with an assessment of the existing system capabilities, states will get more value out of storage installations if they require utilities to identify locations where distributed energy storage (and other DERs) may be most valuable and to develop a method for sharing this information with customers and developers in a readily accessible format.").

a real risk that the interconnection process could be a serious hurdle to project development. Other proceedings addressing energy storage, including in California and Nevada, have shown this issue to be uniquely complex due to energy storage's ability to serve as both "load" and "generation," and have raised such questions as the extent to which storage should be eligible for streamlined or other "fast track" interconnection review.

In the long run, the end goal should be the integration of energy storage as a fundamental resource for consideration in the planning process, particularly as utilities learn more about the potential uses and benefits of the newly available technologies and get more comfortable building their services into their planning models. IREC appreciates the opportunity to submit these comments. We look forward to any subsequent IRP rulemaking to develop rule language to ensure energy storage is fairly evaluated and procured at the distribution level.

Respectfully submitted,

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