

VIA ELECTRONIC DELIVERY

September 25, 2015

TO: Mr. Steven V. King
Executive Director and Secretary
Washington Utilities and Transportation Commission
1300 South Evergreen Park Drive
Olympia, WA 98504-7250

RE: Comments on UTC Docket UE-151069, Modeling Energy Storage in Integrated
Resource Planning

Dear Mr. King:

Renewable Energy Systems Americas Inc. (RES) hereby submits the attached comments to the above-captioned Docket UE-151069 before the State of Washington Utilities and Transportation Commission. RES appreciates the opportunity to comment; please contact me directly should you have any questions regarding this filing.

Regards,

John Fernandes

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**BEFORE THE STATE OF WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

IN THE MATTER OF MODELING)	
ENERGY STORAGE IN INTEGRATED)	DOCKET NO. UE-151069
RESOURCE PLANNING)	
)	

COMMENTS OF RENEWABLE ENERGY SYSTEMS AMERICAS INC.

Pursuant to UTC Docket UE-151069, RES Americas (“RES” or “Company”) submits the following comments in response to the August 7, 2015, Notice of Opportunity to File Written Comments (“Notice”) of the State of Washington Utilities and Transportation Commission (“UTC” or “Commission”).

RES Background

RES, with its U.S. headquarters located in Broomfield, Colorado, is a commercial development, engineering, and construction company focused on grid-scale wind, solar, transmission, and energy storage facilities as well as a provider of community and customer-sited energy solutions. RES Americas has developed and/or constructed over 7,500MW of renewable energy projects across North America and maintains an energy storage portfolio of nearly 28MW of operational facilities and over 50MW of plants under construction. RES has installed over 1,500 MW of wind and over 50 miles of transmission in the State of Washington and has a storage project under construction with one of the State’s utilities.

Comments and Answers to Questions

RES would like to recognize not only the important step the Commission has taken in this proceeding towards a modernized, efficient, and reliable grid but also the extensive investigation already conducted by Commission Staff on the potential applications, valuation, and key questions surrounding energy storage development and deployment. RES had the privilege of participating in the storage Workshop held on August 25th and fully appreciated the depth at which the UTC has opened this proceeding.

Answers to Commission Questions

RES defers to the filings made by Renewable Northwest (“RNW”) and the Energy Storage Association (“ESA”) for detailed answers to the questions put forward by the Commission in the August 7th Notice. The Company would like to focus on a few key points from these two sets of comments and perhaps provide further insight from the third-party commercial perspective.

In terms of “value propositions”, the Commission has appropriately recognized the capability of storage to act as both supply and transmission and distribution (“T&D”). As indicated by RNW, though, there is a disconnect between utility Integrated Resource Planning and utility planning for T&D infrastructure expansions and upgrades. The unique ability of storage to provide both supply and T&D services to utilities requires that a single storage plant be studied under all potential applications in order to fully optimize the facility and maximize the value. Both the study and approval processes for multi-function storage plants will be complex.

As a supply resource, utilities could establish a capacity-type credit for storage based on the duration of the discharge capability of the storage resource. The storage resource could then be modeled in the traditional portfolio optimizations. Per the RNW comments, storage is proving economical as a peaking resource in other markets, and the flexibility realized by modular deployment and cross-functional services should be considered in this supply valuation. RES looks forward to responses from Washington utilities to the question regarding the opportunity cost of providing ancillary services. The Company believes that using storage to provide ancillary services could allow traditional generation resources to more efficiently provide firm capacity and would therefore allow for the more economical dispatch of the generation fleet.

Transmission utilities are required to maintain proper voltage stability and thermal thresholds during peak loading and contingency conditions. As system stability is a function the network’s ability to provide adequate real and reactive power, the study process will include the modelling of existing and future generating assets along with the existing transmission system. Weak points on the system that violate voltage stability or thermal overload thresholds will require system upgrades. Transmission planning studies are generally conducted using network modelling software such as GE PSLF or Siemens PTI PSS/E.

Distribution planning will include, but is not limited to, reliability (SAIDI, SAIFI, etc), power quality (volt/var, voltage flicker), protection, and automation. There are multiple software packages presently being utilized by distribution utilities for modelling and system studies. It is important to note that the utilities typically have sole access to the distribution system-level data required to execute these studies and value a potential deferral. Without coordination from utilities, it can be difficult for commercial entities to fully participate in this specific storage market niche.

For ancillary services, it may not be effective to use historical pricing data from organized markets. RES again supports the comments of RNW and would like to endorse the

concept of “Avoided Ancillary Service Costs” based on regional or utility-specific calculations. Whether rates are specific to the utility or allocated from the Bonneville Power Administration, balancing services can represent a direct cost to both ratepayers and project developers. As referenced by Commission Staff, per Federal Order¹, energy storage is already eligible to provide some of these services, and the technical capabilities of the platform may allow storage a much deeper reach into system balancing. The Commission should ensure that storage is not precluded from providing such services, that the speed and accuracy of storage is considered for balancing and ancillary services, and that utilities are fully capable of deploying storage for these purposes should the economics prove favorable.

RES does not look to burden utilities with the obligation to acquire new modeling packages or standardize all of these processes across utility peers in any geographic constraint. However, some level of consistency and increased transparency in all of the metrics and processes involved in the deployment of storage would result in a more informed market in general. One potential resource to assist in this process would be the Interruption Cost Estimate Calculator² by the US Department of Energy. The Calculator is based on the report, *Updated Value of Service Reliability Estimates for Electric Utility Customers in the United States* by the Lawrence Berkeley National Laboratory.³

Additional Issues

RES would like to provide some thoughts on additional considerations that could be made by the Commission in this proceeding:

There has been discussion in this proceeding regarding the potential “soft” benefits of energy storage: incremental and flexible deployment, non-incremental increase in water use and emissions, or further development or reduced curtailment of renewable resources. The Commission should give consideration to not only the quantification of these values but also how the quantified values are associated to a specific storage plant and reflected in the rate-recovery of storage assets.

Commercial developers have extensive experience in successfully deploying storage resources under various technical applications and market structures. Third-parties have executed the modeling and valuation of storage while accepting exposure to commercial and operational risk not necessarily realized by regulated entities. Commercial market participants also have access to the most accurate and up-to-date pricing in the market. RES fully embraces the utilities’ central role in the evaluation and deployment of storage resources in Washington. However, the Commission should ensure that third-parties are active participants in this proceeding, working directly with utilities in modeling and project development.

¹ 18 CFR Parts 35, 101 and 141, Docket Nos. RM11-24-000 and AD10-13-000; Order No. 784: *Third-Party Provision of Ancillary Services - Accounting and Financial Reporting for New Electric Storage Technologies*; Issued July 18, 2013

² <http://www.icecalculator.com/>

³ <https://emp.lbl.gov/sites/all/files/value-of-service-reliability-final.pdf.pdf> 2015

Third-parties and voluntary market participants also have substantial investment interests and dollars to bring to storage deployment in Washington. The State should be open to various ownership, operational, and financing structures in order to maximize investment and spread risk across stakeholders. These relationships will not be separate from but inclusive of utilities, as well.

RES thanks the Washington Commission for this opportunity to provide comments and looks forward to further participation in this proceeding.

Dated this 25th day of September 2015.

Respectfully submitted,

John Fernandes

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