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 ENERGY STORAGE ASSOCIATION

The Energy Storage Association ("ESA") appreciates the opportunity to provide feedback on the draft report and policy statement on treatment of energy storage technologies in integrated resource planning and resource acquisition ("Policy Statement") as requested by the Washington Utilities and Transportation Commission ("Commission") in Dockets UE-151069 and U-161024, issued on March 6, 2017.

Since its inception 27 years ago, 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 nearly 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. Several ESA member companies operate in Washington state.

ESA strongly supports the Commission's draft Policy Statement and expects that its implementation will both ensure prudency of costs to Washington ratepayers and increase the capabilities of Washington utilities to diversify and decarbonize the state's energy resource mix. In the following comments, ESA wishes to highlight specific areas of emphasis in its support of the

draft Policy Statement. Omission of any subject from discussion should not be interpreted as lack of support.

A. ESA Supports the Proposed Changes to Planning Paradigms

ESA particularly supports the Commission's draft Policy Statement in P. 44 that any prudency determination for new resource acquisition be incumbent upon consideration of energy storage as an alternative, and that this policy applies to generation, transmission, and distribution resources. This policy simply updates existing Commission prudency standards, which already require Washington utilities to reasonably consider a range of alternatives for new resource acquisitions as a regular part of business, by affirmatively including storage as one of those alternatives.

ESA also supports the Commission's draft Policy Statement in P. 44 that energy storage be considered as an alternative for distribution system upgrades. While ESA recognizes that this subject will receive further elaboration in other parts of Docket U-161024 focused more on distribution system planning, nevertheless the Policy Statement is not clear on what is meant by storage as an "alternative" to distribution upgrades. ESA therefore recommends that the Commission clarify in the Policy Statement that storage be considered for its value in deferring distribution upgrades over a significant time period, in addition to fully substituting for such upgrades; either P. 44 or P. 54 could also be amended to include this concept. Additionally, ESA recommends that the Commission explicitly expand this expectation to also apply to transmission upgrades, and that it consider an alternative threshold of only excluding transmission projects selected for Order 1000 cost allocation within a regional transmission planning process.

B. ESA Supports the Proposed Modeling Guidelines

ESA supports the Commission's draft Policy Statement in P. 49 that integrated resource planning ("IRP") modeling utilize a net cost of capacity approach for evaluating supply resources, including energy storage, as part of a movement toward sub-hourly modeling. ESA notes that this approach may be applied beyond energy storage as well, to the extent that other supply resources

are found to provide sub-hourly benefits as well. Undertaking this approach will not only allow for more appropriate valuation of storage as a resource, but also increase the granularity of analysis underlying Washington utilities' IRPs to better inform optimal portfolio selection.

ESA recommends that the Commission's draft Policy Statement in P. 53 on use of energy storage cost data be modified to ensure that such data also be of recent vintage. ESA agrees with the draft Policy Statement that Washington utilities should continue to use energy storage cost estimates from reliable, independent third parties, as they have begun to do already. At the same time, ESA is aware that independence is not a guarantee of accuracy, and that out-of-date estimates from independent sources will be unreliable—as the Commission implicitly recognizes in P. 53 on the use of declining cost curves for energy storage. ESA recommends that the Commission also therefore include in the Policy Statement that cost estimates be verified as recently updated and recommends the following revision to P. 53:

> "To ensure that utilities are using accurate cost data in their modeling assumptions, we expect utilities to rely on <u>recently updated</u> cost data provided by reliable, independent third parties."

Furthermore, ESA recommends that sources of storage cost information be transparent regarding how estimates are developed, since empirical data on the installed cost of energy storage facilities are generally unavailable. With the industry highly competitive and in relatively early stages of market penetration, cost data are closely guarded as sensitive business information and almost all project bids and contracts remain confidential. The sources discussed by the Commission in P. 53 therefore tend to rely on cost estimates, which are generally constructed in a "bottom-up" manner by summing costs from individual components of energy storage facilities; cost data for each component are collected by survey or sourced from known records. The components that constitutes the total installed cost of storage may vary by source, and it is important for utilities and

the Commission to understand what components a given source includes.[1] Doing so will better assist with a proper apples-to-apples comparison with other resource options.

C. ESA Supports the Proposed Regulatory Treatment

ESA supports the Commission's draft Policy Statement in P. 59 acknowledging that the uncertainty of quantified benefits of storage justifies accepting reasonably competitive storage acquisitions that are not least-cost. ESA notes that one such benefit not explicitly contemplated in the Policy Statement is the risk-management value of storage acquisition. Advanced energy storage can provide a variety of services, and its ability to change between those services allows adaptation of the resource to system needs over time. Additionally, to the extent that is transportable, a single energy storage resource may theoretically be redeployed to different locations in the electric grid over time.[2] The ability to change use case over time increases the likelihood that a storage resource will provide ratepayers net benefits over its service life. In contrast, conventional supply and infrastructure assets cannot be redeployed in such a manner and thus carry an inherently greater risk associated with underutilization or stranding.

ESA encourages the Commission to consider this value of storage in the greater context of ensuring flexibility of planned resource portfolios to uncertain futures. During a time of significant grid transformation for diversification and decarbonization of supply, flexibility is valuable for ensuring new supply and infrastructure investments are prudent for future ratepayers. The 2015 Lawrence Berkeley Laboratory study of Western states found varying levels of flexibility in

[1] For an example of such a discussion, see Slide 9 of *Energy Storage Cost Summary for Utility Planning: Executive Summary*. EPRI, Palo Alto, CA: 2016. 3002008877. Available at http://www.tdworld.com/sites/tdworld.com/files/uploads/2016/04/energy-storage-epri-report.pdf

[2] See for example the "Storage on Demand" demonstration project currently being pursued by the New York utility ConEdison. The utility will redeploy portable 1 MW, 4-hour battery storage facilities across its system according to changing system needs. See *REV Demonstration Project Outline: Storage on Demand*, Feb 27, 2017, available at http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={3803CE0D-F246-4518-8F5A-2E1C12BCB1CA}

utilities' planned resource portfolios and discusses the magnitude of risks found in each.[3] ESA respectfully recommends the Commission consider the draft Policy Statement one part of a larger objective of prudently managing risk through increasing flexibility attributes of utilities' planned portfolios.

D. Conclusion

ESA commends the Commission for its efforts to ensure that storage is included in the list of economic options examined by utilities to ensure prudent resource planning. ESA supports the Commission's draft Policy Statement and encourages formalization of the proposed concepts into regular utility business and regulatory processes. ESA looks forward to working with the Commission, utilities, and other stakeholders to seek competitive and reliable energy storage as an option for reducing costs to ratepayers while meeting system reliability and Washington's energy policy goals.

DATED this 3rd day of April, 2017.

Respectfully submitted,

Jason Burwen
Policy & Advocacy Director
ENERGY STORAGE ASSOCIATION

1800 M Street NW, Suite 400S
Washington DC 20036
202.580.6285
j.burwen@energystorage.org

[3] A. Mills and J. Seel. *Flexibility Inventory for Western Resource Planners*. Lawrence Berkeley Laboratory. LBNL-1003750. Oct 2015. Available at https://emp.lbl.gov/sites/all/files/lbnl-1003750.pdf