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Via Electronic Mail

Steven V. King
Executive Director and Secretary
Washington Utilities & Transportation Commission
1300 S. Evergreen Park Drive S. W.
P.O. Box 47250
Olympia, Washington 98504-7250

Re: Docket No. UE-151069 and U-161024 - Comments of Avista Utilities on Draft Report and Policy Statement on treatment of Energy Storage Technologies in Integrated Resource Planning and Resource Acquisition

Dear Mr. King,

Avista Corporation, dba Avista Utilities (Avista or Company), submits the following comments in accordance with the Washington Utilities and Transportation Commission's (Commission) Notice of Opportunity to Submit Written Comments (Notice) issued in Docket UE-151069 and U-161024 on March 6, 2017.

Commission Staff initiated Docket UE-151069 to investigate "the role of energy storage in electric utility planning and procurement." Avista attended the Commission's workshop held on August 25, 2015 and provided comments on Staff's White Paper on Modeling Energy Storage on September 25, 2015. Along with the Notice issued on March 7, 2017 the Commission issued a "Draft Report and Policy Statement on the treatment of energy storage technologies in integrated

resource planning and resource acquisition. The Commission is now seeking comments in response to the draft policy statement.

Avista appreciates the opportunity to provide comments in response to the draft policy statement. First, the Company would like to thank Commission Staff for their time and diligence in preparing the draft policy statement. The first draft of the policy statement is a good start, however, there are many areas that need additional attention or clarification, which the Company will address in its comments.

The Commission, in its draft policy statement identifies the regulatory issue being addressed “is to identify the barriers that remain for energy storage and develop policies to overcome them.”¹ The Commission’s draft policy statement arrives at four conclusions supporting its position to encourage greater utility adoption of energy storage. First, the Commission explains the need for a disaggregated value stream study for energy storage because its value crosses the generation, transmission and distribution areas of the business.² The second conclusion is that as utilities respond to the challenges of their current and future environment, they will need to “become more flexible in their resource planning and procurement”, and “develop a clearer understanding” of the differentiation between generation technologies and “their associated value streams”.³ Third, the Commission believes sub-hourly modeling will help utilities differentiate between resources, including the benefit of storage technologies.⁴ And finally, utilities are reminded the Commission will accept storage technologies as a component of rate base so long as such procurement is shown to be cost-effective when including all benefits of the technology.⁵

Avista is encouraged the Commission is forward-looking with regard to energy storage technologies. Utilities around the country, including Avista, are working diligently to disaggregate value streams and (benefits) from the generation, transmission and distribution functions, not only

¹ Docket UE-151069 and U161024, Draft Policy Statement, ¶ 25

² Docket UE-151069 and U161024, Draft Policy Statement, ¶ 63

³ Docket UE-151069 and U161024, Draft Policy Statement, ¶ 64

⁴ Docket UE-151069 and U161024, Draft Policy Statement, ¶ 65

⁵ Docket UE-151069 and U161024, Draft Policy Statement, ¶ 66

for energy storage, but for the more traditional generation and conservation resources. This is a complex, and ongoing process that is in its early stages. Avista's learnings thus far show that energy storage technologies, in their various forms, clearly have some benefits that differ from the traditional energy and capacity resources. The technology is still in the development stages and its potential benefits are not as well-known as compared to other technologies.

The draft policy statement exhibits an interest in the possibility of utility adoption of energy storage being a part of the solution to many utility problems, including "new technologies, environmental imperatives, lower load growth and customer engagement."⁶ Energy storage technologies, apart from pumped hydro with its long and proven track record, are in their infancy from the perspectives of cost, reliability and commercial availability. Also, the current underlying economics of energy storage present a large barrier to adoption, except for a few discrete applications.⁷

Distribution system planning is performed differently than Integrated Resource Planning (IRP), however its underlying principle of serving customer requirements at the lowest reasonable cost remains the same currently, we believe. The cost of new or upgraded facilities is still the lowest-cost and most reliable option, as compared to other technologies like energy storage. Energy storage, at this time is simply not cost-effective relative to traditional wire solutions. Avista evaluates storage and other emerging technologies as they pertain to distribution system planning. The current challenge we believe involves communicating the breadth and results of these evaluations, rather than the development of an entirely new process or analytical framework.

Another reason why distribution system planning is different from the IRP process is the magnitude of the investment decisions being a small fraction of power supply related decisions. Like distribution assets, a new generation asset could be in service for 30-50 years, however each generation asset decision can be in the magnitude of hundreds of millions of dollars where distribution feeder upgrades are in the hundreds of thousands to single-digit millions. Further,

⁶ Docket UE-151069 and U-161024, Draft Policy Statement, ¶ 64

⁷ For example, rebuilding a very long feeder to supply a growing load at the end of the feeder might, under certain circumstances, be remedied with the use of a battery or other peak-shifting resource.

distribution planning must be responsive to near-term customer demands for new interconnection requests and needs.

Section V: Statement of Commission Policy

Paragraph 41 of the draft policy statement states that “energy storage is a key enabling technology for the state’s energy policies”, yet there is no evidence to show how energy storage provides such support. Energy storage is currently not cost-effective in most circumstances, and it may take years of technology improvements and cost-reduction advances to match or exceed the traditional utility reliability solutions. Utilities are in the best position to find and deploy the technology cost effectively as they continue to survey the market for least cost solutions.

A. Changing Planning Paradigms

The draft policy statement concludes that functional separation is one of the reasons energy storage has not been included or selected in past IRPs. Avista respectfully disagrees. Through various efforts the Company has looked at the benefits beyond traditional power supply in a number of its past IRPs. Even with these benefits, other resource alternatives are more cost-effective. There have been barriers to energy storage procurement, however, we believe these barriers are being removed as the sophistication of utilities to evaluate conservation and other programs has increased, and regulators require utilities to consider all benefits associated with non-power supply solutions. Avista supports the Commission’s recommendation that utilities include non-power supply benefits for energy storage and other resource options, but does not support bringing distribution planning into the IRP. Instead, it would better serve customers by encouraging more in-depth communications between the Company’s various planning groups, to ensure energy storage is deployed where and when it becomes cost effective and reliable. The Commission has correctly recognized that integration of these value streams into all aspects of utility planning will take time, as ideal modeling and analytical tools are generally not commercially available today.

With regard to the prudence of resource acquisition, the draft policy statement explains that any new resource acquisitions must be supported by a demonstration that energy storage alternatives were considered and not found more cost-effective to the alternative acquisition decision. Avista does not object to this guidance, but believes the guidance could be less broad. For example, consideration in a prudence review should include the consideration of energy storage technology only if: 1) a capacity need is identified, 2) energy storage meets the reliability requirements of the application, 3) the evaluation will not delay serving customers, and 4) there is an opportunity to filter out, with an initial screening, high-cost technologies from detailed analyses.⁸

While Avista appreciates the Commission observation and support that “energy storage has the potential to help utilities manage the changing demands on the grid while offering a potential opportunity of new investment”,⁹ energy storage’s present and forecasted economics, and limited abilities to meet utility requirements, mean the likelihood of significant near-term utility investments in energy storage remains low.

B. Modeling Guidelines

Avista, and the northwest utility industry are evaluating intra-hour modeling tools. Intra-hour modeling is not practical for two key reasons. First, increased granularity slows down model solution times to the point that evaluating any reasonable number of planning scenarios in an IRP process becomes difficult, if not possible. Second, and possibly more challenging, is a lack of reliable data available to feed these models for a regional analysis. Absent reliable data, the results of such modeling would be questionable at best.

Avista agrees with the Commission finding that intra-hour modeling could be helpful to identify power supply values until markets can be developed to price such services. Until the

⁸ Energy storage does not provide energy to the system. In addition, absent a screening criteria, the range of closely evaluated alternatives would be unlimited. Avista recommends implementing some cost/benefit ratio threshold before an energy storage resource would be included as an option. For example, in the past Avista has use a 130% of avoided cost threshold before conservation resources are included in its IRP PRiSM resource selection model.

⁹ Docket UE-151069 and U-161024, Draft Policy Statement, ¶ 45

region is managed under a single system operator, the only way to value intra-hour power supply need is to develop a utility system model. Commercially available products with intra-hour capabilities such as AURORA and PLEXOS cannot properly access these benefits due to their lack of ability to adequately optimize hydro production. The Commission points to various tools in Paragraph 49 it believes can be used for IRP modeling. Unfortunately these tools evaluate economics in a vacuum, and run counter to IRP planning in the first place. They simplify the power supply equation because of an inability to efficiently represent industry complexities using mathematics, and because of the data hurdles that exist today. For example, we do not have ancillary service markets in the Northwest to provide prices for such models. Broader portfolio analysis, well beyond the capabilities of these tools, is the only good way to evaluate ancillary values in the Northwest. These tools are useful to identify areas of potential benefit for the utility to consider in its planning process, but they should not be used directly for planning purposes.

As evidence of Avista's efforts to more precisely model the value streams of storage and other technologies, it's the Company's Avista Decision Support System (ADSS) that performs system-wide intra-hour optimization. Progress on intra-hour modeling is dependent on available technology to analyze the problem. As the modeling technology progresses, the Commission should consider the impacts on overall model solution times to ensure the broader, and more financially significant, goals of IRP planning are not greatly compromised.

B. Regulatory Treatment

Avista agrees procurement processes can be technology neutral, as encouraged in Paragraph 58. However, in many circumstances this may not be possible. Procurement should consider, and be tailored to, the technologies reasonably expected to meet utility needs. The IRP process can help with this tailoring. Utilities likely can broaden procurement documentation to help third-party bidders.

Even when storage costs fall and the technology matures to commercial viability, its value can be very site specific. Offering a single rate tariff, or multiple tariffs would likely not be practical. OATT tariffs will not fairly represent the value of various and other ancillary services

provided by energy storage resources. Ancillary service values also are not linear or infinite. If the utility is short of capacity, it is willing to pay for the service, but once it has adequate flexibility, the value is diminished greatly.

In Paragraph 59 the Commission indicates it may accept some degree of uncertainty in the evaluation of energy storage benefits within a prudence filing. Uncertainty related to a prudence determination is generally a barrier to investment; and the greater the uncertainty, the greater the barrier.

Again, Avista appreciates the opportunity to provide these comments, and we look forward to the continued dialogue in this process. Please direct any questions regarding these comments to Clint Kalich at 509-495-4532 or myself at 509-495-4975 or by email, linda.gervais@avistacorp.com.

Sincerely,

Linda Gervais

Sr. Manager, Regulatory Policy
Avista Utilities