August 21, 2015

Steven King, Executive Director and Secretary
Washington Utilities and Transportation Commission
Attn: Records Center
PO Box 47250
Olympia WA 98504-7250

RE: Docket UE-151069 - Modeling Energy Storage in Integrated Resource Planning

Thank you for allowing the National Hydropower Association (NHA) and the Northwest Hydroelectric Association (NWHA) to provide preliminary comments on the referenced document in advance of the workshop.

NHA is a nonprofit national association dedicated to promoting the growth of clean, affordable U.S. hydropower. It seeks to secure hydropower's place as a renewable, emission-free and reliable energy resource that serves national environmental, energy, and economic policy objectives. NHA represents more than 220 companies in the North American hydropower industry, including both public and investor-owned utilities, independent power producers, developers, manufacturers, environmental, engineering and other consultants. NHA also has a Pumped Storage Development Council that assists in development of policies to support growth in the pumped storage sector and the recognition of the substantial benefits it brings to the grid in terms of reliability and renewable resource integration.

NWHA is a nonprofit association dedicated to the promotion of the Northwest region's waterpower as a renewable, cost-effective and reliable energy resource while protecting the fisheries and environmental quality that characterize the region. Incorporated in 1981, NWHA represents members in Alaska, Idaho, Montana, Oregon, Washington, Northern California, and British Columbia. The members of NWHA include utilities, both investor-owned and public; independent power producers, including water and irrigation districts and municipalities; manufacturers; consultants; associations; and trade unions in those states. NWHA has a Pumped Storage Committee that develops policy and provides technical support for this storage technology related to the reliability and environmental benefits it brings both as generation and load.

Both organizations support the responsible, sustainable development of pumped storage hydropower projects, including those that facilitate the integration of intermittent renewable energy resources (primarily wind and solar) in the Northwest. Pumped storage hydropower can help provide reliable power to the electric grid and unlock the greater value of existing and potential renewables.

Emission free energy storage, such as pumped storage, provides high operability and carbon-free flexibility to rapidly respond to the demand of the electric grid and absorb excess off-peak and oversupply of renewable energy, supporting the overall reliability of nation's aging grid infrastructure.

We believe there are a number of barriers to development of this energy storage resource that can be overcome, and that pumped storage hydropower has some specific development challenges unique to this proven technology. Further guidance from the Commission to formalize approaches to overcome barriers will create a more conducive environment for energy storage options. Some

of the challenges we have observed with development of new energy storage projects in the Pacific Northwest include in order of priority:

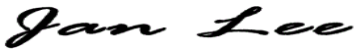
- Need for economic analysis and modeling of sub-hourly energy grid services and environmental benefits at a regional level to capture the revenue and cost savings
- Support for rate-basing energy storage facilities and feasibility efforts that have multiple and currently unquantified regional benefits (i.e., carbon-free renewable integration, grid reliability and security), but have challenging capital costs when the associated benefits are not incorporated in project's economic analysis
- Early financial support for pumped storage projects requiring a longer lead time compared to gas-fired generation, primarily due to the strict environmental regulations and development cycle associated with hydropower projects.

Pumped storage is proven, cost effective and a widely used energy storage technology in the U.S. and worldwide. NHA recently prepared a White Paper as a primer describing the overall challenges and opportunities for development of new, modern pumped storage projects. This document is attached for your reference.

NWHA has urged the Northwest Power and Conservation Planning Council staff to include pumped storage capabilities in the Council's Seventh Power Plan. The draft plan currently favors energy efficiency and natural gas. The attached recent study completed by NWHA under contract to the Council describes the pumped storage technology and refers to several of the attractive projects in active development in the Northwest, including in Washington, that are strategically located within the transmission system.

We applaud the Commission's recognition of developing an approach to address energy storage and look forward to the Department of Energy's Pacific Northwest National Laboratory modeling demonstration to be presented at your August 25 workshop. Your role in developing options to improve access to this potential to support integration and balancing is important to the State of Washington and to the region as a whole for grid reliability and successful implementation of the EPA's Clean Power Plan with low-cost carbon-free resources. We look forward to the workshop and will respond with further comments prior to the September 25th deadline.

Sincerely,



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Attached:

- NHA "Challenges and Opportunities for New Pumped Storage Development" http://www.hydro.org/wp-content/uploads/2014/01/NHA_PumpedStorage_071212b12.pdf
- NWHA "Regional Hydropower Potential Scoping Study" prepared for the Northwest Power and Conservation Council (NWPCC), 2014; Chapter 3 – Pumped Storage
  Report: http://www.nwhydro.org/resources/renewable_energy.htm
  Power Point: http://www.nwhydro.org/resources/renewable_energy.htm