The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

February 13, 2019

The Honorable Robert Backus
Chair, House Science, Technology and Environment Committee
Legislative Office Building, Room 304
Concord, New Hampshire 03301

Re: HB 715, AN ACT relative to electrical energy storage

Dear Chair Backus and Members of the Committee:

Thank you for the opportunity to testify on HB 715. This bill indicates that the deployment of energy storage has the potential to increase the utilization of renewable energy in New Hampshire and improve the state's fuel diversity portfolio, reduce dependence on imported fuels, and reduce the state's effective peak demand for electricity. The bill adds a new Chapter, RSA 374-H, Energy Storage, which directs the NH Public Utilities Commission (PUC) to undertake efforts to support the expansion of energy storage in New Hampshire. To the extent that passage of this bill would have a beneficial impact on air quality, reduce greenhouse gas emissions, support resilience to extreme weather events and potentially lower electricity costs, the New Hampshire Department of Environmental Services (NHDES) supports this bill.

HB 715 directs the PUC to pursue energy storage capacity targets in two parts. First, the PUC is directed to ensure that sufficient energy storage capacity is deployed in New Hampshire to reduce peak electricity demand by a modest two percent below 2018 levels by December 31, 2022. The PUC is also directed to concurrently initiate a proceeding to determine whether a higher target, up to 15 percent of peak electricity demand, would provide a net benefit to ratepayers. These efforts to expand storage capacity are anticipated to result in economic, public health, and environmental benefits for the state.

Historically, electricity is the only commodity produced at the same rate that it is consumed. Energy storage, inclusive of electric batteries, fuel cells, pumped hydro, compressed air, and flywheels, changes this by providing energy when needed and absorbing it when in excess. Storage can support the development of a grid that is cleaner, more decentralized, resilient, and open for rapid innovation by absorbing energy when it is cheap and plentiful.[1] This includes during those times when intermittent renewable energy resources, such as solar and wind power, are generating, as well as during overnight periods when electricity demand is lowest. This stored energy can later be

[1] OSI (2018). **New Hampshire 10-Year State Energy Strategy**, NH Office of Strategic Initiatives, https://www.nh.gov/osi/energy/programs/documents/2018-10-year-state-energy-strategy.pdf, 36

dispatched as necessary, whether during a peak electricity demand event, power outage, or when renewable energy resources are not available.[2]

As storage capacity expands and enables peak load reductions, the resulting economic and environmental benefits will grow. Such peak shaving "results in savings across the entire regional energy grid for all customers by reducing the need to run older, more expensive generation facilities during peak periods, and by deferring or avoiding the need to build new generation and transmission infrastructure."[3] By using the energy from storage instead of from the transmission system, New Hampshire can also reduce the state's coincident peak and save on regional transmission costs as well. This reduction in cost will benefit all customers because transmission costs are based on the distribution utility's coincident peak load; that is, its load at the time of the ISO-New England peak.[4]

Storage can also increase the resilience to grid disruption by reducing the time and resources needed to restore power to critical facilities such as hospitals, shelters, and wastewater treatment facilities,[5] as well as be utilized by industrial facilities to maintain operations. Resiliency is of increasing importance as the top five most significant power outages have all occurred during the past decade. Each of these storms affected more than 230,000 customers, with outage durations that exceeded 100 hours.[6] Energy storage offers the potential to reduce extreme weather impacts on critical infrastructure and economic disruption to businesses.

Thank you again for the opportunity to comment on HB 715. If you have any questions or require further information, please contact either Chris Skoglund, Climate and Energy Program Manager, (Christopher.Skoglund@des.nh.gov, 271-7624) or Rebecca Ohler, Administrator, Technical Services Bureau (Rebecca.Ohler@des.nh.gov, 271-6749).

Sincerely,

Robert R. Scott
Commissioner

cc: Sponsors HB 715: Representatives Oxenham, Moffett, Cushing

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[2] Gheorghiu, I. (2019). **New Hampshire Regulators Approve Utility-Owned Residential Tesla Battery Pilot**, https://www.utilitydive.com/news/new-hampshire-regulators-approve-utility-owned-residential-tesla-battery-pi/546364/, (Last accessed February 11, 2019).

[3] OSI (2018). **New Hampshire 10-Year State Energy Strategy**, NH Office of Strategic Initiatives, https://www.nh.gov/osi/energy/programs/documents/2018-10-year-state-energy-strategy.pdf, 40

[4] Liberty Utilities (2017). Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities Request for Approval of Battery Storage Pilot, pg. 8, http://www.puc.state.nh.us/regulatory/docketbk/2017/17-189/initial%20filing%20-%20petition/17-189_2017-12-01_gsec_dtestimony_tebbetts.pdf

[5] NREL (2014). **Distributed Solar PV For Electricity System Resiliency**, https://www.nrel.gov/docs/fy15osti/62631.pdf, 1 (Last accessed February 11, 2018).

[6] PUC (2019). **New Hampshire Historical Outages All Utilities For Wide Scale Storms**, NH PUC Safety Division, https://www.puc.nh.gov/Safety/safety-pdfs/Safety-Chart-Of-Historical-Storms.pdf, (Last Accessed February 11, 2018).