

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

Docket No. DE 17-189

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities
Petition to Approve Battery Storage Pilot

TESTIMONY OF
KATE BASHFORD EPSSEN

May 2, 2018

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name, the organization you work for, your position and business address.

A. My name is Kate Bashford Epsen and I am the Executive Director of the New Hampshire Sustainable Energy Association (“NHSEA”). NHSEA’s business address is 54 Portsmouth Street, Concord, NH 03301.

Q. Please describe NHSEA and your qualifications.

A. NHSEA is the largest independent, statewide member-based non-profit dedicated to advancing clean energy in New Hampshire. It was founded in 2003 and has grown since that time into a group with diverse membership that includes homeowners, students, clean energy companies (solar, wind, hydro, biomass, efficiency, cogeneration, etc.), manufacturing companies, retail and service industries and other institutions. I have been the Executive Director of NHSEA for five years. Previously I worked as an analyst at the NH Public Utilities Commission (the “Commission”) in the Sustainable Energy Division and as an energy consultant with Navigant Consulting and Summit Blue Consulting. I have a BA in environmental policy and economic analysis from Boston University and an MA in international energy management and policy from Columbia University.

Q. Have you testified previously before the New Hampshire Public Utilities Commission or other regulatory bodies?

A. Yes, I filed testimony in Docket 16-576 on The Development of Alternative Net Metering Tariffs. I have also engaged informally and formally as an intervenor in many Commission proceedings and processes, including dockets: DE 15-137, DE 14-238, IR 15-296 and DE 10-212.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to support Liberty Utilities' concept of a battery storage pilot program and to suggest important changes to the proposed program.

NHSEA commends Liberty Utilities ("Liberty") for proposing New Hampshire's (NH) first pilot program to deploy battery storage. Battery storage technology can save on transmission costs, is one path to explore a non-wires alternative to distribution system improvements, and can generate useful data that will serve the company, its customers, and the state of New Hampshire to inform their ongoing choices, practices and policies. NHSEA is pleased to see that Liberty is attempting to put existing NH energy policy into practice. NH statutes, including RSA 374-G, 374-F, 362-A, and 378:37-38 all enable and/or encourage the deployment of distributed energy resources as a way to ensure competition, increase fuel diversity, lower costs, increase consumer choice and improve grid security. We are glad to see that Liberty plans to offer this pilot to all residential customers, including those with and without solar installations at their home.

As the first battery storage program proposed by a utility in NH, the parameters and precedents that will be set by this program are extremely important. The program must support the principles of restructuring, and also protect customers, competitive markets,

and the utility itself from unnecessary costs, technology suppression, or inadvertent monopolistic tendencies. NHSEA believes that an optimal outcome for Liberty and its customers is possible, with some adjustments to the proposed pilot program and greater access to a storage-specific tariff.

Q. What are NHSEA's specific concerns about the pilot program as currently proposed?

A. NHSEA's primary concern is that the program as proposed may be limited and inaccessible to options that are beyond their chosen technology (Powerwall 2) and ownership model (utility-owned). For example, RSA 374-G:5, criterion II(f) directs that a utility project or program must show "the effect on competition within the region's electricity markets and the state's energy services market." While Liberty states that:

"Customers are free to choose a competitive supplier regardless of whether or not they participate in this pilot. The pilot is not restricted to customers taking default service. Therefore, there will be no effect on competition in the region's electricity markets and the state's energy services market," (Date Request response 1-3, 3/9/18)

competition and competitive markets apply to retail markets and wholesale markets per RSA 374-F, NH's electricity restructuring policy and principles. Liberty's response above only applies to wholesale energy markets, not retail energy markets, which are evolving rapidly but with difficulty and frequent resistance. Significantly, the very first section of 374-F's Purpose Statement states that:

"The most compelling reason to restructure the New Hampshire electric utility industry is to reduce costs for all consumers of electricity by harnessing the power of competitive

*markets... Increased customer choice and the development of competitive markets for wholesale **and retail** (emphasis added) electricity services are key elements in a restructured industry that will require unbundling of prices and services and at least functional separation of centralized generation services from transmission and distribution services.”*

NH’s very first battery pilot program must ensure that competition in the retail, non-utility owned, operated and deployed battery storage market is not hindered nor restricted to the benefits, rates, and customers to which Liberty has singular access.

Q. What changes do you propose that Liberty make to its pilot program before Commission approval is granted?

- A. In order to ensure competition at the retail level, this program should be open to other battery technologies and ownership models. A customer who would like to purchase a battery outside of this program and have it installed at the customer’s own expense should be able to access some or all of the benefits of the time-of-use (“TOU”) rate, as well as the savings to the system as Liberty describes them. If participant and non-participant savings are possible without utility capital investment or an expansion of the rate base, that path should be open to all customers. At a minimum, this pilot program should be modified to include or allow customer-wide access to the program’s TOU rate if the Liberty customer would like to participate with a battery device of his/her choosing and at the customer expense.

NHSEA also has specific concerns about technical or legal aspects of the proposed pilot program.

1. Software and hardware.

Liberty's choice of GridLogic as the software that will interface with the Powerwall 2 makes sense in terms of interoperability and Liberty's stated need to ensure a high confidence level of system function in order to capture all system benefits. However, NHSEA is concerned that the proprietary nature of this software would preclude other technologies from being able to access the batteries should a customer wish to use another platform. GridLogic is Tesla software, and there was not adequate discussion in the initial, supplemental and supporting appendices about any other software options.

Liberty shared that it would be upgrading the customer meters for enrolled participants under this pilot, but that they would remove the Zigbee chip from those meters. NHSEA questions whether this decision comports with the goals of NH energy policies and the goals of this specific program. Removing a feature of the meter that can provide data seems like a lost opportunity to provide the customer and the utility with services and information that can inform future decisions. Customer data is not only an ongoing policy priority under 16-576, 15-296, but is also touted as a fundamental reason for Liberty doing the pilot.

2. Energy and capacity benefits of the pilot.

These benefits are not reflected in Liberty's cost-benefit analysis because, as Liberty described during the March 14, 2018 technical session, the total capacity of the pilot program (5 MW), is not large enough to materially impact the quantification. While these benefits may not be needed to justify the net cost of this program, it seems essential to capture and quantify these real benefits in order to ensure that the evolution of retail competition and default energy service procurement/solicitation is accounted for and will accommodate a future that will see greater and greater amounts of Distributed Energy Resources ("DERs"). For example, the savings generated under this program should be appropriately accounted for in the solicitation Request for Proposals ("RFP") when Liberty is soliciting default energy service. If the savings are real, and are not reflected in the solicitation, then the competitive provider of that default service to Liberty could potentially capture all of those savings benefits, and none would flow to the customers.

Another reason Liberty should account for the capacity savings that would result from the pilot program is in the interest of the goals set out in docket IR 16-714. In Order 25,919, the Commission set a statewide electric peak time reduction goal of 8,786-9,033 kilowatts for 2016 and 2017. In a 2017 Secretarial Letter under 17-101, the Commission directed Staff to file a recommendation for peak load reduction goals following the conclusion of Dockets DE 15-137 and IR 15-296. These dockets have concluded and pending Staff action is imminent.

3. Flexibility in program operation and battery use.

NHSEA believes that Liberty may need greater flexibility in how it operates the batteries, given the rapid changes in technology and the regulatory environment. Given the length of the pilot (ten years), flexibility is essential in order to capture all of the benefits and value that may be realized as this environment changes. We recommend that Liberty be allowed a reasonable level of flexibility if such changes are made after notification to the Commission and to the customer.

4. Consumer protection.

In Term 22 of the customer agreement for enrolling in the pilot program, it states that Liberty and Tesla are liable for essentially anything related to the Powerwall:

“To the fullest extent allowed by law, except for claims covered by the Limited Warranty, neither Liberty nor Tesla shall be liable for any direct, indirect, special, or consequential damages to any persons or property resulting from or arising out of any use, repair, delay in repairing, replacement of, or modification to the Powerwall.”

This complete abdication of liability, despite Liberty’s active use of the Powerwall and its related GridLogic software, seems extreme and unenforceable. This could create consumer mistrust and skepticism in the program and Liberty’s willingness to protect its own customers.

5. Consumer outreach and education.

Liberty's plan to educate consumers on battery technology and the pilot program "through literature and technical assistance" (Tebbetts p. 14 of 20, line 8) lacks specificity and may be insufficient. Given the relatively new entrance of the Powerwall 2 into the market, aggressive education on the technology, the associated TOU rates, the operability of the battery and the software, etc. is essential to success. Given that this is an opt-in program, customer education may not need to be as rigorous as opt-out type programming, but a successful program will have a user-friendly manual and an orientation meeting once customers have been enrolled in the pilot, at a minimum. NHSEA is encouraged to hear, at the April 13, 2018 Technical Session, that Heather Tebbetts of Liberty is having one-on-one conversations with customers who have requested placement on the waiting list for participation in the pilot program.

Q. Does this conclude your testimony?

- A. Yes. NHSEA is confident that issues of concern can be resolved and a Commission-approved pilot program will create value for Liberty and for the customer, all while improving competition and allowing fair access to all participants in our fast-changing electric sector.