

NEW HAMPSHIRE
SUSTAINABLE ENERGY
ASSOCIATION

September 17, 2015

Debra A. Howland, Executive Director
Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

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Re: IR 15-296 Electric Distribution Utilities Investigation into Grid Modernization

Dear Ms. Howland:

The New Hampshire Public Utilities Commission, pursuant to House Bill 614, is instructed to “open a docket on electric grid modernization on or before August 1, 2015,” as informed by the state energy strategy document which states that “[g]rid modernization refers to a wide range of actions aimed at ensuring that the electric grid is more resilient and flexible, better able to integrate variable energy sources and demand side management, and capable of providing real-time information to help customers manager this energy use and reduce energy cost.”

In other words, grid modernization refers to technological advancements tied to investing in power electronics and other grid technology, and especially to integrating and managing distributed energy resources (DER) — which includes generation technology like solar and combined heat and power, storage (including electric vehicles), microgrids, and software and information systems that enable demand side management wherein electric load can be responsive to dispatch, price signals, or other system needs.

Many other states have recognized that we are on the cusp of profound change in electricity generation and distribution because of these technological drivers. Accordingly, they have launched major regulatory initiatives to try to enable these changes, capture the consequent benefits for customers, utilities, and other stakeholders, and transform the management and development of the electric grid. For example, already California, Hawaii, and New York are engaged in fundamentally reforming their state regulatory processes to accelerate the integration of DER into the grid, expand customer choice, decrease costs, and ultimately create new markets and value. Many other states are in various stages of similar proceedings, including Minnesota, Pennsylvania, Maryland and our New England neighbors Massachusetts, Maine, Connecticut.

In its order instituting the first track of its Reforming the Energy Vision proceeding, the New York Public Service Commission summarized the situation well, both for themselves and for other states, including most especially New Hampshire:

“The electric industry is in a period of momentous change. The innovative potential of the digital economy has not yet been accommodated within the electric distribution system. Information technology, electronic controls, distributed generation, and energy storage are advancing faster than the ability of utilities and regulators to adopt them, or to adapt to them. At the same time, electricity demands of the digital economy are increasingly expressed in terms of reliability, choice, value, and security. Cost, as always, is a driving concern. Aging infrastructure, declining system efficiency, and flat sales growth place pressure on rates, and imply increases under a business-as-usual approach. Meanwhile, the trend toward affordability of self-generation threatens to create an unacceptable gap between those who can choose to leave the grid and those who cannot, with implications for the obligation to ensure reasonably priced and reliable service...the Commission’s mandate to ensure safe and adequate service at just and reasonable rates, coupled with the statutory charge to promote efficient planning and use of resources, compels further regulatory action to secure fulfillment of the State’s energy needs. The challenges that stimulate action also reveal tremendous opportunities to improve our century-old regulatory system. The regulatory initiative launched in this proceeding, Reforming the Energy Vision (REV), aims to reorient both the electric industry and the ratemaking paradigm toward a consumer-centered approach that harnesses technology and markets. Distributed energy resources (DER) will be integrated into the planning and operation of electric distribution systems, to achieve optimal system efficiencies, secure universal, affordable service, and enable the development of a resilient, climate-friendly energy system.”

This statement applies with equal force to the New Hampshire Public Utilities Commission’s regulatory mandate (which is essentially the same as the NYPSC’s), market imperatives, and goals. In New Hampshire, and in many other states, the same technological developments and pressures are meeting a regulatory system that was designed around early 20th century technology. We have seen a massive acceleration in customer demand for distributed energy solutions, especially solar, cropping up against rates, procurements, and programs woefully insufficient to meet that demand or deliver appropriate system value.

For example, in New York, Con Edison proposed the Brooklyn-Queens Demand Management project, which is slated to save a net \$750 million in new substation and transmission line costs through storage and demand management solutions. This is only one pilot project in one state by one utility. But in New Hampshire, we have no mechanism to incentivize this kind of smart, forward-looking investment that can reduce costs that ultimately flow through the rate-base to customers. We have no rational policy mechanism for procurement of resources, pricing, or programs that optimizes capital expenditures interconnection of DER. This means that NH consumers pay more, utilities persist in suboptimal investments, our system falls further behind advances made elsewhere, and New Hampshire becomes steadily less competitive. This is bad for everyone — including utilities who may increasingly find themselves facing customer migration to distributed energy solutions that offer relative cost parity or outright savings. And the more they are locked into sub-optimal investments, the greater the price and demand disparity will be versus distributed generation/storage and the more migration they will see.

Moreover, as New York noted, this migration will not be uniform, and therefore will put pressure on the PUC's mandate to maintain just and reasonable rates.

Therefore, when we examine the issue of "grid modernization," what New Hampshire ultimately needs as a state for our economic success is to create a smart, forward-looking set of incentives, rate designs, and requirements that incentivize innovation, stimulate development and deployment of newer technologies, and that allow utilities, customers, and all stakeholders to share in the dividend of the enhanced value that technology and new markets can deliver.

It is also worth noting that there are additional potential costs and risks to failing to set up the right distribution planning process, beyond locking us into stale technology, inflated costs, and higher rates, along with their associated economic consequences. Without distribution planning appropriately oriented to enabling smart DER penetration, utilities can find that they can actually incur even greater costs and reliability concerns on particular feeders. Thus far, New Hampshire has not even approached such concerns with our overall 50 MW cap on net metered distributed solar, 3 total wind farms, and extremely limited penetration of electric vehicles, storage technology, and other DER. In fact, we are miles away...unlike a state like Hawaii where one in eight homes now has rooftop solar. However, the choice should not be between the extremely blunt hammer of net metering caps locking us into inflated system costs and stunting our development, versus the risks of unmanaged and unplanned growth. Intelligent rate design, procurement, and planning requirements can be a win-win-win for utilities, their customers, and other technology companies.

We therefore recommend that, rather than reinvent the wheel, the Commission closely reference the New York and California initiatives in particular (which are the most developed thus far), as well as the burgeoning slate of other state models, which provide valuable insights into the common and unique questions that our state will encounter as we pursue grid modernization. As we develop this investigation, we specifically urge the commission to focus this docket on four related, and indeed inseparable, issues:

1. Rate design
2. Integration and valuation of distributed energy resources
3. System innovation, investment, and reliability
4. Customer service, programming and engagement

We likewise urge the Commission, in the course of this investigation, to outline the costs and risks of failing to modernize in these areas listed above. It is imperative that the Commission not only investigate but instigate change in these areas, and to do that, it is important that New Hampshire policymakers be made fully aware of developments elsewhere and the costs and risks of failing to act.

Finally, given the extremely rapid pace of change in this sector, the regulatory innovation being undertaken by our neighbors (and economic competitors) in New England, the need for dynamic and appropriate price signals, the mismatch of exploding customer interest in and demand for

DER solutions versus the policy mechanisms in place that limit (rather than enable) interconnection, we respectfully urge the Commission to proceed with all deliberate speed.

Please add Kate Epsen at kate@nhsea.org to the service list for this docket.

Thank you for this opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kate Epsen', with a long horizontal flourish extending to the right.

Kate Epsen
Executive Director
New Hampshire Sustainable Energy Association