



**Public Service
of New Hampshire**

A Northeast Utilities Company

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March 7, 2014

William J. Quinlan
President and Chief Operating Officer

Meredith Hatfield, Director
NH Office of Energy & Planning
Gov. Hugh J. Gallen State Office Park
107 Pleasant Street
Concord, New Hampshire 03301

Dear Meredith,

Public Service Company of New Hampshire ("PSNH"), a subsidiary of Northeast Utilities ("NU"), is pleased to submit these comments in response to the Straw-man Energy Vision ("Energy Vision") presented during the recent meeting of the New Hampshire State Energy Advisory Council ("Council") on February 21, 2014.

PSNH is very encouraged about the State's initiative to create a long term strategy for the energy sector in New Hampshire. PSNH and NU especially commend the Council for its desire to set an aspirational vision that will serve as the guidepost to develop an energy strategy for New Hampshire over the next 10 years as it seeks to improve the energy landscape in the State.

We look forward to continued dialogue with the Council over the next few months and initially provide these comments focused on the key five vision factors identified during the February 21st meeting: 1) grid modernization, 2) energy efficiency, 3) renewables mix, 4) transportation options and 5) alternative fuels.

Grid Modernization

PSNH is committed to help New Hampshire modernize the state's electric system. Overall we believe that cost-effective modernization of the electric distribution system should focus on four primary objectives: (1) to reduce the effects of outages; (2) to optimize demand, including reducing system and customer costs; (3) to integrate distributed resources; and, (4) to improve workforce and asset management. These four objectives will be beneficial to customers in both today's and tomorrow's operating environments.

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To that end, PSNH and NU are already undertaking significant investments in the “21st Century Electric System” and we are focusing our attention both on the “grid-side” as well as the “customer-side” of that system.

On the “grid-side” we have been leaders in the U.S. in efforts to automate our grid to attain a greater awareness of system conditions and provide a higher level of reliability to our customers. For example, at one of our affiliates, NSTAR, we have more than 5,000 sensors monitoring the state of the grid and we are implementing a \$20 million program to have a system that automatically heals when it senses a fault, without human intervention. In New Hampshire we have been running a pilot for a few years that is determining the best approach to achieve these same capabilities within the specific context of PSNH’s electric distribution system as it exists today. We believe these grid side investments can pay significant dividends for our customers by reducing the number of outage events, reducing the time associated with an outage event and reducing the cost associated with maintaining our grid.

We are also working for ways to better integrate distributed generation, especially solar photovoltaic generation into our systems. For example, we are implementing a \$10 million pilot at NSTAR, with support from the DOE, to enhance our visibility into the underground secondary network in Boston to allow us to test the integration of inverter-based renewable generation onto the grid. We are also working to refine and improve our interconnection processes to provide a harmonized customer experience across all of our companies, including PSNH.

On the “customer-side” we believe that our customers want more information, more choices and a different interaction with the grid. To that end we are investing in the systems and developing the right partnerships with third parties to bring these new tools to our customers. For example, we were one of the first utilities to launch the “Green Button” to allow customers to easily view usage data, encourage awareness, and for third parties to develop solutions to the benefit of customers. We also continue to expand our energy efficiency programs and infrastructure to provide customers with energy usage analyses and ideas on how to more effectively and efficiently manage their consumption. Finally, we know customers do not like to be in the dark; we are making significant investments in outage management technologies and

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process changes that will allow us to proactively notify customers when they are experiencing an outage and provide them with many outage event details.

These are just some of the examples of the grid modernization investments that we are making and can continue to advance at PSNH. We look forward to developing even further the grid in New Hampshire, efforts that will be enhanced if proper regulatory models are implemented to encourage utilities to speed and expand on these already very successful initiatives.

Energy Efficiency

The Energy Vision presented to stakeholders laid out an ambitious vision for energy efficiency and its role in a new energy landscape in New Hampshire. The Energy Vision outlines the goal of having nearly all older buildings benefit from deep energy efficiency retrofits, while indicating that “these efforts incorporate the latest energy efficient technologies, resulting from flexible policies and programs that allow customers to pick technologies they wish to use with a focus on return on investment.”

NU is and has long been a leader in developing and delivering award-winning energy efficiency programs. NU plans to manage close to \$500 million of energy efficiency investments in 2014 in Connecticut, Massachusetts and New Hampshire. However, as a product of legislative and regulatory requirements that are unique to each state, the bulk of these investments will be centered in Connecticut and Massachusetts. PSNH agrees that there is an opportunity to significantly increase energy efficiency investments in New Hampshire, and we believe that these increased investments will help tens of thousands of customers reduce their energy costs, reduce the need for additional generation, and boost the local economy and employment. We support the development of policies that allow investments to be undertaken based on specific project economics and expected returns on investment.

New Hampshire needs capable partners who can deliver on this vision. Utilities are the natural and best provider of energy efficiency programs. Customers look to their regulated utilities as trusted, reliable, non-biased resources for comprehensive energy solutions. Moreover, customers can take comfort in the prudent oversight regarding program design, delivery and results that is inherent in a regulated utility environment. PSNH and NU have the expertise and experience to scale the energy efficiency ecosystem through innovative approaches to engage

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customers, key stakeholders and vendors, and put in place robust funding and financing mechanisms. For instance NU's subsidiary companies in Connecticut and Massachusetts are:

- Engaging large commercial and industrial customers at the executive level in multi-year partnerships through Memorandums of Understanding that seek to make significant reductions in their energy use.
- Partnering with cities and towns to reduce their own consumption while serving as channels to small businesses and residents.
- Enhancing the Home Energy Solutions program by focusing on deeper solutions and driving effective outreach, innovative program design, vendor/contractor engagement and availability of low-cost financing.
- Achieving one of the highest levels of efficiency savings as a percentage of sales in the country.
- Helping Massachusetts achieve the #1 ranking in the AEEE state scorecard and Connecticut move up the rankings over the past few years.

PSNH also believes that utility customer funding is critical in order to help achieve the State's goals. PSNH supports the desire to minimize customer charge driven subsidies and, over time, move to a more self-sustaining market-based funding approach. However, PSNH also notes that leading energy efficiency programs in the nation rely on significant customer funding to achieve their aggressive goals. Any moves to reduce rebates should be done thoughtfully, be segment-focused, data-driven, and done with an understanding of the potential tradeoffs. Corporations, institutions and consumers, all look at energy efficiency as an area of investment and, as such, return-on-investment or paybacks become important criteria in their decision making, and rebates have a direct influence in the process. PSNH will continue to look for grants and donations that may become available for energy efficiency, thus reducing the need for customer funding.

Finally, PSNH agrees that financing to support participant contributions is an important tool in expanding energy efficiency programs. PSNH's affiliates have implemented broad-based and low-cost financing approaches in Massachusetts – by, for example, tapping into local banks and credit unions. The private capital from these sources has been plentiful and low-cost, and has also served to reinforce existing relationships with communities. However, PSNH believes it is

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important to consider the all-in cost of financing and caution against approaches that seek to raise large amounts of costly (all-in cost) private capital as a substitute for rebates.

Renewable Mix

PSNH remains supportive of the State's desire to meet its Renewable Portfolio Standard targets. PSNH also highlights that meeting RPS standards should not be solely a byproduct of environmental concerns; nor should it be developed absent energy considerations. Energy and environmental policies need to be developed in tandem and balanced with economic consequences.

PSNH has long supported the development of local New Hampshire renewable energy projects through strategic investments that have helped the state move toward a cleaner energy future: the company assisted in the development of the state's first wind farm, in Lempster, and purchases nearly all of the project's energy and Renewable Energy Credits; PSNH replaced a 50 megawatt coal-fired boiler at Schiller Station with a similar sized biomass boiler; and, the company enabled the development of the new Burgess biomass power plant in Berlin by entering into an innovative Power Purchase Agreement.

Although renewable development in New England and New Hampshire have had significant opportunity, the region finds itself continuing to struggle with a renewable energy supply deficiency, and thereby higher costs for RPS compliance. Ultimately these costs are borne by New Hampshire customers.

With the challenges for siting new generation in the region and the threat of the expiration of government tax credits for renewable projects, it will be difficult for renewable generation to be developed without significant subsidization from customers or the State. The State needs to consider ways to avoid these potential costs and should evaluate additional options to achieve the State's clean energy objectives. A diverse generation mix is a great tool to address the growing and risky dependence on gas in the New England region and New Hampshire.

PSNH recommends that the State evaluate cost effective options to meet New Hampshire's renewable goals. To the extent new resources are considered it should be clear that those

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resources will benefit New Hampshire's customers by limiting the fuel dependence on natural gas for power generation and lowering wholesale energy prices.

PSNH is supportive of a review that includes consideration for new deliveries of large scale hydropower in Canada. The region would benefit significantly through displacing fossil power generation, reducing regional carbon emissions, lessening the fuel dependence on natural gas for power generation, and lowering wholesale energy prices. New Hampshire has an opportunity to tap into Canadian hydroelectric facilities that are available now or under development, through the development of new transmission infrastructure which would provide jobs and tax revenues in addition to energy and environmental benefits. Efforts such as NESCOE's should continue to be supported to ensure that such transmission infrastructure is built and provides benefits to New Hampshire.

Transportation Options

PSNH believes that plug-in electric vehicles ("EVs") could be an important part of an integrated climate change and energy independence strategy for New England and New Hampshire -- especially for the major urban centers where commuting distances are relatively short. Automotive manufacturers have made significant commitments to battery electric (e.g., the Nissan Leaf) and plug-in hybrid or range extended EVs (e.g., the Chevrolet Volt) and most other manufacturers have similar vehicles in development (e.g., Ford, BMW, Mercedes).

In recent years, NU and its affiliates have been actively engaged in several activities in support of EV deployment. NU has taken a leadership role in advancing initiatives to provide resources and information to customers interested in EVs and EV charging. For example, PSNH and its affiliates have established an EV Tech Center, which includes a dedicated hotline with trained representatives taking calls from 8 a.m. to 5 p.m., Monday through Friday, as well as the "Plug My Ride" website (www.PlugMyRide.org). These resources provide a single point of contact for customers seeking answers to electric vehicle-related questions. In addition, NU has maintained over the past six years an active role in monitoring the key technical and regulatory developments in the EV space and through its members has actively supported efforts such as Connecticut's Electric Vehicles Infrastructure Council, Massachusetts's Electric Vehicle Initiative and Task Force, and the Infrastructure Working Council. Also, NU was the Founder and Chair of the Regional Electric Initiative (REVI) which includes all the major New England utilities. Finally,

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NU has experience on deployment of charging stations to advance energy goals in Connecticut and Massachusetts.

As outlined by the Baseline Energy Forecast developed by Navigant as part of this effort, transportation is the largest source of greenhouse gas emissions in New Hampshire, and it also represents, by a significant margin, the largest component in terms of energy expenditures. Transportation is also the largest source of dependence on foreign oil and should be top priority for reform based on economic, environmental, and national security concerns. The Obama administration has made improvement in Corporate Average Fuel Economy (CAFE) standards a top priority and has also enabled policy to incent the development and commercialization of alternative fuel vehicles, primarily bio fuels and electric, and to a lesser extent, natural gas.

Based on NU's extensive work with automotive manufacturers and national organizations focused on electric transportation, we believe over the long haul that electric and natural gas transportation hold significant potential to improve our environment and lessen dependence on foreign fuels. EVs could materially lower regional CO2 emissions given New England's clean electric system that emits 30% less CO2 per kWh than the national average. At 3 miles/kWh, an EV in New England accounts for 0.3 lbs CO2 per mile while a conventional vehicle at 25 MPG would account for about 2.5 times as much CO2.

A significant conversion to electric transportation could also have significant benefits to the electric system. If the proper mechanisms are put in place and most of the charging occurs at night, system utilization would be improved which would ultimately help drive down distribution rates to our customers. In addition if the charging occurs at night, environmental benefits would be enhanced due to the generation fleet normally used at night time. The key is to be able to work with stakeholders in designing programs and/or incentives to ensure our customers charge during off peak hours. We also believe that driving patterns support these efforts, as we expect most of the EV owners will prefer to charge overnight at their residences.

PSNH will continue its leadership in supporting the roll out of these vehicles with policies and approaches geared to minimize the cost of fuel, infrastructure, and maximize convenience for the EV customer. The state should guard against proposals whereby third parties pocket the

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differential between the price of gasoline and the price of electricity, as that fuel savings is the key customer incentive to switch to an electric vehicle. We believe that New Hampshire should consider additional incentives to support customers in acquiring these (initially expensive) vehicles, including the potential for an off-peak EV recharging rate. Finally PSNH could work collaboratively with stakeholders to develop a pilot program to understand the best ways to incent charging to occur over night during off peak hours.

We also believe that natural gas transportation will continue to evolve and present an attractive alternative for transportation that is not well suited for electrification, especially for heavy duty fleet vehicles. Our sister companies, Yankee Gas and NSTAR Gas continue to work in deploying the proper infrastructure in their states to support increased penetration of natural gas transportation.

Alternative Fuels

We agree with the Energy Vision's desire to provide consumers with greater choices in the fuels they consume. We support the Energy Vision's desire to allow for customer choice as it relates to access to new heating technologies and fuels. We also support the use of market-based financing mechanisms to remove cost barriers and allow customers of all income levels access to these options.

PSNH believes that natural gas for heating purposes should be an option that needs to be explored further. A potential move away from fuel oil and propane to gas can offer multiple benefits for residents, businesses, the economy and the environment. Today, New Hampshire has a unique opportunity to take advantage of shale gas, and technological breakthroughs associated with it, which represent truly profound changes in the U.S. and world energy markets.

We also note that while New England's electricity generation is the second cleanest in the country, after the Pacific Northwest (which relies heavily on hydropower), New Hampshire's space heating environmental footprint significantly lags the U.S. due to its high dependence on home heating fuel oil.

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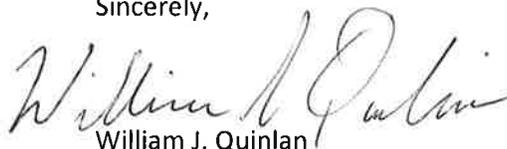
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Still, many New Hampshire consumers do not have a choice to take advantage of fuel-changing opportunities. Although we understand that expanding the natural gas system will not be economic in many instances, we believe New Hampshire should evaluate this opportunity in detail in order to determine areas of the State where natural gas can become a choice to New Hampshire's businesses and residents.

Conclusion

In closing, PSNH and NU thank the Council for the opportunity to submit these comments regarding the Energy Vision Straw-man draft. We look forward to continue to work with the Council and New Hampshire on these topics in order to implement a new vision for the energy landscape in the State.

Sincerely,

A handwritten signature in cursive script that reads "William J. Quinlan".

William J. Quinlan

President and Chief Operating Officer