

Prepared Statement for Thomas May
US Department of Energy -- Quadrennial Energy Review Meeting
Connecticut Department of Energy & Environmental Protection
April 21, 2014
1:30 p.m.-2:30 p.m.

Good Afternoon and welcome Secretary Moniz, Governor Malloy and the entire Quadrennial Energy Review Task Force. My name is Tom May, and I am Chairman, President and CEO of Northeast Utilities.

Northeast Utilities is the largest energy provider in New England, with 3.6 million electric and gas customers in Connecticut, Massachusetts and New Hampshire. Through our six operating companies, Northeast Utilities operates roughly 4,200 miles of transmission lines, 72,000 miles of distribution lines, and 6,300 miles of natural gas pipelines. Our over 8,600 employees are committed to our mission to deliver reliable energy and superior customer service, 24 hours a day, every day.

Our headquarters are right here in this great city, which as of late has had its fair share of celebration thanks to our incredible NCAA Basketball double champions from UConn!

I want to thank you for having me on this panel to discuss some of the energy challenges and opportunities we face in New England. Northeast Utilities takes its role as a leader in the industry very seriously, and I look forward to sharing my view on how we can shape the energy landscape moving forward.

Energy Challenges in the New England Market

I believe Gordon van Welie's comments have summarized the New England energy situation very well, and I couldn't agree more with his assessment of the multiple challenges now converging on our region:

- A regional shift to natural gas for heating and power production without additions to our natural gas infrastructure.
- The imminent retirement of generation capacity.
- Our aggressive regional carbon reduction goals coupled with increasing intermittent generation.
- And, of course, meeting our customers' ever-expanding expectations with grid modernization, while ensuring grid protection.

Significant Increase in Natural Gas Generation

On the generation front, we have undergone a major transition, as traditional fossil fuels, such as coal and oil, have made way for natural gas. In 2000, natural gas comprised 15 percent of the region's generation output. Today, that output has risen to 46 percent. Additionally, our customers are shifting their heating requirement to natural gas, while no substantial investments in natural gas delivery infrastructure have occurred.

The \$6.8 Billion Winter

Our extremely cold winter weather clearly exposed these weaknesses in New England's generating capacity and reliability. Gas infrastructure constraints, coupled with high oil prices, led to incredible market volatility.

In total, the energy market value for the winter of 2013-2014 was over \$6.8 billion, which is up from an average of \$2.8 billion during the previous three winters. We believe that \$3 billion of this increase can be directly attributed to pipeline constraints. This occurred when 8,000 to 10,000 megawatts of our most efficient power plants sat idle without gas supply. In essence, we almost "ran out of gas." We dodged a bullet this past winter. Thanks to the foresight of ISO-NE and the implementation of their "oil storage" program, we kept the lights on. But the cost to our customers and to our regional economy was noticeably felt.

In addition to the winter timeframe, we have seen a 30 percent increase in the commodity portion of customer bills over the last year. And proposed changes to the capacity markets in New England could further increase energy costs for customers over the next few years.

Meeting Our Renewable Energy Goals

The New England states all have aggressive renewable goals. Here in Connecticut, Governor Malloy has focused the state's goals through the lens of his "cleaner, cheaper, more reliable" strategy. That has us looking to our neighbors in Canada with plentiful supplies of low-cost hydro power, and looking to northern New England with its economic wind power potential. This will require significant north/south transmission investment that falls outside of our traditional regional, reliability-based tariffs.

These challenges are very real and very imminent. We are facing potentially lasting impacts on our residential and business customers, as well as the regional economy. We need a call to action, with solutions that are able to address these challenges both in the short- and long-term.

NU Partnering to Solve These Challenges

We have already begun work to meet these challenges head on, and ensure a bright energy future for New England. As power plants retire and production shifts, we will need to continually reinforce our transmission grid to eliminate bottlenecks and price congestion. To meet our Greenhouse Emissions goal, we will need to connect to clean hydro in Canada and wind from the north. And to balance that, we need to ensure an adequate supply of our regional fuel of choice: natural gas.

NU's Northern Pass Transmission Project will tap into resources north of the border, and when completed will bring 1,200 megawatts of clean, hydro power from Canada to New England. Other renewable generation through wind power is also available on a large scale in northern New England.

We are a partner with the New England States Committee on Electricity (NESCOE) initiative, which seeks to bring between 1,200 to 3,600 megawatts of clean renewable energy into the region through a combination of long-term transmission and clean energy contracts.

The NESCOE initiative also calls for expanding the region's natural gas capacity. Although it is our fuel of choice for the region, we have not seen capacity added in over 20 years in New England. We need to address this structural defect as it keeps 8,000 megawatts of our most efficient capacity off line in the winter and adds potentially \$3 billion in inefficient costs to our customers' bills—not to mention the environmental impacts. Multiple attempts to address this issue through market pricing designs have failed, so I believe it is time to intervene. Collaboration with our policymakers will be crucial to determining solutions for pipeline expansion in New England.

One of the success stories in New England has been the ability of the region to plan, finance and build electric transmission through the Regional Network Service (RNS) Transmission Tariff. As I said, new transmission will be needed to continue to “de-bottleneck” our system. NU is confident that we can meet that challenge under the current RNS structure as long as the appropriate incentives to make these investments remain in place.

Lastly, I believe we need to lean on our regulated utilities to create order out of what has become a chaotic market. Electric distribution companies are the appropriate vehicles to bring low-cost natural gas reliability into the market to benefit our electric customers, and ultimately the overall regional economy. Markets are not perfect and when they involve products that are necessities of life we need to consider other approaches. Since deregulation, we have used many regulatory tools to ensure our markets work and energy policy goals are met, like Reliability Must Run (RMR) contracts and long-term renewable Purchase Power Agreements (PPA). We support the NESCOE proposal to use an ISO tariff and Capacity Manager Concept to address this crisis and expedite the construction of needed gas infrastructure.

Meeting Our Customers' Demands: Grid Modernization and Protection

While my comments are primarily focused on the region's power market and infrastructure needs of today, I would be remiss if I didn't mention our ongoing requirements to invest in grid modernization and grid protection. Coupled with transmission and pipeline capacity investments, these significant investments impact the cost and complexity of operating the power grid of the future.

Our customers' expectations are changing. At NU we are already modernizing the grid to be more responsive, flexible and resilient for customers. We have been leaders in the US to automate our grid and attain a greater awareness of system conditions that provide a higher level of reliability to our customers.

We also need to accommodate two-way power flow from distributed generation sources, while maintaining reliability. This is going to be a transformative process, one that will potentially take years to occur. As we move forward, we will need to focus on how we successfully integrate two-way power flow in a manner that ensures reliability and is cost effective for all customers. To do so will require new regulatory and pricing models to fund these infrastructure investments.

Northeast Utilities takes the security and safety of our customers and the general public very seriously. We have robust, comprehensive security programs in place to protect against potential threats. But we also recognize that technology is ever-evolving, and we need to stay vigilant about protecting our infrastructure from potential threats. We are collaborating with state and federal government, including FERC and NERC, which will help us lead the way with initiatives that continually improve security.

In Closing

Yes we have challenges, but we have opportunities. I look forward to discussing the future of energy in New England further with my fellow panelists today, and I again want to thank Secretary Moniz and the Department of Energy for allowing NU to share our perspective.



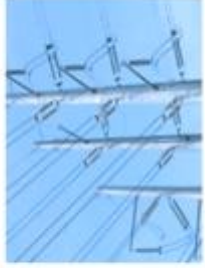
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Utilities**

Quadrennial Energy Review Meeting

Tom May
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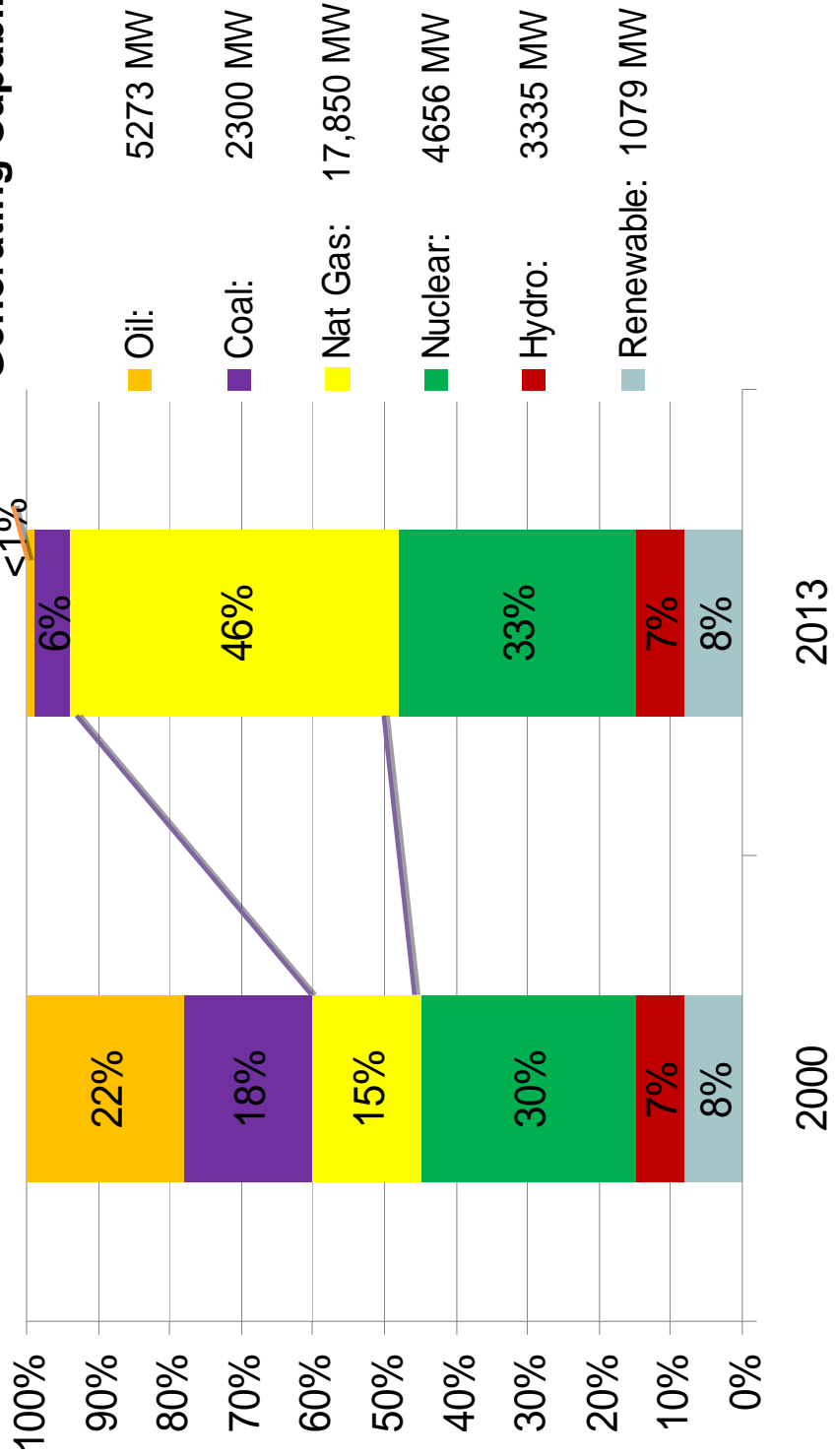
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Significant Increase in Natural Gas Generation



Annual Energy Output

Generating Capability



Future Outlook Shows Increasing Reliance on Natural Gas



Northeast Utilities



Upcoming Retirements

Announced (4,100 MW)

- Salem Harbor Station (749 MW)
- 4 units (coal & oil)
- Norwalk Harbor Station (342 MW)
- 3 units (oil)
- Brayton Point Station (1,535 MW)
- 4 units (coal & oil)
- Vermont Yankee Station (604 MW)
- 1 unit (nuclear)

Potential

- Up to **8,000 MW** at risk of retirement

New Generation Projection

Fuel Type	Capacity (MW)
Biomass/Wood Waste	138
Hydro	62
Landfill Gas	0
Natural Gas	1,847
Natural Gas/Oil	2,497
Oil	245
Solar	16
Wind	2,110
Total	6,915

Energy Prices Are Escalating



- Infrastructure challenges are pressuring customer bills
- ISO-NE has determined that our gas pipeline constraints may have added over \$3 billion to our energy bills
- The region needs to invest in both electric transmission and gas pipeline capacity to achieve our renewable mandates and resolve our power market issues

**Winter Season Market Costs
December – March
(\$Billions, ISO-NE Region)**

