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BEFORE THE U.S. INTERNATIONAL TRADE COMMISSION

**PUBLIC HEARING FOR INVESTIGATION 332-574:
*RENEWABLE ELECTRICITY: POTENTIAL ECONOMIC EFFECTS
OF INCREASED COMMITMENTS IN MASSACHUSETTS***

WEDNESDAY, JULY 29, 2020

Good Morning. My name is Anne George, and I am the Vice President of External Affairs & Corporate Communications for ISO New England.

First, I would like to thank the commissioners and staff for your attention to this important issue. I would also like to acknowledge Chairman Neal as well as his staff for requesting this investigation and for their ongoing interest in the current and future reliability of New England's electric grid.

As the Independent System Operator, ISO New England is charged with several unique responsibilities.

- Managing the operation of New England's bulk power system;
- Administering the region's multi-billion dollar competitive markets for buying and selling wholesale electricity; and
- Planning the bulk power system to meet the future power needs of 15 million New Englanders

The ISO is an independent, not-for-profit corporation. None of our board members, officers, or employees have any financial interest in any company doing business in the region's wholesale electricity marketplace. The ISO is regulated by the Federal Energy Regulatory Commission.

I would like to focus my remarks today on the portion of the Commission's investigation that calls for an examination of:

"[T]he current situation and recent trends in New England and Massachusetts electricity markets with regard to domestic and imported electricity sources and rates for residential and commercial uses, and the status of the transition from nuclear and fossil fuels to renewable sources."

New England is a Region in Transition

New England is unquestionably moving towards a clean-energy future. The region's resource mix will continue to change over the coming years and decades, driven by innovation within the electric industry and state policy goals.

Over the last two decades, the region has witnessed a dramatic shift in the fuel sources that power its generating plants. In 2000, oil- and coal-fired resources combined to produce 34% of the electricity consumed in New England; last year those two resources produced less than 1% of the region's electricity.

During that same period, the role of natural gas grew from 13% to 40%. Given the scope of your investigation, I would like to note that in 2019, imported electricity – which is primarily hydropower from Canada – was responsible for meeting 19% of New England's electricity needs.

New England and several Eastern Canadian provinces share a long and mutually beneficial relationship. For many years, electricity imports from Canada have played a key role in meeting the electricity needs of New England residents. New England, which is a net importer of electricity, currently has four interconnections with Canada – two ties with Quebec and two ties with New Brunswick.

While New England continues to rely on oil- and coal-fired generating plants to meet its reliability requirements, these plants generally only run in limited situations such as extreme weather conditions. Because of the limited opportunities to earn revenue in the market and increasingly stringent environmental regulations, many of these plants have retired in recent years (a shift highlighted by Chairman Neal in his January 23 request letter). In addition, since 2014, the region has seen the retirement of two nuclear plants; however, it is important to note that the region's two remaining nuclear facilities will continue to play a key role as the region's policymakers seek to decarbonize the electric grid as well as New England's overall economy.

Over the last two decades, New England has also made significant investments in electric transmission. The ISO is responsible for comprehensive system planning to ensure that the regional transmission system can meet the long-term reliability needs of New England. We do this by studying the projected demand for electricity over a ten-year horizon and then assessing the adequacy of resources to meet that demand. We look first to resources coming through the wholesale markets and if we identify reliability gaps, we analyze and select the most efficient transmission investments to meet the reliability needs. New England has invested over \$11 billion to strengthen the transmission system over the last 20 years with substantial benefits for the region's residents, not only ensuring a reliable grid, but also expanding access to the most competitive energy supplies on the system, nearly eliminating transmission congestion, and allowing older generating resources to retire.

However, it is important to distinguish reliability-based transmission from elective transmission upgrades, or ETUs, which may provide a variety of benefits to the region (including environmental benefits) but are not driven by reliability needs and are paid for by investors (who determine how to recoup the development costs). The ISO's role in ETU development is limited to studying the interconnection of the project to ensure it does not threaten adverse impacts to the bulk power system. There are several ETU projects proposed for potential development in New England, including the New England Clean Energy Connect project.

It is important to recognize that – in 2019 – wholesale electricity rates (determined through markets administered by the ISO) accounted for less than half of the full retail rate paid by New England ratepayers. In 2019, wholesale electricity rates, which include wholesale electricity, transmission, and ISO costs, were less than eight cents per kilowatt-hour (kWh), while four of the six New England states had retail rates over 20 cents/kWh.

New England's Renewable Energy, Carbon Reduction Goals Driving Change

Any overview of the region's electric grid must include discussion of the region's current policy goals. All six New England states are members of the Regional Greenhouse Gas Initiative and each state is striving to meet individual renewable portfolio standards along with statutory or aspirational economy-wide carbon reduction goals. These goals will lead to further constraints on burning fossil fuels in the region during the same time as the system adds more variable, weather-dependent energy.

Although the timing is uncertain, we expect to see demand for electricity grow as a number of the states seek to reduce carbon emissions through electrification of their transportation and heating sectors.

The path towards a clean energy future is evident in the interconnection queue, which represents the latest inventory of proposed new resources. Of the nearly 20,000 megawatts (MW) in the ISO's interconnection queue, over 90% of those megawatts are from renewable energy resources. It is clear that clean-energy developers are responding to state incentives, declining technology costs, and revenues from the wholesale markets.

ISO New England Striving to Ensure Reliability and Achieve Regional Policy Objectives

As this transition advances, ISO New England continues to innovate and work with our stakeholders to ensure a coordinated effort to meet the goals of our region while still ensuring the reliability of the bulk power system. This includes leading the development of annual forecasts of the future impacts of energy efficiency, commercial- and residential-scale solar resources, electric vehicles, and home heating technologies on the region's demand for electricity.

In addition, the ISO has developed a highly accurate hourly wind forecast that enables the efficient management of wind power fluctuations. And in 2019, the ISO launched a new method of predicting solar output across the region in a way that can be integrated into existing load forecasts.

We also continue to work with stakeholders on studies of future scenarios in New England, including the possible effect of investments in large-scale hydropower from Canada. For instance, at the request of National Grid, the ISO will be conducting a study to evaluate the potential economic benefits associated with additional investment in transmission and/or storage under a range of future resource mixes, including increased hydropower imports.

Ability to Produce Energy "On Demand" a Growing Reliability Challenge

Although this is perhaps not squarely inside the parameters of this investigation, when discussing trends in New England's bulk power system, it is important to recognize the "energy security" challenge as a growing concern to regional reliability.

As the transition of the power plant fleet accelerates, the ISO must ensure that the grid has sufficient energy "on demand" to power New England if the weather isn't cooperating and constraints in the natural gas supply to the region result in the loss of significant quantities of natural gas generation.

To solve this challenge, ISO New England and regional stakeholders have been working on market enhancements, known as Energy-Security Improvements (ESI). ESI creates a strong market-based compensation to reward the lowest-cost resources – regardless of fuel type or technology – that can deliver electricity reliably when challenging grid conditions arise.

The New England power system will look very different in the future, particularly as the heating and transportation sectors are electrified. This “electrification of everything” raises important questions about where the region is heading in the coming decades.

New England has a successful history of meeting difficult challenges. At ISO New England, we are committed to working with the states and industry stakeholders to evaluate how wholesale markets can sustain a power grid that can reliably support future de-carbonization across New England’s economy.

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