Connecticut Energy and Technology Committee
Informational Forum on Storm Response and Rate Increases

Testimony of ISO New England
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Thank you for inviting us to join you virtually to share what we do as New England's independent system operator, and how we work closely with both our federal regulator—the Federal Energy Regulatory Commission—as well as with the states, and specifically, Connecticut.

These comments address the announced topics of the hearing. Additional topics were raised during the hearing and we look forward to the opportunity to continue this conversation with the committee.

ISO New England is responsible for ensuring the reliable operation of the New England electric grid, administering the region's wholesale electricity markets, and conducting regional system planning and ensuring resource adequacy. The ISO is independent of companies in the marketplace, does not own transmission or generation assets, and has no financial interest in any companies participating in the region's wholesale electricity markets.

ISO New England, the wholesale markets that it administers, and the power system that it operates are regulated by the Federal Energy Regulatory Commission (FERC) and ultimately governed by the Federal Power Act (FPA). The Federal Power Act also grants states the authority to determine the resource mix within their jurisdictions, as well as set retail electricity prices. The balance created by the FPA among the states and the federally regulated ISO shapes the electricity landscape that we have in New England today. The ISO appreciates this balance and strives to foster strong relationships with our six states, the public officials that serve in each state, and the people and businesses that depend on a reliable power system. While we are under the jurisdiction of FERC, our work is highly responsive to our fellow states in many ways, which I will describe in more detail.

The ISO has operating agreements with the Transmission Owners in the region, including Eversource and United Illuminating, to oversee the operation of their facilities as part of the larger, interconnected electric grid for New England. The ISO serves as the Master Control Center for this grid and we work directly with the Transmission Owners who operate Local Control Centers (LCCs) across the region; in Connecticut, we work with Eversource as the operator of the LCC known as CONVEX.

The market participants who produce, buy and sell electricity in the wholesale market also have services agreements with the ISO. We manage the dispatch of all the generating facilities connected to the bulk electric system, and we also coordinate power flows with neighboring power systems in New York, Quebec and New Brunswick.

These entities are our most immediate customers, although, ultimately, we perform the services of an independent system operator for the benefit of the electricity customers of New England.

The State of Connecticut is not a direct party to the ISO's operating and services agreements, but Connecticut officials are directly engaged with the ISO at the regional level as we will describe.

Understanding that today's forum is focused on storm response and the recent rate increases, I hope you will allow me to take a few minutes to share some of the meaningful ways in which the ISO interacts with the New England states, and particularly with Connecticut. I believe this will help foster a shared appreciation for what each of our roles are within a complex electric system.

The New England states work with the ISO throughout the year. This includes interactions with staff, ISO senior management and our board of directors. Here are just a few examples of the ways in which we interact and collaborate with the states:

a. The states are active in the region's stakeholder process that guides changes that the ISO makes to its market rules, planning procedures, and even its operating manuals. Any proposal that the ISO files with FERC goes through this stakeholder process; the states are actively engaged in the vast majority of the ISO's FERC filings through state agency staff members, commissioners, and regional associations that advocate on the states' behalf. Some state agencies, such as the Connecticut Office of Consumer Counsel, are voting members of the New England Power Pool (NEPOOL), which runs the regional stakeholder process that provides input to the ISO.

b. Two regional associations that work very closely with the ISO on behalf of the states include the New England States Committee on Electricity (NESCOE) and the New England Conference of Public Utilities Commissioners (NECPUC). NESCOE is a not-for-profit entity that represents the six New England Governors in regional electricity matters. Each governor appoints a "manager" to NESCOE. In Connecticut, for example, Commissioner Katie Dykes is the NESCOE manager appointed by Governor Ned Lamont.

   NECPUC is a not-for-profit organization that provides regional regulatory assistance on matters of common concern to public utilities commissions of the six New England states. ISO New England's senior management and board of directors meet jointly with NECPUC leadership at least twice each year. Additionally, each year, representatives of the ISO board meet with the commissioners of each individual state public utility commission, including the Public Utilities Regulatory Authority (PURA), to promote a direct dialogue with state regulators and the board. We also hold monthly calls with NESCOE and NECPUC and provide detailed monthly reports to them and other state officials on the performance of the wholesale electricity markets and topics of upcoming discussion in the regional stakeholder process.

d. The New England state public utility commissions have a seat on the Joint Nominating Committee that recommends candidates for the ISO board of directors. The ISO elects its board members through a nominating process that involves representatives from the ISO New England board of directors, NEPOOL, and NECPUC.

c. The ISO develops its annual work plan in concert with NESCOE and the states. In 2019 NESCOE requested that the ISO incorporate an effort to investigate the future of the wholesale markets within the context of state and regional decarbonization goals (known as the "Transition to the Future Grid") into its annual work plan. The ISO adjusted its work plan in response to this request and has been assisting in the discussion to understand what analysis the states and NEPOOL are seeking. Once the desired analysis is determined by the region, the ISO will be providing staffing, modeling, and other resources to support this effort. This effort is expected to continue into 2021.

d. Another recent example of our collaborative work with the states and their regional associations includes an economic study that was requested by NESCOE to investigate the impacts on the wholesale markets and transmission system from adding 8,000 MW of offshore wind capacity by 2030. The ISO spent 16+ months working with NESCOE and other stakeholders to determine study parameters, produce iterative results, and publish a final report. This offshore wind study has illustrative value to Connecticut – as the state continues to procure offshore wind resources – on the market impacts and the deliverability of that energy to its citizens in a cost-effective manner.

e. From the very early days of the ISO, the states have had the opportunity to review the ISO's annual budget that is filed with FERC; this is an area where Connecticut has often taken a lead role. The Connecticut Office of Consumer Counsel was an early and fully engaged participant on the NEPOOL Budget and Finance Subcommittee, which reviewed the ISO budget, and PURA has been fully engaged for many years in the budget development process, posing questions to ISO staff and submitting written comments to the ISO board of directors. The ISO's budget development process begins in the spring of each year with stakeholder discussions on priorities in planning, operations, and capital projects. In May or June, the ISO presents preliminary operating and capital budgets to the New England states. In August, the ISO presents its proposed operating and capital budgets to the NEPOOL Budget and Finance Subcommittee and the New England states. The states then have opportunities to submit questions and comments, which are considered by ISO senior management and the ISO board of directors.

In addition to these examples of collaboration with the New England states and state associations, ISO New England works with Connecticut on many technical and policy-related matters that are particular to this state.

Throughout 2019 and into 2020, we worked closely with the Connecticut DEEP and its consultants to provide extensive technical resource-adequacy modeling to inform their ongoing Integrated Resource Planning (IRP) process. The modeling involved complex scenario analysis of various renewable energy resources and battery storage options for Connecticut as a factor of their electricity consumption patterns, among many other sensitivities and scenarios.

The ISO also provided testimony to DEEP at a technical conference in January 2020 outlining the benefits to Connecticut for being part of a regional electric system, including the costs that are shared with other New England states. That testimony outlined many considerations for Connecticut if it sought to leave the regional system and take on the responsibility for ensuring the high standards for reliability that are required by FERC. As mentioned previously, this responsibility is currently undertaken by the ISO on behalf of the entire six-state region.

We work very closely with state officials during significant events or emergencies that affect the electric grid. We have long-standing procedures and communications plans to notify state officials if there is an emergency on the bulk power system. We also conduct training for state officials twice each year before the summer and winter to review the seasonal outlook as well as our operating procedures and communications plans. In Connecticut, DEEP Commissioner Katie Dykes and PURA Chairwoman Marissa Gillett, and their staff, are the first people we contact in Connecticut during an emergency, along with the Office of Emergency Management (OEM) and the Governor's Office. When the pandemic began, DEEP and PURA leadership, in particular, were highly responsive to the need for essential employees in the energy sector to be able to travel to critical energy facilities in New England. They also helped identify resources for testing for our employees.

We also support the states whenever they declare emergencies or activate their Emergency Operations Centers, or otherwise need timely information about the bulk power system. The ISO provided liaisons to the EOC during Superstorm Sandy and Tropical Storm Irene, and during Tropical Storm Isaias the ISO participated in daily conference calls of the Energy Support Function for Energy (ESF-12) task force led by PURA Chairwoman Marissa Gillett. I'll elaborate in a moment on the ISO's role in operating the grid during the recent storm.

So, I would emphasize that we have a strong relationship with Connecticut officials to ensure good communications during a wide range of possible emergency situations.

We operate a second facility in Connecticut that serves as a back-up control center (BCC) and training simulator. In November 2019, the ISO used the BCC to participate in GridEx, a nationwide exercise led by the North American Electric Reliability Corporation (NERC) that simulated physical and cyber-attacks on the electric grid. We invited state officials from across New England to participate in the exercise and Commissioner Michael Caron participated on-site representing PURA.

The ISO undertook preparations to ensure reliable bulk power system operations throughout the recent tropical storm; most storm-related damage, however, occurred on the distribution system.

I would like to offer some information and perspectives on the ISO's role during a major event such as Tropical Storm Isaias.

As with all major storms, the ISO coordinated preparation efforts with the heads of the Local Control Centers (e.g., CONVEX), the Northeast Power Coordinating Council, and the nuclear plants and gas pipelines operating in the region. This took place in addition to the usual coordination with all of the resources connected to the bulk electric system and operating under dispatch instructions from the ISO.

Ultimately, the New England bulk power system operated reliably before, during, and after Tropical Storm Isaias.

The storm damage that resulted in customer outages on the distribution system, particularly in Connecticut, shows up in the ISO New England control center as a reduction in the region's demand for electricity. Our job, at all times, is to ensure that supply and demand are in balance and the bulk transmission system remains secure; this includes throughout the duration of major storm events when large numbers of customers suddenly lose power. Our system operators reduced the amount of generation operating on the grid as demand dropped beginning Tuesday afternoon, August 4, and we worked closely with the utilities to monitor power restoration efforts over the following days so that we could bring generation back online as demand for electricity returned to normal levels.

Outages peaked Tuesday afternoon, August 4, at approximately 1.2 million customers New England-wide. Connecticut experienced the largest number of customer outages and required the most time for power to be restored.

New England did experience some outages on the bulk transmission system, but none that caused customer outages; most of these outages occurred on the 115,000 volt (115 kV) system, mainly in hard-hit areas of southwest and central Connecticut and were caused primarily by weather or trees making contact with transmission lines.

The ISO did not need to take emergency actions to protect reliability during the recent storm, but we did issue a New England-wide alert due to severe weather. The alert was issued to all power system personnel beginning Tuesday, August 4 at 3:40 p.m., and remained in effect until Monday, August 10 at 9 p.m. The alert spanned the duration of the storm and most of the restoration period. This procedure is known as Master/Local Control Center Procedure No. 2, *Abnormal Conditions Alert* (M/LCC 2). This alert did not require action by public officials and it did not trigger any appeals directly to the public. If a storm or other event were to require emergency actions by the ISO to protect the region's bulk power system, the ISO would activate its communication plan to notify state officials throughout the region, including those contacts designated by the State of Connecticut to be briefed by the ISO on power system conditions (i.e., PURA, DEEP, OEM, and the Governor's Office).

The wholesale electricity markets are designed around the objective of selecting the lowest-priced resources to meet the electricity demands of consumers in New England.

Prices in the wholesale electricity markets have been trending down for years. The value of the energy market reached a record low of $4.1 billion in 2019 (down from $6 billion in 2018 and down from the all-time high of $12.1 billion in 2008), largely driven by the region's access to relatively low-priced shale gas during most of the year.

Prices in the Forward Capacity Market have declined for six consecutive annual auctions and in the latest auction, held in February 2020, the annual value of the capacity market fell below $1 billion, the lowest level since the beginning of the FCM, and down from the all-time high of $4 billion six years ago.

While prices in the region have trended down, wholesale electricity prices are particularly sensitive to extreme weather and generator retirements. Energy market prices tend to increase significantly during extreme cold weather when demand for fuel peaks, particularly for natural gas. Capacity market prices increase when there are large generator retirements, which is a signal to the marketplace that new resources are needed.

In New England, the ISO has a process to study the interconnection of new resources to the bulk power system to protect system reliability and we have a process to study the reliability impact of a resource retiring from the system. The ability for resources to enter and exit the wholesale market is an important feature of a competitive market as investors respond to advances in technology and changes in market conditions.

The Forward Capacity Market includes a process for owners of existing generating facilities to submit an application to the ISO to retire a generating resource if the resource is no longer competitive in the marketplace. New England has seen large and small generators exit the market through this process, and notably, nuclear and fossil-fueled resources among them. If an owner applies to retire a generating facility, that action triggers a study by the ISO in which we evaluate whether we can operate the transmission system reliably without the resource. If the study shows the resource is needed for reliability, the ISO can enter into a short-term reliability agreement to keep the resource operating for a limited period of time, all of which is subject to review and approval by the FERC. However, the ultimate decision whether to retire rests with the business owner. The ISO cannot require a resource to keep operating even if there is a reliability need for it.

Recognizing the Energy & Technology Committee's interest in the Millstone Nuclear Power Station, it's important to point out that the owners of this facility did not submit an application to the ISO to retire the plant through the Forward Capacity Market. The ISO was not directly involved in the negotiations between the owner of Millstone and the State of Connecticut that ultimately led to the long-term agreement with this facility; those deliberations took place outside the structure of the ISO's wholesale electricity market.

Resources that produce carbon-free energy, such as nuclear power facilities, are not directly compensated for those attributes through the wholesale electricity market, which are designed to around the objective of selecting the lowest-priced resource. That is a particular challenge in a market environment that does not put a meaningful price on carbon emissions. The decision to price carbon is the prerogative of policymakers, not the ISO, although we have long been supportive of the concept as an efficient way to align the states' carbon objective with the structure of the wholesale electricity market. While we have had numerous discussions with Connecticut and other states on the benefits of carbon pricing, the states have not wanted to pursue such a design and have opted to take on long-term commitments outside of the wholesale market construct.

The ISO has a proposal pending with the FERC that could provide additional revenues to resources such as nuclear facilities, not because of their environmental attributes, but because of their ability to provide energy security to the grid. This is known as the ISO's Energy Security Improvements initiative and it's designed to secure energy reserves through the wholesale electricity market to reliability operate a resource mix that will become increasingly energy-constrained as variable resources are added to the grid.

As described earlier, the ISO is also working with the states and New England stakeholders to evaluate the future of the wholesale markets in the context of the states' efforts to decarbonize the economy. The wholesale markets, however, are not designed – nor does the ISO have the authority – to enter into long-term agreements with individual generating resources, whether those are wind power, solar power, or nuclear power. The states have that ability; our responsibility as the independent grid operator is to design and operate competitive wholesale electricity markets in a technology-neutral manner so that any qualified resource can compete to deliver electricity to meet the needs of the region's electricity consumers.

I hope this overview has helped illustrate some of the many ways in which ISO New England has always and will continue to work, to collaborate, and to learn from our state partners. While the differences in jurisdiction as prescribed by the FPA may assign specific roles to each of us, these respective roles are deeply informed by one another's considerations, policies, and duties.