Connecticut Department of Energy and Environmental Protection
Integrated Resource Plan Proceeding
Technical Meeting
January 22, 2020

Comments of ISO New England

These comments are intended to respond to the Department of Energy and Environmental Protection Commissioner's January 15, 2020 letter to ISO New England and provide a broader context for how Connecticut fits into a much larger energy system.

Introduction

ISO New England understands and appreciates that every New England state has the right to determine its own public policy priorities and, as we have done in the past, we hope to assist any state interested in addressing those priorities consistent with our jurisdiction and legal mandates. Twenty years ago, the states played a key role in designing New England's wholesale markets to achieve the efficient and reliable production of electricity with the policy goal of doing so at the lowest cost. And wholesale markets have achieved this objective. However, the ISO recognizes that state priorities can change and today's policy priorities may be different (or in addition to) that original objective.

ISO New England firmly believes that the desire to accelerate state policy goals surrounding decarbonization can be achieved using the same competitive market forces that have ensured reliable and efficient power system operations over the last two decades. This could include introducing a carbon price, either through state action or as an adder in the wholesale markets, or through another agreed-upon mechanism. States can also seek to meet their policies outside of the wholesale market structure, including through direct procurements.

Regardless of the path chosen by New England and its six states, the core of ISO New England's mission remains the same: to ensure that the region's electric grid is reliable and that wholesale markets operate fairly and efficiently. And those objectives are reliant on each other – well-functioning markets are necessary to meet reliability requirements. Connecticut can choose its path forward, but how that choice fits into the wholesale market framework is a complex matter and requires a regional discussion. Any changes to the ISO New England tariff would need to go through the regional stakeholder process and would be subject to review and approval by the Federal Energy Regulatory Commission (FERC).

Consumers Benefit from New England's Regional System Planning and Competitive Wholesale Electricity Markets

ISO manages the regional power system process to ensure that the system evolves to meet future electricity needs. We do this by performing comprehensive system analysis and planning—and sharing that information with the marketplace to signal where new investment is needed. Because the ISO is not-for-profit, independent, and does not favor one resource over another, we coordinate, evaluate, and oversee these types of power system additions objectively. In parallel, New England's wholesale market was designed to achieve the New England states' policy objectives established over twenty years ago to provide reliable electric service at the lowest cost. The interrelated suite of markets – energy, ancillary services, and capacity – along with a regional system planning approach have provided significant benefits to consumers in this state and the other five New England states. These benefits include economic, reliability, and environmental benefits.

Wholesale markets deliver regional savings. The savings that have been achieved in the region's energy market are unmistakable, as the original state policy goals intended. Average annual wholesale energy prices declined by 46 percent from 2008 to 2018 and preliminary data shows that wholesale prices fell further in 2019, approaching the record-low prices seen in 2016.[1] When the region's fuel infrastructure is unconstrained, New England's energy prices are competitive with other regions; however when fuel infrastructure is constrained, the region is vulnerable to high and volatile energy prices. Retail electricity prices in New England continue to be high relative to other parts of the US, but the region's wholesale energy prices continue to see record (and near-record) lows.[2]

Regional investments in transmission eliminated congestion costs for Connecticut consumers. The transmission upgrades in Southwest Connecticut effectively *eliminated congestion costs* for the region, and primarily for Connecticut consumers. Connecticut consumers had been paying significantly higher wholesale prices for energy because transmission constraints required the ISO to dispatch more expensive in-state generators to serve customers in Connecticut. Today, wholesale energy prices in Connecticut are largely the same as (and often less than) other New England states.[3] (Consumers in different states pay different retail prices for electricity largely because of differences in state policies and retail rate structures.)

The creation of the forward capacity market, along with the regionally funded transmission system, eliminated hundreds of millions of dollars Connecticut consumers paid annually to support local generation needed for reliability. Before New England's capacity market went into effect, Connecticut consumers bore the full cost of reliability agreements with certain generators that were needed to ensure the reliability of the transmission system. Those agreements were needed until transmission upgrades could be completed (i.e., the 345 kV projects in Southwest Connecticut). Connecticut paid more than $300 million annually for those reliability agreements, known as reliability-must-run (RMR) contracts. The RMR costs were born by consumers in the state with the reliability problems based on the principle of cost-causation. These RMR agreements expired in June 2010 when the Forward Capacity Market (FCM) went into effect. The combination of regional support for transmission upgrades in Southwest Connecticut and the *regional* capacity market eliminated the reliability needs that caused Connecticut to pay these RMR costs.

Emissions have declined with changes in the fuel mix. As older fossil fuel units have retired, they have been replaced with newer, more efficient and cleaner generators. Air emissions from regional generators have fallen dramatically over the last two decades. From 2001 to 2017, annual emissions for sulfur dioxide (SO_2), nitrogen oxide (NO_X), and carbon dioxide (CO_2) declined by 98%, 74%, and 34%, respectively. The roughly 70 million short tons of carbon dioxide emissions avoided regionally between 2001 and 2017 is equivalent to taking more than 13.5 million passenger vehicles off of the road for a year.

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[1] ISO-NE presentation to CLG, December 2019. https://www.iso-ne.com/static-assets/documents/2019/12/clg_meeting_george_iso_update_presentation_december_5_2019_final.pdf

[2] Retail rates include costs for power supply, transmission, distribution and all other delivery service charges as well as state policy programs. Total residential retail electricity rates (year-to-date through November 2019) ranged from 15.51 cents/kWh to 22.06 cents/kWh among the New England states according to the US Energy Information Administration. https://www.eia.gov/electricity/monthly/current_month/epm.pdf

[3] Prices can be lower in areas with excess supply and limited ability to export power to the rest of the grid. Similarly, prices can be higher in areas with high demand and limited ability to import lower-priced power from the rest of the grid.

Connecticut pays approximately 25 percent of its transmission upgrades. The transmission upgrades in Southwest Connecticut cost more than $1.8 billion.[4] Because all of New England benefits from an interstate transmission system, it shares the cost of regional upgrades needed for power system reliability. The rest of New England paid approximately 75 percent of those costs and Connecticut paid the remainder. (Connecticut also paid more than $200 million in localized costs related to these projects because its policies required undergrounding extensive portions of the transmission lines.[5])

Connecticut relies on regional cost sharing to support ongoing maintenance of its transmission system. Connecticut transmission companies are expected to seek regional cost support for about $1 billion in repair or replacement costs for existing transmission infrastructure.[6] Connecticut would pay about 25 percent of the cost of this ongoing maintenance under the region's transmission cost-sharing arrangements.

Investment risk has shifted away from consumers
In addition to the benefits stated above, the competitive market structure has shifted the risk of bad investment decisions from consumers to private developers. This fulfilled a core objective of Connecticut and the other New England states that shaped electric restructuring in the region. If the owner of a generator makes an investment decision that proves to be uneconomic in the wholesale market, consumers are not exposed to that risk.

While the region has seen dramatic benefits from participation in the regional system, ISO New England appreciates the New England states' desire to examine the future of wholesale markets in light of state environmental policies. The ISO believes the regional stakeholder process is the best place to evaluate future market design changes.

The Forward Capacity Market Ensures New England has Sufficient Resources to Meet Future Electricity Demand

In its announcement for this technical meeting and in its letter to the ISO, Connecticut appears to be primarily focused on the region's capacity market design. The Forward Capacity Market is only one of ISO New England's mechanisms aimed at maintaining reliability and providing sufficient revenues to compensate new and existing resources.[7] As stated above, the suite of markets works in tandem, and changes in one market can impact the other markets. Therefore, any adjustments to market rules must be evaluated in light of these complex and interrelated mechanisms.

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[4] SWCT projects included the Bethel-Norwalk, Middletown-Norwalk and Glenbrook Cables projects.

[5] Localized costs are not eligible for regional cost sharing.

[6] This includes, for example, replacing lines, or conductors (known as line reconductoring); replacing older wooden structures with steel poles; and replacing other transmission equipment.

[7] Capacity is the maximum output an electricity generator can physically produce, measured in megawatts. The capacity of electricity generators and demand resources together forms the capacity for the power system. ISO is required by federal reliability standards to ensure the region has enough resources to meet a minimum total system capacity level, the Installed Capacity Requirement and ISO uses the FCM to secure resources to meet projected system capacity needs three years in advance. In comparison, energy is the amount of electricity a generator produces over a specific period of time. Many generators do not operate at their full capacity all the time, as output may vary according to conditions are the power plant, availability and cost of fuel, variability of wind and sun, market prices, or dispatch instructions from the ISO.

Over the years, the FCM has enabled the entry of nearly 12,000 MW from energy efficiency, demand response, renewable resources and natural gas plants. And it has provided an orderly process for the retirement of almost 7,000 MW from older fossil units and nuclear plants.

In its January 15 letter to the ISO, the Department raises concerns with a recent change to the FCM that is intended to bring state-preferred resources into the capacity market. While the Department may believe that the region's capacity market design "will not sufficiently accommodate the state's growing decarbonization goals," we believe the *Competitive Auctions with Sponsored Policy Resources* (or CASPR) design will work over time. The CASPR design includes a substitution auction, which provides an opportunity for trades between sponsored policy resources and existing generators willing to retire if they agree on a price. In 2019, in its first application, a new offshore wind project was able to obtain a capacity supply obligation from an older generating resource that was willing to retire. ISO believes that it is premature at this early stage to make a definitive judgement on the CASPR accommodation for state-sponsored resources.[8] Furthermore, the reality is the CASPR design proved to be the only achievable accommodation in the near term when a regional stakeholder process could not achieve consensus on any other market design. At that time, the ISO suggested that an efficient way to address the states' environmental objectives within the wholesale market is to put a price on carbon.
The state should not overlook the fact that consumers benefit from a capacity market design that selects the lowest priced resources to meet the future reliability need. Moving away from this framework and substituting other policy objectives could put upward pressure on prices for consumers.

Capacity Market Features in PJM and New England are Different
The Federal Energy Regulatory Commission's recent actions affecting the PJM capacity market, in our view, do not pose an immediate risk to the New England capacity market for several reasons. First, in its order, the Commission noted that regions need not have the same rules.[9] The Commission cited to New England's CASPR as our means of dealing with state-subsidized resources. In addition to CASPR, the region has a well-established framework for evaluating the competitiveness of offers into the FCM from resources with and without state sponsorship. This framework includes the Minimum Offer Price Rule (MOPR) that applies to all new resources. Importantly, the MOPR is broader than what was in place in PJM prior to the FERC order. Finally, a significant amount of process would need to take place prior to a change in the New England MOPR.

The Department Should Be Realistic About What It Can Achieve in the Near Term
Through the FCM, ISO New England has commitments from resources to meet the region's resource adequacy needs for about the next five years. Following the Forward Capacity Auction scheduled for February 3, 2020 (FCA #14), the region will have secured capacity resources through May 31, 2024. The auction timeline for the 2025 timeframe begins this March (FCA #15). Based on this timeframe, if New England needs to make any changes to the FCM rules, the region will need at least two years to process and file those changes. It would likely take until the 2027 auction timeframe (FCA #17), at the earliest,

[8] In addition, a renewables exemption, which provides a different avenue for renewables to enter the capacity market is still in place for the next two auctions.

[9] *Calpine Corp. et al. v. PJM Interconnection, Inc.,* 169 FERC ¶ 61,239 at f. 431 (Dec. 20, 2019) ("As the Commission has previously explained, regional markets are not required to have the same rules. Our determination about what rules may be just and reasonable for a particular market depends on the relevant facts. For example, ISO New England proposed to address the complex issues raised by state subsidies through its CASPR approach." See *ISO New England Inc.,* Rev. to Tariff Related to Competitive Auctions with Sponsored Policy Resources, 162 FERC ¶ 61,205 at PP 20-26.)

before such changes would apply. Furthermore, the ISO is not planning any changes to the FCM and, as discussed above, FERC acknowledged the CASPR mechanism for New England in its PJM Order.

The Questions Raised by the Department Cannot Be Answered Quickly or Easily

The questions raised by the Department are very complex and would require significantly more time than a week to respond. There are no discrete tariff provisions in the ISO's market rules that apply to these questions and there are no off-the-shelf guides for Connecticut, or any single state, to unwind itself from the original settlement agreement that resulted in the regional capacity market framework. If the Department desires to "extricate" the state from a system in which the ISO procures capacity resources on behalf of all electricity consumers in the six-state region, the state likely will need to expend significant resources to chart that path. Furthermore, it has yet to be determined what Connecticut would have to do with regard to its statutes and existing contracts to achieve this end.[10]

There is no current tariff authority for *a state* to "self-supply." Understanding such implications would require substantial effort and given that a large portion of the contracted energy supply for Connecticut is located physically outside of the state's borders, and the regional system is needed to balance and transport that energy to Connecticut, this is not a simple matter.

In New England, a load-serving entity can use both new and existing generating resources to cover their Forward Capacity Market obligations through self-supply (provided they meet certain requirements).[11] New self-supply resources must qualify for the FCM and are subject to the MOPR rules. Generally, if a load serving entity self-supplies, it will not be subject to capacity charges, and the resource designated for self-supply will not be eligible to receive capacity payments.[12] The current self-supply provisions in the ISO New England tariff were contemplated with municipal electric utilities in mind. Pursuing a broader self-supply option would require a regional discussion with the other New England states and stakeholders.

The job of the ISO is to ensure that the electric grid is reliable for all customers connected to it, including those who want to alternate between grid power and self-supply. This requires ensuring that pricing in the capacity market appropriately reflects the cost and performance of the resources required to maintain reliability.

We have committed resources to a regional discussion on the future of markets in response to the states' request and we are awaiting more clarity from the states and stakeholders on moving that process forward. We suggest that your request be included in the scope of the 2019 request by the New England States Committee on Electricity for the ISO to "plan to dedicate market development and planning resources in 2020 to support states and stakeholders in analyzing and discussing potential future market frameworks that contemplate and are compatible with the implementation of state energy and environmental laws."[13]

[10] It is ISO's understanding that the recent contracts signed by Connecticut utilities procure energy, not capacity.

[11] *ISO New England Transmission, Markets, and Services Tariff* (2020), Section III.13.1.6; III.13.1.6.1; III.13.1.6.2.; 111.13.2.3.2(c).

[12] Entities remain eligible for performance payments.

[13] Memo to ISO-NE Requesting Resources and Analysis in 2020 Work Plan, NESCOE, July 16, 2019; http://nescoe.com/resource-center/2020-workplan-jul2019/

As we have highlighted in our response to a recent letter from several US Senators from New England, we are supportive of placing an appropriate price on carbon and if supported by the region, we could move forward as we believe it will drive more revenues through the energy market for renewable resources, eliminating the need for Purchase Power Agreements and the screening effect of the MOPR.

Conclusion

We understand that your objective is to transition to a clean energy future and that you have aggressive decarbonization goals for the power system and the economy. We support your efforts – evidenced by the many changes we have made to our markets, operations and planning processes to integrate new technologies into this rapidly evolving power system.[14] The ISO has a unique role in that we have been given responsibility for ensuring the reliability of this system. Our objective is to work with the states and our stakeholders to ensure that the system is reliable throughout this transition.

We have always welcomed the opportunity to serve as a resource to the Department as you develop your energy plan. Over the years, the ISO has provided extensive support to DEEP staff in gathering ISO data and information to inform its Integrated Resource Plans and Comprehensive Energy Strategies, and that support is ongoing in other areas of the current IRP. In this particular instance, however, the Department has raised questions that cannot be answered quickly or easily in the course of today's technical meeting and likely will require dialogue with the other New England states and further expenditure of resources by the state to work through these issues.

Thank you.

[14] As examples, the ISO develops a wind power forecast of the energy output of existing wind resources to inform day-to-day power system operations; the forecast is updated regularly throughout the day. The ISO incorporates a forecast of the output of behind-the-meter photovoltaic (PV) resources (in megawatts) into the hourly day-ahead load forecast. The ISO develops an *annual* long-range forecast of PV resources based on state policy support for these resources and the forecast is used as an input to ISO market and planning studies. In 2010, the ISO was proactive in partnering with worldwide experts on wind integration to conduct a New England-specific wind integration study to help the ISO and the region evaluate the *operational* impacts of deploying large amounts of wind power resources. In 2010 the ISO developed a forward-looking 2030 Power System Study that identified 12,000 MW of onshore and offshore wind potential in New England in response to a request from the six New England governors to help quantify the region's renewable energy potential.

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

Bureau of Energy and Technology Policy

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January 15, 2020

Gordon van Welie, President and CEO
ISO New England
One Sullivan Road
Holyoke, MA 01040-2841

RE: Connecticut Department of Energy and Environmental Protection, Integrated Resources Plan Proceeding, Technical Meeting

Dear Mr. van Welie:

In its recent decision expanding the MOPR in PJM, the FERC majority stated:

> We find that an expanded MOPR that applies to new and existing capacity resources that receive, or are entitled to receive, a State Subsidy, unless the resource qualifies for an exemption, as discussed below, is a just and reasonable means to address State Subsidies. PJM's existing MOPR fails to consider whether resource types other than new natural gas-fired resources are offering competitively in the capacity market without the influence of State Subsidies. The record in this proceeding indicates that State Subsidies for both existing and new resources are increasing, especially out-of- market state support for renewable and nuclear resources. The June 2018 Order thus found PJM's existing MOPR provisions unjust and unreasonable and unduly discriminatory because they failed to protect the "integrity of competition in the wholesale capacity market against unreasonable price distortions and cost shifts caused by out-of-market support to keep existing uneconomic resources in operation, or to support the uneconomic entry of new resources, regardless of generation type or quantity of the resources supported by such out-of-market support." ¶ 37-38

Connecticut is pursuing aggressive decarbonization goals. FERC has indicated that, as state policy ambitions grow, FERC's efforts to mitigate those policies will increase. Connecticut electric distribution companies (EDCs) have recently entered into contracts for energy and environmental attributes that are equivalent to approximately 58 percent of the state's load, with ongoing negotiations for an additional 14 percent equivalent. Connecticut is concerned that the recently approved Competitive Auctions with

Sponsored Policy Resources (CASPR) will not sufficiently accommodate the state's growing decarbonization goals and FERC will expand the mitigation rules to include existing resources in New England, as well as demand and energy efficiency. Such an expansion of FERC rules into the state's jurisdiction could harm existing contracts between the EDCs and generators. As the agency charged with charting the energy policy of Connecticut, the Department of Energy and Environmental Protection (Department) is compelled to prepare contingency plans to ensure that Connecticut ratepayers and citizens are protected. To assist in the development of those plans, the Department is investigating the potential options for extricating the state from the compulsory forward capacity auctions. As the entity responsible for overseeing the forward capacity auctions, ISO New England, Inc. (ISO-NE) is in the best position to answer the critical questions below. The Department respectfully requests that you provide answers to the following questions at the Department's technical meeting on Wednesday, January 22, 2020 at 10:00AM in furtherance of its Integrated Resources Plan.

1. What steps would Connecticut have to take to assume responsibility for meeting resource adequacy for customers located in Connecticut outside of ISO-NE administered markets?
2. What ISO-NE tariff changes would be needed for Connecticut to "self-supply" for resource adequacy purposes but not for energy dispatch purposes?

Respectfully,

Katie S. Dykes

Katie S. Dykes
Commissioner

Cc: Anne George
Kerry Schlichting