

**To:** NEPOOL Participants

**From:** Vamsi Chadalavada, Chief Operating Officer, ISO New England

**Date:** April 13, 2020

**Subject:** **Upcoming ISO Initiatives Regarding Energy Efficiency, Behind-the-Meter Photovoltaics, and Transmission Security Reliability Review**

### **Introduction**

This memo describes three initiatives that the ISO will introduce to the relevant NEPOOL technical committees over the next several months. The first initiative concerns energy-efficiency participation in the Forward Capacity Market (FCM), and will include modifications to the load forecasting and supply-side qualified capacity calculation methodologies. The second initiative considers the impact of behind-the-meter photovoltaic generation on resource adequacy. The ISO will seek to implement these two initiatives for the sixteenth Forward Capacity Auction (FCA 16), though this timing may change for one or both initiatives depending on the results of ongoing analysis, stakeholder discussions, and implementation evaluation. The third initiative will better integrate the Order 1000 RFP process into the reliability delist bid review starting with FCA 15 to ensure that all expected transmission is included in any delist bid analysis.

### **Initiative 1: Energy-Efficiency Participation in the Forward Capacity Market**

The ISO has reviewed the existing market rules and practices concerning the participation and treatment of energy-efficiency resources in the FCM. Based on this review, the ISO has determined that certain modifications are necessary and is proposing the changes discussed below.

### **Load Forecast Modifications**

Since the inception of the FCM, energy efficiency has been treated as a supply-side resource, receiving Capacity Supply Obligations (CSOs) in the same manner as any other supply-side resource. However, unlike other supply-side resources, in order for this treatment to function properly, the market rules have required the ISO to “reconstitute” (i.e., add back) the demand savings achieved by energy-efficiency resources into the historical loads used in developing the long-term load forecast. This reconstitution is necessary to avoid double-counting energy efficiency as both a load reduction and a capacity supply resource. Beginning with the 2010 load forecast, the ISO has performed reconstitution using energy-efficiency performance (i.e., amount of energy efficiency installed), expecting that the amount of installed energy efficiency would be commensurate with the amount of energy efficiency resources obtaining a CSO in the FCA. However, in recent years, the ISO has observed that energy-efficiency program administrators install and report energy-efficiency measure quantities in excess of the energy-efficiency CSOs they obtain through the FCA. In response to this emerging trend, the ISO has determined that its

existing energy-efficiency reconstitution practices need revisiting, and will be proposing a new methodology that ties reconstitution more directly to the amount of energy efficiency that acquires a CSO in the FCA. This change is necessary because in the current model, the ‘higher’ reconstituted load is used in calculating the Installed Capacity Requirement (ICR). The proposed change will reduce the amount of energy efficiency reconstituted into historical loads, which will decrease the long-term load forecast and the ICR.

### **Supply-Side Modifications**

In addition to the load reconstitution changes, the ISO will also propose modifications to the existing FCM qualification rules for energy-efficiency resources. These modifications will better account for the energy-efficiency resource’s “expiring measures.” An energy-efficiency resource comprises installed energy-efficiency “measures,” with each such measure having a discrete life. As measures expire, they must be removed from the Qualified Capacity of the energy-efficiency resource. Accordingly, in each FCA qualification cycle, the ISO adjusts an energy-efficiency resource’s Qualified Capacity to account for the measures that will expire by the start of the relevant Capacity Commitment Period. The ISO has determined that the methodology it currently employs for this purpose over-counts the expiring measures by including measures that, while reported to the ISO, are not in fact part of the energy-efficiency resource’s Qualified Capacity. To correct this problem, the ISO will propose market design changes to modify the basis upon which future energy-efficiency qualification values are determined. This will increase the Qualified Capacity of these resources relative to the current approach and produce qualification results that are more reflective of energy-efficiency resource capabilities.

### **Stakeholder Discussion Timeline**

The ISO plans to begin discussions with the Reliability Committee regarding the load forecast modifications this month. The ISO is targeting discussions on the supply-side modifications starting in September 2020 at the Markets Committee.

### **Initiative 2: Impact of Behind-the-Meter Photovoltaic Generation**

The number of photovoltaic (PV) facilities installed in the New England region has been increasing over the last several years, and the pace of installation is growing. By the end of 2019, approximately 3,432 MW of PV nameplate had been installed, and this amount is expected to double by early 2027 – see [https://www.iso-ne.com/static-assets/documents/2020/03/final\\_2020\\_pv\\_forecast\\_corrected.pdf](https://www.iso-ne.com/static-assets/documents/2020/03/final_2020_pv_forecast_corrected.pdf). Approximately 60 percent of the total PV nameplate installed in the region – 2,077 MW by year-end 2019 – are behind the meter. Behind-the-meter PV consists of PV that does not participate in the wholesale markets and are located at end-use customer facilities or are directly connected to a distribution system. Behind-the-meter PV functions as a “load reducer” in the New England electric system, which means that they impact, and over time significantly change, the system’s net load shape and net peak loads.

Future planning assessments can be significantly impacted by shifting net peak loads and by the attributes of supply-side resources that are expected to be available to meet those loads. The shifting peak is captured in analysis recently presented by the ISO to the Distributed Generation Forecast Working Group – see [https://www.iso-ne.com/static-assets/documents/2020/03/3\\_peak\\_load\\_reductions\\_update.pdf](https://www.iso-ne.com/static-assets/documents/2020/03/3_peak_load_reductions_update.pdf). The ISO plans to use this assessment to determine needed changes to the Installed Capacity Requirement calculation and to the Qualified Capacity of resource types.

### **Stakeholder Discussion Timeline**

The ISO plans to review the impact of behind-the-meter PV on net peak loads with the technical committees beginning in August 2020.

### **Initiative 3: FCM Transmission Reliability Reviews and Order 1000 RFP**

Over the past couple of years, the ISO has reaffirmed its views about acquiring reliability services through wholesale markets. The ISO believes that such an approach is the most efficient and cost-effective for the region. The ISO also agrees with the concerns expressed by stakeholders that pursuing out-of-market actions may be expensive and can be costly for consumers.

Consistent with these concerns, the ISO has been evaluating its ongoing Order 1000 RFP process to meet the Boston-area reliability needs created by the retirement of Mystic 8 & 9. The process has so far gone well. The ISO has received 36 proposals for its Boston RFP, with costs ranging from \$49M to \$745M, and timelines from March 2023 to December 2026. Based on an early review of the proposals, the ISO is confident that a number of them meet the primary criteria of cost and timeliness (being in service before June 1, 2024). While this is encouraging, it is important to ensure that new transmission from an Order 1000 RFP is considered when evaluating whether a retiring FCM resource is needed for reliability. Otherwise, consumers could end up paying twice in a given year to resolve the same reliability concern – once to retain the retiring resource and again for the Order 1000 transmission project. This is neither efficient nor cost-effective.

To ensure alignment of the processes, the ISO plans to update its Planning Procedure 10 to appropriately include responses from the RFP in the transmission security review process. This change will accomplish many of the regional objectives discussed above, and will serve us well for future retirements. These discussions will begin at the April Reliability Committee, aiming for a vote at the NEPOOL Participants Committee on June 4 and implementation shortly thereafter.