

Docket AD17-11-000  
State Policies and Wholesale Markets Operated by ISO-NE, NYISO, and PJM

Written Comments of Brian Forshaw<sup>1</sup>  
(May 1, 2017)

**Introduction**

The New England region is rapidly approaching a turning point. Consumers have lost confidence that the electric utility industry institutions can achieve the objectives that they believe are critical. Load defection is real, and electric consumers increasingly are turning to options that better meet their needs, and in ways that can adversely affect the ISO's ability to achieve its more narrowly defined objectives. Trying to "draw a line in the sand" and prevent these changes is certain to lead to more controversy, pressure for even more sweeping changes, and requirements that consumers support more resources than necessary. The fact that retail electric prices in New England remain well above the national average (and are even further above the national average than they were in the late 1990s and early 2000s when we embarked on wholesale electric market restructuring) further underscores the need to get past "business as usual".

Most of the New England States are obligated to achieve outcomes that are consistent with State energy policies and environmental laws. While the States have expressed a strong preference for utilizing sustainable competitive markets to achieve these objectives, achieving the outcomes associated with these economic, energy, and environmental policy objectives is most important. We come at this issue from the perspective that for process improvements to be effective, objectives and goals define the structures and design approaches and structure and design, in turn, will drive outcomes. As a starting point, we need to agree on a set of desired objectives for the region before evaluating (or re-evaluating) specific structural and design alternatives to achieve outcomes consistent with those objectives.

Based on the Participants Agreement, the Mission of ISO-NE is narrowly defined:

- a) Assuring the New England bulk power system conforms to proper standards of reliability; and
- b) Creating and sustaining economically efficient markets for energy, capacity and ancillary services.

After discussions with consumers, public power utilities, State and government representatives and other stakeholder representatives, we believe there are at least three additional objectives that are not incorporated into the current ISO Mission. These are:

- a) Maintaining a diverse supply of resources and fuels for producing and pricing electricity to mitigate risk exposure and provide local area resiliency during extreme events;
- b) Reducing consumer costs by narrowing the gap between retail electric prices in New England and retail prices in other parts of the country; and
- c) Meeting environmental stewardship requirements, including development and/or preservation of low/no carbon resources.

The current centralized procurement structure of the wholesale electric markets in New England puts ISO-NE in the role of being the single wholesale buyer and the single wholesale seller in the region. Effectively all generation gets delivered to the ISO markets at a price defined by the Market Rules. Similarly, virtually all load gets served through the ISO markets at a price that is defined by the ISO Market Rules.

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<sup>1</sup> Mr. Forshaw's participation in this Technical Conference is sponsored by Connecticut Municipal Electric Energy Cooperative (CMEEC), New Hampshire Electric Cooperative (NHEC), and Vermont Public Power Supply Authority (VPPSA). This Statement has been reviewed by CMEEC, NHEC and VPPSA, however, these comments reflect Mr. Forshaw's views on the Technical Conference issues, and should not necessarily be attributed to CMEEC, NHEC, or VPPSA.

Because the current ISO Objectives do not reflect the overarching objectives that are codified in State laws and/or critical to the States and consumers in general, it is not surprising that the current ISO market structure is not delivering the outcomes required for the region to meet these policies. The exclusive emphasis on market efficiency contributes to these “sub-optimal” results with respect to meeting the requirements of these overarching objectives. Specific examples include the following:

- a) The concentration of new gas-fired generation in the resource mix, presenting commodity supply and reliability concerns and adding to price volatility;
- b) Challenges to getting low/no carbon resources to remain in the market as well as getting new resources to clear in the capacity markets; and
- c) Lack of trust in wholesale and retail market outcomes driving consumers to turn to non-market alternatives (both grid-based and behind the meter), irrespective of overall cost and impact on market outcomes.

All of this leaves the region facing the prospect of supporting two distinct classes of resources - one procured through State initiatives to address broader policy objectives; and the second procured by the ISO solely to meet its resource adequacy and market efficiency objectives. What is troubling about this state is that while the State and other government policy resources will likely impact market outcomes, the current ISO capacity market construct does not recognize these resources and their impacts, which can lead to a situation where neither the ISO or the broader policy objectives are met and consumer electric costs are higher than they should be.

#### **Challenges to Achieving Non-Electric Market Objectives Through ISO-Administered Markets**

States and other government entities (including locally-owned public power utilities), as well as electric consumers in general, seek to procure resources for many reasons that have nothing to do with wholesale electric market outcomes. A wide range of factors can affect electric market outcomes that have nothing to do with trying to influence or manipulate markets. When a major factory cancels a shift, or relocates to another part of the country electric market prices will be impacted. When customers replace older, inefficient appliances with new more efficient ones, or replace older electric space and water heaters with natural gas-fired boilers, or install solar panels on their roofs, electric market prices will be affected. While electric market prices and outcomes may influence customer decisions to take these actions, the decisions themselves are made based on what consumers perceive is in their best interest, not any blatant attempt to influence market outcomes.

The current capacity auction construct in New England is complicated and based on a set of administrative assumptions associated with estimated resource costs, projected non-capacity market revenues, forecasted economic conditions, supplier behavior, projected peak loads, resource performance and exposure to reliability events to construct demand curves and evaluate supply resource offer prices. Since the inception of the markets, history has shown that inevitably these assumptions will be incorrect, and such deviations can result in significant and unintended consequences. Many of us believe that the capacity market should be viewed as an auction-based administrative pricing construct for determining how much to pay supply resources for entering and continuing to operate in the region rather than as a truly competitive market with free entry and exit.

The complexity of the current capacity market construct and the lack of transparency about major drivers of capacity price outcomes often makes it difficult for stakeholders and consumers to understand or have confidence in the market results. In New England the cost to consumers of the Forward Capacity Market (FCM) will triple on June 1, 2017. On June 1, 2018 that cost will increase to four times its current level. A year after that the FCM cost will drop to “only” three times what they are today. And another year after

that the FCM cost to consumers will drop to 2.4 times today's costs. Complexity of the centralized capacity market construct and lack of transparency make it virtually impossible for electric consumers to understand and rationalize why such changes are necessary.

In addition, each of the New England states and regulatory jurisdictions has a distinct set of policy objectives and requirements, each of which has potential implications for centralized wholesale electric market outcomes. Some States place a greater emphasis on environmental stewardship and Greenhouse Gas (GHG) reduction. Others may place a greater priority on fuel diversity, fuel security or local system resiliency. One thing has been made absolutely clear however. Customers in one jurisdiction should not be required to support the costs of policies being pursued by another jurisdiction.

Finally, the New England States have expressed the concern that if State policy objectives are pursued through the centralized ISO-NE markets, then the ultimate authority for deciding how State policy objectives are implemented may be transferred from the State and local level to the Commission, which has no accountability for implementing State and local policy requirements. This is a non-starter for the States in New England.

Putting all this together, it seems highly unlikely that anyone, including smart people at the ISO who are responsible for designing their markets, would be able to: 1) get all of the parties to agree on a common set of standards for achieving all of these objectives, and 2) then consolidate all of these competing and potentially conflicting objectives into a single uniform, region-wide "objective function" on which to base a single comprehensive region-wide market design. Based on this concern, we believe that the most effective approach will be to modify the existing capacity market rules to accommodate actions taken by states, other government entities and consumers in general without unduly affecting the prices that result from the capacity market construct,

#### **IMAPP Proposals to Achieve Policy Objectives Through the ISO-NE Markets**

In May 2016, the New England Power Pool (NEPOOL), ISO-NE, and the New England States initiated discussions to assess the implications of various State policies (including policies directing procurement of clean energy resources) on the wholesale electric markets administered by ISO-NE. This discussion also encompassed ways in which the current ISO-NE market structure could impede achieving the State policy objectives. After discussions throughout the summer, NEPOOL convened a stakeholder process to identify possible solutions and/or wholesale electric market design changes to better harmonize these potentially conflicting regional objectives for further consideration by ISO-NE and the New England States.

As discussions continued, five different approaches were proposed. These are:

- Pricing Carbon in the Energy Market
- Various Forward Market Design (FMD) Constructs
- Two Tier Pricing in the FCM
- Bilateral-Residual FCM Structure
- ISO-NE Two-Stage "Primary-Substitution" Structure

Our initial, high-level assessment of each of these approaches, primarily from an electric consumer perspective, follows below.

Pricing Carbon in the Energy Market - Conceptually, assessing a price for each ton of carbon emitted by an electric generator, and crediting those revenues to load that would be paying higher energy prices seems simple to understand. In a practical sense, as articulated by ISO-NE, there are substantial challenges associated with deciding on the initial carbon price and figuring out how to adjust the price over time to achieve desired carbon reduction levels, deciding who will get the rebates and in what form, and legal

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questions over whether ISO has the authority to charge generators for carbon emissions. Under an LMP energy market structure, all customers will face the same increase in electric prices whether or not they have similar carbon reduction targets. In addition, the carbon revenues collected from generators will be substantially less than the increase in electric prices. Stated differently, in our markets it is not possible to achieve net “revenue-neutrality”. At \$40 per ton and using 2015 data from the ISO’s Generator Emissions Analysis, the carbon adder revenues on 40.312 million tons of annual emissions would be \$1.612 million. During 2015, the “all hours” marginal carbon emissions rate was 857 lbs/MWh, or 0.4285 short tons/MWh. Average hourly loads in 2015 were 14,479 MW for an annual energy requirement of 126.863 million MWh. This means that at \$40 per ton, the incremental energy cost to consumers for implementing a carbon adder would be \$2.174 billion (126.836 million MWh \* 0.4285 tons/MWh \* \$40/ton). This translates to an average increase in the LMP of \$17.14/MWh. So imposing a \$40/ton carbon price would result in a net increase in annual energy costs for New England of \$562 million, or \$4.43/MWh. The other concern with this approach is that it does not directly implicate any other non-GHG reduction objectives.

Forward Market Design (FMD) Proposals - The FMD proposals would either: 1) create a new ISO-NE administered mechanism to contract with qualified resources to provide low or no carbon electricity or 2) impose a constraint on the current Forward Capacity Market construct such that it would procure a minimum amount of resources capable of delivering a defined amount of non-carbon energy. The proposals that have been advanced to date have not yet been well defined. Issues remaining to be addressed include contract structure, resource qualification requirements, resource and technology eligibility, defining the level of demand for clean resources, and impacts of clean energy resources on the energy market outcomes. In addition to these issues and concerns, these proposals would clearly represent a direct additional cost for electric consumers in the region. At this point, each state in New England has a different requirement for clean energy resources, both in terms of quantities to be procured and resource eligibility. A huge challenge will be to assure that consumers in one state do not end up being required to support either a class of resource or a quantity of resources that are needed to meet another state’s requirements. It is also not clear whether these new obligations imposed by ISO-NE at a wholesale level will supplant any or all of the existing obligations currently imposed at the retail level. Finally, it is unclear whether ISO-NE, or the Commission, has the authority to require consumers to pay for energy resources based on their environmental attributes.

Two Tier Pricing in the FCM - Under the Two Tier FCM Pricing proposal, resources receiving a “subsidy” under state-sponsored procurement programs would be allowed to clear in the FCA, but would be required to accept a lower price than “competitive” resources. The higher price paid to such competitive resources would be determined by applying the Offer Review Trigger Prices (ORTPs) developed pursuant to the Minimum Offer Price Rule (MOPR) to the “subsidized” resources in a second run of the FCA’s market clearing engine. A pro-rationing adjustment would be applied to the extent more resources end up receiving a Capacity Supply Obligation (CSO) than would be needed. Two tiered FCM pricing attempts to accommodate state resource procurements in the FCA structure. While it appears to have fewer issues and challenges than the IMAPP options discussed above, two tier pricing does require that resources needed to meet state policy objectives accept a lower price than other “market-based” resources. Or perhaps stated more accurately, consumers will be required to pay more for the market resources to counteract the alleged “price suppression” resulting from resources receiving compensation from outside of the ISO markets. In addition, concerns have been raised that the pro-rationing adjustment may introduce incentives for suppliers to inflate offer prices.

Bilateral-Residual FCM Structure - Many public power systems in New England continue to believe that the best way to accommodate resource procurements by states and load serving entities to meet non-electric market objectives is through a bilateral-residual capacity market structure. Resources procured by Load

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Asset Owners (or resources procured by Electric Distribution Companies at the direction of the State regulators) would be incorporated in the FCM auction clearing process, but would not receive a base FCA payment. A price adjustment mechanism for the residual “market-based” resources (perhaps like the two tier pricing proposal above) and a pro-rationing adjustment may be required. The Capacity Load Obligation reduction “credit” would need to be linked with each Load Asset’s “ICAP Tag” in order to allow these load reduction credits to be transferred in the retail access states. In that way, competitive and default service suppliers would know their FCM payment obligations when they respond to competitive load solicitations. This approach will allow resources procured for non-electric market purposes to get full value for their resources without adversely impacting other resources procured through the ISO’s capacity market construct. In his concurring opinion in Docket No. ER14-1639-005 (RTR Exemption Rehearing Order), former Commissioner Bay outlines the problems with the current FCM design and the MOPR provisions. As part of this Concurrence, Commissioner Bay suggests transitioning to “a decentralized capacity market with a voluntary capacity auction” as an option to “better harmonize state and federal policy goals with wholesale markets and promote just and reasonable rates and reliability.”

ISO-NE Two Stage “Primary-Substitution” Auction Structure - On April 17, 2017, ISO provided a high-level summary of potential market rule changes that could be implemented in time for Forward Capacity Market #13 (2022/2023 delivery period), at which time resources from one or more New England State-directed procurements are expected to seek participation in the ISO-NE markets. At a high level, the ISO is proposing a two-stage auction process. The first (or Primary) stage would be identical to the current FCM process, including application of the Minimum Offer Price Rule to eliminate "uncompetitive entry". The ISO calls the second stage auction a "Substitution Auction", in which existing resources that submitted Retirement Bids in the primary auction but still received a CSO would be allowed to transfer their capacity obligations (in their entirety) to any new resources that did not receive a CSO in the Primary Auction (whether "subsidized" or not). ISO is also proposing to eliminate the existing Renewable Technology Resource (RTR) exemption. ISO characterizes this as analogous to the DA and RT energy market settlement, where resources clearing in the primary auction would be paid the full FCA clearing price and resources transferred through the substitution auction would be paid (or pay) at a rate equal to the difference between the primary auction price and the substitution auction price. One other take-away is that the ISO claims that this process may be a way to also accommodate public power's desire to use clear new self-supply resources through the FCA. This approach limits the amount of policy-directed resources that can clear in the FCA to the existing capacity that is willing to exit in the Substitution Auction. In effect, this puts control of entry by resources needed to meet non-electric market objectives in the “substitution auction” in the hands of the existing generators.) This approach also continues to rely on assumptions that drive administrative pricing and establishment of Offer Review Trigger Prices (ORTPs) to set the MOPR prices. However, the ISO approach may work well in conjunction with the Two Tier or Bilateral-Residual market approaches as a way of minimizing potential bidding incentive concerns.

### **Conclusions and Recommendations**

Based on these considerations, we believe that the most appropriate approach to address issues associated actions taken by states, other government entities and consumers in general is to reform the market rules to accommodate entry and operation of resources needed to meet non-electric market policy objectives in a way that continues to allow entry and operation of other electric market-based resources.