



Competitive Auctions with Subsidized Policy Resources

April 2017

Highlights

Noting a growing tension over the participation of state-subsidized new generation resources in the Forward Capacity Market (FCM), ISO New England's stakeholders initiated discussions in 2016 on Integrating Markets and Public Policy (IMAPP). Specifically, representatives of the New England states had expressed concern over the potential for electricity consumers to end up 'paying twice': once for the cost of capacity resources procured in the FCM, and a second time for the cost of subsidizing additional state-mandated new supply resources. Other stakeholders highlighted a different concern: the potential for capacity market prices to be depressed below competitive levels if substantial amounts of new subsidized resources entered the FCM without mitigation. That impact could undermine investors' willingness to maintain existing supply resources, and hamper the FCM's ability to attract competitive (i.e., unsubsidized) new investment cost-effectively when the power system requires it.

Following these stakeholder discussions, ISO New England agreed to develop a proposal to address both investors' and states' concerns about subsidized new resources' participation in the FCM. This paper explains ISO's proposal. Conceptually, the ISO's approach addresses these concerns by closely coordinating the entry of (subsidized) new resources with the exit of (unsubsidized) existing capacity resources. By doing so, the FCM can accommodate the entry of significant subsidized resources over time while maintaining competitively-based capacity prices for non-subsidized resources.

To achieve these objectives, the ISO's proposal provides financial incentives for existing, high-cost capacity resources to transfer their capacity obligations to subsidized new resources and to permanently exit the capacity market. This exchange of obligations is coordinated by conducting the annual Forward Capacity Auction (FCA) using a two-stage, two-settlement process. In the first stage, the ISO clears the FCA as it does today, including application of the current Minimum Offer Price Rule (MOPR) to new capacity offers. This first (or 'primary') stage of the FCA uses the existing capacity demand curves, establishes the competitively-based capacity clearing price, and determines all resources' initial capacity awards.

In the ISO's proposal, a new second stage would be added to the annual FCA. The second stage is designed to accommodate subsidized resources that participated in the primary FCA but did not clear (that is, did not acquire an obligation) due to the MOPR.¹ Specifically, promptly after conducting the primary FCA, the ISO would administer a secondary market known as a *substitution auction*. In the substitution auction, existing capacity resources with retirement bids that retained capacity obligations in the primary FCA may then transfer their obligations (in their entirety) to subsidized new resources that did not clear in that first stage. The transferring resources must pay the subsidized new resources for accepting the capacity obligations, and the transferring existing resources must then permanently retire from the FCM.

Importantly, no MOPR is applied in the substitution auction. That enables new subsidized resources to offer at a lower price than in the primary FCA. Because of this, the substitution auction will generally produce a different (lower) clearing price than the primary FCA. That, in turn, enables existing capacity resources that retained capacity obligations in the primary FCA to shed (or 'buy out') their obligations for a lower cost than if they retained their obligations. In effect, existing resources that transfer their obligations in the substitution auction receive a net payment for voluntarily retiring – akin to a 'severance payment.'

Through this exchange of obligations, the substitution auction serves as a market-based mechanism to coordinate the entry (of subsidized) and exit of (existing) capacity resources. It allows subsidized new resources to obtain capacity supply obligations, which aligns with the states' goal that new state-mandated resources contribute toward the region's resource adequacy requirements.

The quantity of subsidized new resources that enter (acquire obligations) through the substitution auction must be aligned with the quantity that exit (after transferring their obligations), to ensure that system reliability is preserved and that consumers are not adversely impacted. The substitution auction's outcomes therefore do not affect the capacity payments to other existing resources that obtained capacity obligations, as their payment rate continues to be determined by the competitive capacity clearing price established in the primary FCA. This proposal thereby preserves competitively-based capacity prices for new and existing competitive resources that acquire capacity obligations in the FCM.

A key feature of this two-stage auction process is its settlement. Although the clearing prices and (some) resources' capacity supply obligations may differ between the primary auction and the secondary (substitution) auction, each resource's final payment would be determined by a familiar, well-established process – the two-settlement system for sequential auctions. Specifically, capacity payments and supply obligations would be combined across the two auction stages in a manner that is analogous to the two-settlement process in the ISO's day-ahead and real-time energy markets. That is, all resources that clear in the primary FCA are credited at the first-stage FCA clearing price, and then each resource that sheds or acquires an obligation in the second-stage substitution auction

¹ In this document, we use the term 'clear' to mean 'awarded a Capacity Supply Obligation (CSO)' for both new supply offers and existing resource de-list bids. That interpretation differs from how 'clear' is sometimes applied to de-list bids in the FCA (where certain 'cleared bids' connote resources not awarded CSOs). The convention in this paper of using 'clear' to mean 'awarded a CSO' provides a consistent interpretation and consistent terminology for all resource types and auctions.

is credited or charged for the change (or deviation) in its obligation at the substitution auction clearing price.

In order for the coordination of entry and exit to be most effective, it is valuable if the states provide their best estimates of the timing and amount of new subsidized resources that will seek to acquire capacity obligations in the FCM. This will facilitate existing resource owners' evaluations of whether (and at what price) they would be willing to transfer their obligations and permanently exit, thereby accommodating the new subsidized supply. Furthermore, the FCM will operate more smoothly if the potential developers of competitive (that is, unsubsidized) new capacity are well-informed when only limited subsidized supply is forthcoming, so they can advance new projects when the capacity market requires them.

In addition to providing an opportunity to accommodate new subsidized resources into the FCM over time while preserving competitively-based capacity prices for (non-retiring) existing resources, the substitution auction has a number of additional benefits, including:

- This proposed approach builds upon the existing FCM design and should be technically straightforward for the ISO to implement. That should enable it to be implementable in the near-term (namely, for FCA 13 in February 2019).
- Although this approach to accommodating subsidized new capacity resources into the FCM is not designed to achieve states' carbon emission reduction goals directly (which is a separate, longer-term IMAPP discussion), it will likely help that cause indirectly. As new subsidized (non-emitting) resources enter the market, the resources that elect to retire sooner are likely to be among the older, less-efficient, and higher-emitting units in New England's power system. For this reason, the substitution auction might reasonably be viewed as an auction-based "cash for clunkers" secondary market.
- Because the substitution auction involves transfer payments among capacity suppliers, this approach may help to avoid one state's consumers inadvertently bearing the costs of other states' subsidies. As a general rule, the total cost of capacity to consumers would continue to be established in the primary FCA – as it is today – and it would be allocated among the New England states' consumers in the same way as today.
- By design, the substitution auction rules are technology neutral. No rules are envisioned, or necessary, governing which (current or possible future) technologies are eligible to participate in the substitution auction.
- This proposal avoids the complications associated with so-called 'in-between' resources that create difficulties in other ('two-tiered') capacity market design approaches discussed in the IMAPP sessions.² Because a substitution auction implements a two-settlement transfer of

² See the ISO's Discussion Paper *2016 NEPOOL IMAPP Proposals* (January 25, 2017), pp. 15-18, available at https://www.iso-ne.com/static-assets/documents/2017/03/iso-ne_jan_2017_imapp_memo_vtransmit2.pdf, and NESCOE's memorandum *Some Analysis on Two-Tiered Pricing Proposals* (October 2018, 2016), available at http://nepool.com/uploads/IMAPP_20161021_NESCOE_2Tiered_Pricing_Analysis.pdf.

supply obligations, it creates no ‘in-between’ resources and no need for various specialized rules (i.e., pro-rationing) to address such complications.

- The proposed design can be extended to enable new competitive resources to participate alongside retiring resources as demand in the substitution auction.
- The substitution auction design may help market participants that self-supply in the FCM, if they were to subsidize new self-supply resources that do not clear in the FCM due to the MOPR.³ Stated differently, supply participation in the substitution auction would not be limited to resources subsidized through state-directed mechanisms, but would accommodate on equal terms a resource subsidized by another subsidy provider (such as a municipality, for example).

In the ISO’s proposal, the substitution auction would replace the existing Renewable Technology Resource (RTR) administrative exemption. This replacement accommodates a broader range of new technology resources than are allowed under the current RTR exemption. Specifically, because the substitution auction is technology neutral, it accommodates the entry of many current and future subsidized technologies that may not meet the existing renewable technology criteria (such as large scale hydro, battery storage technologies, or other future innovations that state policy makers may seek to develop).

In addition, the substitution auction can accommodate the entry of more new subsidized resources than the existing RTR exemption (which is limited to 200 MW annually, with a 600 MW cumulative catch-up provision). That said, the actual number of MW of new subsidized resources that may acquire capacity obligations each year in the substitution auction will depend on their (unmitigated) offer prices, as well as the number of MW of existing resources that clear in the primary FCA and are willing to retire (given the new incentives to do so). These market-based uncertainties are not shortcomings, however – they are appropriate determinants of the pace of capacity replacement in New England. Stated differently, in developing the substitution auction proposal, the ISO is striving to create a market-based solution to accommodate increasing amounts of new subsidized resources in the FCM – and not to create (or perpetuate) indefinite, technology-based exceptions to the market rules. Because the substitution auction is technology neutral and has no pre-set administrative limit, this market-based approach can achieve its principal goals as market conditions and state policies continue to evolve over time.

We look forward to stakeholder feedback and further regional discussion of these challenges.

³ Under FCM rules, acquiring a CSO is a requisite for a load-serving entity to have its capacity load obligation charges offset by capacity supply obligation credits, i.e., to self-supply.