memo

To: NEPOOL Participants Committee

From: ISO Market Development

Date: November 30, 2017

Subject: ISO New England's CASPR Proposal

Throughout the stakeholder process, ISO New England has carefully considered feedback on its CASPR proposal to evaluate whether it most effectively meets the four design objectives first identified in its April discussion paper.[1] This input has already led the ISO to make several changes relating to bid flexibility for existing resources and the treatment of competitive new resources in the substitution auction, which were considered by the NEPOOL Markets Committee. After continued discussions and assessment, the ISO is modifying its CASPR proposal that was voted on by the NEPOOL Markets Committee at its November 8-9 meeting and which is on the agenda for the December 8, 2017 NEPOOL Participants Committee meeting. The ISO proposes to incorporate two stakeholder amendments that were previously presented and voted at the NEPOOL Markets Committee, which are briefly described below.

1. FirstLight amendment to limit capacity transfers between zones: By limiting capacity transfers into or out of constrained capacity zones, this amendment protects competitive prices in the Forward Capacity Auction and helps to avoid instances where consumers in one state bear the costs of other states' subsidies. As a result, incorporating the FirstLight amendment into the ISO's proposal allows the CASPR design to better meet its objectives. The associated Market Rule 1 language is included below.

2. Conservation Law Foundation and Natural Resources Defense Fund amendment to modify the definition of a sponsored policy resource: The Integrating Markets and Public Policy (IMAPP) initiative was introduced to address concerns surrounding the impacts of newly enacted state laws on the competitive wholesale markets (e.g., the three-state Clean Energy RFP). CASPR was introduced to accommodate policy objectives into the competitive markets in the near term, and after contemplating the stakeholder comments and evaluating the likely impact of a change to its proposal, the ISO recognizes that a narrower approach will help ensure competitively-based prices in the primary FCA. While the revised ISO proposal does not include fossil fuel resources in the substitution auction, resource owners can still offer those resources in the primary FCA at prices down to their offer floor. The associated Market Rule 1 language, slightly modified from the version at the Markets Committee, is included below.

Separately, while the ISO and the IMM both support the concept behind Calpine's amendment (Calpine Amendment 1) to establish a resource-specific 'floor price' review process for capacity supply participating as demand in the substitution auction, the IMM has informed the ISO that they need additional time to implement the necessary changes associated with this amendment and, therefore, will not be able to

[1] This paper is available at http://nepool.com/uploads/IMAPP_20170517_CASPR_Discussion_Paper.pdf.

accommodate the proposal for FCA13. The ISO and the IMM are committed to continuing to work with Calpine and stakeholders on a separate path to address the concern Calpine has identified in time for an FCA14 effective date and anticipate starting committee discussions in Q3 or Q4 of 2018.

The ISO looks forward to continued discussions with stakeholders on CASPR and its updated proposal at the Participants Committee meeting on December 8, 2017.

First Light Amendment 1 (Substitution Auction (SA) Clearing Constraints and Conforming Pricing Rules)

III.13.2.8.1.1. Substitution Auction Clearing and Awards.

The substitution auction shall maximize total social surplus as specified by the demand bids and supply offers used in the auction. The maximization is constrained as follows:

(i) ~~b~~By the external interface limits modeled in the primary auction-clearing process.~~, and;~~

(ii) ~~s~~Such that the net cleared Capacity Supply Obligations (total acquired less total shed) in the substitution auction is equal to zero ~~resulting total system reliability, as measured by expected unserved energy, is equal to the total system reliability that resulted from the primary auction.~~

(iii) Such that, for each import-constrained Capacity Zone, if the zone's total Capacity Supply Obligations awarded in the primary auction-clearing process of the Forward Capacity Auction is less than the zone threshold quantity specified below ~~its Capacity Zone Demand Curve truncation point quantity specified in Section III.13.2.2.2.~~, then the zone's net cleared Capacity Supply Obligations (total acquired less total shed) in the substitution auction is equal to zero; otherwise, the sum of the zone's total Capacity Supply Obligations awarded in the primary auction-clearing process and the zone's net cleared Capacity Supply Obligations (total acquired less total shed) in the substitution auction is greater than or equal to the zone threshold quantity specified below ~~its Capacity Zone Demand Curve truncation point quantity.~~

(iv) Such that, for each export-constrained Capacity Zone, if the zone's total Capacity Supply Obligations awarded in the primary auction-clearing process of the Forward Capacity Auction is greater than ~~its Capacity Zone Demand Curve truncation point quantity specified in Section III.13.2.2.3.~~ the zone threshold quantity specified below, then the zone's net cleared Capacity Supply Obligations (total acquired less total shed) in the substitution auction is equal to zero; otherwise, the sum of the zone's total Capacity Supply Obligations awarded in the primary auction-clearing process and the zone's net cleared Capacity Supply Obligations (total acquired less total shed) in the substitution auction is less than or equal to the zone threshold quantity specified below ~~its Capacity Zone Demand Curve truncation point quantity.~~

In applying constraint (iii), the zone threshold quantity for an import-constrained Capacity Zone shall be equal to the sum of its Capacity Zone Demand Curve truncation point quantity specified in Section III.13.2.2.2 and the total quantity of any Export Bids and any Administrative Export De-List for which the exporting resource is located outside the import-constrained Capacity Zone, that are used to export

capacity across an external interface connected to the import-constrained Capacity Zone, and that cleared in the primary auction-clearing process of the Forward Capacity Auction.

In applying constraint (iv), the zone threshold quantity for an export-constrained Capacity Zone shall be equal to its Capacity Zone Demand Curve truncation point quantity specified in Section III.13.2.2.3 less the total quantity of any Export Bids and any Administrative Export De-List Bids for which the exporting resources ~~are~~ is located in the export-constrained Capacity Zone, that are used to export capacity across an external interface connected to either the Rest-of-Pool Capacity Zone or an import-constrained Capacity Zone, and that cleared in the primary auction-clearing process of the Forward Capacity Auction.

In applying constraints (iii) and (iv), a zone's total Capacity Supply Obligations awarded in the primary auction-clearing process of the Forward Capacity Auction and net cleared Capacity Supply Obligations (total acquired less total shed) in the substitution auction shall include the Capacity Supply Obligations of Import Capacity Resources at each external interface connected to the Capacity Zone.

In cases in which there are multiple clearing outcomes that would each maximize the substitution auction's objective, the following tie-breaking rules will apply in the following sequence: (i) non-rationable demand bids associated with Lead Market Participants having the largest total FCA Qualified Capacity of Existing Capacity Resources will be cleared first; and (ii) rationable supply offers and demand bids associated with Proxy De-List Bids will be cleared in proportion to their offer or bid quantity.

For Intermittent Power Resources and Intermittent Settlement Only Resources, other than those participating as the summer resource in a Composite FCM Transaction, the cleared award for supply offers and demand bids shall be adjusted for the months in the winter period (as described in Section III.13.1.5) using the ratio of the resource's cleared offer or bid amount divided by its FCA Qualified Capacity multiplied by its winter Qualified Capacity as determined pursuant to Section III.13.1.1.2.2.6 and Section III.13.1.2.2.2. Provided the resource's winter Qualified Capacity is not zero, the pro-rata adjustment will add to the amount of the cleared offer or bid award for the months in the winter period.

The cleared offer amount awarded to a Composite FCM Transaction in the substitution auction will be assigned to the summer and winter resources for their respective obligation months during the Capacity Commitment Period as described in Section III.13.1.5.

If, after the substitution auction, a resource has a Capacity Supply Obligation below its Economic Minimum Limit, it must meet the requirements of Section III.13.6.1.1.1.

III.13.2.8.1.2. Substitution Auction Pricing.

~~The substitution auction will specify a clearing price for each Capacity Zone and external interface. If a Capacity Zone has a supply offer or demand bid that is partially cleared in the substitution auction, the clearing price in that zone will be equal to the price corresponding with the partially cleared bid or offer. In any other Capacity Zone, the clearing price is set such that the ratio of the zone's clearing price to its Marginal Reliability Impact value is equivalent to the ratio of the zonal clearing price and Marginal Reliability Impact value in Capacity Zones with a partially cleared bid or offer.~~

~~For purposes of calculating the ratio of a zone's clearing price and its Marginal Reliability Impact value, the Marginal Reliability Impact value is calculated based on the total capacity quantities after accounting for capacity transferred in the substitution auction. For the Rest of Pool Capacity Zone, the Marginal Reliability Impact value is calculated pursuant to Section III.12.1.1. For constrained Capacity Zones, the Marginal Reliability Impact value is equal to the sum of the system Marginal Reliability Impact value, calculated pursuant to Section III.12.1.1 and the constrained Capacity Zone's Marginal Reliability Impact value, calculated pursuant to Section III.12.2.2.1.3 and Section III.12.2.2.2.1.~~

~~If there are no partially cleared supply offers or demand bids associated with Proxy De-List Bids, the substitution auction clearing prices will be set based on the highest priced supply offer that is cleared and according to the ratio of Marginal Reliability Impact values between Capacity Zones, but will not be less than the highest priced supply offer that is cleared at each location.~~

The substitution auction will specify clearing prices for Capacity Zones and external interfaces as follows.

For each import-constrained Capacity Zone, if the sum of the zone's total Capacity Supply Obligations awarded in the primary auction-clearing process of the Forward Capacity Auction and the zone's net cleared Capacity Supply Obligations (total acquired less total shed) in the substitution auction is greater than its zone threshold quantity specified in Section III.13.2.8.1.1, then supply offers and demand bids in the substitution auction in the import-constrained Capacity Zone shall be treated as offers and bids in the Rest-of-Pool Capacity Zone for purposes of determining substitution auction clearing prices.

For each export-constrained Capacity Zone, if the sum of the zone's total Capacity Supply Obligations awarded in the primary auction-clearing process of the Forward Capacity Auction and the zone's net cleared Capacity Supply Obligations (total acquired less total shed) in the substitution auction is less than its zone threshold quantity specified in Section III.13.2.8.1.1, then supply offers and demand bids in the substitution auction in the export-constrained Capacity Zone shall be treated as offers and bids in the Rest-of-Pool Capacity Zone for purposes of determining substitution auction clearing prices.

The substitution auction clearing prices for the Rest-of-Pool Capacity Zone and for any constrained zones pooled with the Rest-of-Pool Capacity Zone for pricing purposes shall be determined by the price of the demand bid or supply offer that is marginal. If a demand bid associated with a Proxy De-List Bid is marginal, then the substitution auction clearing prices shall be set equal to the Capacity Clearing Prices.

The substitution auction clearing price for a constrained Capacity Zone that is not pooled with the Rest-of-Pool Capacity Zone for pricing purposes shall be determined by the price of the demand bid or supply offer associated with the separately-priced constrained Capacity Zone that is marginal. If a demand bid associated with a Proxy De-List Bid is marginal, then the substitution auction clearing price shall be set equal to the Capacity Clearing Price.

If the net quantity of Capacity Supply Obligations awarded in the primary Forward Capacity Auction and substitution auction over an interface between the New England Control Area and an external Control Area is less than that interface's approved capacity transfer limit (net of tie benefits, or net of HQICC in the case of the Phase I/II HVDC-TF), then supply offers and demand bids in the substitution auction at the interface shall be treated as offers and bids in the modeled Capacity Zone associated with that interface for purposes of determining substitution auction clearing prices.

If the net quantity of Capacity Supply Obligations awarded in the primary Forward Capacity Auction and substitution auction over an interface between the New England Control Area and an external Control Area is equal to that interface's approved capacity transfer limit (net of tie benefits, or net of HQICC in the case of the Phase I/II HVDC-TF), then~~,~~ the substitution auction clearing price for that interface will be determined by the demand bid or supply offer that is marginal at that interface. ~~(i) i~~If a cleared demand bid associated with a Proxy De-List Bid is marginal at the external interface~~-~~, then the substitution auction clearing price for that interface shall be set equal to the Capacity Clearing Price for that interface~~, and; (ii) if otherwise, then the substitution auction clearing price for that interface will be set based on the highest-priced cleared supply offer at the interface~~.

The substitution auction clearing price at an external interface shall not exceed the substitution auction clearing price in the Capacity Zone connected to the external interface.

If, pursuant to the rules specified above, the substitution auction clearing price for any Capacity Zone or external interface would exceed the Capacity Clearing Price for that location, the substitution auction clearing price for that location only is set equal to its Capacity Clearing Price.

The substitution auction clearing price for any Capacity Zone or external interface cannot be less than negative one multiplied by the Forward Capacity Auction Starting Price.

CLF/NRDF Amendment (Sponsored Policy Resource definition)

Sponsored Policy Resource is a New Capacity Resource that:

~~(a)~~ receives an out-of-market revenue source supported by a ~~locally-, state- or federally~~government-regulated rate, charge or other regulated cost recovery mechanism~~.~~, and;

~~(b)~~ qualifies as a renewable, clean or alternative energy resource under a renewable energy portfolio standard, clean energy standard, alternative energy portfolio standard, renewable energy goal, or clean energy goal enacted (either by statute or regulation) ~~by~~in the New England state from which the resource receives the out-of-market revenue source and that is in effect on January 1, 2018.

~~is either: (i) developed pursuant to a requirement of New England state law, or at the direction of a New England state electric utility regulatory authority or energy department, or, alternatively; (ii) designated as a Self-Supplied FCA Resource by a municipal utility (acting individually or jointly with other municipal utilities) or by a cooperatively owned electric utility.~~

{Blue highlight reflects changes from the version voted at the November MC}