

**INSTALLED CAPACITY AUCTION DESCRIPTION**

**1. DEFINITIONS**

All of the defined terms used in this document are defined in the NYISO’s Market Administration and Control Area Services Tariff (“ISO Services Tariff”).

**2. OVERVIEW**

In the various ISO-administered auctions, LSEs will have the opportunity to purchase the Installed Capacity necessary to meet the Installed Capacity requirements established by the ISO Services Tariff, and to purchase or sell excess Installed Capacity. Installed Capacity Suppliers will have the opportunity to sell Installed Capacity. LSEs and Installed Capacity Suppliers may also purchase and/or sell Installed Capacity through Bilateral Transactions conducted outside of ISO-administered auctions. Participation in ISO-administered auctions will be restricted to ISO Customers. Installed Capacity sold through the auction may only be used for the commercial interests of the purchaser. In addition, any Installed Capacity purchased through an ISO-administered auction may not be resold for the purposes of meeting Installed Capacity requirements imposed by operators of External Control Areas.

**3. SCOPE OF FILING**

This document describes Installed Capacity auction procedures, which the ISO shall follow when conducting Installed Capacity auctions during the time that the Transitional Installed Capacity provisions, which are set forth in proposed Sections 5.9 - 5.15 of the ISO Services Tariff, are in effect. Bidders and Offerors must follow these auction procedures in order to participate in Installed Capacity auctions.

**4. AUCTION STRUCTURE AND TIMING**

**A. OVERVIEW**

The ISO will conduct Installed Capacity auctions on a periodic basis pursuant to this Section. The ISO Procedures shall specify the dates by which the ISO will post the results of these auctions. The ISO Procedures shall ensure that there are at least four business days between the time that auction results are posted and the dates that LSEs are required to demonstrate that they have procured sufficient Installed Capacity to cover their Installed Capacity requirements.

Auctions shall be conducted prior to the start of each Obligation Procurement Period and each month during an Obligation Procurement Period. The auctions conducted prior to the start of an Obligation Procurement Period will occur in three steps.

The first auction conducted prior to the start of the Obligation Procurement Period, the “Obligation Procurement Period Auction,” will allow Bidders to purchase Installed Capacity and Offerors to sell Installed Capacity for the entire six months included in that Obligation Procurement Period. The second set of auctions conducted prior to the start of the Obligation Procurement Period, the “pre-Obligation Procurement Period Monthly Auctions,” will facilitate transactions for individual months within an Obligation Procurement Period. This set of auctions shall consist of a series of a separate auction for each month in the Obligation Procurement Period.

In the event that all LSEs do not certify to the ISO, by the time specified in the ISO Procedures, that their Installed Capacity requirements have been satisfied for the forthcoming Obligation Procurement Period, the ISO will conduct a third set of auctions prior to the beginning of the Obligation Procurement Period, the “initial Deficiency Procurement Auctions,” to procure the requisite amount of Installed Capacity on behalf of the deficient LSE. During the initial Deficiency Procurement Auctions, the ISO will also procure Installed Capacity on behalf of deficient Installed Capacity Suppliers. The initial Deficiency Procurement Auctions will consist of six separate monthly auctions.

The ISO shall conduct regular Monthly Auctions each month within the Obligation Procurement Period to allow Bidders to purchase Installed Capacity, and Offerors, including new Offerors, to sell Installed Capacity, for any remaining months within that Obligation Procurement Period. The monthly auctions allow Load-gaining LSEs to Bid to purchase Installed Capacity to cover customers acquired as result of Load-shifting during the prior month. Similarly, Load-losing LSEs that have excess Installed Capacity as a result of Load-shifting may offer to sell their surplus in the monthly auctions.

Finally, in any month in which a Load-gaining LSE fails to procure Installed Capacity to cover new Load it has gained, the ISO shall conduct a monthly Deficiency Procurement Auction at the time specified in the ISO Procedures.

## **B. AUCTIONS CONDUCTED PRIOR TO THE BEGINNING OF AN OBLIGATION PROCUREMENT PERIOD**

The Obligation Procurement Period Auction, the pre-Obligation Procurement Period Monthly Auctions, and the initial Deficiency Procurement Auctions will each consist of two phases. The split of each auction into two phases derives from the need to implement FERC approved mitigation measures in the New York City Localities’ Installed Capacity markets. Both of the phases of a given auction shall be conducted on the same day. Each auction that does not consist of two phases shall consist of a single phase. In the Obligation Procurement Period Auction and the pre-Obligation Procurement Period

Monthly Auctions, LSEs shall bid for themselves, whereas the ISO shall submit deficiency bids on their behalf in the initial Deficiency Procurement Auction.

Participation in the first phase of the Obligation Procurement Period Auction and the pre-Obligation Procurement Period Monthly Auctions shall be limited to: (i) LSEs authorized to serve load in the New York City Locality seeking to make locational Installed Capacity purchases in order to satisfy their In-City Locational Installed Capacity requirements; (ii) any other entity seeking to purchase In-City Locational Installed Capacity; (iii) qualified In-City Generators; and (iv) any other Installed Capacity Supplier that owns excess Installed Capacity associated with qualified In-City Generators. LSEs awarded Installed Capacity in the first phase shall pay the Market-Clearing Price of Installed Capacity determined in that phase. Installed Capacity Suppliers selected to provide Installed Capacity in the first phase of the first two auctions shall be paid the Market-Clearing Price determined in that phase, except in the case of Installed Capacity associated with In-City Generators that are subject to mitigation measures, which shall receive the lesser of the Market-Clearing Price or the applicable locational price cap. Any entity that resells Installed Capacity associated with In-City Generators that are subject to market mitigation measures shall receive the lesser of the Market-Clearing Price determined in that phase, or the price that it paid for that Installed Capacity. The ISO shall retain any Excess Amount and rebate it to all LSEs serving Load in the New York City Locality pursuant to Section 5.15 of the ISO Services Tariff.

Participation in the second phase of the Obligation Procurement Period Auction and the pre-Obligation Procurement Period Monthly Auctions shall not be limited to In-City entities, except with respect to Installed Capacity associated with In-City Generators that are subject to market mitigation measures, which may not participate unless it is established that all In-City LSEs have satisfied their In-City Locational Installed Capacity requirements. LSEs awarded Installed Capacity in the second phase shall pay the applicable Market-Clearing Price of Installed Capacity determined in that phase. Installed Capacity Suppliers selected to provide Installed Capacity in the second phase shall receive the applicable Market-Clearing Price of Installed Capacity determined in that phase, except for entities reselling Installed Capacity associated with In-City Generators subject to market mitigation measures, which shall receive the lesser of the applicable Market-Clearing Price determined in that phase or the price paid for that Installed Capacity. During the 2000 Summer Obligation Procurement Period, In-City Generators that are permitted to offer to sell in the second phase shall be permitted to make separate offers in the first and second phases of the first two pre-Obligation Procurement Period Auctions.

Participation in the first phase of the initial Deficiency Procurement Auctions shall be limited to deficient LSEs serving load in the New York City Locality that are required to make additional locational Installed Capacity purchases in order to satisfy their In-City Locational Installed Capacity requirements, qualified In-City Generators, and any other Installed Capacity Supplier that owns excess Installed Capacity associated with qualified In-City Generators. The ISO shall submit deficiency bids on behalf of each participating LSE at a level determined pursuant to Section 5.14.1 of the ISO Services Tariff.

LSEs awarded Installed Capacity in the first phase shall pay the lesser of the Market-Clearing Price of Installed Capacity determined in that phase or the deficiency bid, to the ISO. The ISO shall pay Installed Capacity Suppliers that are selected to provide Installed Capacity the Market-Clearing Price determined in that phase, which can be no greater than the deficiency bid, except in the case of Installed Capacity associated with In-City Generators that are subject to mitigation measures, which shall receive the lesser of the Market-Clearing Price determined in that phase or the applicable locational price cap. Any entity that resells Installed Capacity associated with In-City Generators that are subject to market mitigation measures shall receive the lesser of the Market-Clearing Price determined in that phase or the price that it paid for that Installed Capacity. The ISO shall retain any Excess Amount and rebate it to all LSEs serving Load in the New York City Locality pursuant to Section 5.15 of the ISO Services Tariff.

Participation in the second phase of the initial Deficiency Procurement Auctions shall not be limited to In-City entities. The ISO shall submit deficiency bids on behalf of all remaining deficient LSEs at a level determined pursuant to Section 5.14.1 of the ISO Services Tariff. The ISO shall solicit bids from all qualified Installed Capacity Suppliers, including In-City Generators, otherwise subject to market mitigation measures, that still have Installed Capacity to offer after all LSEs based in the New York City Locality have met their Locational Installed Capacity requirements. LSEs awarded Installed Capacity in the second phase shall pay the lesser of the applicable Market-Clearing Price of Installed Capacity determined in that phase, or the deficiency bid, to the ISO. The ISO will use these deficiency payments to pay the applicable Market-Clearing Price of Installed Capacity determined in that phase, except as noted below, to Installed Capacity Suppliers that were selected to provide Installed Capacity, including In-City Generators that are otherwise subject to market mitigation measures. Any entity that resells Installed Capacity associated with In-City Generators that are subject to market mitigation measures shall receive the lesser of the applicable Market-Clearing Price determined in that phase or the price that it paid for that Installed Capacity. During the 2000 Summer Obligation Procurement Period, In-City Generators that are permitted to participate in the second phase shall be permitted to submit separate offers to sell in each phase of the initial Deficiency Procurement Auction.

The ISO shall not reveal the number of MWs that LSEs are deficient prior to the initial Deficiency Procurement Auction.

The ISO shall also prospectively purchase Installed Capacity on behalf of deficient Installed Capacity Suppliers in the initial Deficiency Procurement Auctions. The ISO shall submit a deficiency bid on behalf of deficient Installed Capacity Suppliers as if they were deficient LSEs. Deficient Installed Capacity Suppliers must pay the applicable Market-Clearing Price of Installed Capacity to the ISO. If an Installed Capacity Supplier is determined to have been deficient for any prior portion of an Obligation Procurement Period that Installed Capacity Supplier must retroactively pay to the ISO the applicable monthly deficiency charge.

### **C. AUCTIONS CONDUCTED DURING AN OBLIGATION PROCUREMENT PERIOD**

Regular Monthly Auctions that take place after the initial Deficiency Procurement Auctions will be conducted exactly like the Monthly Auctions held prior to the beginning of the Obligation Procurement Period, *i.e.*, in two phases unless the ISO has established that all LSEs with New York City Locational Installed Capacity Requirements have satisfied these requirements. If the ISO has established that each LSE with such Locational Installed Capacity Requirements has satisfied these requirements, each regular Monthly Auction will be conducted as if it were the second phase of a pre-Obligation Procurement Period Monthly Auction.

Each monthly Deficiency Procurement Auction will be conducted exactly like a Regular Monthly Auction, *i.e.*, in two phases when necessary as described in the above paragraph.

The ISO shall not reveal the number of MWs that LSEs are deficient prior to a monthly Deficiency Procurement Auction.

LSEs that are still deficient after the completion of either an initial or monthly Deficiency Procurement Auction will pay a deficiency charge to the ISO equal to the deficiency bid multiplied by the number of MWs by which they are deficient. The ISO will attempt to use the money it collects through the imposition of deficiency charges to procure Installed Capacity from Generators that are capable of selling Installed Capacity but that failed to qualify to sell it prior to the Deficiency Procurement Auction, *e.g.*, recently upgraded Generators, new Generators and existing Generators that were otherwise not able to qualify. The ISO shall not procure Installed Capacity from previously qualified Installed Capacity Suppliers that withheld their Installed Capacity. The ISO will not pay an Installed Capacity Supplier more than the applicable deficiency charge per MW of Installed Capacity, or the applicable locational price cap per MW of Installed Capacity, which ever is less, pro-rated to reflect the portion of the Obligation Procurement Period for which the Installed Capacity Supplier provides Installed Capacity. Any remaining monies collected by the ISO pursuant to section 5.14.1 of the ISO Services Tariff will be applied to reduce the Schedule 1 charge.

The ISO shall also prospectively purchase Installed Capacity on behalf of deficient Installed Capacity Suppliers in a monthly Deficiency Procurement Auction. The ISO shall submit a deficiency bid on behalf of deficient Installed Capacity Suppliers as if they were deficient LSEs. Deficient Installed Capacity Suppliers must pay the Market-Clearing Price of Installed Capacity to the ISO. If an Installed Capacity Supplier is determined to have been deficient for any prior portion of an Obligation Procurement Period that Installed Capacity Supplier must retroactively pay to the ISO the applicable monthly deficiency charge.

## **D. ADDITIONAL DETAILS TO BE PROVIDED IN THE ISO PROCEDURES**

The ISO Procedures shall ensure that:

- (i) An Obligation Procurement Period Auction will be held at least 30 days before the beginning of that Obligation Procurement Period where Installed Capacity shall be made available for purchase for the entire six month Obligation Procurement Period;
- (ii) Monthly auctions will be held at least fifteen (15) days before the beginning of that Obligation Procurement Period where Installed Capacity is made available for purchase for any and all months within the Obligation Procurement Period;
- (iii) In the event that an LSE does not certify to the ISO ten (10) days before the beginning of the Obligation Procurement Period that its Installed Capacity requirement has been met, the ISO will conduct initial Deficiency Procurement Auctions, consisting of six separate monthly auctions, at least seven (7) days before the beginning of that Obligation Procurement Period to procure the requisite amount of Installed Capacity on behalf of the deficient LSE;
- (iv) During an Obligation Procurement Period, auctions will be held at least 15 days before the beginning of the upcoming month in which Installed Capacity will be made available for any and all remaining months within that Obligation Procurement Period; and
- (v) During the Obligation Procurement Period, a monthly Deficiency Procurement Auction will be held at least seven (7) days before the beginning of the upcoming month during which the ISO will procure Installed Capacity on behalf of LSEs that have not procured sufficient Installed Capacity for the remainder of the Obligation Procurement Period to cover Load-shifting that occurred during the prior month.

Bids to purchase Installed Capacity and offers to sell Installed Capacity must be submitted separately for each auction. Bids to purchase Installed Capacity and offers to sell Installed Capacity that are not selected in a phase of a given auction will not carry over into subsequent auctions or phases of that auction.

Bidders who wish to purchase and Offerors who wish to sell Installed Capacity in any ISO-administered auction may submit bids to the ISO up to the day before that auction, unless otherwise specified in the ISO Procedures. If no Offerors submit offers to sell Installed Capacity in a phase of an auction by that deadline, the ISO will cancel that phase of that auction. By contrast, if at least one Offeror submits an offer to sell in a phase of an auction, the ISO will not cancel that phase of that auction, and will allow a Market-Clearing Price to be calculated in that phase of that auction, even if no Bidder submits a bid to buy in that phase of that auction.

## **5. LIMITATIONS ON OFFERORS' PARTICIPATION IN INSTALLED CAPACITY AUCTIONS**

Only Customers will be permitted to offer to sell Installed Capacity in an auction. The amount of Installed Capacity that can be offered for sale in any auction from a given resource will not be permitted to exceed the amount that resource is permitted to provide. The amount of Installed Capacity that a given resource may sell shall be established pursuant to Sections 5.12.1 and 5.12.5 of the ISO Services Tariff.

In cases in which the ISO has reduced the amount of Installed Capacity that a resource can supply, the owners of that resource are required to procure any deficiency in Installed Capacity resulting from the reduction through the Deficiency Procurement Auction. The circumstances in which the ISO may reduce the amount of Installed Capacity that a resource may sell shall be established in the ISO Procedures.

The amount of Installed Capacity that any given Offeror is permitted to offer for sale in the auction shall not exceed the Offeror's share of the amount of Installed Capacity its resources are permitted to offer for sale, as calculated above, less any Installed Capacity that Offeror has offered for sale either through Bilateral Transactions or through sales to External Control Areas. Offerors will be required to submit documentation to the ISO verifying that they own, have contracted to purchase, or have been designated as the agent for the share of each resource they claim when making offers to sell Installed Capacity. Any offer to sell that would cause the total amount of Installed Capacity offered by that Offeror from that resource to exceed the amount of Installed Capacity it is permitted to offer from that resource will be rejected in its entirety.

In addition, all Offerors wishing to sell Installed Capacity in the auction must submit written statements to the ISO stipulating that the Installed Capacity offered for sale in the auction by that Offeror from a resource has not previously been committed to provide Installed Capacity in the New York market or in any other market for that auction period.

If a resource (or a portion of a resource) is selected in the auction to provide Installed Capacity, that resource (or portion thereof) cannot provide Installed Capacity to any other Control Area, and shall be required to adhere to the requirements for Installed Capacity Suppliers set forth in the ISO Services Tariff. Therefore, entities wishing to purchase Installed Capacity that will count toward Installed Capacity requirements in other Control Areas will not be able to purchase such Installed Capacity in an auction.

## **6. LIMITATIONS ON BIDDERS' PARTICIPATION IN INSTALLED CAPACITY AUCTIONS**

As part of its evaluation of each Bidder's creditworthiness, the ISO may establish credit limits for each Bidder. The ISO will reject bids from Bidders if acceptance of that bid could cause the total amount owed by that Bidder as a result of the auction to exceed that Bidder's credit limit. Procedures for ensuring this does not occur, and for notifying Bidders whose Bids are rejected for creditworthiness reasons, will be set forth in the ISO Procedures.

## **7. INFORMATION CONTAINED IN BIDS TO PURCHASE OR OFFERS TO SELL**

Each Bidder may submit multiple bids. Each bid to purchase Installed Capacity submitted by a Bidder must include but is not limited to the following information:

- (i) The total amount of Installed Capacity it wishes to purchase in association with that bid, in increments of 100 kW;
- (ii) The maximum price the Bidder is willing to pay for the Installed Capacity it is offering to purchase in its bid, in \$/kW for the time period appropriate to the auction;
- (iii) The auction and phase to which the bid applies;
- (iv) Whether the Installed Capacity must be associated with resources located in a specific Locality, and if so, which Locality; and
- (v) Whether the resources associated with the Installed Capacity can be located in a Control Area outside the NYCA, and if so, which Control Area(s).

The minimum amount of MW that must be specified in each bid to purchase Installed Capacity shall be set forth in the ISO Procedures.

Each Offeror also may submit multiple offers. Each offer to sell Installed Capacity submitted by an Offeror must include but is not limited to the following information:

- (i) The amount of Installed Capacity it offers to sell in association with that offer in increments of 100 kW;
- (ii) The minimum price it is willing to accept for the Installed Capacity it is offering to sell in its offer, in \$/kW for the time period appropriate to the auction;



- (iii) The auction and phase to which the offer applies;
- (iv) The name of the resource providing the Installed Capacity offered for sale;
- (v) Documentation of that resource's DMNC (described above);
- (vi) Whether that resource is located in a Locality, and if so, which Locality; and
- (vii) Whether that resource is located in a Control Area outside the NYCA, and if so, which Control Area.

The minimum amount of Installed Capacity that must be specified in each offer to sell shall be set forth in the ISO Procedures.

## **8. DETERMINATION OF SELECTED BIDS AND OFFERS**

The ISO will determine which bids to purchase and which offers to sell Installed Capacity are selected by maximizing total gains from trade in each phase of each auction, *i.e.*, by maximizing the sum of the maximum prices bid by Bidders whose bids to purchase Installed Capacity in that phase of that auction were selected minus the sum of the minimum prices specified by Offerors whose offers to sell Installed Capacity in that phase of that auction were selected, subject to the constraints on the location of the associated resource that have been specified in the selected bids. This maximization will be performed jointly for all locations in each phase of each auction.

All, part, or none of a bid to purchase or an offer to sell Installed Capacity may be selected in any given phase of an auction. As a result, if a Bidder offers in a bid to purchase a given amount of Installed Capacity at a given price, it may be awarded that amount of Installed Capacity, or it may be awarded any amount lower than the amount it offered to purchase (including zero MWs). Neither Bidders nor Offerors will be permitted to submit bids or offers which specify that either all or none of a bid or offer can be selected. Bids to purchase or offers to sell Installed Capacity in a given phase of an auction cannot be made contingent on the outcome of another auction; *e.g.*, an Offeror will not be permitted to offer Installed Capacity within one month's auction contingent upon its sale of Installed Capacity in another month's auction. Initially, bids to purchase or offers to sell Installed Capacity in a phase of a given auction cannot be made contingent on whether another bid or offer is accepted in the same phase. However, the ISO will evaluate the feasibility of making the acceptance of a bid or offer in a phase of a given auction contingent on the acceptance of other bids or offers in that phase.

In cases in which multiple Bidders bid to pay the same price for Installed Capacity in a given location (or group of locations, if there is no price difference between those locations) in the same phase of the same auction, and some but not all of those bids can be selected, the amount of Installed Capacity

awarded to each of those Bidders in association with each of those bids shall be proportional to the amount of Installed Capacity that Bidder bid to purchase in that location (or group of locations, if there is no price difference between those locations) at that price. Likewise, in cases in which multiple Offerors offer to sell Installed Capacity in a given location (or group of locations, if there is no price difference between those locations) for the same price in the same phase of the same auction, and some but not all of those offers can be selected, the amount of Installed Capacity selected from each of those Offerors in association with each of those offers shall be proportional to the amount of Installed Capacity that Offeror offered to sell in that location (or group of locations, if there is no price difference between those locations) at that price.

## **9. DETERMINATION OF MARKET-CLEARING PRICES**

As a result of each phase of an ISO-administered auction, with the exception of the first phase of auctions conducted in two phases, the following Market-Clearing Prices for Installed Capacity will be determined:

- (i) Prices for Installed Capacity located in each Locality.
- (ii) Prices for Installed Capacity located in each Control Area outside the NYCA.
- (iii) Price for Installed Capacity located in the portion of the NYCA that is not located in any other Locality.

In the first phase of a two-phase auction, only Installed Capacity located in the New York City Locality will be available, so the only Market-Clearing Price determined in that phase will be the price for that Locality.

The objective function that the ISO will use in each phase of each auction, which was described in the previous section, will select the offers of Installed Capacity with the lowest offer prices, insofar as doing so would not cause violations of the locational constraints specified by Bidders whose bids have been selected. But the need to honor these locational constraints may require the ISO to accept some offers which specify relatively high offer prices for Installed Capacity while not accepting other offers with lower offer prices, because purchasing the lower-priced Installed Capacity would violate the locational constraints stated in the Bidders' bids. In such cases, locational constraints will be binding and Market-Clearing Prices of Installed Capacity determined in that phase may differ from location to location. If no locational constraints are binding (*i.e.*, if the locational constraints specified by Bidders did not force the ISO to select more expensive offers of Installed Capacity in the auction than it would have selected in the absence of those locational constraints), then the Market-Clearing Price of Installed Capacity determined in that phase will be the same at every location.

When locational constraints do not bind, the Market-Clearing Price of Installed Capacity in a phase of a

given auction will be the marginal bid cost of providing additional Installed Capacity in that auction. The marginal bid cost of providing additional Installed Capacity in the first phase of any two-phase auction will also establish the Market-Clearing Price for Installed Capacity in the New York City Locality in that phase. This procedure for calculating Market-Clearing Prices is analogous to the procedure that will be used to calculate LBMP prices in the Energy market (which are based upon the marginal bid cost of supplying an increment of Load at a location). Illustrations of these procedures for calculating prices appear in the Appendix.

In order to determine the marginal bid cost of providing Installed Capacity, the ISO will calculate the change in the amount of Installed Capacity that would have been bought and sold by each Bidder and Offeror if there had been—in addition to the bids and offers that were already part of the auction—an additional demand for a very small amount of Installed Capacity. The presence of this additional demand would have had one of two effects: either it would have increased the amount of Installed Capacity purchased from the marginal Offeror (which is the Offeror whose offer price is lowest among those entities that offered Installed Capacity into that phase of that auction, but did not sell all of that Installed Capacity in that phase), so that the amount of Installed Capacity purchased from that Offeror would have been slightly above the amount that was actually purchased in that phase. Alternatively, it would have decreased the amount of Installed Capacity purchased by the marginal Bidder (which is the Bidder whose offer price is lowest among those entities that purchased Installed Capacity in that phase of that auction), so that the amount of Installed Capacity purchased by that Bidder would have been slightly below the amount that was actually purchased in the that phase (with the leftover Installed Capacity used to meet the small additional demand). The algorithm that the ISO uses to conduct the auction will choose whichever of these mechanisms satisfies the additional demand at the lowest cost. That cost (expressed in terms of \$/kW per time period applicable to the auction) will determine the marginal bid cost of providing Installed Capacity in that phase of that auction.

When locational constraints bind, the Market-Clearing Price of Installed Capacity at each location will still be the marginal bid cost of providing additional Installed Capacity in that phase of that auction, but it will be the marginal bid cost of providing Installed Capacity located in a given area. The relevant area is defined in the next several paragraphs.

First, the locational constraints will be divided into two groups. A Locality constraint is binding if the ISO selects offers of Installed Capacity located in a certain Locality while not selecting lower-priced offers of Installed Capacity from outside that Locality. The ISO will only do this in order to avoid violating locational constraints specified by Bidders that state that a bid is only valid for Installed Capacity located in a given Locality.

An External Control Area constraint is binding if the ISO does not select offers of Installed Capacity located in a particular External Control Area (or group of Areas), while selecting offers with higher offer prices from Installed Capacity Suppliers located in the NYCA or in other External Control Areas. Again, the ISO will only do this in order to avoid violating locational constraints specified by Bidders

that state that a bid is only valid for Installed Capacity that is not located in a given External Control Area (or group of Areas).

Then:

- If a Locality constraint is binding in a phase of an auction, then the Market-Clearing Price of Installed Capacity located in that Locality in that phase will be the marginal bid cost of providing additional Installed Capacity in that Locality in that phase.
- If an External Control Area constraint is binding for a particular Control Area in a phase of an auction (or group of Areas), then the Market-Clearing Price of Installed Capacity located in that External Control Area (or group of Areas) in that phase will be the marginal bid cost of providing additional Installed Capacity in that particular External Control Area (or group of Areas) in that phase.
- The Market-Clearing Price in a phase of an auction for Installed Capacity located anywhere else (which includes (1) Installed Capacity located in the NYCA, but not in any other Locality; (2) Installed Capacity located in a Locality, if that Locality constraint is not binding in that phase; and (3) Installed Capacity located in an External Control Area, if no External Control Area constraint affecting that External Control Area is binding in that phase) will be the marginal bid cost of providing additional Installed Capacity in that phase located anywhere *other than* a Locality for which a Locality constraint is binding in that phase or an External Control Area for which an External Control Area constraint is binding in that phase.

The set of prices that results will ensure that when a Locality constraint is binding, the Market-Clearing Price for Installed Capacity located in that Locality will be higher than the Market-Clearing Price for Installed Capacity located in the portion of the NYCA that is not part of another Locality. It also ensures that when an External Control Area constraint is binding, the Market-Clearing Price for Installed Capacity located in that External Control Area (or group of Areas) will be lower than the Market-Clearing Price for Installed Capacity located in the portion of the NYCA that is not part of another Locality.

Market-Clearing Prices will be calculated independently within each phase of a given auction. As a result, the Market-Clearing Price for Installed Capacity at a given location may vary among phases of the same auction, or among different monthly auctions conducted at the same time.

## **10. SETTLEMENT**

Subject to the exceptions noted elsewhere regarding New York City generation, the ISO will pay each Offeror whose offer to sell Installed Capacity is selected in any particular phase of an auction the Market-Clearing Price determined in that phase of that auction at the location of each of its resources

that have been selected in that phase to provide Installed Capacity, for each 100 kW of Installed Capacity that resource has been selected to supply. Each Bidder for Installed Capacity whose bid to purchase is selected in any particular phase of an auction will pay the ISO the Market-Clearing Price at the location specified in the bid(s) that have been selected, for each 100 kW of Installed Capacity that it purchased in that particular phase.

## **11. ALLOCATION OF WINNING BIDS**

Each Bidder whose bid to purchase Installed Capacity in any particular phase of an auction is selected will be allocated a pro rata share of the Installed Capacity purchased in the auction, subject to the locational constraints specified in that Bidder's bid, using the following procedure:

- (i) Bidders whose bids specified that the Installed Capacity must be associated with a resource located in a Locality will be awarded such Installed Capacity.
- (ii) Bidders whose bids specified that the Installed Capacity could be associated with a resource located in a particular Control Area outside the NYCA, and who paid a lower Market-Clearing Price as a result, will be allocated Installed Capacity located in that External Control Area.
- (iii) Any remaining purchasers of Installed Capacity whose bids specified they could accept Installed Capacity associated with resources located outside the NYCA will be allocated Installed Capacity for all remaining Installed Capacity sold in that phase of that auction that is located outside the NYCA. This allocation shall be performed on a pro rata basis, without violating any locational constraints specified by those bidders.
- (iv) All remaining Installed Capacity associated with resources located inside the NYCA shall be allocated on a pro rata basis among all remaining purchasers of Installed Capacity in that phase of that auction.

## **12. POSTING OF RESULTS**

The ISO will post the results of each auction within the time period specified in the ISO Procedures. These results shall include:

- (i) The Market-Clearing Price for each Locality, each External Control Area, and the portion of the NYCA not included in any other Locality, in each phase of each ISO-administered auction.
- (ii) The total amount of Installed Capacity associated with resources in each Locality, each External Control Area, and the portion of the NYCA that is not included in any other Locality that was sold in each phase of each ISO-administered auction.

- (iii) The total amount of Installed Capacity purchased in each phase of each ISO-administered auction, broken down by the constraints placed upon the location of those Installed Capacity by the Bidders placing those bids.

The ISO shall publish all bids and offers made in each auction six months after the conclusion of that auction. The names of Offerors or Bidders will not be revealed publicly; however, the ISO will post these data in a way that permits the identity of a given Offeror or Bidder to be tracked over time.

### **13. REPORTING BY AUCTION PARTICIPANTS**

Reporting will be per ISO Procedures.

## **APPENDIX: Illustrations of Market-Clearing Price Calculations**

### **Example 1: No Locational Constraints Bind, Partially Selected Offer**

Suppose that the following offers are made into a second phase of a two-phase auction (or into the single phase of a one-phase auction):

- 100 MW of Installed Capacity from Generator X, which is located in the NYCA but not in any other Locality, is offered at \$2/kW month.
- 100 MW of Installed Capacity from Generator Y, located in Locality Z, is offered at \$5/kW month.

Also suppose the following bids are made into that phase:

- Bidder A offers to purchase 150 MW of Installed Capacity at \$6/kW month.
- Bidder B offers to purchase 75 MW of Installed Capacity at \$3/kW month.

Both Bidders state that the Installed Capacity they are purchasing must be located in the NYCA, but do not place further restrictions on the location of the Installed Capacity Supplier.

The ISO will select the following offers and bids in this phase:

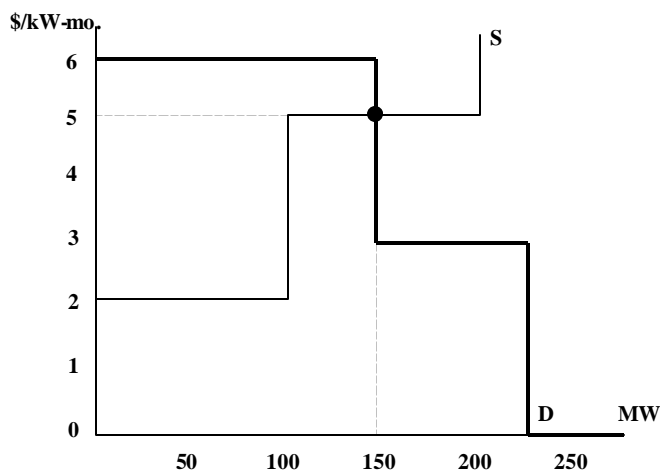
- All of the 100 MW of Installed Capacity offered from Generator X.
- 50 MW of the 100 MW of Installed Capacity offered from Generator Y.
- All of the 150 MW that Bidder A bids to purchase.
- None of the 75 MW that Bidder B bids to purchase.

Since all of the Installed Capacity offered in this phase meets the locational criteria stated in each of the bids, the locational constraints did not affect the ISO's selection of Installed Capacity Suppliers. This also means that the ISO will only calculate a single Market-Clearing Price for Installed Capacity for this phase, which will apply to all locations.

That Market-Clearing Price shall be the bid cost of meeting demand for a small incremental amount of Installed Capacity at the lowest cost. If it had been necessary to acquire an additional MW of Installed

Capacity in this phase,<sup>1</sup> (1) the ISO could have selected 51 MW from Generator Y, instead of 50 MW; or (2) it could have selected only 149 MW of Bidder A's 150 MW bid to purchase Energy. Since Generator Y's offer price is \$5/kW month, while Bidder A's bid price is \$6/kW month, it would be less expensive to purchase additional Installed Capacity from Generator Y than to buy it back from Bidder A. Therefore, Generator Y's bid of \$5/kW month will set the Market-Clearing Price of Installed Capacity. (If the price were set at \$6/kW month, 200 MW would be offered, while only 150 MW are demanded. Therefore, a price of \$6/kW month would not clear the market, and it is necessary to bring the price down to \$5/kW month to bring the quantity offered into the market down to 150 MW.)

**Example 1**



**Example 2: No Locational Constraints Bind, Partially Selected Bid**

If we modify the preceding example by changing the price specified by Bidder A to \$4/kW month (but not making any other changes), then the ISO would select the following offers and bids in this phase:

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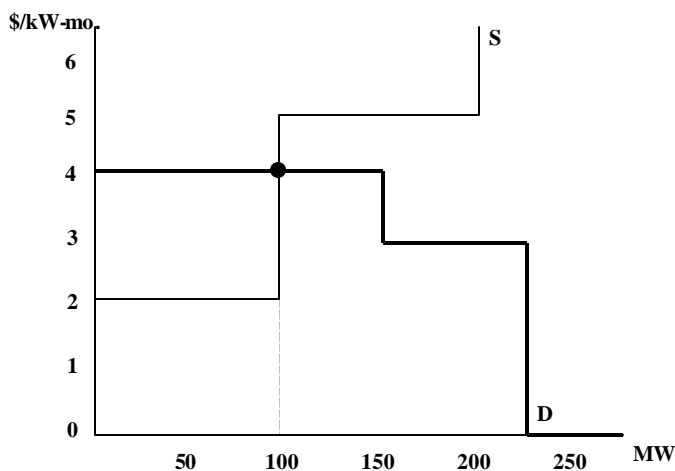
<sup>1</sup> The size of the increment of demand that the NYISO will actually use to determine Market-Clearing Prices will be smaller than the minimum increment specified for bids and offers in the ISO Procedures. Therefore, if the ISO Procedures call for the number of MWs of Installed Capacity that a Bidder bids to buy or an Offeror offers to sell to be stated in terms of tenths of a MW, for example, then the ISO would determine Market-Clearing Prices of Installed Capacity by calculating the bid cost of meeting an incremental demand for a quantity of Installed Capacity that is smaller than a tenth of a MW.



- All of the 100 MW of Installed Capacity offered from Generator X.
- None of the 100 MW of Installed Capacity offered from Generator Y.
- 100 of the 150 MW that Bidder A bids to purchase.
- None of the 75 MW that Bidder B bids to purchase.

If it had been necessary to acquire an additional MW of Installed Capacity in this phase, (1) the ISO could have selected 1 MW from Generator Y, instead of 0 MW; or (2) it could have selected only 99 MW of Bidder A's 150 MW bid to purchase Energy. Bidder A's bid price is now \$4/kW month, lower than Generator Y's \$5/kW-month offer price, so Bidder A's bid price will be used to set the Market-Clearing Price of Installed Capacity at \$4/kW month for this phase. (If the price were set at \$5/kW month, then Bidder A would be charged more than it has agreed to pay for the Installed Capacity it has purchased in the auction. In order not to charge more than Bidder A has agreed to pay, it is necessary to bring the price down to \$4/kW month. That price permits the market to clear at a quantity of 100 MW.)

### Example 2



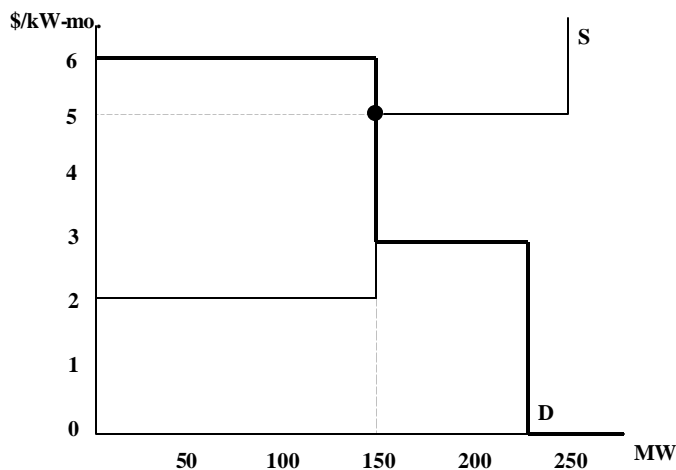
### **Example 3: No Locational Constraints Bind, No Partially Selected Offers or Bids, Offer Sets the Price**

Now modify Example 1 so that the amount of Installed Capacity offered from Generator X increases to 150 MW (still at a price of \$2/kW month). The ISO would select the following offers and bids in this phase:

- All of the 150 MW of Installed Capacity offered from Generator X.
- None of the 100 MW of Installed Capacity offered from Generator Y.
- All of the 150 MW that Bidder A bids to purchase.
- None of the 75 MW that Bidder B bids to purchase.

If it had been necessary to acquire an additional MW of Installed Capacity in this phase, (1) the ISO could have selected 1 MW from Generator Y, instead of 0 MW; or (2) it could have selected only 149 MW of Bidder A's 150 MW bid to purchase Energy. Since Generator Y's offer price is \$5/kW month, while Bidder A's bid price is \$6/kW month, the Market-Clearing Price of Installed Capacity for this phase will be set at the lower of these, or \$5/kW month. The consequences of choosing a higher price are the same as in Example 1.

### **Example 3**



### **Example 4: No Locational Constraints Bind, No Partially Selected Offers or Bids, Bid Sets the Price**

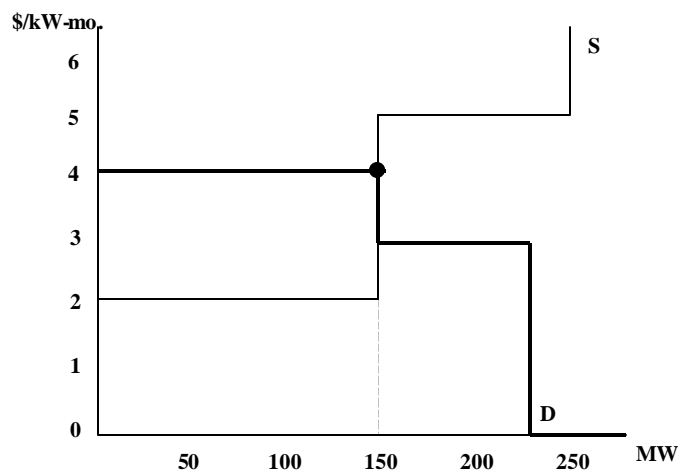
Next, modify Example 3 by changing the price specified by Bidder A to \$4/kW month. Then the ISO would select the following offers and bids:

- All of the 150 MW of Installed Capacity offered from Generator X.

- None of the 100 MW of Installed Capacity offered from Generator Y.
- All of the 150 MW that Bidder A bids to purchase.
- None of the 75 MW that Bidder B bids to purchase.

If it had been necessary to provide an additional MW of Installed Capacity in this phase, (1) the ISO could have selected 1 MW from Generator Y, instead of 0 MW; or (2) it could have selected only 149 MW of Bidder A's 150 MW bid. Since Generator Y's offer price is \$5/kW month, while Bidder A's bid price is \$4/kW month, the lower of these, or \$4/kW month, will be used to set the Market-Clearing Price of Installed Capacity for this phase.

### **Example 4**



### **Example 5: Locality Constraint Binds**

Return again to Example 1, but add the assumption that Bidder A has specified that its bid is valid for Installed Capacity located in Locality Z only.

The ISO would select the following offers and bids in this phase:

- 75 MW of the 100 MW of Installed Capacity offered from Generator X.
- All of the 100 MW of Installed Capacity offered from Generator Y.

- 100 MW of the 150 MW that Bidder A bids to purchase.
- All of the 75 MW that Bidder B bids to purchase.

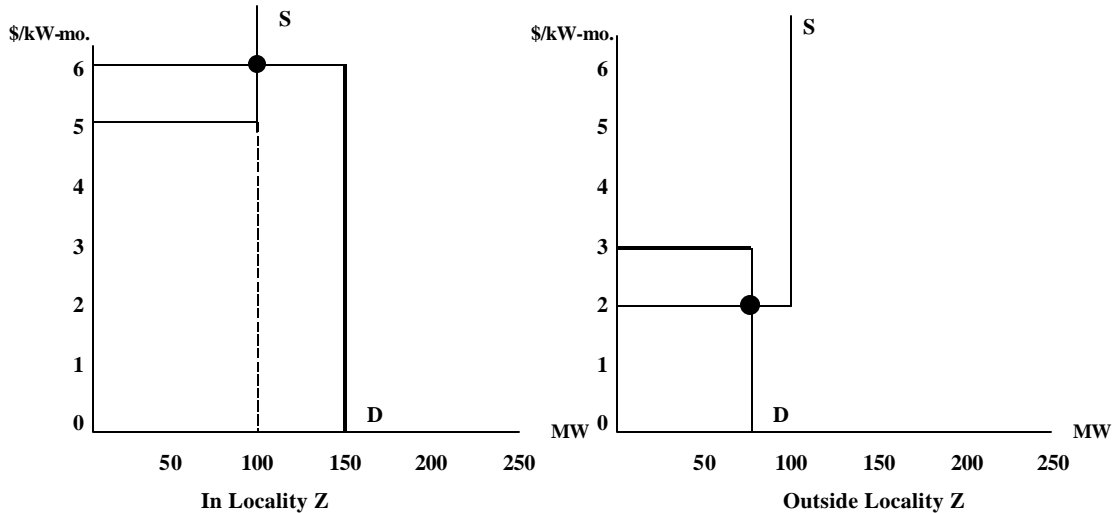
While there is more than 150 MW of Installed Capacity available with an offer price of less than \$6/kW-month (Bidder A's bid price), most of it is not located in Locality Z. Only the 100 MW offered from Generator Y at \$5/kW month is located in Locality Z, so only 100 MW of Bidder A's bid was selected.

All of Generator Y's offer was selected, even though Generator X's Installed Capacity was offered at a lower price and not all of it was selected. This means that the Locality Z constraint is binding (since Generator Y is located in Locality Z), so the ISO will calculate two different Market-Clearing Prices for this phase: one for Installed Capacity in Locality Z and one for Installed Capacity everywhere else.

If it had been necessary to acquire an additional MW of Installed Capacity in this phase in Locality Z, the ISO would have had to select only 99 MW of Bidder A's 150 MW bid. (There are no alternatives in this example because Generator Y was the only Installed Capacity Supplier in Locality Z, and all of Generator Y's Installed Capacity was selected in the auction, so none remains available to meet any additional demand in Locality Z.) Since Bidder A's bid price is \$6/kW month, the Market-Clearing Price of Installed Capacity in Locality Z in this phase will be \$6/kW month.

If it had been necessary to acquire an additional MW of Installed Capacity in this phase outside Locality Z, (1) the ISO could have selected 76 MW from Generator X, instead of 75 MW; or (2) it could have selected only 74 MW of Bidder B's 75 MW bid to purchase Energy. Since Generator X's offer price is \$2/kW month, while Bidder B's bid price is \$3/kW-month, the lower of these, or \$2/kW month, will set the Market-Clearing Price of Installed Capacity outside Locality Z in this phase.

## Example 5



### Example 6: External Control Area Constraint Binds

Again, return to Example 1, but change the locational constraint that Bidder B specified in its bid. Instead of the constraint specified in Example 1, assume that Bidder B specified that while the Installed Capacity it is bidding to purchase could be located anywhere in the NYCA, it also could be located in External Control Areas P or Q. Bidder A will continue to require that all of its Installed Capacity be located within the NYCA.

In addition, assume that the following new offers of Installed Capacity are submitted into this phase:

- 50 MW of Installed Capacity from a Generator located in External Control Area P is offered at \$1/kW month.
- 50 MW of Installed Capacity from a Generator located in External Control Area Q is offered at \$2/kW month.

The ISO would select the following offers and bids:

- All of the 100 MW of Installed Capacity offered from Generator X.

- 50 MW of the 100 MW of Installed Capacity offered from Generator Y.
- All of the 50 MW of Installed Capacity offered from External Control Area P.
- 25 MW of the 50 MW of Installed Capacity offered from External Control Area Q.
- All of the 150 MW that Bidder A bids to purchase.
- All of the 75 MW that Bidder B bids to purchase.

Bidder B is the only Bidder that can purchase the Installed Capacity offered from the External Generators, since Bidder A stated that its Installed Capacity must be located in the NYCA. Since Bidder B's \$3/kW month bid price exceeds the offer prices for the Installed Capacity from these External Generators, all of Bidder B's 75 MW bid to purchase Energy was selected in this phase.

Part of Generator Y's offer was selected, even though not all of the Installed Capacity in External Control Area Q, which was offered at a lower price, was selected. The reason is the constraint that Bidder A placed upon its bid. This causes the External Control Area constraint to bind for External Control Areas P and Q, so the ISO will calculate two different Market-Clearing Prices for this phase: one for Installed Capacity in External Control Areas P and Q, and one for Installed Capacity everywhere else.

(Note that the ISO will calculate a single price that will apply to both External Control Areas P and Q. Bidder B, which is the sole purchaser of Installed Capacity located in these External Control Areas in this phase, has stated that it will accept Installed Capacity from either External Control Area, without any limitations on the amount that it will accept from an individual External Control Area. Therefore, Installed Capacity located in either of these External Control Areas can be substituted for Installed Capacity in the other External Control Area, for the purposes of this phase, so these External Control Areas constitute a single market, with a single price.)

If it had been necessary to acquire an additional MW of Installed Capacity in this phase in External Control Areas P or Q, (1) the ISO could have selected 26 MW from External Control Area Q, instead of 25 MW; or (2) it could have selected only 74 MW of Bidder B's 75 MW bid to purchase Energy. Since the offer price from External Control Area Q is \$2/kW month, while Bidder B's bid price is \$3/kW month, the lower of these, or \$2/kW month, will be used to set the Market-Clearing Price of Installed Capacity for this phase in External Control Areas P and Q.

If it had been necessary to acquire an additional MW of Installed Capacity in this phase outside External Control Areas P or Q — *i.e.*, if it had been necessary to acquire an additional MW of Installed Capacity in the NYCA, since there are no other External Control Areas in this example—(1) the ISO

could have selected 51 MW from Generator Y, instead of 50 MW; or (2) it could have selected only 149 MW of Bidder A's 150 MW bid to purchase Energy. Since Generator Y's offer price is \$5/kW month, while Bidder A's bid price is \$6/kW month, the lower of these, or \$5/kW month, will be used to set the Market-Clearing Price of Installed Capacity for this phase in the NYCA. (This price also applies to all Localities within the NYCA, since no Locality constraints are binding in this example).

## Example 6

