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# nyiso Installed Capacity Manual

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**This document was prepared by:**

New York Independent System Operator  
3890 Carman Rd  
Schenectady, NY 12303  
(518) 356 6060  
[www.nyiso.com](http://www.nyiso.com)

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**Clean Copy of Section Five Revisions -- Draft Version 4 of the NYISO Installed  
Capacity Manual -- Demand Curve, SCR Energy Strike Price and Miscellaneous  
April 2003**

Version History

Version 1:  
Installed Capacity manual

Version 2 - Stage 1

Version 3 - Stage 1A

Version 4

More detail and history to be added

## **1.0 Introduction**

## **2.0 Overview of Installed Capacity Planning and Procurement Process**

## **3.0 Unforced Capacity Requirements of Load Serving Entities**

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## **5.0 NYISO Administered Installed Capacity Auctions**

The ISO will administer Installed Capacity auctions to accommodate LSEs' and Installed Capacity Suppliers' efforts to enter into Unforced Capacity transactions and to give LSEs an opportunity to satisfy their respective LSE Unforced Capacity Obligations. In the various ISO-administered auctions, LSEs will have the opportunity to purchase the Unforced Capacity necessary to meet the LSE Unforced Capacity Obligations established by the ISO Services Tariff, and to purchase or sell excess Unforced Capacity. Installed Capacity Suppliers will have the opportunity to sell Unforced Capacity. LSEs holding Unforced Capacity which they want credited against their LSE Unforced Capacity Obligations must certify such Unforced Capacity when submitting their Installed Capacity certifications.

LSEs and Installed Capacity Suppliers may also purchase or sell Unforced Capacity through Bilateral Transactions.

Participation in ISO-administered auctions is restricted to ISO Customers. Unforced Capacity supplied through the auction may only be used for the commercial interests of the purchaser. In addition, any Unforced 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.

The ISO Services Tariff references are Sections 5.13 through 5.15. A summary of this Section 5 combined with Attachment H of this Manual is on file with FERC as an attachment to the ISO Services Tariff under the title "Installed Capacity Auction Description."

### **5.1 Overview of Auction Structure and Timing**

The ISO will conduct regularly scheduled Installed Capacity auctions before and during Capability Periods, and may conduct additional auctions as necessary. See Attachment A for the upcoming Capability Period schedule of auctions. The schedule is structured to ensure adequate time between the time that auction results from monthly auctions are posted and the dates that LSEs are required to demonstrate that they have procured sufficient Unforced Capacity to cover their Unforced Capacity requirements. Auctions shall be conducted prior to the start of each Capability Period and each month during a Capability Period.

#### **5.1.1 General Auction Requirements**

The ISO shall conduct regular auctions at the times specified in Section 5.13.1 of the ISO Services Tariff and Attachment A, and may conduct additional auctions as necessary. Installed Capacity Suppliers, LSEs and Installed Capacity Marketers that are Customers

under the ISO Services Tariff will be allowed to participate in Installed Capacity auctions, provided that they satisfy the creditworthiness requirements set forth in Section 11.0 of the ISO OATT.

Offers to sell and Bids to purchase Unforced Capacity shall be made in \$/kW for the time period appropriate to the auction. The ISO shall impose no limits on Bids or offers in any auction, except to the extent required by any applicable capacity market mitigation measures in accordance with Attachment H of the ISO Services Tariff.

Installed Capacity Suppliers that wish to participate in an ISO-administered auction must submit completed certification forms to the ISO in accordance with Attachment A, demonstrating that their Unforced Capacity has not been committed to a Bilateral Transaction.

Unforced Capacity associated with In-City generation that is subject to FERC-approved capacity market mitigation measures is required to be offered for sale in the ICAP Spot Market Auction to the extent that such Unforced Capacity has not been sold in prior auctions for the Obligation Procurement Period.

Attachment A specifies the dates by which the ISO will post the results of Installed Capacity auctions. Attachment A will ensure that there are at least four (4) business days between the time that auction results from monthly auctions are posted and the dates that LSEs are required to certify the quantity of Unforced Capacity that has been obtained for the upcoming Obligation Procurement Period, pursuant to Section 5.11.2 of the ISO Services Tariff. LSEs holding Unforced Capacity which they want credited against their LSE Unforced Capacity Obligations must certify such Unforced Capacity when submitting their Installed Capacity certifications.

## **5.2 Capability Period Auctions**

A Capability Period Auction will be conducted no later than thirty (30) days prior to the start of each Capability Period in which Unforced Capacity will be purchased and sold for the entire duration of the Capability Period. The exact date of the Capability Period Auction shall be established in Attachment A.

The Capability Period Auction will be conducted and solved simultaneously to purchase Unforced Capacity which may be used by an LSE toward all components of its LSE Unforced Capacity Obligation for each Obligation Procurement Period. Participation shall consist of: (i) LSEs seeking to purchase Unforced Capacity; (ii) any other entity seeking to purchase Unforced Capacity; (iii) qualified Installed Capacity Suppliers; and (iv) any other entity that owns excess Unforced Capacity.

Buyers that are awarded Unforced Capacity shall pay the applicable Market-Clearing Price of Unforced Capacity in the Capability Period Auction. Sellers that are selected to provide Unforced Capacity shall receive the applicable Market-Clearing Price of Unforced Capacity in the Capability Period Auction, except in the case of In-City

generation that is subject to capacity market mitigation measures, which shall receive the lesser of the applicable Market-Clearing Price or the annual mitigated price cap, as applied in accordance with Attachment H of the ISO Services Tariff. Any entity that resells Unforced Capacity associated with In-City generation that is subject to capacity market mitigation measures shall receive no greater than the annual mitigated price cap, as applied in accordance with Attachment H of the ISO Services Tariff, for that Unforced Capacity.

If the Market-Clearing Price exceeds the total amount paid to Installed Capacity Suppliers, the ISO shall rebate the Excess Amount pursuant to Section 5.15 of the ISO Services Tariff. Owners of In-City generation that is subject to capacity market mitigation measures are restricted from selling Unforced Capacity to entities for use outside the New York City Locality in the Capability Period Auction.

The results of the Capability Period Auction will be made available to Market Participants at the time specified in Attachment A, which shall be prior to the start of the Monthly Auction held prior to the beginning of each Capability Period.

## **5.3 Monthly Auctions**

Monthly Auctions will be held during which Unforced Capacity may be purchased and sold for the forthcoming Obligation Procurement Period, and any other month or months remaining in the Capability Period, as specified in Attachment A. The exact dates of each Monthly Auction shall be established in Attachment A.

Each Monthly Auction will be conducted and solved simultaneously to purchase Unforced Capacity which may be used by an LSE toward all components of its LSE Unforced Capacity Obligation for each Obligation Procurement Period. Participation shall consist of: (i) LSEs seeking to purchase Unforced Capacity; (ii) any other entity seeking to purchase Unforced Capacity; (iii) qualified Installed Capacity Suppliers; and (iv) any other entity that owns excess Unforced Capacity.

Buyers that are awarded Unforced Capacity shall pay the applicable Market-Clearing Price of Unforced Capacity in the Monthly Auction. Sellers that are selected to provide Unforced Capacity shall receive the applicable Market-Clearing Price or the annual mitigated price cap, as applied in accordance with Attachment H of the ISO Services Tariff. Any entity that resells Unforced Capacity associated with In-City generation that is subject to capacity market mitigation measures shall receive no greater than the annual mitigated price cap, as applied in accordance with Attachment H of the ISO Services Tariff, for that Unforced Capacity.

If the Market-Clearing Price exceeds the total amount paid to Installed Capacity Suppliers, the ISO shall rebate the Excess Amount pursuant to Section 5.15 of the ISO Services Tariff. Owners of In-City generation that is subject to capacity market mitigation measures are restricted from selling Unforced Capacity to entities for use outside the New York City Locality in the Monthly Auctions.

The results of each Monthly Auction will be made available to Market Participants in accordance with Attachment A.

## **5.4 ICAP Spot Market Auction**

The ISO shall conduct an ICAP Spot Market Auction to purchase Unforced Capacity which shall be used by an LSE toward all components of its LSE Unforced Capacity Obligation for each Obligation Procurement Period immediately preceding the start of each Obligation Procurement Period. The exact date of the ICAP Spot Market Auction shall be established in Attachment A. All LSEs shall participate in the ICAP Spot Market Auction. In the ICAP Spot Market Auction, the ISO shall submit monthly bids on behalf of all LSEs at a level per MW determined by the ICAP Demand Curves established in accordance with Section 5.14.1(b) of the ISO Services Tariff and Section 5.5 of this Manual. The ICAP Spot Market Auction will set the LSE Unforced Capacity Obligation for each NYCA LSE.

When the ISO conducts each ICAP Spot Market Auction it will account for all Unforced Capacity that each NYCA LSE has certified for use in the NYCA. The ISO shall receive offers from qualified Installed Capacity Suppliers for the ICAP Spot Market Auction. The ISO shall also receive offers of Unforced Capacity from any LSE for any amount of Unforced Capacity that LSE has in excess of its NYCA Minimum Unforced Capacity Requirement or Locational Minimum Unforced Capacity Requirement, as applicable.

The ICAP Spot Market Auction will be conducted and solved simultaneously for Unforced Capacity that may be used by an LSE towards all components of its LSE Unforced Capacity Obligation for that Obligation Procurement Period using the applicable ICAP Demand Curves, as established in Section 5.5 of this Manual. LSEs that are awarded Unforced Capacity in the ICAP Spot Market Auction shall pay to the ISO the Market-Clearing Price of Unforced Capacity determined in the ICAP Spot Market Auction using the applicable ICAP Demand Curve. The ISO shall pay Installed Capacity Suppliers that are selected to provide Unforced Capacity the Market-Clearing Price determined in the ICAP Spot Market Auction using the applicable ICAP Demand Curve, except in the case of Unforced Capacity associated with In-City generation that is subject to capacity market mitigation measures, which shall receive no greater than the annual mitigated price cap.

The In-City Capacity bid and price caps applicable to certain In-City generation will account for differences between the amount of Unforced Capacity provided during the Summer Capability Period and the Winter Capability Period such that owners of In-City generation that is subject to capacity market mitigation measures shall have an opportunity to receive the annual mitigated price cap. Such data and prices will be posted under the applicable Capability Period on the NYISO website at <http://www.nyiso.com/markets/icapinfo.html>. **[The NYISO suggests making a universal change throughout the Manual replacing references to Attachment A with references to this NYISO website.]** Any entity that resells Unforced Capacity associated with In-City generation that is subject to capacity market mitigation measures



shall receive no greater than the annual mitigated price cap of \$112.95/kw of Unforced Capacity sold.

If the Market-Clearing Price exceeds the total amount paid to Installed Capacity Suppliers, the ISO shall rebate the Excess Amount pursuant to Section 5.15 of the ISO Services Tariff. In-City generation that is subject to capacity market mitigation measures may be sold to meet NYCA LSE Unforced Capacity Obligations in the ICAP Spot Market Auction, provided the New York City Locational Unforced Capacity Requirement has been met.

## **5.5 Demand Curve and Adjustments**

Three (3) ICAP Demand Curves will be established: one to determine the locational component of LSE Unforced Capacity Obligations for each of the two Localities, and one to determine the total LSE Unforced Capacity Obligations for all LSEs. The ICAP Demand Curves will be phased in over three (3) Capability Years, beginning in 2003. In the first two years, the ICAP Demand Curves shall be established within the following fixed, annual parameters:

	<b><u>Year 1</u></b> <b>(Ends April 30, 2004)</b>	<b><u>Year 2</u></b> <b>(Begins May 1, 2004)</b>
	<b>\$/kw-year of ICAP</b>	<b>\$/kw-year of ICAP</b>
<b>Total</b>	\$56.24 @ 100% \$0.00 @ 112%	\$67.49 @ 100% \$0.00 @ 112%
<b>LI</b>	\$104.37 @ 100% \$0.00 @ 118%	\$123.94 @ 100% \$0.00 @ 118%
<b>NYC</b>	\$127.89 @ 100% \$0.00 @ 118%	\$151.14 @ 100% \$0.00 @ 118%
NOTE: All percentages are in terms of the applicable NYCA Minimum Installed Capacity Requirement and Locational Minimum Installed Capacity Requirement.		
NOTE: The ICAP Demand Curves for each monthly ICAP Spot Market Auction are posted under the applicable Capability Period on the NYISO website at <a href="http://www.nyiso.com/markets/icapinfo.html">http://www.nyiso.com/markets/icapinfo.html</a> .		
NOTE: All annual dollar values will be translated into monthly values by dividing by twelve (12) and rounding to the nearest cent.		

In the third year, the costs assigned by the ICAP Demand Curves to the NYCA Minimum Installed Capacity Requirement and the Locational Minimum Installed Capacity Requirement will be defined by the results of the independent review conducted pursuant to this Section. These dollar figures will be translated each year to dollars per kilowatt-year of Unforced Capacity. The respective point at which each Demand Curve crosses zero, expressed in terms of the NYCA Minimum Installed Capacity Requirement or the Locational Minimum Installed Capacity Requirement, as applicable, will be fixed through the 2005/2006 Capability Year.

## **5.6 Periodic Independent Review**

Except as provided in the previous Section, a periodic independent review of the ICAP Demand Curves will be performed every three (3) years to determine whether the parameters of the ICAP Demand Curves should be adjusted. Among other criteria, the review will determine the current localized levelized embedded cost of gas turbines in each NYCA Locality and the Rest of State and associated Energy and Ancillary Services revenues.

Each periodic independent review, which will include stakeholder input, will be completed by November 1 of the applicable Capability Year, except the first periodic independent review, which will be concluded by December 31, 2004. The first periodic review will be initiated immediately following the Summer 2003 Capability Period, and the recommendations will be received not later than December 31, 2004 in time to determine the ICAP Demand Curves to be applied for the Summer 2005 Capability Period.

Once each review is completed, it shall be issued to stakeholders and the New York State Public Service Commission ("PSC"), who shall be given an opportunity to provide input to the NYISO concerning the review. Upon consideration of each review and input thereon from stakeholders and the PSC, but prior to NYISO Board approval, the NYISO shall issue three (3) proposed ICAP Demand Curves.

Any stakeholder, including the PSC, shall have thirty (30) days within which to request an opportunity to provide the NYISO Board with supplemental information for its consideration when acting on the proposed ICAP Demand Curves. Upon receipt of such a request, a NYISO Board subcommittee shall be convened, upon notice to all parties, to review filed information and to hear oral arguments on the issues that have been raised.

After considering the proposed ICAP Demand Curves and any comments related thereto, the NYISO Board shall issue three (3) final ICAP Demand Curves and shall file them for approval at FERC. Once the ICAP Demand Curves have been approved by FERC, they shall remain binding for the 3-year period until the next review, absent exigent circumstances.

## **5.7 Supplemental Supply Fee**

Any LSE that has not met its share of the NYCA Minimum Installed Capacity Requirement or its share of the Locational Minimum Installed Capacity Requirement

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after the completion of an ICAP Spot Market Auction shall be assessed a supplemental supply fee based on the localized levelized embedded cost of a gas turbine, as set forth in the Table below. Such values will be multiplied by one and one half (1.5), divided by twelve (12), rounded to the nearest cent and multiplied by the number of MWs the LSE needs to meet its share of the NYCA Minimum Installed Capacity Requirement or its share of the Locational Minimum Installed Capacity Requirement.

The ISO will attempt to use these supplemental supply fees to procure Unforced Capacity at the lowest available price from Installed Capacity Suppliers that are capable of supplying Unforced Capacity including: 1) Installed Capacity Suppliers that were not qualified to supply Capacity prior to the ICAP Spot Market Auction; 2) Installed Capacity Suppliers that offered Unforced Capacity at levels above the ICAP Spot Market Auction Market-Clearing Price; and 3) Installed Capacity Suppliers that did not offer Unforced Capacity in the ICAP Spot Market Auction. In the event that different Installed Capacity Suppliers offer the same price, the ISO will give preference to Installed Capacity Suppliers that were not qualified to supply Capacity prior to the ICAP Spot Market Auction.

**[This area is still subject to BIC action on 4/2 and will be amended to reflect the results of that meeting.]**

Offers from Installed Capacity Suppliers are subject to review pursuant to the NYISO Market Monitoring Plan-Market Mitigation Measures (Attachment H to the ISO Services Tariff). Installed Capacity Suppliers selected by the ISO to provide Capacity after the ICAP Spot Market Auction will be paid a negotiated price, subject to the standards, procedures and remedies in the NYISO Market Monitoring Plan-Market Mitigation Measures.

The ISO will not pay an Installed Capacity Supplier more than the applicable supplemental supply fee per MW of Unforced Capacity, or, in the case of In-City generation that is subject to capacity market mitigation measures, the annual mitigated price cap per MW of Unforced Capacity, whichever is less, pro-rated to reflect the portion of the Capability Period for which the Installed Capacity Supplier provides Unforced Capacity. Any remaining monies collected by the ISO pursuant to Section 5.14.1 of the ISO Services Tariff will be applied in accordance with Section 5.14 of the ISO Services Tariff.

Beginning May 1, 2003, the following localized levelized embedded cost of gas turbines in the New York City Locality, the Long Island Locality, and Rest of State, respectively, times one and one-half (1.5) and adjusted in accordance with Section 5.6 of this Manual will be used to set the supplemental supply fees and deficiency charge in the New York City Locality, the Long Island Locality, or elsewhere in the NYCA. **[The NYISO would like to discuss changing this terminology to “localized (estimated) annual revenue target for gas turbines”.]**

In-City New York City (GMP Locality Zone D)	\$159/kW of Installed Capacity per Capability Year
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(LBMP Load Zone J)	
Long Island (LBMP Load Zone K)	\$139/kW of Installed Capacity per Capability Year
All Other LBMP Load (All other LBMP Load Zones in the NYCA)	\$85/kW of Installed Capacity per Capability Year
	NOTE: These dollar figures will be translated each year to dollars per kilowatt-year of Unforced Capacity in accordance with Section 2.5 of this Manual.
	NOTE: All annual Unforced Capacity values will be translated into monthly values by dividing by twelve (12) and rounding to the nearest cent.

## **5.8 ICAP Supplier Shortfalls and Deficiency Payments**

In the event that the amount of Unforced Capacity that an Installed Capacity Supplier certifies in a given month is determined to have been more than the amount that the Installed Capacity Supplier is authorized to supply for that month, the ISO shall prospectively purchase Unforced Capacity on behalf of that Installed Capacity Supplier in the amount of the shortfall in the appropriate ICAP Spot Market Auction or through post-ICAP Spot Market Auction Unforced Capacity purchases.

In the event that an Installed Capacity Supplier sells in the Capability Period or Monthly Auctions more Unforced Capacity than it is qualified to sell in any specific month due to a de-rating or other cause, the Installed Capacity Supplier shall be deemed to have a shortfall for that month. To cover this shortfall, the Installed Capacity Supplier shall purchase sufficient Unforced Capacity in the relevant Monthly Auction or through Bilateral Transactions, and certify to the ISO consistent with Attachment A that it has covered such shortfall. If the Installed Capacity Supplier does not cover such shortfall or if it does not certify to the ISO in a timely manner, the ISO shall prospectively purchase Unforced Capacity on behalf of that Installed Capacity Supplier in the appropriate ICAP Spot Market Auction or through post-ICAP Spot Market Auction Unforced Capacity purchases to cover the shortfall.

In the event that an External Installed Capacity Supplier fails to deliver to the NYCA the Energy associated with the Unforced Capacity it committed to the NYCA due to a failure to obtain appropriate transmission service or rights, the External Installed Capacity Supplier shall be deemed to have a shortfall from the last time the External Installed

Capacity Supplier “demonstrated” delivery of its Installed Capacity Equivalent (“ICE”), or any part thereof, until it next delivers its ICE or the end of the term for which it certified the applicable block of Unforced Capacity, whichever occurs first, subject to the limitation that any prior lack of demonstrated delivery will not precede the beginning of the period for which the Unforced Capacity was certified. An External Installed Capacity Supplier deemed to have a shortfall shall be required to pay to the ISO a deficiency charge as set forth in Section 5.14.1(c) of the ISO Services Tariff, pro-rated for the number of hours in the month that External Installed Capacity Supplier is deemed to have a shortfall (*i.e.*, (((deficiency charge ÷ 12 months) ÷ total number of hours in month of shortfall) \* number of hours the shortfall lasted) \* number of MWs of shortfall).

The ISO shall submit a Bid, calculated pursuant to Section 5.14.1 of the ISO Services Tariff, in the appropriate ICAP Spot Market Auction on behalf of an Installed Capacity Supplier deemed to have a shortfall as if it were an LSE. Such Installed Capacity Supplier shall be required to pay to the ISO the applicable Market-Clearing Price of Unforced Capacity established in that ICAP Spot Market Auction. In the event that the ICAP Spot Market Auction clears below the NYCA Minimum Installed Capacity Requirement or the Locational Minimum Installed Capacity Requirement, whichever is applicable to the Installed Capacity Supplier, the Installed Capacity Supplier shall be assessed the applicable deficiency charge based on the localized leveled embedded cost of a gas turbine, as set forth in the Table above, multiplied by one and one half (1.5), divided by twelve (12), times the amount of its shortfall.

If an Installed Capacity Supplier is found, at any point during a Capability Period, to have had a shortfall for that Capability Period, *e.g.*, when the amount of Unforced Capacity that it supplies is found to be less than the amount it was committed to supply, the Installed Capacity Supplier shall be retrospectively liable to pay the ISO the applicable supplemental supply fee.

Any remaining monies collected by the ISO pursuant to Sections 5.14.1 and 5.14.2 of the ISO Services Tariff will be applied as specified in Section 5.14.3 of the ISO Services Tariff.

## **5.9 Timing of Auctions**

The ISO will develop a Capability Period Timeline *that will attempt to* ensure that:

1. A Capability Period Auction where Unforced Capacity shall be made available for purchase for the entire six-month Capability Period will be held at least thirty (30) days before the beginning of that Capability Period;
2. Pre-Capability Period Monthly Auctions where Unforced Capacity is made available for purchase for any and all Obligation Procurement Periods within the Capability Period will be held at least fifteen (15) days before the beginning of that Capability Period;

3. The ISO will conduct an ICAP Spot Market Auction at least two (2) business days before the beginning of that Obligation Procurement Period to procure each LSE's share of the LSE Unforced Capacity Obligation on behalf of each LSE;
4. During a Capability Period, Monthly Auctions will be held at least fifteen (15) days before the beginning of each Obligation Procurement Period in which Unforced Capacity will be made available for any and all remaining Obligation Procurement Periods within that Capability Period; and
5. During the Capability Period, a monthly ICAP Spot Market Auction will be held at least two (2) business days before the beginning of each Obligation Procurement Period during which the ISO will procure each LSE's share of the LSE Unforced Capacity Obligation on behalf of each LSE.

*The above guidelines may be adjusted for weekends and holidays. The intent of the above will direct the ISO towards fair compromises when developing or amending Attachment A.*

## **5.10 Bids to Buy and Sell - General Requirements**

Bids to purchase Unforced Capacity and offers to supply Unforced Capacity must be submitted as separate bids for each auction.

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

## **5.11 Limitations on Offerors' Participation in Installed Capacity Auctions**

Only Customers will be permitted to offer to sell Unforced Capacity in an auction. The amount of Unforced Capacity that can be offered for sale in any auction from a given Installed Capacity Supplier will not be permitted to exceed the amount that Installed Capacity Supplier is qualified to supply in the NYCA.

When the ISO reduces the amount of Unforced Capacity that an Installed Capacity Supplier may supply to the NYCA, the Installed Capacity Supplier shall procure any deficiency in Unforced Capacity resulting from the reduction through Bilateral Transactions or in any ISO-administered auction. The ISO Procedures shall establish the

circumstances under which the ISO may reduce the amount of Unforced Capacity that an Installed Capacity Supplier may supply to the NYCA.

The amount of Unforced 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 Unforced Capacity its Installed Capacity Suppliers are permitted to offer for sale, as calculated above, less any Unforced Capacity that Offeror has offered for sale either through Bilateral Transactions or through sales to External Control Areas. **[The NYISO would like to discuss this paragraph in terms of its practical application.]**

Installed Capacity Suppliers that wish to participate in an ISO-administered auction must submit completed certification forms to the ISO by the date posted, and using the certification forms provided for the applicable Capability Period, on the NYISO website at <http://www.nyiso.com/markets/icapinfo.html>. The certification form shall, at a minimum, demonstrate: (i) that they own, have contracted to purchase, or have been designated as the agent for the share of each Resource that they claim when making offers to supply Unforced Capacity; and (ii) that the Unforced Capacity they offer has not been committed or sold to provide Unforced Capacity in the New York market or an External Control Area. Any offer to sell that would cause the total amount of Unforced Capacity offered by that Offeror from that Resource to exceed the amount of Unforced Capacity it is permitted to offer from that Resource will be rejected in its entirety.

If an Installed Capacity Supplier (or a portion of the Unforced Capacity generated by an Installed Capacity Supplier) is selected in the auction to provide Unforced 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 and in this Manual. Entities wishing to purchase Unforced Capacity that will count toward Installed Capacity requirements in other Control Areas will not be able to purchase such Unforced Capacity in an ISO-administered auction.

## **5.12 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. The credit criteria used by the ISO are contained in Article 8 of the ISO Services Tariff.

## **5.13 Required Information in Bids to Buy**

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

1. The total amount of Unforced Capacity it wishes to purchase in association with that bid, in increments of 100 kW;
2. The maximum price the Bidder is willing to pay for the Unforced Capacity it is offering to purchase in its bid, in \$/kW for the time period appropriate to the auction;
3. The auction to which the bid applies;
4. Whether the Unforced Capacity must be associated with Installed Capacity Suppliers located in a specific Locality, and if so, which Locality; and
5. Whether the Installed Capacity Suppliers associated with the Unforced Capacity can be located in a Control Area outside the NYCA, and if so, which Control Area(s).

The ISO Unforced Capacity Purchase Agreement is found in Attachment F to this Manual.

## **5.14 Required Information in Offers to Sell**

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

1. The amount of Unforced Capacity it offers to sell in increments of 100 kW;
2. The minimum price it is willing to accept for the Unforced Capacity it is offering to sell in its offer, in \$/kW for the time period appropriate to the auction;
3. The auction to which the offer applies;
4. The name of the Installed Capacity Supplier providing the Unforced Capacity offered for sale;
5. Documentation of that Installed Capacity Supplier's DMNC (described above);
6. Whether that Installed Capacity Supplier is located in a Locality, and if so, which Locality; and
7. Whether that Installed Capacity Supplier is located in a Control Area outside the NYCA, and if so, which Control Area.



## **5.15 Determination of Selected Bids and Offers**

The ISO will determine which bids to purchase and which offers to sell Unforced Capacity are selected by maximizing total gains from trade in each auction, i.e., by maximizing the sum of the maximum prices Bid by Bidders whose bids to purchase Unforced Capacity in that auction were selected minus the sum of the minimum prices specified by Offerors whose offers to sell Unforced Capacity in that auction were selected, subject to the constraints on the location of the associated Installed Capacity Supplier that have been specified in the selected bids as well as the limitations on the total amount of Unforced Capacity that can be purchased in each External Control Area in each auction (as described in Section 4.9.3). This maximization will be performed jointly for all locations in each auction.

All, part, or none of a bid to purchase or an offer to sell Unforced Capacity may be selected in any auction. As a result, if a Bidder offers in a bid to purchase a given amount of Unforced Capacity at a given price, it may be awarded that amount of Unforced 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 Unforced Capacity in a given auction cannot be made contingent on the outcome of another auction; e.g., an Offeror will not be permitted to offer Unforced Capacity within one month's auction contingent upon its sale of Unforced Capacity in another month's auction.

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

## **5.16 Determination of Market-Clearing Prices**

As a result of each ISO-administered auction, the following Market-Clearing Prices for Unforced Capacity will be determined:

1. Prices for Unforced Capacity located in each Locality.
2. Prices for Unforced Capacity located in each Control Area outside the NYCA.
3. Price for Unforced Capacity located in the portion of the NYCA that is not located in any other Locality.

The objective function that the ISO will use in each auction, which was described in the previous section, will be to select the offers of Unforced 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 or violations of the limitations on the total amount of Unforced Capacity that can be purchased from an External Control Area, pursuant to Section 4.9.3 “Other Allocations.” But the need to honor these locational constraints may require the ISO to accept some offers which specify relatively high offer prices for Unforced Capacity while not accepting other offers with lower offer prices, because purchasing the lower-priced Unforced Capacity would violate the locational constraints stated in the Bidders’ bids. In such cases, locational constraints will be binding and Market-Clearing Prices of Unforced Capacity may differ from location to location. If no locational constraints are binding (i.e., if the locational constraints specified by Bidders or the limitations on the total amount of Unforced Capacity that can be purchased in any given Control Area did not force the ISO to select more expensive offers of Unforced Capacity in the auction than it would have selected in the absence of those locational constraints), then the Market-Clearing Price of Unforced Capacity will be the same at every location.

When locational constraints do not bind, the Market-Clearing Price of Unforced Capacity in a given auction will be the marginal bid cost of providing additional Unforced Capacity in that auction. 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 Attachment H.

In order to determine the marginal bid cost of providing Unforced Capacity, the ISO will calculate the change in the amount of Unforced 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 Unforced Capacity. The presence of this additional demand would have had one of two effects. Either it would have increased the amount of Unforced Capacity purchased from the marginal Offeror (which is the Offeror whose offer price is lowest among those entities that offered Unforced Capacity into that auction, but did not sell all of that Unforced Capacity in that auction), so that the amount of Unforced Capacity purchased from that Offeror would have been slightly above the amount that was actually purchased in that auction. Alternatively, it would have decreased the amount of Unforced Capacity purchased by the marginal Bidder (which is the Bidder whose offer price is lowest among those entities that purchased Unforced Capacity in that auction), so

that the amount of Unforced Capacity purchased by that Bidder would have been slightly below the amount that was actually purchased in that auction (with the leftover Unforced 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 Unforced Capacity in that auction.

When locational constraints bind, the Market-Clearing Price of Unforced Capacity at each location will still be the marginal bid cost of providing additional Unforced Capacity in that auction, but it will be the marginal bid cost of providing Unforced Capacity located in a given area.

First, the locational constraints will be divided into two groups. A Locality constraint is binding if the ISO selects offers of Unforced Capacity located in a certain Locality while not selecting lower-priced offers of Unforced 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 Unforced Capacity located in a given Locality.

An External Control Area constraint is binding if the ISO does not select offers of Unforced 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 or to avoid violating the limits on the total amount of Unforced Capacity that can be purchased in a given External Control Area, pursuant to Section 4.9.3 of this Manual. 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 Unforced Capacity that is not located in a given External Control Area (or group of Areas).

Then:

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

Control Area is binding) will be the marginal bid cost of providing additional Unforced Capacity located anywhere other than a Locality for which a Locality constraint is binding or an External Control Area for which an External Control Area constraint is binding.

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

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

## **5.17 Billing and Settlements**

Subject to the exceptions noted elsewhere regarding New York City generation, the ISO will pay each Offeror whose offer to sell Unforced Capacity is selected in an auction the Market-Clearing Price determined in that auction at the location of each of its Resources that have been selected to provide Unforced Capacity, for each 100 kW of Unforced Capacity that Resource has been selected to supply. Each Bidder for Unforced Capacity whose bid to purchase is selected in 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 Unforced Capacity that it purchased.

Settlements for Capability Period auctions (i.e., strip and monthly) will occur in the month following the month for which the Unforced Capacity was purchased. For example, Unforced Capacity purchased for the month of May will be billed and paid for in the month of June. The schedule for bills and payments for Unforced Capacity will follow the Energy Market schedule. A timetable for bills and payments for the Energy Market can be found on the NYISO website.

Unforced Capacity purchased in the six-month strip auction (the Capability Period Auction) will be settled on a monthly basis. The ISO will issue bills for one-sixth of the applicable market clearing price for Unforced Capacity on the same schedule referenced above.

In-City LSEs will receive bills for the Unforced Capacity that they purchased that are net of any Phase I rebates.

## **5.18 Allocation of Winning Bids**

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

1. Bidders whose bids specified that the Unforced Capacity must be associated with an Installed Capacity Supplier located in a Locality will be awarded such Unforced Capacity.
2. Bidders whose bids specified that the Unforced Capacity could be associated with an Installed Capacity Supplier located in a particular Control Area outside the NYCA, and who paid a lower Market-Clearing Price as a result, will be allocated Unforced Capacity located in that External Control Area.
3. Any remaining purchasers of Unforced Capacity whose bids specified they could accept Unforced Capacity associated with Installed Capacity Suppliers located outside the NYCA will be allocated Unforced Capacity for all remaining Unforced Capacity sold in 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.
4. All remaining Unforced Capacity associated with Installed Capacity Suppliers located inside the NYCA shall be allocated on a pro-rata basis among all remaining purchasers of Unforced Capacity in that auction.

## **5.19 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:

1. 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 ISO-administered auction.
2. The total amount of Unforced Capacity associated with Installed Capacity Suppliers 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 ISO-administered auction.
3. The total amount of Unforced Capacity purchased in each ISO-administered auction, broken down by the constraints placed upon the location of those Unforced 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.

