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nyiso Installed Capacity Manual

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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

This section contains overviews of:

- The major elements of New York's Installed Capacity planning and procurement process;
- The New York Control Area ("NYCA") Installed Reserve Margin;
- The NYCA Minimum Installed Capacity Requirement, Locational Minimum Installed Capacity Requirements within the NYCA, and limitations on Unforced Capacity from External Control Areas; and
- The NYCA Minimum Unforced Capacity Requirement.

The ISO Services Tariff reference for this section of the Manual is Section 5.10.

2.1 Overview

- The New York State Reliability Council ("NYSRC") sets the Installed Reserve Margin and the ISO determines the NYCA Minimum Installed Capacity Requirement in accordance with the criteria and standards of the NYSRC, the Northeast Power Coordinating Council ("NPCC") and the New York Public Service Commission ("PSC").
- The ISO converts the NYCA Minimum Installed Capacity Requirement into a NYCA Minimum Unforced Capacity Requirement.
- The ISO determines Locational Minimum Installed Capacity Requirements and converts them into Unforced Capacity terms.
- The ISO assigns Unforced Capacity Requirements, including Locational Minimum Installed Capacity Requirements, to LSEs on a Transmission District basis.
- The ISO establishes, with the collaboration and assent of Market Participants, standards, qualifications and requirements that will apply to Transmission Owners, LSEs, and Installed Capacity Suppliers that are Internal and External to the NYCA.

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- The ISO determines the amount of Unforced Capacity that Installed Capacity Suppliers may supply within the NYCA based upon these standards and qualifications.
- The ISO determines the amount of Unforced Capacity that may be supplied by Resources that are External to the NYCA, as specified in Section 2.7 of this Manual.
- The ISO conducts regularly scheduled Installed Capacity auctions before and during each Capability Period.
- LSEs procure adequate Unforced Capacity from Installed Capacity Suppliers, either bilaterally or through ISO-administered auctions, to meet their requirements.
- The ISO monitors the compliance of Transmission Owners, LSEs, and Installed Capacity Suppliers with the rules and procedures set forth in the ISO Services Tariff and in this Manual and has the authority to impose sanctions on, or submit deficiency bids on behalf of, any entity that fails to comply with these rules and procedures.

2.2 Timeline

A detailed timeline is posted under the applicable Capability Period on the NYISO website at <http://www.nyiso.com/markets/icapinfo.html>. Throughout the text of this Manual, there are references to events that will occur on non-specific dates (e.g., “early in the month”). The specific dates for these events will be posted on the aforementioned website.

2.3 The NYCA Installed Reserve Margin

The NYCA Installed Reserve Margin is established annually by the NYSRC and is based on the NPCC standard for Resource adequacy (“NPCC Resource Adequacy Standard”). Resource adequacy exists in New York State when the probability of disconnecting firm Load due to a Resource deficiency (Loss of Load Expectancy, or “LOLE”) will be, on the average, no more than once in ten years after due allowance for:

- Scheduled and forced outages and scheduled and forced deratings;
- Assistance over interconnections with neighboring Control Areas and regions; and
- Capacity and/or Load relief from available operating procedures.

The ISO uses a base model of the NYCA electric power system and its interconnections with neighboring control areas to perform this analysis for the NYSRC.

2.4 The NYCA Minimum Installed Capacity Requirement

The ISO calculates the NYCA Minimum Installed Capacity Requirement in megawatts for the Capability Year as the product of the forecasted NYCA peak Load and the quantity one (1) plus the NYSRC Installed Reserve Margin. In deriving the Load forecast, the ISO uses the procedures in the Load Forecasting Manual.

2.5 The NYCA Minimum Unforced Capacity Requirement

For each Capability Period the ISO calculates the NYCA Minimum Unforced Capacity Requirement by multiplying the NYCA Minimum Installed Capacity Requirement by the quantity one (1) minus the average EFORD value of the six (6) most recent 12-month rolling average EFORDs of all NY Resources in the NYCA.

2.6 Locational Minimum Installed Capacity Requirements

Due to transmission limitations into certain areas within the NYCA, LSEs serving Load in these areas must procure a percentage of their total Unforced Capacity requirement from Installed Capacity Suppliers electrically located within the constrained areas. Currently, there are two areas, called Localities, within the NYCA where Locational Minimum Installed Capacity Requirements are imposed. These are the New York City and the Long Island zones. The Locational Minimum Installed Capacity Requirements are established annually by the ISO and contained in Attachment B.

For each Capability Period the ISO converts the Locational Minimum Installed Capacity Requirements of LSEs into Locational Minimum Unforced Capacity Requirements by multiplying such Locational Minimum Installed Capacity Requirements by the quantity one (1) minus the average EFORD value of the six (6) most recent 12-month rolling average EFORDs of all Resources located in the relevant Locality.

For the purpose of specifying Locational Minimum Installed Capacity Requirements, the remainder of the NYCA is grouped together as “All other NYCA Zones.” Locational Minimum Installed Capacity Requirements are shown in Attachment B. Maps of the NYCA Transmission Districts and NYCA Zones can be found in Attachment C. Localities that are subject to ISO Services Tariff restrictions are also noted in Attachment C.

2.7 Limitations on Unforced Capacity from External Control Areas

The amounts of Unforced Capacity that can be supplied by Resources outside the NYCA are constrained by two factors. The first is the requirement in Section 5.12.2 of the ISO Services Tariff that an External Installed Capacity Supplier must:

- Demonstrate that the Installed Capacity Equivalent of the amount of Unforced Capacity it supplies to the NYCA is deliverable to the NYCA; and
- Demonstrate that the Installed Capacity Equivalent of the amount of Unforced Capacity it supplies to the NYCA will not be recalled or curtailed to satisfy the Load of the External Control Area, or that the External Control Area in which it is located will afford NYCA Load the same curtailment priority that it affords its own Control Area Native Load.

The Installed Capacity Equivalent of a given amount of Unforced Capacity supplied by a Supplier using a Resource is the portion of that Resource's Capacity that is subject to the requirements set forth in the Tariff and this Manual for Installed Capacity Suppliers. The Installed Capacity Equivalent of a given amount of Unforced Capacity may exceed that amount of Unforced Capacity, because a MW of Installed Capacity may translate into less than 1 MW of Unforced Capacity. Procedures for calculating the Installed Capacity Equivalent of the amount of Unforced Capacity provided by a given Installed Capacity Provider using a given Resource are set forth in Attachment J.

Only neighboring Control Areas that meet these criteria will be included in the modeling described in this Section 2.7 of this Manual.

The second constraint results from transmission limitations. The ISO will determine the amount of Unforced Capacity that may be supplied from Resources External to the NYCA while meeting the NPCC Resource Adequacy Standard described in Section 2.3. Starting with the forecast Loads for the upcoming Capability Year, known Capacity within the NYCA, grandfathered External Installed Capacity and accounting for a variety of assumptions and uncertainties in consultation with the NYSRC, a NYCA Installed Reserve Margin will be determined. Once the NYCA Installed Reserve Margin is established, the ISO will determine the total NYCA Minimum Installed Capacity Requirement.

The maximum Unforced Capacity that may be supplied by each qualified neighboring Control Area is determined as part of the process described in the paragraph above. This is achieved by varying upstate NYCA Unforced Capacity with External Unforced Capacity from each adjacent Control Area. In subsequent simulations, an Unforced Capacity import amount from each Control Area is determined. To determine the simultaneous maximum External Unforced Capacity that may be procured from all neighboring Control Areas, the total of the maximum External Unforced Capacity

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determined above, for each neighboring Control Area, is reduced in direct proportion until the LOLE matches that of the base case.

The analyses used to determine the maximum amount of Unforced Capacity that can be provided from Resources located in neighboring Control Areas will be open to review by all Market Participants.

The allocation of Installed Capacity rights associated with transmission expansions is not addressed at this time.

3.0 Unforced Capacity Requirements of Load Serving Entities

This section contains information and procedures related to:

- Calculating the NYCA Minimum Installed Capacity Requirement;
- Calculating the NYCA Minimum Unforced Capacity Requirement;
- The Transmission District Unforced Capacity requirements;
- Establishing an LSE's Unforced Capacity requirement for an Obligation Procurement Period;
- Customer-switching;
- Procedures for calculating Locational Minimum Installed Capacity Requirements of LSEs;
- Grandfathered External Installed Capacity Resources;
- The Capacity adjustment for firm Capacity sales by NYPA; and
- Calculating the LSE share and the LSE Unforced Capacity Obligation.

The ISO Services Tariff reference for this section of this Manual is Section 5.11.

3.1 The NYCA Minimum Installed Capacity Requirement

The ISO calculates the NYCA Minimum Installed Capacity Requirement in megawatts for the Capability Year as the product of the forecast NYCA peak Load and the quantity one (1) plus the NYSRC Installed Reserve Margin.

For detailed Load forecasting methodology, refer to the ISO Load Forecasting Manual.

3.2 The NYCA Minimum Unforced Capacity Requirement

The ISO calculates the NYCA Minimum Unforced Capacity Requirement as described in Section 2.5 of this Manual.

3.3 Transmission District Unforced Capacity Requirements

The Unforced Capacity requirement for each Transmission District will be calculated as the product of the NYCA Minimum Unforced Capacity Requirement and the ratio of the Transmission District's forecast peak Load to the sum of the forecast peak Loads for all Transmission Districts. In equation form:

$$UCR_t = UCR_{NYCA} * OIPL_t / \sum_{s \in T} OIPL_s$$

Where:

UCR_t = Unforced Capacity requirement for a Transmission District t ;

UCR_{NYCA} = Unforced Capacity requirement for the NYCA;

$OIPL_t$ = Forecast Capability Year One-Hour independent Peak Load for TD t ;

T = the set of all Transmission Districts; and

$OIPL_s$ = Forecast Capability Year One-Hour independent Peak Load for TD s within set T .

3.4 Establishing an LSE's Minimum Unforced Capacity Requirement for an Obligation Procurement Period

An LSE's Installed Capacity Requirement is the sum of the Installed Capacity Requirements of each of its customers. Each LSE's Installed Capacity Requirement is set May 1st and remains constant throughout the Capability Year. Each LSE's Installed Capacity Requirement is translated into an Unforced Capacity requirement as noted in Sections 2.5 and 2.6 of this Manual. Sections 3.5.1 and 3.5.2 of this Manual describe the only conditions that would require a change of an individual LSE's Installed Capacity Requirement during the Capability Year.

Every month, each LSE must procure sufficient Unforced Capacity to meet its Unforced Capacity requirement for the following Obligation Procurement Period. As an interim measure, the ISO will calculate the Unforced Capacity requirement of each LSE in two steps prior to the Summer Capability Period and in one step prior to the Winter Capability Period. The ISO will first calculate an initial Unforced Capacity requirement and provide it to each LSE in March for the following Summer Capability Period reflecting verified customer-switching through the end of February. The ISO will perform a second calculation in early April, when the ISO provides each LSE with its

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binding Summer Capability Period Unforced Capacity requirement. The ISO will perform a third calculation in early October and provide each LSE with a binding Winter Capability Period Unforced Capacity requirement. These calculations will be made in accordance with this Section 3.4 and Sections 2.5 and 2.6 of this Manual. Each Capability Period Unforced Capacity requirement will be adjusted every month following the initial Capability Period assignment to reflect customer-switching and is binding with regard to the LSE's obligation to procure Unforced Capacity for each Obligation Procurement Period within the corresponding Capability Period.

The Unforced Capacity requirement for each LSE will be calculated separately for each Transmission District in which it serves Load. The requirement is based upon the LSE's contribution to each Transmission District's forecast peak based on actual contributions to the Transmission District's peak Load for the prior calendar year. Where an LSE serves end-use partial requirement customers (i.e., customers for whom the LSE provides service up to a specified amount), the portion of the LSE's contribution to the peak attributable to such partial requirement customers shall be equal to the lesser of their actual contribution to the peak or the contract demands of such partial requirement customers, if fully utilized, at the time of the Transmission District's peak.

The precise formulation of the requirement is as follows:

$$UCR_{x,t} = UCR_t * CPD_{x,t} / OIPL_t$$

where:

- UCR_{x,t} = Unforced Capacity requirement for LSE x within TD t;
- UCR_t = Unforced Capacity requirement for Transmission District t;
- CPD_{x,t} = Forecasted contribution to peak demand in Transmission District t for LSE x, as defined further below; and
- OIPL_t = Forecast Capability Year One-Hour independent Year Peak Load for TD t.

The forecasted contribution to peak demand of each LSE x within each Transmission District t is calculated according to the following equation:

$$CPD_{x,t} = GF_t \sum_{c \in FRC_{x,t}} HPD_{c,t} + \sum_{c \in PRC_{x,t}} \min(PRCA_{c,t}, GF_t HPD_{c,t}) + \sum_{c \in SRC_{x,t}} \max(GF_t HPD_{c,t} - PRCA_{c,t}, 0),$$

where:

- GF_t = the growth factor applied to each Load in Transmission District t to determine the Installed Capacity requirement for LSEs serving that Load, equal to $OIPL_t / \sum_c HPD_{c,t}$;

$FRC_{x,t}$ =	set of full-requirement retail customers of LSE x in Transmission District t;
$HPD_{c,t}$ =	demand by retail customer c in Transmission District t during the Peak Demand hour for Transmission District t of the last calendar year;
$PRC_{x,t}$ =	set of retail partial-requirement customers of LSE x in Transmission District t;
$PRCA_{c,t}$ =	the maximum contractual purchase in Transmission District t by a retail partial requirements customer c; and
$SRC_{x,t}$ =	set of supplemental-requirements retail customers of LSE x in Transmission District t.

Each month, LSEs must submit completed Installed Capacity certification forms to the ISO demonstrating that they have obtained sufficient Unforced Capacity for the upcoming Obligation Procurement Period. The certification forms shall, at a minimum, require LSEs to: (i) designate the total amount of Unforced Capacity they have procured; (ii) specify how much Unforced Capacity is associated with Installed Capacity Suppliers located in each ISO defined Locality, the remainder of the NYCA and each External Control Area; and (iii) identify any Installed Capacity Supplier from which they have procured Unforced Capacity pursuant to Bilateral Transactions. Specific dates are provided in Attachment A.

In addition, the ISO will make available to LSEs “Installed Capacity notification forms” for the remaining Obligation Procurement Periods of the Capability Period. The purpose of the Installed Capacity notification forms is to help the ISO in its Installed Capacity planning and reliability assessments. The format of the Installed Capacity notification forms will be similar to the Installed Capacity certification forms. Submission of the Installed Capacity notification forms to the ISO is voluntary.

3.5 Customer-Switching

3.5.1 General Requirements for Customer-Switching within a Capability Year

Establishing Preliminary and Final LSE Unforced Capacity Requirements

Each month (Attachment A or the NYISO website at <http://www.nyiso.com/markets/icapinfo.html> provides specific dates), Transmission Owners submit supporting data which reflects verified customer-switching that has occurred or is scheduled for the current month. In addition to forecasts and data submitted to the ISO, the Transmission Owner must provide to the ISO the electronic

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version of the notification letters sent to the affected LSEs demonstrating that such LSEs have been provided data regarding the customer changes assigned to them.

Each Transmission Owner shall also submit to the ISO aggregate peak Load data, coincident with the Transmission District peak, for all customers served by each LSE within its Transmission District, excluding those served by the municipal electric systems (see Attachment A). This data shall reflect verified customer-switching and may be derived from direct meters or Load profiles of customers served. This information shall also be submitted to each LSE affected by the customer-switching.

Based on documented customer-switching adjustments through the end of February, the ISO shall calculate a preliminary Unforced Capacity requirement for each LSE. The ISO will provide each LSE with its preliminary Unforced Capacity requirement estimate. The ISO will notify each LSE of its final Unforced Capacity requirement for each year, which shall reflect documented customer-shifts as of April 1st that are scheduled to occur before May 1st. In the event of a dispute as of April 10th regarding a Transmission Owner's forecast, the ISO shall nevertheless establish each LSE's final Unforced Capacity requirement, subject to possible adjustments required from a resolution of the dispute.

Monthly Adjustments to LSE Unforced Capacity Requirement

The Transmission Owners will update the ISO and affected LSEs on a monthly basis concerning customer-switching. Each Transmission Owner will provide updated aggregated LSE reports to the ISO and to each LSE serving Load in the Transmission District by the date provided in Attachment A of this Manual or on the NYISO website at <http://www.nyiso.com/markets/icapinfo.html>. It is each Transmission Owner's responsibility to submit all customer-switching information in a timely manner. The NYISO will determine the net change in Load for a Transmission Owner's Transmission District customer-switching if the NYISO has not received the appropriate customer-switching information in a timely manner.

The updated aggregated LSE reports, which are submitted early in each month, shall reflect all customer-switching through the end of the submittal month which were reported to Transmission Owners as of the last day of the previous month. In addition to customer switches scheduled for the month in which the report is submitted, the report will include previously unreported customer switches that occurred in past months and corrections for customer switches that were incorrectly reported in an earlier report.

As an example, a Transmission Owner will submit a LSE update report on July 7th which represents all customer-switching changes occurring through July 31st that the Transmission Owner received notice of by June 30th. This report might include the following customer switches: a customer switch scheduled to occur on July 20th, notification of a switch that occurred on June 5th that the Transmission Owner was unaware of when it submitted its report in June, and a date correction for a switch that occurred in May.

Based on customer-switching, the ISO will make monthly adjustments to each LSE's Unforced Capacity requirement for the month or months remaining in the Capability Year which follows the month in which the Transmission Owner's report was submitted. These adjustments will reflect each individual LSE's gain and loss of customers. The adjustments will be made in such a way as to keep the total Unforced Capacity requirement for the Transmission District constant.

To continue the example, in response to the Transmission Owners customer-switching report submitted in early July (based on changes reported to the Transmission Owner by June 30th), the ISO will recalculate affected LSE's Unforced Capacity requirement for the months of August through April (the last month of the Capability Year). The ISO will inform affected LSEs of their new Unforced Capacity requirement prior to the Monthly Auction occurring in July, allowing those LSEs affected ample time to acquire, as necessary, sufficient Unforced Capacity for the month of August.

See the Capability Period Timeline in Attachment A or on the NYISO website at <http://www.nyiso.com/markets/icapinfo.html> for details concerning the schedule of updates and notification requirements related to monthly customer-switching.

3.5.2 Assignment of Installed Capacity Requirements for a New Customer in a Transmission District

A new customer is defined as any entity with a new service connection for which the Transmission Owner cannot identify the entity's contribution to the relevant prior peak period. The Unforced Capacity requirements related to new customers are estimated by Transmission Owners and are reflected in the Load growth assumptions of the Capability Year forecasts provided by the Transmission Owners and approved by the ISO. Load growth assumptions typically include a component for new customers and a component for existing customers.

The Unforced Capacity requirements of LSEs in each Transmission District shall initially reflect all Load growth for such Transmission District. Two different methods shall be used to adjust the Unforced Capacity requirements of LSEs serving Load when new Loads enter that Transmission District.

- To the extent that a Transmission Owner has the ability to assign an estimated peak Load coincident with the Transmission District peak Load to a new customer in its Transmission District, it shall be permitted to do so. The LSE serving that new customer shall assume the Unforced Capacity requirement. The Unforced Capacity requirement of each LSE serving Load within that Transmission District shall then be reduced by its share of the new customer's total Unforced Capacity obligation which is assumed by the LSE serving that new customer. The ISO will notify each affected LSE of its new Unforced Capacity requirement in accordance with the dates provided in Attachment A or on the NYISO website at <http://www.nyiso.com/markets/icapinfo.html>.

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- In the absence of a direct assignment mechanism, the Unforced Capacity requirement of each LSE serving Load within that Transmission District will not be normalized.

The following procedures will be used to account for the direct assignment of an Unforced Capacity obligation for a new customer within the Capability Period.

- The relevant Transmission Owner shall notify the ISO and the relevant LSE of the new customer's Load based on its estimated peak Load coincident with the TD peak Load.
- The ISO shall normalize the Unforced Capacity requirements of all LSEs serving Load in the Transmission District at the time of the new customer's assignment to the relevant LSE such that the total Unforced Capacity requirement for the Transmission District remains constant. The ISO will notify each affected LSE of its new Unforced Capacity requirement in accordance with the dates provided in Attachment A.

If a dispute occurs concerning the assignment of Unforced Capacity requirements related to new customers, it shall be resolved in accordance with Section 3.5.5 of this Manual. If the direct assignment of the Unforced Capacity obligation for a new customer takes place within the Capability Period, the LSE with the new customer obligation shall be required to have sufficient Unforced Capacity to cover that assignment on the first day of the month after the first Monthly Auction following the assignment and for each month thereafter in the Capability Year, in accordance with the monthly LSE certification requirements. For example, if the NYISO provides notification of an assignment of a new customer Unforced Capacity requirement to an LSE on July 10th (prior to the Monthly Auction taking place in mid-July), that LSE is required to have sufficient Unforced Capacity to cover that assignment from August through the following April, on a monthly basis.

3.5.3 Load Lost due to Departing Customers

To account for Load lost when a customer leaves a Transmission District, the ISO will:

- Reduce the Unforced Capacity requirement of the Load-losing LSE within the Transmission District.
- Relieve the LSE responsible for the Unforced Capacity obligation of the departing customer of that obligation. The LSE may sell any excess Unforced Capacity. In order for the Load-losing LSE to be relieved of this obligation, the Transmission Owner must notify the ISO of the customer's departure, by providing adequate supporting documentation that it has left New York State. (For example, either a countersigned letter between the Transmission Owner and the departing customer or documentation that the departing customer has requested service disconnection would meet this requirement.)

- Normalize the Unforced Capacity requirements of all LSEs serving Load (including the Load-losing LSE) in the relevant Transmission District such that the total Unforced Capacity requirement for the Transmission District remains constant.

Within two (2) business days, the ISO will notify the LSE that (a) it has either been relieved of the Unforced Capacity obligation of the departing customer, or (b) the notification and supporting documentation is deemed inadequate, in which case the LSE must continue to carry the Unforced Capacity associated with the departing customer until such time as it has satisfied the ISO's documentation requirement. When informing an LSE that its documentation is inadequate, the ISO will provide guidance as to how the documentation could be made acceptable.

3.5.4 Financial Arrangements to Cover Customer Switching

If a customer switches LSEs or if LSE Load is normalized pursuant to Section 3.5.1 of this Manual, the following financial arrangements will be executed. Refer to Section 5 of this Manual for details concerning the Monthly Installed Capacity Auctions referred to below. Also refer to Section 5.11.3 of the ISO Services Tariff and Attachment L of this Manual.

- The customer-gaining (or Load obligation-gaining) LSE will financially cover the Unforced Capacity associated with its new customer by paying the customer-losing LSE for each day that the customer-gaining LSE serves that new customer, until the first day of the month following the month in which each LSE was notified by the ISO of its new Unforced Capacity requirement associated with the customer-switching (see Attachment A or the NYISO website at <http://www.nyiso.com/markets/icapinfo.html> for the timing of such notification), at which time the Unforced Capacity requirement of each LSE will reflect the switch. (This paragraph, and those following in this subsection, also apply to shifts in LSE Load obligations due to periodic normalizing. See Sections 3.5.2 and 3.5.3 above, and Attachment L to this Manual.)
- The ISO will use the monthly Installed Capacity billing cycle, in the same month in which the ISO notified each affected LSE, to bill the customer-gaining LSE, for the period referred to directly above.
- The rate that will be used to calculate this financial exchange for each month in which the obligation to procure Installed Capacity shifts, as described above, will be the monthly clearing price established for that month in the most recent, previous ICAP Spot Market Auction, prorated on a daily basis. (See Attachment L of this Manual for information in connection with the financial reconciliation process.)
- If the customer-losing LSE received a rebate associated with the lost customer (see Section 5.12 and Attachment L of this Manual for information concerning

rebates), a proportionate share of the rebate will reduce the amount paid by the customer-gaining LSE.

For example, if a Transmission Owner is notified prior to the end of June of a customer switch in its Transmission District that will occur on July 20th, it will report this occurrence in early July to the ISO and affected LSEs. Shortly thereafter, the ISO will recalculate the Unforced Capacity requirement of the affected LSEs and notify them prior to the Monthly Auction occurring in mid-July. Each affected LSE will be responsible for its new Unforced Capacity requirement starting August 1st. In the meantime, in order to reflect the gain and loss of customers of each affected LSE during the month of July (in this instance, from July 20th through July 31st), in Unforced Capacity terms, the customer-gaining LSE will be required to cover the cost of the Unforced Capacity previously procured by the customer-losing LSE for the month of July to satisfy the customer's Load by reimbursing the customer-losing LSE on a pro rata basis (in this case, for 12 days). This amount will be calculated using the clearing price for Installed Capacity for the month of July determined in the ICAP Spot Market Auction which took place in June. This financial reconciliation will be reflected in the July billing cycle.

3.5.5 Disputes Related to Customer Switching

Any disputes among Market Participants concerning customer-switching shall be resolved either by the ISO Expedited Dispute Resolution Procedures (as set forth in Section 5.16 of the ISO Services Tariff), or the relevant Transmission Owner's retail access procedures, as applicable.

If a dispute occurs, the ISO will make its monthly Unforced Capacity adjustments as if the customer-shift had occurred as reported by the Transmission Owner and will retroactively modify these adjustments based on the outcome of the applicable Dispute Resolution Process, if necessary.

3.6 Procedures for Calculating the Locational Minimum Unforced Capacity Requirements of LSEs

3.6.1 Minimum Requirements for LSEs Serving Loads within Localities

LSEs serving Loads within Localities will be required to obtain a certain percentage of their total Unforced Capacity from Installed Capacity Suppliers located in that Locality. The Locational Minimum Unforced Capacity Requirement for an LSE within a Locality will be calculated as follows:

$$LUCAP_{x,p} = UCR_{x,p} * (LP_p * PK_p) / UCR_p$$

where:

$LUCAP_{x,p}$ = the Locational Minimum Installed Capacity Requirement for LSE x for Locality p expressed in Unforced Capacity terms;

$UCR_{x,p}$ = the Unforced Capacity requirement for LSE x for Locality p (which is calculated by substituting the Locality p for the Transmission District t in the equations in Section 3.4);

LP_p = the amount of Unforced Capacity that must be procured within the Locality p, expressed as a percentage of the Locality p forecast peak Load;

PK_p = the forecast peak Load for Locality p; and

UCR_p = Unforced Capacity requirement for all Load in Locality p (which is calculated by substituting the Locality p for the Transmission District t in the equations in Section 3.3).

3.7 Grandfathered External Installed Capacity Resources

The ISO will make adjustments to the allocations of External Capacity rights to LSEs to ensure that all LSEs holding rights to grandfathered External Installed Capacity Resources will be able to claim these Resources to satisfy their Unforced Capacity requirement.

3.8 Capacity Adjustment for Firm Capacity Sales by NYPA

In cases in which NYPA sells firm Capacity to an existing New York Transmission Owner, a municipal or cooperative system or to a neighboring state bargaining agency from the Niagara, St. Lawrence or Fitzpatrick generating plants, an adjustment factor is applied by NYPA to determine the number of MW that each such purchaser of NYPA firm Capacity may count towards its Unforced Capacity requirement. The adjustment factor shall be calculated separately for the Niagara, St. Lawrence and Fitzpatrick plants and each such adjustment factor shall be applied only to firm Capacity sales from that plant.

$$\text{Adjustment Factor by plant} = ICAF_{\text{plant}} = \frac{\text{Demonstrated Net Plant Capability}}{\text{Sum of all firm Capacity Sales from Plant}}$$

These adjustment factors cannot exceed one plus the NYSRC's Installed Reserve Margin. Once the Adjustment Factors are obtained, the Adjusted Unforced Capacity from NYPA plants is calculated as:

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$$\text{Adjusted } IC_{NYPA} = \sum (ICAF_{\text{plant}} * IC_{\text{plant}})$$

Where:

Adjusted UC_{NYPA} = The amount that the purchasers of firm capacity and NYPA use in their Unforced Capacity calculations.

ICAF_{plant} = NYPA adjustment factor applied to the contractual amount from plant.

IC_{plant} = The contractual Capacity amount purchased from plant.

Plant = Niagara, St. Lawrence, or Fitzpatrick.

Adjusted

The ISO will use this adjustment factor to determine whether an LSE purchasing from these NYPA Resources has procured sufficient Unforced Capacity to meet its Unforced Capacity requirement.

4.0 Installed Capacity Requirements Applicable to Installed Capacity Suppliers

4.1 Overview

Resources must follow certain procedures and provide pertinent information to the ISO in order to qualify as Installed Capacity Suppliers. The requirements necessary to qualify as an Installed Capacity Supplier can be found in Sections 4.2 and 4.3 below, and include DMNC testing and maintenance schedule reporting.

After completing the procedures listed above, Resources which have qualified as Installed Capacity Suppliers must fulfill certain requirements provided by the ISO in order to retain all of the privileges to which an Installed Capacity Supplier is entitled. These requirements are provided in detail in Sections 4.4 through 4.8 below. The requirements include reporting Operating Data; planned maintenance and forced outage notification requirements; the filing of monthly Installed Capacity certification forms; and bidding, scheduling, and notification responsibilities.

Certain Installed Capacity Suppliers must fulfill alternative or additional requirements provided by the ISO in addition to or in place of the requirements found in Sections 4.2 through 4.8. These alternative or additional requirements can be found in Sections 4.9 through 4.13. Each of these sections address a different individual Resource.

Installed Capacity Suppliers which fail to fulfill the requirements detailed in Sections 4.4 through 4.13 are subject to sanctions, as provided in Section 5.12.12 of the ISO Services Tariff. Details regarding these sanctions may be found in Section 6.1 of this Manual.

Resources may be physically located in the NYCA, or in an External Control Area which meets the recall and Curtailment requirements and the locational limitations specified in Section 2.7 of this Manual.

4.2 DMNC Test Procedures (Section 5.12.8 ISO Services Tariff)

Potential Installed Capacity Suppliers must perform DMNC tests in accordance with the procedures described below (unless exempt in accordance with the provisions of Section 4.4.3 of this Manual), and provide the ISO with the required documentation of those tests. Alternatively, potential Installed Capacity Suppliers, with the exception of new Resources, may use historical production data for the immediately preceding like Capability Period, no more than 12 months old, in lieu of DMNC test data. The completeness, accuracy, and validity of the DMNC test data or historical production data sent to the NYISO is the responsibility of the Resource making such data submission.

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An Installed Capacity Supplier offering to supply Unforced Capacity as a System Resource must submit DMNC test data, or historical production data, for each Generator that it seeks to aggregate. Interruptible Load Resources must provide evidence of a one (1) hour disconnection period less than one (1) year old.

Beginning with the Winter 2000-2001 Capability Period, final DMNC Test results (see Attachment D) must be transmitted to the ISO not later than sixty (60) days following the end of the test period.

4.2.1 DMNC Test Periods

The DMNC Test Period for the Summer Capability Period is June 1 through September 15 and for the Winter Capability Period is November 1 through April 15.

New Resources may qualify as Installed Capacity Suppliers at any time during a Capability Year based on the results of an appropriate demonstration test, production data, or Special Case Resource commitment. New generating Resources must temperature-adjust the results of the appropriate demonstration test or production data, using the procedures noted in Attachment D to this Manual.

To qualify as Installed Capacity Suppliers in any Installed Capacity auction administered by the ISO, new Resources shall submit to the ISO the results of an appropriate demonstration test, production data or Special Case Resource commitment prescribed by this Manual by 5:00 PM at least two (2) calendar days before the administration of the relevant auction provided, however, that Resources shall submit such results by 5:00 PM on the Friday immediately preceding an auction when such auction is scheduled on a Monday. For example, if the ISO administers the auction on a Thursday, new Resources shall submit appropriate demonstration test, production data or Special Case Resource commitment by 5:00 PM on the Tuesday preceding the auction. If the ISO administers an auction on Monday, new Resources shall submit such results by 5:00 PM on the Friday preceding the auction.

In addition to the submission of the results of an appropriate demonstration test or production data required by the previous paragraph, new Resources that want to participate in ISO-administered auctions shall submit to the ISO a notification letter if they do not already have and will require a point ID to participate in the ISO market. The notification letter shall state the intention of the Resource to seek qualification as an Installed Capacity Supplier, and include the Resource's name, location, and other information as the ISO may reasonably request. This letter does not oblige a Resource to qualify as an ICAP Supplier; it allows the ISO to prepare and be able to accommodate a Resource should that Resource request qualification and submit appropriate demonstration test or production data shortly before an auction. A Resource shall submit the notification letter to the ISO by the first business day of the month in which it wishes to qualify as an Installed Capacity Supplier.

To qualify Installed Capacity for a Bilateral Transaction or for a self-supplying LSE, new Resources shall submit to the ISO the results of an appropriate demonstration test,

production data or Special Case Resource commitment prescribed by this Manual by 5:00 PM at least two (2) calendar days before the day LSEs must certify that they have procured sufficient Installed Capacity for the following Obligation Procurement Period (in this paragraph, the “Certification Day”) provided, however, that Resources shall submit the results of an appropriate demonstration test, production data or Special Case Resource commitment prescribed by this Manual by 5:00 PM on the Friday immediately preceding the Certification Day when such Certification Day is a Monday. For example, if the Certification Day is a Thursday, new Resources shall submit appropriate demonstration test, production data or Special Case Resource commitment results by 5:00 PM on the Tuesday preceding the Certification Day. If the Certification Day is a Monday, new Resources shall submit such results by 5:00 PM on the Friday preceding the Certification Day.

Existing Resources that have increased Capacity due to changes in their generating equipment may demonstrate the DMNC of the incremental Capacity for and within a Capability Period by following the procedures described above for new Generators.

The ISO shall inform each potential Installed Capacity Supplier that is required to submit DMNC data of ISO-documented DMNC ratings for the Summer Capability Period in February, and for the Winter Capability Period in August (See Attachment A).

4.2.2 Resource Specific Test Conditions

The Resources listed below must meet the applicable DMNC test conditions specified below in order to be qualified as Installed Capacity Suppliers. Resources must also report DMNC test results to the ISO using the appropriate form in Attachment D.

Fossil Fuel and Nuclear Stations

Valid DMNCs for fossil fuel or nuclear steam units are determined by the following:

- (a) The unit’s sustained maximum net output averaged over a four (4) consecutive hour period.
- (b) For common-header turbine-generators, the DMNC is determined on a group basis. Each such turbine-generator is assigned a rating by distributing the combined Capacity among them.
- (c) The sum of the DMNC of individual turbine-generators in a generating station cannot be greater than the DMNC of the whole station.

Hydro Station

Valid DMNCs for hydro units are determined by the following:

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- (a) The sustained net output averaged over a four (4) consecutive hour period using average stream flow and/or storage conditions within machine discharge Capacity.
- (b) For a multi-unit hydro station, the DMNC is determined as a group and each hydro unit in such a station is assigned a rating by distributing the combined station DMNC among them.
- (c) The sum of the DMNC of individual units in a multi-unit hydro station cannot be greater than the DMNC of the whole station.

Internal Combustion Units and Combustion Turbines

Valid DMNCs for internal combustion units and combustion turbines are determined by the following:

- (a) The sustained maximum net output for a one (1) hour period.
- (b) The unit's winter DMNC rating is determined on the basis of the average ambient and cooling system temperature experienced at the time of the Transmission District's winter peak during the previous four (4) Winter Capability Periods.
- (c) The unit's summer DMNC is determined on the basis of the average ambient and cooling system temperature experienced at the time of the Transmission District's summer peak during the previous four (4) Summer Capability Periods.

Combined Cycle Stations

Valid DMNCs for combined cycle stations are determined by the following:

- (a) The sustained maximum net output over four (4) consecutive hours.
- (b) A combined cycle station's winter DMNC rating is determined on the basis of the average ambient and cooling system temperature experienced at the time of the Transmission District's winter peak during the previous four (4) Winter Capability Periods.
- (c) A combined cycle station's summer DMNC rating is determined on the basis of the average ambient and cooling system temperature experienced at the time of the Transmission District's summer peak during the previous four (4) Summer Capability Periods.

Intermittent, Energy Limited, Other Stations

Valid DMNCs for other units are determined by the following:

- (a) The sustained maximum net output averaged over a four (4) consecutive hour period.
- (b) For a multi-unit station, the DMNC is determined as a group and each unit in such a station is assigned a rating by distributing the combined station DMNC among them.
- (c) The sum of the DMNCs of individual units in a multi-unit station cannot be greater than the DMNC of the whole station.

Valid DMNCs for Intermittent Power Resources may also be determined by the Intermittent Power Resources' unit's nameplate rating provided, however, that the ISO shall have the authority to review Intermittent Power Resources' production data.

4.2.3 Treatment of Station Service Load

In general, the DMNC rating for a Resource is the amount of power delivered to the transmission grid. The DMNC rating should reflect a reduction in gross output of the Resource for station service Load. In most cases, this determination is straightforward because the Resource is connected to the Transmission System, and the amount of power provided to the Transmission System reflects the station service Load reduction.

In other cases, a portion of the station service Load may be provided from sources other than the Resource. In these cases, separate measurements must be made of the station service Load and subtracted from the Resource's gross output measured at the generator leads at the time of the DMNC test.

In the event of disagreement concerning the station service Load for facilities that fall into the later category, the relevant Transmission Owners will provide to the ISO any information available to it which relates to the configuration of the Resource and its station service Load. If the disagreement concerning the station service Load is not resolved by the additional information the Transmission Owners provide, the ISO Expedited Dispute Resolution Procedures (as set forth in Section 5.16 of the ISO Services Tariff) shall be used to determine the station service Load in dispute.

4.2.4 Required DMNC Generating Capability Test Data

An entity that wants to establish a DMNC rating for its Resources must complete and report the test results for each of its Resources by sending the appropriate form provided in Attachment D to the ISO. The test reports include:

1. Kilowatt-hour meter readings from the tests to verify net output.
Reproduced copies of actual log sheets are preferred where possible.

2. For internal combustion units, combustion turbine units, and combined cycle units, a curve of net capability vs. ambient and cooling systems temperatures, with the test result noted on the graph.
3. For steam units, test conditions as listed below (see also Attachment D):
 - Over pressure
 - Top feed water heater O/S.

4.3 Maintenance Scheduling Requirements (Section 5.12.3 ISO Services Tariff)

All Resources intending to supply Unforced Capacity to the NYCA must comply with the following procedures, unless specific exceptions are noted below.

1. Submit a confidential notification to the ISO of proposed outage schedules for the next two (2) calendar years by September 1st of the current calendar year.
2. If Operating Reserve deficiencies are projected to occur in certain weeks for the upcoming calendar year, based upon the ISO's reliability assessment, Resources may be requested to voluntarily reschedule planned maintenance.
3. The ISO will provide the Resource with alternative acceptable times for the rescheduled maintenance.
4. If the Resource is a Generator that qualifies as an Installed Capacity Supplier that does not voluntarily re-schedule its planned maintenance within the alternative acceptable times provided by the ISO, the ISO will invoke mandatory re-scheduling using the procedures prescribed in the ISO Outage Scheduling Manual.
5. A Resource that did not qualify as an Installed Capacity Supplier prior to the Obligation Procurement Period and that intends to be an Installed Capacity Supplier within the Obligation Procurement Period must provide the ISO with its proposed outage schedule for the current Capability Year and the following two (2) calendar years, no later than the first day of the month preceding the month in which it intends to supply Unforced Capacity, so that it may be subject to the voluntary and mandatory re-scheduling procedures described above.

An Installed Capacity Supplier that refuses the ISO's forced rescheduling of its proposed outages shall not qualify as an Installed Capacity Supplier for that unit for any month during which it schedules or conducts an outage.

4.3.1 Interruptible Load Resources

Interruptible Load Resources must comply with the following procedures.

1. Notify the ISO at least thirty days prior to the beginning of an Obligation Procurement Period of scheduled maintenance that would reduce their ability to interrupt during the upcoming Obligation Procurement Period.
2. Notify the ISO of any major equipment which is out of service and therefore cannot be interrupted because it is already off, and notify the ISO when the equipment is coming back on.
3. Provide the ISO with a written commitment that any scheduled maintenance that would reduce their ability to interrupt without reducing Load will only be conducted from November 1st through March 31st of any calendar year.

Interruptible Load Resources that are Special Case Resources are not subject to the requirements of this Section 4.3.1.

4.3.2 External System Resources

The ISO and the External Control Area in which the External System Resource is located will coordinate the maintenance schedules for the interconnections that link these Resources to the NYCA. External System Resources are not subject to the voluntary and mandatory re-scheduling procedures described above.

4.3.3 Special Case Resources

Special Case Resources are not subject to maintenance scheduling requirements. However, a Special Case Resource must report a change of status that would affect its ability to provide Capacity to the ISO.

4.4 Operating Data Reporting Requirements (Section 5.12.5 ISO Services Tariff)

Installed Capacity Suppliers shall submit Operating Data to the ISO every month in accordance with the following subsections. The completeness, accuracy, and validity of the performance data sent to the NYISO is the responsibility of the Resource making such data submission. Installed Capacity Suppliers that do not comply with the following subsections shall be subject to the sanctions provided in Section 5.12.12 of the ISO Services Tariff.

When an Installed Capacity Supplier (the “Seller”) sells Unforced Capacity to another Installed Capacity Supplier (the “Purchaser”), such as an Installed Capacity Marketer, the Seller and the Purchaser may designate the Purchaser as the entity responsible for

fulfilling the obligations and requirements set forth in Section 4.4 of this Manual. Such designation shall be made in writing to the ISO at least five (5) calendar days before the date by which any of the relevant obligations or requirements must be fulfilled.

If no designation is made to the ISO, the Seller shall be responsible for fulfilling all the obligations and requirements set forth in this Section 4.4 of this Manual. The Purchasers that are designated pursuant to the preceding paragraph shall be subject to the sanctions provided in Section 5.12.12 of the ISO Services Tariff as if they were a Seller.

4.4.1 Generators

By the 20th day of each month, Generators shall submit to the ISO GADS Data or data equivalent to GADS Data pertaining to the previous month. For example, Generators shall submit by May 20, 2001 GADS Data or data equivalent to GADS Data pertaining to their operations during the month of April 2001. Generators shall submit GADS Data or data equivalent to GADS Data in accordance with the 82-character fixed format provided in Attachment K of this Manual.

4.4.2 System Resources

By the 20th day of each month, System Resources shall submit to the ISO GADS Data or data equivalent to GADS Data pertaining to the previous month. For example, System Resources shall submit by May 20, 2001 GADS Data or data equivalent to GADS Data pertaining to their operations during the month of April 2001. System Resources shall submit GADS Data or data equivalent to GADS Data in accordance with the 82-character fixed format provided in Attachment K of this Manual.

4.4.3 Control Area System Resources

By the 20th day of each month, Control Area System Resources or the purchasers of Unforced Capacity from those Resources shall submit to the ISO CARL Data pertaining to the previous month. For example, Control Area System Resources shall submit by October 20, 2001 CARL Data pertaining to their operations during the month of September 2001.

CARL Data submitted on a monthly basis shall cover (1) the prior month and (2) each individual hour during that month in which the Control Area System Resource was unable to supply the Energy associated with the Installed Capacity Equivalent of the Unforced Capacity it supplied to the NYCA. CARL Data submitted for a Control Area System Resource providing Installed Capacity from Control Area c shall consist of actual data and include the following information for each hour identified above and for each month:

1. The maximum actual total generating Capacity in Control Area c ;
2. The actual External firm Capacity purchases by Control Area c , other than purchases from Resources in the NYCA;

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3. The actual amount of load management (*i.e.*, interruptible load) in Control Area *c*;
4. The actual peak Load for Control Area *c*, including system losses;
5. The actual External firm Capacity sales by Control Area *c*, other than firm capacity sales to the NYCA;
6. Actual losses, up to the border of the NYCA, that were incurred on transactions corresponding to sales of Unforced Capacity by that Control Area System Resource outside Control Area *c*;
7. The amount of generating Capacity in Control Area *c* that is actually unavailable due to planned maintenance;
8. The amount of generating Capacity in Control Area *c* that was actually unavailable due to forced outages; and
9. The amount of operating reserve that was actually available for Control Area *c*.

Forty-five (45) days prior to any Capability Period, Control Area System Resources shall submit forecasted CARL Data for items (1) through (8) above for each month of the following Capability Period. Control Area System Resources shall submit data for items (9) and (10) for each month within 20 days of the conclusion of each month.

During each Capability Period, a Control Area System Resources may submit revised forecasts of items (1) through (8) above for each month of that Capability Period. These forecasts may be revised to reflect changes in the allocation of planning reserve among the months of that Capability Period resulting from the amount of Installed Capacity actually sold by that Control Area System Resource earlier in the Capability Period. Such forecasts must be submitted by 25 days before a month if they are to be used to determine the amount of CARL Data for the whole Capability Period in light of the External firm Capacity engaged in the previous months.

4.4.4 Energy Limited Resources

By the 20th day of each month, Energy Limited Resources shall submit to the ISO GADS Data or data equivalent to GADS Data pertaining to the previous month. For example, Energy Limited Resources shall submit by May 20, 2001 GADS Data or data equivalent to GADS Data pertaining to their operations during the month of April 2001. Energy Limited Resources shall submit GADS Data or data equivalent to GADS Data in accordance with the 82-character fixed format provided in Attachment K of this Manual.

4.4.5 Interruptible Load Resources

Subject to Sections 4.4.7 of this Manual, Interruptible Load Resources shall submit documentation for each operation using the form provided in Attachment K.

By the 20th day of each month, Interruptible Load Resources shall submit to the ISO data in the format shown in Attachment K for each interruption. For example, they shall

submit by May 20, data corresponding to their operations during the month of April 2001.

4.4.6 Intermittent Power Resources

Intermittent Power Resources shall submit to the ISO data pertaining to their net dependable Capacity, actual generation, maintenance hours, planned hours, periods hours, and other information as may be reasonably requested by the ISO such as the location and name of the Intermittent Power Resource. Intermittent Power Resources shall submit data pertaining to the previous month on the 20th day of each month and in accordance with the 82-character fixed format provided in Attachment K of this Manual. For example, Intermittent Power Resources shall submit by May 20, 2001 data pertaining to their operations during the month of April 2001.

4.4.7 Special Case Resources

Special Case Resources shall submit documentation to the ISO, each time they are called upon to operate, in the form of Figure 2 provided in Attachment K.

4.4.7.1 Special Case Resources that are Interruptible Load Resources

Special Case Resources that were requested to reduce Load in any month shall submit to the ISO by the 20th day of the following month data in the format shown in Figure 2 of Attachment K for each requested interruption. For example, Special Case Resources shall submit by May 20, 2001, their data pertaining to the month of April 2001 if they were called upon to reduce Load in April 2001.

4.4.7.2 Special Case Resources that are Generators

Special Case Resources that are Generators and were requested to operate in any month shall submit to the ISO by the 20th day of the following month data in the format shown in Figure 2 of Attachment K for each requested operating period. For example, Special Case Resources that are Generators shall submit by May 20, 2001, their data pertaining to the month of April 2001 if they were called upon to operate in April 2001.

4.4.8 Municipally-Owned Generation

By the 20th day of each month, municipally-owned generation shall submit to the ISO data equivalent to GADS Data pertaining to the previous month. For example, municipally-owned generation shall submit by May 20, 2001 data equivalent to GADS Data pertaining to their operations during the month of April 2001. Municipally-owned generation shall submit data in accordance with the form provided in Attachment K of this Manual, GADS or Special Case Resource reporting, as appropriate.

4.4.9 Resources Capable of Supplying Unforced Capacity in New York

This subsection applies to Resources which (1) have not previously been in operation in the NYCA, (2) are not subject to the requirements of Subsection 4.4.1. through Subsection 4.4.8 of this Manual, and (3) want to supply Unforced Capacity to the NYCA in the future.

By the tenth (10th) day of the month preceding the month when a Resource wants to supply Unforced Capacity to the NYCA, the Resource shall submit to the ISO the appropriate Operating Data pertaining to its operations over the previous 12 months, if it was in operation. A Resource that wants to continue to supply Unforced Capacity in the NYCA immediately thereafter shall submit, by the 20th day of each month, the appropriate Operating Data.

For example, a Resource that wants to supply Unforced Capacity during the month of July shall submit by June 10 Operating Data pertaining to the previous June to May, inclusively. Thereafter, the Resource shall submit Operating Data in accordance with Subsections 4.4.1 through 4.4.8 of this Manual, as applicable.

4.4.10 Resources not in Operation for the past 12 months

A Resource that was not in operation for the past 12 months and that wants to qualify as an Installed Capacity Supplier shall submit monthly Operating Data to the ISO no later than one (1) month after that Resource commenced commercial operation, in accordance with Subsections 4.4.1 through 4.4.8 of this Manual, as applicable.

4.4.11 Temporary Interruption in Availability

If a Generator in an otherwise operational state at the time of notice (that is, not otherwise forced out) does not sell or certify its UCAP on a temporary basis (i.e., elects not to participate in the UCAP Market or is not successful in selling its UCAP at auction or in a bilateral transaction), such interruption in availability of UCAP shall be taken on a monthly basis and may be treated for purposes of calculating the $EFOR_D$ for that unit as a maintenance outage with prior notification to the NYISO. If the Generator elects to bid the unit into the NYISO energy markets during such period, all such service hours and forced outage hours shall be included in the computation of the unit's $EFOR_D$, but periods where the unit is not selected may be reported as Reserve Shutdown Hours, as defined in Attachment J.

4.5 Calculation of the Amount of Unforced Capacity each Resource may Supply to the NYCA (Section 5.12.6(a) ISO Services Tariff)

The ISO will calculate the amount of Unforced Capacity that Resources are qualified to supply to the NYCA. The Unforced Capacity methodology estimates the probability that a Resource is available to serve Load, taking into account forced outages. To evaluate this probability, the ISO will use the Operating Data submitted by each Resource in accordance with Section 4.4 of this Manual, and the mathematical formulae included in Attachment J of this Manual. As an interim measure, starting with the 2002-2003 Winter Capability Period, and for each Capability Period thereafter, the ISO will base the amount of Unforced Capacity a Resource is qualified to supply on the average EFORD value of the six (6) most recent 12-month rolling average EFORDs for that Resource. Such EFORD value will remain in effect for the entire Capability Period, except in cases when historical GADS data corrections or revisions are submitted. The six (6) most recent 12-month rolling average EFORDs shall be for the same interval used to determine the Installed Capacity Requirement to Unforced Capacity requirement translation, as noted in Sections 2.5 and 2.6 of this Manual.

4.6 Operating Data Default Value and Exception for Certain Equipment Failures (Section 5.12.6(b) and (c) ISO Services Tariff)

4.6.1 Default Value

In its calculation of the amount of Unforced Capacity that each Resource is qualified to supply to the NYCA and notwithstanding the provisions of Section 4.5 of this Manual, the ISO will deem a Resource to be completely forced out during each month for which this Resource has not submitted its Operating Data in accordance with Section 4.4 of this Manual. Pursuant to Section 5.12.12 of the Services Tariff, Resources that do not comply with Section 4.4 of this Manual also are subject to information submission requirements sanctions.

Resources who are deemed to be completely forced out during any month may submit new Operating Data to the ISO at any time. The format and substance of the new Operating Data shall comply with the requirements set forth in Sections 4.4.1 through 4.4.8, as applicable. Within ten (10) calendar days of receipt of new Operating Data that comply with such requirements, the ISO shall use this new Operating Data to recalculate the amount of Unforced Capacity that such Resources may supply to the NYCA.

Upon a showing of extraordinary circumstances, the ISO retains the discretion to accept at any time Operating Data which have not been submitted in a timely manner, or which do not fully conform with Section 4.4 of this Manual.

4.6.2 Exception for Certain Equipment Failures

When a Generator, Special Case Resource, Energy Limited Resource, System Resource, or Control Area System Resource is forced into an outage by an equipment failure that involves equipment located on the electric network beyond the step-up transformer, and including such step-up transformer, the NYISO shall not treat the outage as a forced outage for purposes of calculating the amount of Unforced Capacity such Installed Capacity Suppliers are qualified to supply in the NYCA. This exception is not limited to equipment failures that occur on the New York State electrical network and extends to equipment failures that occur on electrical networks operated by External Control Areas.

If an outage occurs on the transmission system beyond the generator step-up transformer, and including such step-up transformer, at a time when a Generator has not placed its unit on a maintenance outage, such interruption in availability shall be treated for purposes of calculating the unit's EFOR_D rating as a reserve shutdown. If an outage occurs on the transmission system beyond the generator step-up transformer, and including such step-up transformer, at a time when a Generator is on a maintenance outage, such interruption in availability shall be treated for purposes of calculating the unit's EFOR_D rating as a maintenance outage. In the event that service resumes on the transmission system but the unit categorized as being on a reserve shutdown is not able to perform, the unit shall be charged with a forced outage from the time that the transmission outage ended until the time it resumes operations (the "post transmission outage period"); provided however, that if the unit had been scheduled to take a maintenance outage during the post transmission outage period, the unit shall be charged with a Forced Outage, as defined in Attachment J, until the scheduled start date of its maintenance outage, at which time it will be charged with a maintenance outage until the end of its scheduled maintenance period.

4.7 Monthly Installed Capacity Supplier Certification Forms

Each Installed Capacity Supplier must submit the appropriate ISO certification form to the ISO no later than the deadline for monthly certification as provided by Attachment A or on the NYISO website at <http://www.nyiso.com/markets/icapinfo.html>, demonstrating that the Unforced Capacity it is supplying is not already committed to meet the Installed Capacity requirement of an External Control Area.

In addition, each Installed Capacity Supplier that has been de-rated (i.e., has had an amount of Unforced Capacity it is authorized to supply in the NYCA reduced by the ISO in accordance with section 4.5 of this Manual) shall demonstrate in its monthly certification that it has procured sufficient additional Unforced Capacity to cover any shortage, due to such de-rating, of Unforced Capacity it has previously committed to supply in the following month or go into the Deficiency Auction.

4.8 Bidding, Scheduling, and Notification Requirements (Section 5.12.7 ISO Services Tariff)

On any day for which it supplies Unforced Capacity, each Installed Capacity Supplier (except as noted below) must schedule or Bid into the Day-Ahead Market, or declare to be unavailable an amount of Energy that is not less than the Installed Capacity Equivalent of the amount of Unforced Capacity it is supplying to the NYCA from each Resource that it uses to supply Unforced Capacity, rounded down to the nearest whole MW.

Each Installed Capacity Supplier providing Unforced Capacity must designate the entity that will be responsible for complying with these bidding, scheduling and notification requirements.

4.8.1 Generators and System Resources

For every hour of any day for which Generators and System Resources supply Unforced Capacity, they must provide the Installed Capacity Equivalent of the amount of Unforced Capacity they are supplying to the NYCA through a combination of scheduling or Bidding in the Day-Ahead Market, or in accordance with the notification procedure below. See the ISO's Day-Ahead Scheduling Manual and Market Participants User Guide for scheduling and bidding procedures.

For any hour of any day that the Installed Capacity Supplier cannot provide the full amount of Energy associated with its Installed Capacity Equivalent, due to a maintenance or forced outage, the supplier must notify the ISO Operations department.

4.8.2 Energy Limited Resources

Energy Limited Resources that are Installed Capacity Suppliers must be able to provide the Installed Capacity Equivalent of the amount of Unforced Capacity they are supplying to the NYCA for a minimum of four (4) hours each day. Energy Limited Resources must Bid or schedule in the Day-Ahead Market each day in such a way as to enable the ISO to schedule them for the period in which they are capable of providing the Energy.

An Energy Limited Resource must also provide the ISO with information concerning that Energy Limited Resource's upper operating limit, designating its desired operating level. Once the Energy Limited Resource has provided four (4) hours of Energy equivalent to its Installed Capacity commitment, the ISO will not call on it to provide additional Energy, absent an emergency. In the case of an emergency, the ISO may request an Energy Limited Resource for assistance, recognizing that the Energy Limited Resource may not be capable of responding.

4.8.3 Interruptible Load Resources

Interruptible Load Resources that are Installed Capacity Suppliers must supply the ISO with Energy and/or Operating Reserve bids in the Day-Ahead Market indicating the price at which they are willing to be interrupted. This applies only to Interruptible Loads that are not Special Case Resources.

4.8.4 Existing Municipally-Owned Generation

Existing municipally-owned generation that qualify as Installed Capacity Suppliers pursuant to Section 5.12.11(b) of the ISO Services Tariff and Section 4.13 of this Manual are not required to Bid or schedule in the Day-Ahead Market.

4.8.5 Special Case Resources

Special Case Resources are not subject to daily bidding, scheduling and notification requirements.

For every month in which a Special Case Resource supplies Unforced Capacity, the RIP, or its assignee, must offer to reduce Load equal to the Installed Capacity Equivalent of the amount of Unforced Capacity the Special Case Resource is supplying to the NYCA by submitting a Minimum Payment Nomination to the ISO associated with such Unforced Capacity. This Minimum Payment Nomination will act as a strike price, allowing the ISO to call on a specific amount of Special Case Resources to perform, based on price and NYCA zone, when faced with a Forecast Reserve Shortage. The Minimum Payment Nomination will remain in effect through the month and is not subject to change. Special Case Resource Minimum Payment Nomination submission procedures are detailed in Section 4.12.3.

A RIP, or its assignee, must notify the ISO Planning and Operations departments of a change in status that would cause a Special Case Resource to not be able to provide the full amount of Load reduction associated with the Unforced Capacity it has supplied to the NYCA. See Sections 4.3.3 and 4.12.6 of this Manual.

4.8.6 Intermittent Power Resources

As set out in Section 5.12.11(d) of the ISO Services Tariff, Intermittent Power Resources may qualify as Installed Capacity Suppliers, without having to comply with the daily bidding and scheduling requirements set forth in Section 5.12.7 of the ISO Services Tariff. To qualify as Installed Capacity Suppliers, Intermittent Power Resources shall comply with the notification requirement of Section 5.12.7 of the ISO Services Tariff by notifying the ISO of outages.

4.9 External Resources

External Generators, System Resources, Control Area System Resources and entities purchasing Installed Capacity from them may participate in the NYCA Installed Capacity market. With the exception of those requirements and procedures identified in section

4.9.2 below, External Installed Capacity Suppliers using Unforced Capacity Deliverability Rights (“UDRs”) must comply with the requirements and procedures identified in this section 4.9. Refer to section 4.14 of this Manual for additional Installed Capacity Supplier requirements and procedures associated with the use of UDRs.

4.9.1 Requirements to Qualify as an External Installed Capacity Supplier

Prior to supplying Unforced Capacity to the NYCA, External Generators, System Resources, Control Area System Resources and entities purchasing Installed Capacity from them must qualify as External Installed Capacity Suppliers. To qualify as External Installed Capacity Suppliers such entities must provide the following information to the ISO in a timely manner:

1. Name and location of the Resource (if multiple units are involved, identify each unit);
2. Assurance that the External Control Area in which the Resource is located either:
 - (a) Will not recall or curtail, for the purposes of satisfying its own Control Area Loads, exports from that External Control Area to the NYCA of an amount of Energy equal to the Installed Capacity Equivalent of the amount of Unforced Capacity that Resource is supplying to the NYCA; or
 - (b) In the case of Control Area System Resources, will afford NYCA Load the same pro-rata curtailment priority that it affords its own Control Area Load;
3. Documentation of a DMNC test, or its equivalent, in accordance with the procedures found in Section 4.2 or 4.10.3 of this Manual;
4. Submission of Operating Data for the prior twelve months in accordance with Sections 4.4 and 4.4.9, and Attachment K of this Manual;
5. Documentation which satisfies the Maintenance Scheduling Requirements in Section 4.3 of this Manual; and
6. Expected return dates from full or partial outages.

With the exception of item four (4), this information must be provided to the ISO at least two (2) business days prior to the business day the External Installed Capacity Import Rights (“Import Rights”) are requested, two (2) business days prior to an ISO-administered Installed Capacity auction in which the External Installed Capacity Supplier wishes to offer Unforced Capacity, and at such additional times as required by the ISO and this Installed Capacity Manual (e.g., annual DMNC test results). The information

required by item four (4) must be submitted in accordance with the timing requirements found in 4.4.9 of this Manual (by the tenth (10th) day of the month preceding the month in which the prospective External Installed Capacity Supplier wishes to supply Unforced Capacity to the NYCA).

The ISO may verify this data with the appropriate External Control Area.

4.9.2 Allocation of Import Rights

The ISO establishes the maximum amount of Unforced Capacity that can be provided to the NYCA by Resources located in each neighboring Control Area according to the procedures contained in Section 2.7 of this Manual. Once this amount has been determined for each neighboring Control Area, the allocation among ISO customers of Import Rights to External Unforced Capacity supply is done according to the following procedures.

Grandfathered External Installed Capacity Rights

Details concerning Grandfathered Rights are provided in Attachment E to this Manual.

Other Allocations

After accounting for Grandfathered External Installed Capacity rights, the ISO will allocate the remaining rights for External Unforced Capacity supply on a first-come, first-serve basis. Import Rights may ultimately only be used by LSEs located within the NYCA, but any ISO Customer may submit a request for External Installed Capacity rights.

Initial requests for Import Rights for one or more months within a Capability Period may be sent to the ISO during the following time period:

- Beginning at 8:00 AM EST
 - For Summer Capability Period: on the first business day following the publication of the total number of import rights made available by the NYISO (on or about February 15)
 - For Winter Capability Period: not later than thirty (30) days prior to a Capability Period (strip) Auction, and
- Ending at 5:00 PM EST three (3) business days prior to a Capability Period Strip Auction.

On or about February 15th the ISO shall post the final quantity of Import Rights available for request for the following Capability Year. The quantity of rights that will be available at that time prior to the Summer and the Winter Capability Period (strip) Auctions shall be 100 % of the Import Rights available, as posted by the ISO.

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If Import Rights are not fully subscribed after the Capability Period (strip) Auction has concluded, the ISO will open another period of first-come, first-serve allocations prior to each Monthly Auction for the month or months in which Import Rights remain and the ISO will post the available Import Rights after each subsequent auction.

For each month within a Capability Period, requests for Import Rights may be sent to the ISO during the following time period:

- Beginning at 8:00 AM ET on the business day following the day the ISO posts the results of each Capability Period (Strip) or Monthly Auction.
- Ending at 5:00 PM ET three (3) business days prior to the next Monthly Auction.

Contents of Request

Each request must contain the following information:

1. Documentation of a bilateral agreement, with pricing redacted, between a qualified External Installed Capacity Supplier or a marketer with a contract with a qualified External Installed Capacity Supplier and
 - (a) an LSE within the NYCA or
 - (b) a marketer that is not an affiliate of the External Installed Capacity Supplier;
2. The identity of the ISO Customer making the request;
3. The identity of the External Installed Capacity Supplier;
4. The name and location of the Resource;
5. The Control Area in which the Resource for which the Installed Capacity Supplier seeks rights is located;
6. The MW amount requested to support the Unforced Capacity sale to the NYCA from the Resource designated in (4) above;
7. The time period, in blocks of whole months, for which the rights are requested;
8. E-mail address of the requesting party to which a response will be made.

The information listed above must be provided as a "Request for External Installed Capacity Import Rights" to the ISO's Manager of Resource Reliability via facsimile to the following number: 518-356-6208.

Response from the ISO

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The ISO shall respond to requests for External Installed Capacity Import Rights in a timely fashion. For requests made during business hours before noon ET, the ISO will respond by noon the next business day. For requests made during business hours from noon ET to 5:00 PM ET, the ISO will respond by 5:00 PM ET the next business day.

If the ISO determines that the information provided in the request is incomplete or inadequate, the ISO will immediately notify the requesting party. The requesting party may resubmit its information to the ISO no later than 24 hours after the expiration of the time period for initial requests.

Only complete requests submitted within the time periods specified above will be evaluated by the ISO. The date and time stamp provided by the FAX machine will determine the priority for the evaluation of requests. If a request is resubmitted for any reason, the latest time stamp will determine its priority.

The ISO will notify the requesting party if its request has been accepted or rejected, with reasons for rejection, if such be the case, within the time period specified above, following receipt of a complete request. If accepted, the ISO will provide a confirmation number. A rejection may be based on either or both of the following:

- Incomplete or inadequate information
- Fully subscribed External Installed Capacity rights

Tally of Import Rights

The NYISO will maintain a tally of the available Import Rights for each month within a Capability Year and will post these figures on the NYISO website.

Obligations of Recipients of Import Rights

If at any time, the ISO has allocated all of the Import Rights that are available to permit the import of Installed Capacity from one or more control areas for one or more months, the ISO will promptly issue an announcement to all Market Participants, alerting them to this fact. Recipients of these Import Rights will have until 12:00 p.m. two business days following the issuance by the ISO of this announcement or until 5:00 p.m. on the last business day that precedes the beginning of the Capability Period (strip) auction by at least 15 days, if that is later, either to decide to keep these Import Rights, or to return these Import Rights to the ISO. The ISO may exhaust its supply of Import Rights for different Control Areas and different months at different times, so this deadline may differ from Control Area to Control Area within a month, and it may vary from month to month for a given Control Area.

Entities that had requested those Import Rights of the ISO, but which elect to return them to the ISO prior to this deadline, will be under no further obligation associated with those Import Rights. The ISO will notify all Market Participants when Import Rights have been made available due to Import Rights that have been returned back to the ISO from previously awarded Import Rights recipients. Likewise, if the ISO never makes such an

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announcement pertaining to Import Rights to import Installed Capacity from a given Control Area for a given month (because the ISO never allocated all of the Import Rights that were available to permit the import of Installed Capacity from those Control Areas in those months), then the recipients of those Import Rights will be under no obligation to use those Import Rights to support the import of Installed Capacity to a New York LSE, nor will they be required to offer Installed Capacity into any ISO-administered auctions. Any Import Rights that are returned to the ISO shall be available for allocation to market participants or for use to support the purchase of Installed Capacity in ISO-administered auctions, using the same procedures that are used for other Import Rights, as described elsewhere in this manual.

Entities that elect not to return those Import Rights by the deadline described above after such an announcement is made, or entities that are allocated Import Rights to import Installed Capacity from a Control Area for a given month after such an announcement has been issued for that Control Area and that month by the ISO, shall be able to demonstrate to the ISO no later than the deadline for monthly certification as provided by Attachment A of this Manual or on the NYISO website at <http://www.nyiso.com/markets/icapinfo.html> that they have used those Import Rights to support the import of Installed Capacity from the relevant Control Area into New York to meet the Installed Capacity requirement of an LSE serving load in the NYCA. If, by that time, a holder of such Import Rights has neither sold that Installed Capacity using those Import Rights in an ISO-administered auction nor has entered into a bilateral agreement to supply Installed Capacity to a New York LSE using those Import Rights, the associated ICAP will be offered for sale into the Deficiency Auction as price taker, i.e., at a price of \$0/MW. The Supplier will be paid the market-clearing price determined in those auctions for the control area in which it is located for the Unforced Capacity in question.

External Installed Capacity Sales in ISO Administered Auction

All purchasers of Unforced Capacity that is located in an External Control Area in an ISO-administered auction shall receive the External Installed Capacity rights necessary in order to permit that Unforced Capacity to count towards the Unforced Capacity requirements of an LSE; consequently, in order to ensure that there are sufficient external Installed Capacity rights available, the ISO shall limit the number of MW of Unforced Capacity that can be purchased in any External Control Area in those auctions. In each Capability Period auction, the ISO shall limit the number of MW of Unforced Capacity that can be purchased in any External Control Area to the number of MW of Unforced Capacity that can be provided by Installed Capacity Suppliers located in that Control Area, as determined in Section 2.7 of this Manual, less all External Installed Capacity rights that have been requested for that External Control Area under the provisions of this section. In addition, the ISO will permit entities that have been allocated Import Rights to offer Installed Capacity into the auctions it administers.

In the Capability Period Monthly Auctions held before and during the Capability Period, the ISO shall limit the number of MW of Unforced Capacity that can be purchased in any External Control Area to the number of MW of Import Rights that the ISO makes

available for the Capability Period from that Control Area, less the number of MW of Unforced Capacity purchased in that External Control Area for that month in preceding Monthly Auctions and the Strip Auction, less all External Installed Capacity Rights that have been requested to support external Bilateral Transactions for that month.

The ISO will reduce External Installed Capacity rights eligible to be traded in the Capability Period strip auction based on the allocations made according to the above procedures.

4.9.3 Additional External Installed Capacity Supplier Requirements

Certification

Entities that have received External Installed Capacity Import Rights or that are using UDRs to meet NYCA Locational Capacity Requirements must provide the following additional information, for each month that they intend to supply Unforced Capacity to the NYCA, to the ISO on the date when Installed Capacity Supplier and LSE Certifications are due.

- Certification that Unforced Capacity being sold to the NYCA has not been sold elsewhere.
- The confirmation or transaction number granted to the External Installed Capacity transaction. The confirmation number should be listed in the comments section of the Installed Capacity Certification form.

See Section 4.7 of this Manual for complete information in connection with monthly Installed Capacity Supplier certification requirements. The ISO will verify this data with the appropriate External Control Area.

Deliverability

External Installed Capacity Suppliers are required to demonstrate that the Energy associated with Unforced Capacity supplied to the NYCA is either deliverable to the NYCA border, or in the case of UDRs, to the NYCA interface with the UDR transmission facility. This demonstration occurs in two stages.

- 1) Energy must be deliverable to the NYCA border or, when using UDRs, to the NYCA interface with the UDR transmission facility using the transmission service rules of the External Control Area. The following rules apply.
 - a. For External Installed Capacity associated with Import Rights,

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- i. Secures External Installed Capacity Import Rights during the first-come, first-serve allocation period described above with a bilateral agreement; or
- ii. Sells External Unforced Capacity in an ISO-administered Installed Capacity auction pursuant to the procedures identified in this Manual;

or

- b. For External Installed Capacity associated with UDRs,
 - i. That the External Installed Capacity has a sufficient amount of UDRs either owned or under contract for the term of the transaction.
- 2) Deliverability of Energy associated with External Unforced Capacity is demonstrated as follows:
- a. For External Installed Capacity associated with Import Rights, demonstrate the ability to deliver Energy to the NYCA border for the time the Energy may be scheduled in the DAM, included in the HAM, or pursuant to an SRE, as applicable. If the transmission interface between the NYCA and the adjacent Control Area is full, the External Installed Capacity Supplier is not required to "bump" the entity whose Energy has been committed on the line and the Energy associated with External Unforced Capacity from that External Installed Capacity Supplier is not required to be delivered to the NYCA border. If the transmission tie between the NYCA and the Control Area where the External Installed Capacity Supplier is located was full but the External Control Area curtails an amount that would reduce the Import below the External Installed Capacity commitment level, the External Installed Capacity Supplier will be required to respond to the NYISO request and use the transmission capability to provide Energy to the NYCA; or
 - b. For External Installed Capacity associated with UDRs, demonstrate delivery of such Energy to the NYCA interface with the UDR transmission facility for the time the Energy may be scheduled in the DAM, included in the HAM, or pursuant to an SRE, as applicable. If the NYCA interface with the UDR transmission facility is full, the External Installed Capacity Supplier is not required to "bump" the entity whose Energy has been committed on the line and the Energy associated with External Unforced Capacity from that External Installed Capacity Supplier is not required to be delivered to the NYCA interface with

the UDR transmission facility. If the NYCA interface with the UDR transmission facility was full but the External Control Area curtails an amount that would reduce the Import below the UDR transmission facility total transmission capability, the External Installed Capacity Supplier will be required to respond to the NYISO request and use the transmission capability to provide Energy to the NYCA.

4.9.4 Charges Associated with External Unforced Capacity Deficiencies

In accordance with the Services Tariff, if an entity fails to deliver part or all of the Energy associated with External Unforced Capacity it sold in the NYCA (see section 4.9.3) it will be deemed retroactively deficient for such failure. External Installed Capacity Suppliers unable to deliver such Energy to the NYCA border will be assessed the deficiency charge for Unforced Capacity associated with such failure and will be deemed to have been deficient 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 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.

4.10 System Resources

A System Resource is defined as a portfolio of Unforced Capacity provided by Resources located in a single ISO-defined Locality, the remainder of the NYCA, or any single External Control Area, that is owned by or under the control of a single entity, which is not the operator of the Control Area where such Resources are located, and that is made available, in whole or in part, to the ISO. System Resources may be External or Internal to the NYCA. Please refer to Section 4.4.3 and Attachment J, Section 3.4, for information regarding Resources operated by the operator of the Control Area in which the Resources are located.

The System Resource must be in a Control Area that either (a) will not recall or curtail transactions from the Resource to satisfy its own Control Area Load, or (b) will afford the NYCA Load the same curtailment priority that it affords its own Control Area Load.

4.10.1 Permissible Aggregations

For the purposes of aggregating System Resources, there are seven defined areas in which Installed Capacity Suppliers may reside. These are:

1. New York City Zone
2. Long Island Zone

3. All other NYCA Zones

and the neighboring Control Areas operated by:

4. PJM
5. ISO-NE
6. Hydro Quebec
7. Ontario IMO

Resources located in ISO-NE and the Ontario IMO Control Areas may not qualify as Installed Capacity Suppliers, since these Control Areas do not currently meet the ISO's recall or Curtailment requirements for Installed Capacity Suppliers.

Within the other five areas a single entity may aggregate its Generators into a portfolio for the purposes of entering into System Resource Installed Capacity transactions, so long as all the Generators included in the portfolio reside within the same area. Any entity that wishes to make System Resource sales must provide the required DMNC test data to the ISO for each Generator in its portfolio, unless that entity can re-dispatch Resources under its control located within an External Control Area to maintain a pre-determined interchange schedule between that Control Area and the NYCA. The Unforced Capacity associated with an External Grandfathered Right may not be aggregated with other Resources as a System Resource.

For example, an owner may operate Generators in PJM and the Long Island Zone. The Generators in PJM may be aggregated or the Generators in the Long Island Zone may be aggregated. Generators in PJM and the Long Island Zone may not be combined with each other.

4.10.2 External System Resources

The ISO requires the following information for each Resource aggregated as an External System Resource. The entity aggregating the Resources is responsible for supplying the information.

1. Name and location of Generators included in the portfolio.
2. Documentation that satisfies the General Requirements for DMNC determination specified in Section 4.2 of this Manual.
3. Documentation that satisfies the Maintenance Scheduling Requirements specified in Section 4.3 of this Manual.
4. Documentation that satisfies the Operating Data information submission requirements specified in Section 4.4 of this Manual.

5. Expected return date from full or partial outages.
6. Certification that Unforced Capacity supplied to the NYCA has not been supplied elsewhere.

4.10.3 Control Area System Resources

Control Area System Resources or the purchasers of Unforced Capacity from those Resources shall not be required to conduct DMNC tests and submit DMNC test results to the ISO. Instead, the ISO shall calculate a net projected capacity (the “Net Projected Capacity”) for each Control Area System Resource based on (1) monthly forecast data submitted by the Control Area System Resource pursuant to this Section (the “Forecast Data”), and (2) the formula set forth below. To calculate the amount of UCAP each Control Area System Resource may supply to the NYCA, the ISO shall use the formulae provided in Attachment J of this Manual, which adjusts the Net Projected Capacity on the basis of CARL Data submitted monthly by the Control Area System Resource pursuant to Section 4.4.3 of this Manual.

To qualify as ICAP Suppliers, Control Area System Resources or the purchasers of Unforced Capacity from those Resources shall submit Forecast Data in a form acceptable to the ISO and in compliance with the schedule and requirements set forth in Section 4.2 of this Manual, which are otherwise applicable to the submission of DMNC test results by Generators to the ISO. Forecast Data shall cover the period for which Control Area System Resources or purchasers of Unforced Capacity from those Resources want to supply Unforced Capacity to the NYCA. For example, Control Area System Resources that wish to participate in the 2001-2002 Winter Capability Period Auction shall submit to the ISO Forecast Data for each of the six (6) months of the 2001-2002 Winter Capability Period.

Forecast Data submitted for a Control Area System Resource providing Installed Capacity from Control Area c shall include the following information for each month m for which that Control Area System Resource (or purchaser of Capacity from such resource) wishes to provide Installed Capacity:

1. Total forecasted maximum generating Capacity in the Control Area c during month m (without any adjustments for External firm Capacity purchases, or sales, outages and maintenance) (CAP_{cm});
2. External forecasted firm Capacity purchases by Control Area c , other than purchases from Resources in the NYCA during month m (EP_{cm});
3. The forecasted amount of load management (i.e., interruptible load) in Control Area c during month m (LM_{cm});
4. Forecasted peak Load for Control Area c during month m , including system losses (PL_{cm});
5. Forecasted external firm Capacity sales by Control Area c during month m , other than firm Capacity sales to the NYCA (ES_{cm});

6. Forecasted losses, up to the border of the NYCA, that would be incurred on transactions corresponding to sales of Unforced Capacity by that Control Area System Resource outside the Control Area (LS_{cm});
7. The amount of generating capacity that is forecasted to be unavailable in Control Area c due to planned maintenance during month m (PM_{cm}); and
8. Planning reserve requirements during month m for the Control Area c corresponding to reserve requirements necessary for this Control Area c to meet NERC Resource Adequacy and applicable reliability council criteria, taking into account all sales of Capacity from this Control Area c (PR_{cm}).

In cases in which any of the above data items is forecasted to vary from hour to hour within a month, the forecasted monthly value submitted for that data item should be the forecasted value of that data item during the peak load hour for that month for Control Area c .

To calculate the Net Projected Capacity of each Control Area System Resource for a specific month, the ISO shall use the following formula:

$$NPC_{cm} = CAP_{cm} + EP_{cm} + LM_{cm} - PL_{cm} - ES_{cm} - LS_{cm} - PM_{cm} - PR_{cm}.$$

Net Projected Capacity shall be used to determine the amount of Unforced Capacity a Control Area System Resource can provide using the equations in Attachment J, Section 3.4.

4.11 Interruptible Load Resources

The following procedures apply to Interruptible Load Resources, if any, that are metered by the ISO.

- These Resources must Bid into the Day-Ahead Market as price cap bid Load. These Resources will be scheduled based on their bids and Day-Ahead prices.
- In real-time, these Resources determine whether, and at what level, to purchase Energy or to interrupt through their bids into the Hour-Ahead market.
- If the Load chooses to purchase Energy, it will pay the LBMP for the difference between its scheduled Load and the Load for which it is purchasing.
- These Resources must interrupt, if requested to do so by the ISO.

4.12 Special Case Resources

Special Case Resources are Loads capable of being interrupted upon demand, and distributed generators, rated 100 kW or higher, that are not visible to the ISO's Market Information System. The Unforced Capacity of a Special Case Resource corresponds to its pledged amount of Load reduction as adjusted by historical performance factors and as

increased by the Transmission District loss factor . The calculation of this amount shall be made in accordance with Section 3.3 of Attachment J.

4.12.1 Claiming of Unforced Capacity and RIPs

The Unforced Capacity of a Special Case Resource may be freely sold in Bilateral Transactions. However, such Unforced Capacity may not be claimed by an LSE towards satisfaction of its own Unforced Capacity requirement or be offered into an auction administered by the ISO unless there is a Responsible Interface Party (“RIP”)* with respect to such Special Case Resource. RIPs are Market Participants that agree to be bound by the notification and other requirements applicable to RIPs under this Section 4.12. RIPs shall be responsible for all forms of communication to and from the ISO for purposes of Minimum Payment Nomination, notification, dispatch, validation, and verification of Special Case Resources and the Unforced Capacity associated with Special Case Resources.

4.12.2 General Requirements

Every Special Case Resource must submit a Special Case Resource commitment in accordance with the form in Attachment K and be accepted by the ISO as an Installed Capacity Supplier before its Unforced Capacity may be claimed by an LSE towards that LSE’s Unforced Capacity requirement or be offered in an auction administered by the ISO. Every Special Case Resource must submit a Special Case Resource commitment to the ISO in accordance with the schedule and requirements of Section 4.2. Special Case Resources must also submit a notification letter and obtain a point ID under Section 4.2.1.

A Special Case Resource that supplies Load reductions solely through the use of a distributed generator (whether or not operated in parallel with the NYCA) and that elects to measure such Load reductions by metering the output of such distributed generator under Section 3.3(b) of Attachment J, shall submit an appropriate DMNC test recorded on the appropriate form of Attachment D as part of its Special Case Resource commitment. All other Special Case Resources shall provide a Special Case Resource commitment in the form of Figure 1 of Attachment K. A Special Case Resource that supplies Load reductions solely through the use of a distributed generator and that elects to measure such Load reductions by metering the output of such distributed generator under Section 3.3(b) of Attachment J: (i) may not use a DMNC in calculating its Unforced Capacity that exceeds the total Load at the site of the distributed generator; (ii) must deduct from the output of such generator any auxiliary power consumed by the generator and supplied from an external source; and (iii) may not serve a load bank with the output of the generator when responding to ISO dispatch under Section 4.12.3.

* RIPs fulfill functions similar to Curtailment Service Providers under the ISO’s Emergency Demand Response Program.

Special Case Resources must meet the qualifications and comply with the procedures described below. RIPs claiming Unforced Capacity from Special Case Resources must comply with the requirements and procedures set forth below.

The Unforced Capacity of Special Case Resources may only be offered in auctions administered by the ISO or be claimed by an LSE towards its Unforced Capacity requirement in even increments of 100 kw (e.g. 590 kw of Unforced Capacity would be rounded down to 500 kw). However, Special Case Resources may be aggregated to minimize the effect of this requirement, provided that each such aggregation is identified as a single block of Unforced Capacity

4.12.3 Minimum Payment Nomination Requirements

For each month in which a Special Case Resource supplies Unforced Capacity to the NYCA, the RIP, or its assignee, must submit a Minimum Payment Nomination to the ISO that will reflect the minimum guarantee price the Special Case Resource will be paid if called upon to reduce Load equal to the Installed Capacity Equivalent of the amount of Unforced Capacity it has supplied. There is no minimum Minimum Payment Nomination and a Special Case Resource's Minimum Payment Nomination cannot exceed \$500/MWh. This Minimum Payment Nomination, or Energy curtailment payment designation, associated with a Special Case Resource's Unforced Capacity will not be entered in the Day-Ahead Market, but instead will serve as a strike price that the ISO can use to determine which Special Case Resources to call when a Forecast Reserve Shortage is identified. Unlike a Generator or other Resource's Bid to supply Energy associated with Unforced Capacity, a Special Case Resource's Minimum Payment Nomination cannot be revised prior to Settlement in the Day-Ahead Market. A Special Case Resource's Minimum Payment is set for the entire month.

Special Case Resource Minimum Payment Nominations to perform at a minimum payment for Load reduction must be submitted at the same time all Installed Capacity Suppliers are required to submit their monthly Installed Capacity Supplier certification forms. See Section 4.7 of this Manual. Special Case Resource Minimum Payment Nominations must be submitted to the ISO on a separate form. RIPs must submit Minimum Payment Nominations for all qualified Special Case Resources, regardless of whether, at the time of the submission, a qualified Special Case Resource has committed to supply Unforced Capacity in the NYCA market during the upcoming month. Once submitted, a Special Case Resource's Minimum Payment Nomination will remain in effect for the life of the Special Case Resource unless superseded by a successive Minimum Payment Nomination. The ISO will enter a Minimum Payment Nomination of zero (0) dollars per MWh for each qualified Special Case Resource for which a Minimum Payment Nomination has not been submitted.

Special Case Resource Minimum Payment Nominations will be entered in a separate database and used only when the ISO Operations department determines the need to call on these Resources in response to a Forecast Reserve Shortage. In the event the ISO Operations department makes such a determination, the Minimum Payment Nominations placed for each Special Case Resource will allow the ISO to call for Load reduction

based on Special Case Resource zone location and price. As a result, the ISO will be able to call less than the total pool of Special Case Resources in the NYCA and in each NYCA zone.

As an example, the ISO may determine that it needs a Demand Reduction response of 25 MWs in Zone J. A total of 50 MWs of Special Case Resources located in Zone J is supplying Unforced Capacity. For this example, assume that each MW of Special Case Resource Capacity entered a different Minimum Payment Nomination, from \$1/MWh to \$50/MWh. Considering the likely percentage of Special Case Resources that will actually perform, the ISO determines the total number of demand response MWs it will need to call in order to fulfill its need for 25 additional MWs of reserves. If the ISO determines that it will need to call 32 MWs of Special Case Resources to fulfill its need for additional Capacity it will call the 32 MWs of Special Case Resources that entered a Minimum Payment Nomination between \$1 and \$32. See Section 4.12.8 for situations where multiple Special Case Resources have placed the same top Minimum Payment Nomination called upon by the ISO and the total MWs offered at that price exceed the ISO's needs.

4.12.4 Performance

A Special Case Resource must make Energy available, for a minimum four (4) hour block (except where environmental constraints require a shorter block), in amounts that correspond to the Installed Capacity Equivalent of the amount of Unforced Capacity it supplies to the NYCA as specified in Section 3.3 (c) of Attachment J, by reducing Load or transferring Load to a distributed generator, within two (2) hours of a notice provided by the ISO to the RIP, following a twenty-one (21) hour notice if notification is provided by 3:00 PM ET, or twenty-four (24) hour notice otherwise. If the Special Case Resource is unable to provide full output within two (2) hours due to operational constraints, the RIP may petition the ISO for permission to provide maximum output from the Special Case Resource within a longer period. The ISO's permission will not be unreasonably withheld. In granting permission, the ISO will calculate the appropriate de-rating factor for use in determining the amount of Unforced Capacity that Special Case Resource can provide in the future.

A Special Case Resource may be required by the ISO to demonstrate its pledged Load reduction capability once in every Capability Period if it has not otherwise already been called by the ISO to reduce Load in such period.

In the event that a Special Case Resource located at a retail customer was in operation (in the case of a distributed generator) or providing Load reduction (in the case of interruptible Load), at the time of the system or Transmission District peak upon which the Unforced Capacity requirement of the LSE serving that customer is based, the LSE's Unforced Capacity requirement shall be increased by the amount of Load that was served or interrupted by the Special Case Resource.

Transmission Owners shall permit short periods of parallel operation for Load switching from the Transmission Owner's electrical system to distributed generation equipment

claimed as Special Case Resource Unforced Capacity provided that the distributed generator meets the Transmission Owner's interconnection requirements.

4.12.5 ISO Notification Procedures

The ISO will provide twenty-one (21) hour-ahead notification if notification is provided by 3:00 PM ET, or twenty-four (24) hour notice otherwise, and two (2) hour notice, as required by this Manual, to the RIP. The former notification will be provided after 11 am, day-ahead, when the Day-Ahead Market closes. The ISO commits not to use day-ahead notification of potential need to operate indiscriminately but rather only when the Day-Ahead Market indicates serious shortages of supply for the next day. The day-ahead notice may occur on a weekend day or a holiday, as needed.

The ISO shall provide notice no fewer than two (2) hours ahead of required operation or interruption.

RIPs shall contact their Special Case Resources through whatever communication protocols are agreed to between the Special Case Resources and the RIPs.

RIPs claiming Special Case Resource Unforced Capacity shall provide the ISO with their phone and Internet contact information that allows for notification by the ISO at any time. RIPs shall confirm receipt of both instances of notification (day-ahead and two (2) hour) within 1 hour by Internet or telephone reply to the ISO. Such reply must confirm the relay of proper notification by the RIPs to their Special Case Resource clients, where applicable.

4.12.6 Capacity Adjustment Procedures

A Special Case Resource that fails to respond to RIP notification by reaching pledged Load reduction capability or maximum pledged generator output within two (2) hours following notice from the ISO to the RIP, or that fails to provide output for the period required by the ISO or four (4) hours, whichever is less, will be considered forced out (for unperformed hours) for purposes of calculating the Unforced Capacity value of the Special Case Resource for future Obligation Procurement Periods. See Attachment J of this Manual for further explanation of a Special Case Resource's Unforced Capacity value.

A Special Case Resource that has successfully petitioned the ISO for permission to reach pledged Load reduction or maximum output in more than two (2) hours will be considered forced out in the amount of Unforced Capacity not backed by Energy for the period starting two (2) hours following the notice from the ISO to the RIP until the Special Case Resource attains pledged Load reduction or maximum output.

A Special Case Resource that cannot operate for the full four (4) hours when called for by the ISO, due to environmental permit limits or otherwise, shall be considered forced out for the hours it is unable to operate or is operated at reduced output.

4.12.7 RIP Requirements

In addition to other requirements under this Section 4.12, an RIP claiming Unforced Capacity from a Special Case Resource for sale into an ISO-administered auction or for its own requirements (in the case of an RIP which is an LSE) shall fulfill the following obligations:

- Submit to the ISO a letter from each SCR authorizing the RIP to act on behalf of the SCR during each Capability Period. The letter must specify that the RIP has authority to sell the SCR's Unforced Capacity, act as the organization of record for all financial transactions, and should be signed by an authorized representative of the SCR.
- Give notice of the claiming of such Unforced Capacity on a one-time basis to the LSE supplying Energy to the retail customer on whose premises the Special Case Resource is located (if different from the RIP).
- Notify the ISO as provided in Section 4.3.3 whenever the Special Case Resource is unavailable to provide its pledged Load reduction.
- Report operating data to the ISO each month as provided in Section 4.4.7 using the form provided in Figure 2 of Attachment K and provide copies of such form to the appropriate TO and the LSE supplying Energy to the retail customer on whose premises the Special Case Resource is located (if different from the RIP).
- Make certifications to the ISO each month as provided in Section 4.7.
- Document reductions in Load with interval billing meter readings on customer Load (or with readings on the distributed generator(s) in the case of a Special Case Resource whose performance is calculated under Section 3.3(b) of Attachment J) for the four (4) hour period following the two (2) hour ISO notice under Section 4.12.4. In the event that Energy made available from Special Case Resource Unforced Capacity is a small percentage of the total metered Load at the location of the Special Case Resource, such that it may not be clearly reflected by meter reads alone, the ISO will also accept operations logs to augment metered output to ensure accurate verification. The RIP or the Transmission Owner, as appropriate, shall retain all interval meter readings upon which it bases its certification of compliance, for a period of three (3) years.

4.12.8 Special Case Resource Demand Response Payments

Each time a Special Case Resource is called upon to perform it will receive an Energy payment for the amount of Load reduction resulting from its performance. If the ISO requests performance by Special Case Resources for more than four (4) hours, each Special Case Resource shall be paid for the duration of the event in accordance with this Section 4.12.8, starting with the hour specified by the ISO as the starting time of the activation, or, in the event that the ISO specified that the Demand Reduction begin as

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soon as possible, starting with the hour that the Special Case Resource began its response. Payment for Special Case Resource Load reductions are conditioned upon verification of performance for the time period requested by the ISO.

If the ISO requests performance by Special Case Resources for four (4) hours or less, each Special Case Resource shall be paid as if it had been activated for four (4) hours. Each Special Case Resource that reduces demand shall receive a payment consistent with the hybrid pricing rules, in accordance with this Section 4.12.8, for the duration of the ISO request or for two (2) hours, whichever is greater, starting with the hour specified by the ISO as the starting time of the event, or, if the ISO specified that the Demand Reduction begin as soon as possible, starting with the hour that the Special Case Resource began to perform. Each Special Case Resource shall be paid the zonal Real-Time LBMP per MWh of demand reduced for the remainder of the four-hour minimum payment period. Payment for Special Case Resource Load reductions is conditioned upon verification of performance for the time period requested by the ISO.

Special Case Resource Minimum Payment Nominations would be eligible to participate in the LBMP price setting under the hybrid pricing rules, which permit Bids, or in this case Minimum Payment Nominations, to set prices if at least one (1) MW of Special Case Resource Capacity is needed to satisfy the total reserve requirement, following performance and verification. In the event that a Special Case Resource's Minimum Payment Nomination total for the number of hours of requested performance exceeds the LBMP revenue that Special Case Resource receives, that Special Case Resource will be eligible for a Bid Production Cost Guarantee to make up the difference.

When more than one Special Case Resource has submitted the highest Minimum Payment Nomination selected by the ISO to perform during an event, but the ISO does not need all of the Capacity represented by that pool of two or more Special Case Resources, the ISO will identify those Special Case Resources that must perform during that event. This determination will be made on a non-discriminatory, round-robin basis. Special Case Resources with Minimum Payment Nominations at this level that are not called upon to perform during an event will receive the benefits of the round-robin basis in the event a similar performance call is made during the same Capability Year, assuming Minimum Payment Nomination pricing allows for such treatment (i.e., Special Case Resource Minimum Payment Nominations have not changed, so that the same Special Case Resources are offering the same Capacity at the same guarantee prices). RIPs responsible for one or more Special Case Resources selected under the round-robin scenario that are also responsible for one or more Special Case Resources not called upon due to the round-robin selection process may substitute one or more of the Special Case Resources not selected for one or more of the Special Case Resources selected to perform so long as the total MWs eligible for payment does not exceed the MWs originally selected and the RIP responds with an equal or greater amount of demand response Resources when making such substitution.

To continue the example listed in Section 4.12.3, each Special Case Resource that was called to perform in Zone J would be paid the greater of its Minimum Payment

Nomination or the applicable LBMP per MW per hour of requested performance following verification of performance of Demand Reduction. When at least one (1) MW of Special Case Resource Capacity is needed to satisfy the total reserve requirement the Minimum Payment Nominations submitted by these Resources may be considered when determining the LBMP.

4.12.9 ISO Verification

The ISO retains the right to audit any records kept by the RIP, the Transmission Owner, or the Special Case Resource which are used to support the RIP's certification of compliance with the procedures set forth in this Section 4.12.

4.13 Existing Municipally-Owned Generation

A municipal utility that owns generation in excess of its Installed Capacity requirement, net of any Capacity provided by the New York Power Authority, may qualify to supply the excess Capacity as Unforced Capacity under the following conditions.

The municipal utility must:

- Provide the ISO with the physical operating parameters of its generation capability;
- Operate the generation at the ISO's request; and
- Ensure that the Energy provided by the generation is deliverable to the New York State Power System.

Only generation that was in service or under construction as of December 31, 1999 may qualify for the exemption from the bidding, scheduling and notification requirements.

4.14 Unforced Capacity Deliverability Rights

Unforced Capacity Deliverability Right ("UDRs") are rights, as measured in MWs, associated with new incremental controllable transmission projects that provide a transmission interface to a NYCA Locality (i.e., an area of the NYCA in which a minimum amount of Installed Capacity must be maintained). External UDRs are associated with interfaces between a NYCA Locality and an External Control Area. Local UDRs are associated with interfaces between a non-constrained region in the NYCA and a NYCA Locality. When combined with Unforced Capacity which is located in an External Control Area or non-constrained NYCA region either by contract or ownership, and which is deliverable to the NYCA interface with the UDR transmission facility, UDRs allow such Unforced Capacity to be treated as if it were located in the NYCA Locality, thereby contributing to an LSE's Locational Minimum Installed Capacity Requirement. To the extent the NYCA interface is with an External Control

Area the Unforced Capacity associated with UDRs must be deliverable to the Interconnection Point.

A holder of UDRs may transfer them to another entity.

4.14.1 Determination and Assignment of Unforced Capacity Deliverability Rights

The amount of UDRs assigned by the NYISO to each new incremental transmission facility, and any future adjustments there to, will be based on the transmission capability, reliability, and availability of the facility, and appropriate NYSRC reliability studies.

4.14.2 Duration and Adjustment of Unforced Capacity Deliverability Rights

An incremental transmission project will be awarded UDRs, quantified as an amount of MWs, throughout its project life. The amount of UDRs awarded to a particular project may be adjusted periodically by the ISO. Adjustments to such an award will reflect changes in physical characteristics and availability of the associated project.

4.14.3 Use of External Unforced Capacity Deliverability Rights

In order to use External UDRs, an Installed Capacity Supplier must have a contract to match the number of UDRs with Unforced Capacity associated with an identifiable physical Resource.

When an entity combines External UDRs with acceptable Unforced Capacity, the resulting product, when supplied to an LSE will be treated as Unforced Capacity located in the NYCA Locality and will qualify as Locational Unforced Capacity, provided that the energy is deliverable to the NYCA interface with the UDR transmission facility.

External Installed Capacity Suppliers using External UDRs must fulfill all External Installed Capacity Supplier requirements found in the Services Tariff and ISO Procedures, except for the requirement to acquire Import Rights as described in section 4.9.2.

4.14.4 Use of Local Unforced Capacity Deliverability Rights

In order to use Local UDRs, an Installed Capacity Supplier must have a contract to match UDRs with Unforced Capacity associated with an identifiable physical Resource either located in the non-constrained region of the NYCA or able to deliver Unforced Capacity to the non-constrained region of the NYCA.

When an entity combines Local UDRs with Unforced Capacity, the resulting product, when supplied to an LSE in the appropriate NYCA Locality, will be treated as Unforced Capacity located in the NYCA Locality and will contribute to that LSE's Locational Minimum Unforced Capacity Requirement.

Installed Capacity Suppliers using Local UDRs must fulfill all Installed Capacity Supplier requirements found in the Services Tariff and ISO Procedures for the Unforced Capacity they seek to combine with UDRs.

4.14.5 Unforced Capacity Deliverability Rights offered in an Installed Capacity Auction

UDRs may be offered in ISO-administered Installed Capacity Auctions when previously combined with qualified Unforced Capacity. External Unforced Capacity combined with UDRs and sold in a ISO-administered Installed Capacity Auction will not require the allocation of External Installed Capacity Import Rights.

The information submission requirements for External Installed Capacity Suppliers enumerated in section 4.9.1 of this Manual, with the exception of Operating Data, must be provided to the ISO at least two (2) business days prior to an ISO-administered Installed Capacity Auction in which the External Installed Capacity Supplier wishes to offer Unforced Capacity associated with UDRs, and at such times as required by the ISO and this Installed Capacity Manual (e.g., annual DMNC test results). Operating Data must be submitted in accordance with the timing requirements found in 4.4.9 of this Manual (by the tenth (10th) day of the month preceding the month in which the prospective External Installed Capacity Supplier wishes to supply Unforced Capacity to the NYCA).