

Rev 01 ICAP manual

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Section 4

ICAP REQUIREMENTS APPLICABLE TO INSTALLED CAPACITY SUPPLIERS

Generators, Installed Capacity Marketers, Interruptible Load Resources, Special Case Resources, Energy Limited Resources and System Resources may be qualified as Installed Capacity Suppliers if they meet the NYISO's requirements. Generators and System Resources may be physically located in the NYCA, or in an External Control Area which meets the recall and curtailment procedures and the locational limitations specified in Section 2.5 of this manual.

Section 4 contains:

- An overview of the NYISO's requirements applicable to ICAP Suppliers
- The procedures applicable to entities belonging to one of the aforementioned categories of resources in order for those resources to be qualified as an ICAP Supplier
- The bidding, ~~and~~ scheduling and notification procedures that must be followed by ICAP Suppliers
- The sanctions that the NYISO may assess if an ICAP Supplier does not abide by the tariff or the procedures contained in this manual
- A summary of required actions

Appendix J of this manual contains additional significant detail regarding the implementation of New York's Unforced Capacity methodology. The *ISO Services Tariff* reference for this section of the manual is ~~5.12.~~ ??

4.1 Overview

The requirements that must be met for a resource to qualify as an ICAP Supplier are generally stated below. Detailed requirements and procedures applicable to specific categories of resources are contained later in this Section..

If required, an ICAP Supplier must:

- Provide the NYISO with the name and location of any Generator, Interruptible Load Resource or System Resource that it controls
- Provide the NYISO with all required documentation
- Provide the NYISO, on a monthly basis, with NERC-GADS data or equivalent GADS data for Interruptible Loads
- Comply with the reporting requirements contained in this manual
- Abide by the maintenance coordination procedures for Generators
- Inform the NYISO of the expected return date from any outages

- Provide documentation to the NYISO that it has not sold the same ICAP to more than one entity at a time
- Comply with scheduling, ~~and~~-bidding and notification requirements

4.X Unforced Capacity

New York uses an Unforced Capacity (“UCAP”) methodology to determine the amount of installed capacity an ICAP Supplier is qualified to sell in the New York market. The Unforced Capacity methodology considers the amount of time a resource is available to serve load, accounting for planned, maintenance and forced outages, and whether the resource is available during New York’s peak periods. The Demand Equivalent Forced Outage Rate, or EFORD is expressed in percentage terms of less than 1. The EFORD is subtracted from 1 and this sum is multiplied by the Supplier’s Installed Capacity rating in MWs to arrive at the Supplier’s UCAP rating in MWs.

All equations used to derive an ICAP Supplier’s UCAP rating are contained in Attachment J to this manual.

4.X.1 Data Reporting Requirements

ICAP Supplier’s are required to submit NERC-GADS data to the NYISO, in a format consistent with the NERC reporting format (found at www.nerc.com), by the twentieth of the month following the month for which the data has been collected. For example, Suppliers must submit data for the month of September by October 20th.

ICAP Suppliers in operation in the NYCA as of January 1, 2000 are required to submit monthly NERC-GADS data beginning with January 2000 data. Other resources in operation in the NYCA as of January 1, 2000 that may sell ICAP in the New York markets beginning in the Summer 2001 Capability Period are also required to submit monthly NERC-GADS data beginning with January 2000 data.

ICAP Suppliers and other resources (that intend to supply ICAP beginning in the Summer 2001 Capability Period) which began operation in the NYCA after January 1, 2000 are required to begin submitting monthly NERC-GADS data no later than one month after the resource commenced commercial operation.

4.X.2 UCAP Calculation Procedures

Generally, an ICAP Supplier’s UCAP rating will be based on a twelve-month rolling average, with a two-month reporting and calculation lag, of the most recent previous twelve months of NERC-GADS data. For example, an ICAP Supplier’s UCAP rating in September 2001 will be based on a rolling average of data submitted for the prior period beginning in July 2000 and ending June 2001.

The NYISO will calculate UCAP ratings for resources in operation as of January 1, 2000 using NERC-GADS data for the calendar year 2000 that has been submitted to the NYISO by the supplier. The NYISO will use a default number of zero UCAP MWs for any month in which a Supplier fails to meet the NERC-GADS data reporting requirements.

The NYISO will calculate UCAP rating for newer resources, i.e., those in operation after January 1, 2000, by using a weighted average of (a) NERC class average availability data (by fuel type and size) for the months prior to actual operation and (b) NERC-GADS data for the months of actual operation.

Does the manual need more on UCAP calculations in this section?

4.2 *DMNC Test Procedures*

Potential ICAP Suppliers must perform DMNC tests in accordance with the procedures described below (unless exempt in accordance with the provisions of Section 4.6 of this manual), and provide the NYISO with the required documentation of those tests. Alternatively, potential ICAP Suppliers, with the exception of new Generators, may use historical production data for the immediately preceding like Capability Period, no more than twelve months old, in lieu of DMNC test data. For a summer period, the historical production data must have been recorded between June 1 and September 15; for a winter period, the data must have been recorded between November 1 and April 15.

Installed Capacity Suppliers offering to sell ICAP as a System Resource from Generators internal to the New York Control Area 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 hour disconnection period less than one year old.

4.2.1 *DMNC Test Periods*

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

~~The NYISO Services Tariff allows DMNC tests to be performed between March 1, 2000 and March 24, 2000 for any Generator whose 1999 Summer DMNC was derated from its 1998 Summer DMNC. Based on the temperature adjusted results of this test, such a Generator may be authorized to sell up to the level it demonstrated in 1998 for the Summer 2000 Capability Period. An Installed Capacity Supplier's DMNC test results must be temperature adjusted and provided to the NYISO's Scheduling Department by March 24, 2000 in order to qualify for the Summer 2000 Capability Period ICAP auction scheduled for March 31, 2000.~~

New Generators may be qualified at any time ~~during the Summer 2000 Capability Period~~ based on the results of an appropriate ~~DMNC demonstration~~ test or production data and submission of required NERC-GADS data. ~~New Generators may temperature adjust the results of the appropriate demonstration test or production data, using the procedures noted on the DMNC test results forms (Attachment D to this manual) if the test is conducted prior to the Summer 2000 DMNC Test Period. In order to qualify as an ICAP supplier for any month within the Summer Capability Period, new Generators must submit the four hour demonstration test results by the tenth day of the month preceding the month in which they intend to sell ICAP. In order to qualify as an ICAP supplier~~

~~prior to the Summer 2000 Capability period auction, a new Generator must submit the appropriate demonstration test or production data results by March 24, 2000.~~

Existing Generators that have increased capacity may demonstrate the DMNC of the incremental capacity ~~for and within the Summer 2000 Capability Period~~ at any time by following the procedures described in the paragraph above for new Generators.

[Questions: If we maintain these provisions for qualifying new generators and additional capacity for existing generators, don't we need temp adjustment procedures? If so, are the existing temp adjust procedures adequate?]

~~Generators that qualify to sell ICAP during the Summer 2000 Capability Period through tests conducted prior to June 1, 2000 pursuant to the preceding three paragraphs will be required to verify the claimed DMNC rating by performing an additional test during the Summer 2000 test period.~~

~~Generators that qualify to sell ICAP during the Summer 2000 Capability Period through tests conducted between March 1 and April 15, 2000 may use those test results to qualify for the Winter 2000 Capability Period~~

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 ICAP Suppliers.

Fossil Fuel and Nuclear Stations

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

- a. The unit's sustained maximum net output averaged over a four 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 Stations

Valid DMNCs for hydro units are determined by the following:

- a. The sustained maximum net output averaged over a four 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 hour period.
- ~~b. Such a 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 Winter Capability Periods.~~
- ~~c. Such a 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 peaks during the previous four Summer Capability Periods.~~

Combined Cycle Stations

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

- a. The sustained maximum net output over four 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 peaks during the previous four 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 peaks during the previous four Summer Capability Periods.~~

4.2.3 Treatment of Station Service Load

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

In other cases, a portion of the station service load may be provided from sources other than the Generator. In these cases, separate measurements must be made of the station service load and subtracted from the Generator's gross output as measured 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 NYISO any information available to it which relates to the configuration of the Generator and its station service load.

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 form provided in Attachment D to the NYISO. The test reports include:

- a. Kilowatt-hour meter readings from the tests to verify net output. Reproduced copies of actual log sheets are preferred where possible.
- b. 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.
- c. For steam units, test conditions as listed below (see also Attachment A):
 - > Over pressure
 - > Top feed water heater O/S
- d. ~~Notes explaining the reason for any failure to achieve claimed DMNC, and intended date and means of correcting the deficiency or re-rating the unit capacity.~~

4.3 Maintenance Scheduling Requirements

All resources intending to supply ICAP to the NYCA must comply with the following procedures, unless specific exceptions are noted below.

- Submit a confidential notification to the NYISO of proposed outage schedules for the next three calendar years by July 1st of the current calendar year. ~~The deadline for submission of proposed outages schedules for the 2000-2001 Capability Year is February 29, 2000. This requirement applies to all resources within the NYCA.~~
- If Operating Reserve deficiencies are projected to occur in certain weeks for the upcoming calendar year, based upon the NYISO's reliability assessment, resources may be requested to voluntarily reschedule planned maintenance.
- The NYISO will provide the resource with alternative acceptable times for the rescheduled maintenance.
- If the resource is a Generator and an ICAP Supplier, and does not voluntarily re-schedule its planned maintenance within the alternative acceptable times provided by the NYISO, the NYISO will invoke mandatory re-scheduling using the procedures in Section 2.1 of the *NYISO Outage Scheduling Manual*.
- A resource that did not qualify as an ICAP Supplier prior to the **Capability Obligation Procurement** Period and that intends to be an ICAP Supplier ~~within any the~~ Obligation Procurement Period must provide the NYISO with its proposed outage schedule for the current Capability Year and the following two calendar years, no later than the first day of the month preceding the month in which it intends to supply ICAP, so that it may be subject to the voluntary and mandatory re-scheduling procedures described above. If the first day of the month preceding the month in which the resource intends to supply ICAP is after

July 31st, the resource must also provide outage schedules for the next three Capability Years.

4.3.1 Interruptible Load Resources

Interruptible Load Resources must comply with the following procedures.

- Notify the NYISO 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.
- Provide the NYISO 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

4.3.2 External System Resources

The NYISO 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.

4.4 Bidding, Scheduling and Notification Requirements

On any day for which it has sold ICAP, each ICAP Supplier (except as noted below) must schedule, bid or declare to be unavailable an amount of Energy that is not less than the amount of ICAP it sold from a particular resource, rounded down to the nearest whole MW.

Each Generator, Interruptible Load Resource, Energy Limited Resource and System Resource providing ICAP must designate the entity that will be responsible for complying with these bidding, scheduling and notification requirements. .

4.4.1 Generators and System Resources

For every hour of any day for which Generators or System Resources sell ICAP, they must make the amount of energy associated with its ICAP commitment available to the NYCA through a combination of scheduling or bidding in the Day Ahead and Hour-Ahead Energy Markets, or in accordance with the notification procedure below. See the NYISO's Day Ahead Scheduling Manual and Market Participants User Guide for scheduling and bidding procedures.

For any hour of any day that the supplier cannot provide the full amount of energy associated with its ICAP commitment, due to a maintenance or forced outage, the supplier must notify the NYISO Operations department. [These notification

procedures are being developed by NYISO staff and will be provided to the WG for comment shortly.]

[Note that manual language to extend bidding requirements beyond May 1, 2001 (as reflected in section 5.12.1(x) of the tariff) will be included here, as appropriate.]

4.4.2 Energy Limited Resources

Energy Limited Resources that are ICAP suppliers must be able to provide the Energy equivalent of their [Is “claimed ICAP” still a correct term in the UCAP world?] claimed ICAP for four (4) hours each day. Energy Limited Resources must bid or schedule in the Day-Ahead Market for twenty-four (24) hours each day in such a way as to enable the NYISO to schedule them for the period in which they are capable of providing the energy. [Can Hour Ahead bidding / scheduling requirements be applied to ELRs?]

An Energy Limited Resource must also provide the NYISO with information concerning the hours during which it will be recharging or replacing depleted resources. Once the resource has provided four hours of Energy equivalent ICAP, the NYISO will not call on an Energy Limited Resource during its recharge hours, except in the case of an emergency.

4.4.3 Interruptible Load Resources

Interruptible Load Resources that are ICAP Suppliers must supply the NYISO with Energy and/or Operating Reserve bids in the Day Ahead Market indicating the price at which they are willing to be interrupted.

4.4.4 Existing Municipally-Owned Generation

Resources that qualify as Existing Municipally-Owned Generation ICAP Suppliers pursuant to section 5.12.8(b) of the ISO Services Tariff and section 4.8.8 of this manual are not required to bid or schedule in the Day Ahead and Hour Ahead Markets.

4.4.5 External Transactions and Recall Procedures

A resource that is not fully scheduled in the Day Ahead Market may use the unscheduled Energy associated with its ICAP commitment to NYCA load for an External Transaction, provided that the Energy is recallable at any time by the NYISO.

An ICAP Supplier that has entered into External Transactions must provide the NYISO with recall bids that specify the price at which the ISO may recall the Energy associated with the Supplier's ICAP commitment to the NYCA. If the ICAP Supplier is located External to the NYCA, then the ICAP Supplier or its designated agent must provide the NYISO with a recall bid at the time that the ICAP Supplier schedules a transaction with a load external to the NYCA.

Until such time as the NYISO has automated its evaluation of recall bids in order to recall transactions on a least-cost bid basis, the NYISO will use its best efforts to eliminate shortages in total operating reserves on a least cost basis, consistent with maintaining the reliability of the NY State Transmission System, by exercising its discretion to purchase emergency energy or recall an ICAP transaction.

An ICAP Supplier whose Energy has been recalled will be paid the higher of its recall bid or the real-time LBMP at the relevant external Proxy Generator Bus.

Recall bids will not be used to set the LBMP.

~~A resource that is not fully scheduled in the Day Ahead Market may use the unscheduled Energy associated with its ICAP commitment to NYCA load for an External Transaction, provided that the Energy is recallable at any time by the NYISO.~~

~~An ICAP Supplier that has entered into External Transactions must provide the NYISO with recall bids that specify the price at which the ISO may recall the Energy associated with the Supplier's ICAP commitment to the NYCA. If the ICAP Supplier is located External to the NYCA, then the ICAP Supplier or its designated agent must provide the NYISO with a recall bid at the time that the ICAP Supplier schedules a transaction with a load external to the NYCA.~~

~~The first External Transaction to be recalled will be the one with the most economic bid price evaluated in accordance with the BME and SRE logic and considering transmission and reliability issues. An ICAP Supplier whose Energy has been recalled will be paid the higher of its recall bid or the real time LBMP at the relevant external Proxy Generator Bus.~~

~~Recall bids will not be used to set the LBMP.~~

4.4.6 Special Case Resources

Special Case Resources are not subject to Bidding, Scheduling and Notification Requirements.

4.5 *External Suppliers*

4.5.1 Curtailment and recall requirements

External Generators, System Resources, and entities purchasing from them may qualify as ICAP Suppliers if:

- they comply with the information requirements in section 4.5.2 and thereby demonstrate that the energy associated with the ICAP sold to the NYCA is deliverable to the NYCA,

and

- the External Control Area in which the resource is located demonstrates that it either (a) will not recall or curtail the Energy associated with the ICAP sale to satisfy its own Control Area Loads, or (b) will afford NYCA Load the same curtailment priority that it affords its own Control Area Load.

4.5.2 Information requirements

The NYISO requires the following information from resources External to the NYCA that wish to qualify as ICAP Suppliers, and for resources relied upon in ICAP contracts that have been assigned Grandfathered External Rights.

1. Name and location of Generators.
2. Documentation which satisfies the general requirements for DMNC Determination in section 4.2 of this manual.
3. Monthly submission of NERC-GADS data.
- ~~3.4.~~ Documentation which satisfies the Maintenance Scheduling Requirements in section 4.3 of this manual.
- ~~4.5.~~ Expected return dates from full or partial outages
- ~~5.6.~~ Certification that ICAP sold to the NYCA has not been sold elsewhere.
- ~~6.7.~~ Verification that it has made all arrangements required by its Control Area to ensure that the Energy associated with the resources' ICAP sale to the NYCA will be delivered to the NYCA. For example, if the resource is located in the PJM Control Area, it must demonstrate that it has agreed to make any congestion payments that may be incurred in order to deliver Energy to the New York border.

4.5.3 Allocation of ICAP Rights for External ICAP Supply

The NYISO establishes the maximum amount of ICAP that can be provided to the NYCA by resources located in each neighboring Control Area according to the procedures contained in section 2.6 of this manual. Once this amount has been determined for each neighboring Control Area, the allocation among NYISO customers of rights to external ICAP supply is done according to the following procedures.

4.5.3.1 *Grandfathered External Installed Capacity rights*

Details concerning grandfathered rights are provided in Attachment E to this manual.

4.5.3.2 *Other Allocations*

After accounting for grandfathered external ICAP rights, the NYISO will allocate the remaining rights for external ICAP supply on a first-come, first-serve basis. External ICAP rights may ultimately only be used by LSEs located within the NYCA, but any NYISO Customers may submit a request for external ICAP rights. External ICAP rights granted under the provisions of this section shall only be for the duration of the

~~upcoming Summer 2000~~ Capability Period, and shall not assume the status of grandfathered External ICAP rights in future Capability Periods.

Initial requests for External ICAP rights may be sent to the NYISO during the following time period:

- beginning at 8:00 AM EST seven (7) business days prior to the ~~Obligation Procurement~~ Capability Period strip auction,
- ending at 5:00 PM EST three (3) business days prior to this same auction.

Each request must contain the following information:

- 1) Documentation of a bilateral agreement, without reference to pricing terms, between the requesting entity and either (a) a load within the NYCA or (b) a previously qualified External ICAP supplier;
- 2) The identity of the NYISO Customer making the request;
- 3) The identity of the External ICAP Supplier;
- 4) The name and location of the resource;
- 5) The Control Area in which the resource for which the ICAP Supplier seeks rights is located;
- 6) The MW [UCAP?] amount requested to support the ICAP 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 ICAP Rights**” to the NYISO’s Manager of Resource Reliability via facsimile to the following number: 518-356-6208.

If the NYISO determines, by 5:00 PM EST on the day following receipt of an initial request (provided that this day falls during the time period for initial requests specified above) that the information provided in the request is incomplete or inadequate, the NYISO will immediately notify the requesting party. The requesting party may resubmit its information to the NYISO 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 NYISO. The date and time stamp provided by the FAX machine will determine the priority for the evaluation of requests. If a request is resubmitted during the specified time period, for any reason, the latest time stamp will determine the priority.

The NYISO will notify the requesting party if its request has been accepted or rejected, with reasons for rejection, by 5:00 PM EST on the day following receipt of a complete request. A rejection may be based on either or both of the following:

- Incomplete or inadequate information
- Fully subscribed External ICAP rights

By 5:00 PM EST on the day following receipt of an accepted request, the requesting entity must provide the NYISO with all documentation and information necessary to qualify an external resource as an ICAP Supplier, in accordance with the procedures contained in this manual. By 5:00 PM EST two (2) business days prior to the Obligation Procurement Period strip auction, an LSE that has procured an External ICAP right must provide the NYISO with the information and documents described in numbers 1, 4 and 5 above. The information described in this paragraph should be forwarded as a **“Certification of External ICAP Rights”** to the NYISO Manager, Resource Reliability by facsimile to 518-356-6208. The NYISO will verify this data with the External Control Area to ensure that there is no double counting.

By 5:00 PM EST two (2) business days prior to the pre-Obligation Procurement Period Monthly Auctions, all external ICAP rights should be matched between a load in the NYCA and an external ICAP Supplier. ICAP supplied by External ICAP Suppliers that have claimed External ICAP rights, but have not entered into bilateral arrangements with an LSE serving NYCA load by that time, will be offered for sale into those Auctions 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 that ICAP.) Similarly, if the NYISO has not received certification from an LSE which demonstrates that the rights it has secured are matched with a qualified external ICAP Supplier, that LSE will relinquish those rights. All purchasers of ICAP that is located in an External Control Area in an ISO-administered Auction shall receive the external ICAP rights necessary in order to permit that ICAP to count towards the ICAP requirements of an LSE; consequently, in order to ensure that there are sufficient external ICAP rights available, the NYISO shall limit the number of MW of ICAP **[amount of UCAP?]** that can be purchased in any External Control Area in those auctions. In each Obligation Procurement Period Auction, the NYISO shall limit the number of MW of ICAP **[amount of UCAP?]** that can be purchased in any External Control Area to the number of MW of of ICAP **[amount of UCAP?]** that can be provided by ICAP Suppliers located in that Control Area, as determined in Section 2.6 of this manual, less all external ICAP rights that have been requested for that External Control Area under the provisions of this section.

In the Obligation Procurement Period monthly auctions held before and during the Obligation Procurement Period, the NYISO shall limit the number of MW of ICAP **[amount of UCAP?]** that can be purchased in any External Control Area to the number of of MW of ICAP **[amount of UCAP?]** that can be provided by ICAP Suppliers located in that Control Area, less the number of MW of ICAP **[amount of UCAP?]** purchased in that External Control Area for that month in preceding Auctions, less all external ICAP rights for that Control Area that have been used to

support bilateral transactions for the sale of ICAP for that month from ICAP Suppliers in that Control Area to loads in the NYCA.

The NYISO will reduce External ICAP rights eligible to be traded in the Obligation Procurement Period strip auction based on the allocations made according to the above procedures.

If External ICAP rights are not fully subscribed after the Obligation Procurement Period strip auction has concluded, the NYISO will open another period of first-come, first-serve allocations prior to each monthly auction for which External ICAP rights remain. The procedures specified above will govern any monthly first-come, first-serve allocations. The period for requesting these rights will open at 8:00 a.m. EST on the fifth business day prior to the auction and will close at 5:00 p.m. EST on the third business day prior to the auction.

4.6 System Resources

A System Resource is defined as a portfolio of Installed Capacity provided by Generators 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 and that is made available, in whole or in part, to the NYISO. System Resources may be External or Internal to the NYCA.

The System Resource must be in an 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

4.6.1 Permissible Aggregations

For the purposes of aggregating System Resources, there are seven defined areas in which ICAP 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 IEMO

Resources located in ISO-NE and the Ontario IEMO Control Areas may not qualify as ICAP Suppliers, since these Control Areas do not currently meet the NYISO's recall or curtailment requirements for ICAP Suppliers. **[still holds?]**

Within the other five areas a single entity may aggregate its Generators into a portfolio for the purposes of entering into System Resource ~~ICAP-UCAP~~ transactions, so long as all the Generators included in the portfolio reside within the same area. With the exception of System Resource ~~ICAP-UCAP~~ transactions from the Hydro-Quebec Control Area, any entity that wishes to make System Resource sales must provide the required DMNC test data for each of Generator in the portfolio to the NYISO. The ICAP 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

4.6.2 External System Resources that are not owned by operators of Control Areas

The NYISO requires the following information for each resource aggregated as an External System Resource that is not owned by the operator of a Control Area. The entity aggregating the resources is responsible for supplying the information.

1. Name and location of Generators
2. Documentation that satisfies the General Requirements for DMNC Determination specified in section 4.2 of this manual.
3. Monthly submission of NERC-GADS data.
- ~~3.4.~~ Documentation that satisfies the Maintenance Scheduling Requirements specified in section 4.3 of this manual.
- ~~4.5.~~ Expected return date from full or partial outages
- ~~5.6.~~ Certification that ICAP sold to the NYCA has not been sold elsewhere..

4.6.3 External System Resources that are owned by operators of Control Areas

External System Resources that are owned by the operators of a Control Area must provide the following information in order for the sellers of ~~ICAP-UCAP~~ from those resources to be considered ICAP Suppliers by the NYISO. This data must be received by the NYISO forty-five days prior to the start of the upcoming Capability Period. This data must be provided on a monthly basis for each month of the upcoming Capability Period. If the amount of ~~ICAP-UCAP~~ they have available to supply to New York is less than that amount that they have sold to NY, the Control Area will be deemed to be deficient.

1. Available capacity (CAP) that does not reflect adjustments for External firm capacity purchases or sales, outages and maintenance
2. External firm capacity purchases (EP)
3. Peak Load (PL)
4. External firm capacity sales other than sales to New York (EF)
5. Planned maintenance (PM)
6. Historical average forced outages (FO)
7. Operating reserve (OR)

4.6.3.1 Determination of amount of ICAP that may be sold

The NYISO will perform the following calculation for each month of the Capability Period for an External System Resource that is a Control Area. The amount of ICAP which the External System Resource that is a Control Area may sell for all months, or any month, within the Capability Period may not exceed the minimum value derived from the following formula. **[Does this formula still hold in UCAP market? Will we require NERC-GADS data from these resources?]**

$$ICAP = CAP + EP - PL - EF - PM - FO - OR$$

By the twentieth (20th) day after the end of each month of the Capability Period, the External System Resource will provide to the NYISO, at the time of the monthly peak Load, actual values for items 2 through 7 above. The NYISO will compare actual values to forecast values and may de-rate future monthly forecast ICAP calculations based on this comparison

4.7 Metered Interruptible Loads

The following procedures apply to Interruptible Loads that are metered by the NYISO.

- These resources must bid into the Day-Ahead **[and Hour-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 its 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 NYISO.

4.8 Special Case Resources

[Note that section 4.8 needs careful review for its applicability to UCAP market.]

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 NYISO's Market Information System. Special Case Resources may only supply ICAP through bilateral contracts, and may not participate in NYISO - administered ICAP auction.

Capacity from Special Case Resources will be calculated as the pledged amount of Load that can be reduced from the customer's metered demand increased by

the Transmission District system loss factor. A Special Case Resource is not required to be an Energy customer of the LSE that has contracted for the resource's ICAP.

4.8.1 Distributed Generators – general requirements

Resources that run in parallel with the system must provide historical operating data. Except for those with environmental or operational limitations, these resources must perform a four-hour test of pledged output, and provide test results in the format specified by the NYISO, or provide historical operating data. Resources that have environmental or operational limitations may qualify by performing a two-hour test or by providing historical operating data. If the resource consumes auxiliary power from the system, its auxiliary demand must be netted out of its maximum output.

These resources may qualify in the same manner and during the same test periods as “new Generators.” Please refer to sections 4.2.1 and 4.2.3 of this manual.

The amount of ICAP that may be sold shall be the lesser of the pledged output test, or the total Load at the site of the distributed generator.

These resources must meet the qualifications and comply with the procedures described below. LSEs claiming capacity from these resources must comply with the requirements and procedures described below.

4.8.2 Loads capable of being interrupted upon demand – general requirements

These resources must conduct a one-hour sustained disconnect test and provide test results in the format specified by the NYISO, or provide historical operating data. These resources may qualify in the same manner and during the same test periods as “new Generators.” Please refer to sections 4.2.1 and 4.2.3 of this manual.

LSEs claiming capacity from these resources must comply with the requirements and procedures described below.

4.8.3 Qualifications

The Special Case Resource must make Energy available, in amounts that correspond to the pledged capacity, by interrupting Load or transferring Load to a generator, within two hours of a notice provided by the NYISO to the LSE, following a 24-hour notice. If the resource is unable to provide full output within two hours due to operational constraints the LSE may petition the NYISO for permission to provide maximum output from the resource within a longer period. The NYISO's permission will not be unreasonably withheld. In granting permission the ISO will calculate the appropriate derated DMNC for use in determining the pledged capacity.

In the event the equipment relied upon by the resource was in operation, or its Load was interrupted, at the time of the system or the Transmission District peaks upon which the LSE's capacity requirement is based, the customer's ICAP

obligation will be increased by the amount of Load that was interrupted or transferred.

LSEs may claim Special Case Resource capacity from entities that are not their retail customers, provided that they provide notice of the capacity purchase to the LSE supplying the entity's Energy.

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 capacity if the LSE has supplied the Transmission Owner with a wiring and switching equipment diagram which meets the Transmission Owner's approval .

4.8.4 Notification Procedures

The NYISO will provide 24 hour-ahead notification and two hour notice, as required under these procedures, to the LSE claiming Special Case Resources as capacity. The 24 hour-ahead notification will be provided after 11 am, day ahead, when the DAM closes. The NYISO commits not to use 24 hour notification of potential need to operate indiscriminately but rather only when the DAM indicates serious shortages of supply for the next day.

The NYISO shall provide notice no fewer than two hours ahead of required operation or interruption.

LSEs shall contact their Special Case Resources through whatever communication protocols are agreed to between the resource suppliers and the LSE.

LSEs claiming special case resources as capacity shall provide the ISO with LSE phone and Internet contact information that allows for 24x7 communication.

4.8.5 Capacity Adjustment Procedures

Special Case Resources that fail to respond to LSE notification by reaching maximum output within 2 hours following NYISO – LSE notice or that fail to provide maximum output for the period required by the NYISO, or four hours, whichever is less, will be considered forced out (for unserved hours) for purposes of calculating the capacity value of the Special Case Resource for the next Obligation Procurement Period.

Special Case Resource capacity that has successfully petitioned the NYISO for permission to reach maximum output in more than two hours will be considered forced out in the amount of capacity not backed by Energy within two hours of the ISO-LSE notice.

Special Case Resource capacity that cannot operate for the full four 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.

4.8.6 LSE Requirements

LSEs claiming Special Case Resource capacity from their retail customers must certify that the Special Case Resource meets or has met the applicable General Requirements and Qualifications described in Section 4 of this manual . LSEs claiming special case resource capacity from entities that are not their retail customers must further provide the notification described in item number 4 of the Qualifications section of this document.

LSEs shall certify that Special Case Resources claimed as capacity are complying with these procedures by documenting reductions in Load, or Energy production, with interval meters readings for the six hour period following the 2 hour NYISO notice. In the event that Energy made available from Special Case Resource 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 LSE 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 years.

LSEs claiming capacity from Special Case Resources shall document operation of the resource to the TO and the energy supplying LSE, if any.

LSEs claiming Special Case Resource capacity shall file with the NYISO, the data necessary to document the source and amount of Special Case Resource capacity.

4.8.7 ISO Verification

The NYISO retains the right to audit any records kept by the LSE, the Transmission Owner or the Special Case Resource which are used to support the LSE's certification of compliance with these procedures.

4.8.8 Existing Municipally Owned Generation

[Question: Have any decisions been made to maintain this as a permanent market feature.]

~~FF~~For the Summer 2000 Capability Period, a municipal utility that owns generation in excess of its ICAP requirement, net of any capacity provided by the New York Power Authority, may qualify to sell the excess capacity as ICAP under the following conditions.

The municipal utility must:

- Provide the NYISO with the physical operating parameters of the generators
- Operate the generation at the NYISO's request
- 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.