

# *Installed Capacity Manual*

*October 2008*

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## Revision History

Version	Date	Revisions
6.7	09/03/2008	<p><b>Section 5</b></p> <ul style="list-style-type: none"> <li>➤ Edited/added hyperlinks</li> <li>➤ Introduced Event Calendar references in lieu of the term “timeline”</li> <li>➤ Conformed Sections 5.2, 5.3, 5.4, 5.7, and 5.16 to new In-city mitigation rules</li> <li>➤ Updated/corrected ICAP Demand Curve references in Section 5.5</li> <li>➤ Other miscellaneous edits</li> </ul> <p><b>Attachments</b></p> <ul style="list-style-type: none"> <li>➤ Reformatted per new template to standardize presentation</li> </ul> <p><b>Attachment B</b></p> <ul style="list-style-type: none"> <li>➤ Updated Unforced Capacity Deliverability Rights table to include information on Linden VFT – PJM to New York City, Zone J</li> </ul> <p><b>Attachment D</b></p> <ul style="list-style-type: none"> <li>➤ Added noted citing online location of forms</li> </ul> <p><b>Attachment M</b></p> <ul style="list-style-type: none"> <li>➤ Implemented ministerial changes</li> </ul>
6.6	08/04/2008	<p><b>Global</b></p> <ul style="list-style-type: none"> <li>➤ Reformatted per new template to standardize presentation</li> </ul> <p><b>Revision History Table</b></p> <ul style="list-style-type: none"> <li>➤ Column headings changed as follows: <ul style="list-style-type: none"> <li>• “Revision” changed to “Version”</li> <li>• “Changes” changed to “Revisions”</li> </ul> </li> <li>➤ Date format standardized to mm/dd/yyyy.</li> <li>➤ Minor stylistic changes to entries</li> <li>➤ Last entry edited to change Version from “Initial Release” to “1.0” and to change Revisions from “Initial NYISO Installed Capacity Manual” to “Initial Release”</li> </ul> <p><b>Section 4</b></p> <ul style="list-style-type: none"> <li>➤ Edited and moved most of Section 4.2.1 to Section 4.2</li> <li>➤ Added language in Section 4.2.2 regarding DMNC for the PTID as a whole</li> <li>➤ Clarified need for Special Case Resources to provide advance notification in Section 4.3.3</li> <li>➤ Section 4.4 updated to add discussion of NERC and NYISO GADS data reporting. Also added Section 4.4.12 covering treatment of Retired, Mothballed and Inactive generating units.</li> <li>➤ Section 4.5 changed periods used for converting Installed Capacity to Unforced Capacity values</li> <li>➤ Section 4.6 updated to clarify treatment of transmission outages; also treatment of state changes during outages</li> <li>➤ Added instructions in Section 4.9 for submitting transaction numbers for inter-area transactions</li> </ul>

		<ul style="list-style-type: none"> <li>➤ Added clarifications in Section 4.12 for Small Customer Aggregations and RIP authorizations by individual Special Case Resources</li> <li>➤ Miscellaneous edits and clarifications</li> </ul>
6.5	05/21/2008	<p><b>Section 4.2.1</b></p> <ul style="list-style-type: none"> <li>➤ Updated to reflect Event Calendar changes for In-City Mitigation as well as to correct typographical errors</li> </ul>
6.4	03/19/2008	<p><b>Section 5.5</b></p> <ul style="list-style-type: none"> <li>➤ Bottom of page – removed text and link information to the Demand Curve location on NYISO website.</li> <li>➤ Footnote 1 – removed Automated and Market from footnote, implied by ICAP System.</li> <li>➤ First paragraph after discussion on the Monthly ICAP Reference Point was removed.</li> <li>➤ Second paragraph after discussion on the Monthly ICAP Reference Point was reworded to point to reader to Section 5.14.(b) of the NYISO Services tariff for information on ICAP Demand Curves and removed subsequent table.</li> <li>➤ A last paragraph was added to point the user to the NYISO website for the Unforced Capacity Demand Curves.</li> </ul> <p><b>Section 5.7</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – added ICAP to second reference to Spot Market, clarified Locational Unforced Capacity Requirements as Locational Minimum Installed Capacity Requirements.</li> <li>➤ Second and Third Paragraphs – replaced “Installed Capacity” with ICAP.</li> <li>➤ Fourth Paragraph and Subsequent Table and Note removed.</li> </ul>
6.3	07/11/2007	<p><b>Section 4.12.4</b></p> <ul style="list-style-type: none"> <li>➤ Eighth paragraph             <ul style="list-style-type: none"> <li>• Deleted “will”...“only during DMNC Test Period”</li> <li>• Added “may”...“any time during the applicable Capability Period”</li> </ul> </li> <li>➤ Tenth paragraph             <ul style="list-style-type: none"> <li>• Added to second sentence after “Performance”...“for each Special Case Resource”... “shall”... “for all hours”...“one-hour audits:</li> <li>• Deleted “will”...“ based on all”...“and will apply to the next like Capability Period and the immediately succeeding Capability Period.</li> <li>• Added all text starting at the third sentence.</li> </ul> </li> </ul> <p><b>Section 4.12.6</b></p> <ul style="list-style-type: none"> <li>➤ Second paragraph – deleted “within two (2) hours”</li> </ul> <p><b>Section 4.12.7</b></p> <ul style="list-style-type: none"> <li>➤ Third bullet – added “for all hours during all called...in a Capability Period”</li> <li>➤ Fifth bullet – deleted “four (4) hour” and “two (2) hour” from fourth line.</li> </ul> <p><b>Attachment J</b></p> <ul style="list-style-type: none"> <li>➤ In section 3.3 replaced all instances of “requested” with “required”</li> </ul>
6.2	10/12/2006	<p><b>Section 3.8</b></p> <ul style="list-style-type: none"> <li>➤ First equation – corrected “Demonstrated” to “Dependable”</li> </ul> <p><b>Section 4.1</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – corrected DMNC acronym from “Demonstrated” to</li> </ul>



		<p>“Dependable”</p> <p><b>Section 6.1.2</b></p> <ul style="list-style-type: none"> <li>➤ Third paragraph <ul style="list-style-type: none"> <li>• Deleted “will be”</li> <li>• Added “may be up to one and one-half...NYISO Services Tariff)”</li> <li>• Deleted “based on the table...pro-rated on a daily basis.”</li> </ul> </li> </ul> <p><b>Attachment M</b></p> <ul style="list-style-type: none"> <li>➤ Accepted as new Attachment.</li> </ul>
6.1	08/28/2006	<p><b>Section 4.9.2 (In response to a 6/29/06 order, NYISO filed on 8/28/06 compliance changes to its Installed Capacity Manual to improve the transparency of the external ICAP imports rights allocation procedures.)</b></p> <ul style="list-style-type: none"> <li>➤ Under “Request” added, “by facsimile” and “(at the number listed below)”</li> <li>➤ Added entire section labeled “Determination of Start Time for Submission of Requests.”</li> <li>➤ Under “Contents of Requests” added, “NYISO Fax Machine”</li> <li>➤ Under “Priority” added in first paragraph the sentence starting with “The start time for these time periods...” through “...rejected upon expiration of that time period.” Also added entire second paragraph.</li> <li>➤ Under “Priority” deleted entire paragraph starting with “If a request is resubmitted for any reason...”</li> </ul>
6.0	04/06/2006	<p><b>Section 4</b></p> <ul style="list-style-type: none"> <li>➤ Substantial changes made to this section regarding revised procedures for intermittent power resources, limited control run-of-river hydro resources, and special case resources.</li> <li>➤ Included capacity limited resources to the manual, and made DMNC clarifications throughout the manual.</li> <li>➤ Added footnote “NYISO note: To the extent the addition of this deferral to the beginning of the Summer 2007 Capability Period conflicts with the requirements of §5.12.11(a) of the Services Tariff, the NYISO and the Market Participants are obligated to comply with the tariff.”</li> <li>➤ Removed Section 4.3.1 and 4.4.5 on “Interruptible Load Resources” (intentionally left blank so as not to disturb surrounding numbering)</li> </ul> <p><b>Section 5.5</b></p> <ul style="list-style-type: none"> <li>➤ Added footnote “In the Automated ICAP Market System, each ICAP Demand Curve is represented by a piece-wise linear function (step function). Each linear segment has a length of 0.1 MW and a price as calculated based on the slope of the Demand Curve.”</li> <li>➤ Added footnote “A peaking unit is defined as the unit with technology that results in the lowest fixed costs and highest variable costs among all other units’ technology that are economically viable.”</li> <li>➤ Removed references to “GT” with “peaking unit”</li> </ul> <p><b>Section 5.6</b></p> <ul style="list-style-type: none"> <li>➤ Section 5.6.5 – Deleted from first bullet “A peaking unit is defined as the unit with technology that results in the lowest fixed costs and highest variable costs among all other units’ technology that are economically viable;”</li> </ul>
5.5	02/06/2006	<p><b>Section 5.7</b></p> <ul style="list-style-type: none"> <li>➤ Updated table “Levelized Peaking Unit Costs” under heading Supplemental Supply Fee to conform with the FERC Demand Curve</li> </ul>

		Order dated April 21, 2005.
5.4	11/18/2005	<p><b>Section 4.14.2</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – change/insert “after a formal request to the NYISO that includes the pertinent technical information needed to determine such award. The NYISO may request additional information as necessary and will grant UDRs to the requestor, or designated rights holder, quantified as the Installed Capacity Equivalent of the Unforced Capacity to be delivered to the Interconnection Point in.”</li> <li>➤ Second paragraph - New</li> </ul> <p><b>Section 4.14.3</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – removed “Unforced” and replaced with “Installed.”</li> <li>➤ Second paragraph – added “Installed Capacity” before Unforced Capacity.</li> <li>➤ Third and fourth Paragraphs – New</li> </ul> <p><b>Section 4.14.4</b></p> <ul style="list-style-type: none"> <li>➤ Third and fourth Paragraphs – New</li> </ul>
5.3	09/27/2005	<p><b>Section 4.2.1</b></p> <ul style="list-style-type: none"> <li>➤ Third paragraph – changed “2 calendar days” to “7 calendar days” and removed “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.”</li> <li>➤ Third paragraph – changed “Tuesday” to “Thursday” and removed “If the NYISO administers an auction on Monday, new Resources shall submit such results by 5:00 PM on the Friday preceding the auction.”</li> <li>➤ Fifth paragraph – changed “2 calendar days” to “7 calendar days” and removed “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.”</li> <li>➤ Fifth paragraph – changed “Tuesday” to “Thursday” and removed “If the Certification Day is a Monday, new Resources shall submit such results by 5:00 PM on the Friday preceding the Certification Day.”</li> </ul> <p><b>Section 4.9.4</b></p> <ul style="list-style-type: none"> <li>➤ Other Allocations – Added web page under “Request.” Changed “3 business days to 4 business days” in last bullet.</li> <li>➤ Under “Contents of Request” removed “is to support” and replaced with “equal to the Installed Capacity Equivalent of.” #5 - Changed second sentence to read "For example, a request for 100 MW of Import Rights from a Resource with 10% EFORD will support a UCAP sale of 90 MW. In third paragraph, added “By 5:00 PM of the day on which requests are received, the NYISO will notify all requestors that have submitted a complete and adequate request for Import Rights of their priority.”</li> <li>➤ Added new section “Priority” under this section added forth sentence “Priority is assigned to each request and assumes that supporting documents are received by the NYISO within the time period set forth below. Late submissions of supporting documentation will result in the automatic rejection of the Import Rights request.” Removed “The submission of incomplete or inadequate information does not alter the time frame in which such documents are due.”</li> <li>➤ Added new section “Supporting Documents” under this section- removed from second paragraph - Late submissions of supporting documentation will result in the automatic rejection of the underlying Import Rights request.” Added new third paragraph.</li> </ul>

		<ul style="list-style-type: none"> <li>➤ Under “Response from the NYISO” removed first sentence “The NYISO shall respond to requests for External Installed Capacity Import Rights in a timely fashion.” Added new 4th and 5th bullets. Under third paragraph added “using the assigned priorities”</li> </ul> <p><b>Sections 5.5 &amp; 5.6</b></p> <ul style="list-style-type: none"> <li>➤ Extensive rewrite</li> </ul>
5.2	07/28/2005	<p><b>Global Changes</b></p> <ul style="list-style-type: none"> <li>➤ Formatting change</li> <li>➤ Changed all instances of “ISO” to “NYISO”</li> <li>➤ Changed all instances of “EFOR<sub>D</sub>” to “EFOR<sub>d</sub>”</li> <li>➤ Changed all instances of “website” to “web site”.</li> </ul> <p><b>Section 2.2</b></p> <ul style="list-style-type: none"> <li>➤ First sentence – added “up to date”; “can be found by selecting the provided”; “found in this detailed timeline.” Removed “is posted under the applicable Capability Period on the Installed Capacity (ICAP) Market page of the NYISO web site.” and “posted on the aforementioned page of the NYISO web site.”</li> </ul> <p><b>Section 2.7</b></p> <ul style="list-style-type: none"> <li>➤ Last paragraph – Changed “Unforced Capacity” to “Installed Capacity.”</li> </ul> <p><b>Section 3.4</b></p> <ul style="list-style-type: none"> <li>➤ Last two paragraphs – extensively rewritten.</li> </ul> <p><b>Section 3.5.1</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – extensively rewritten. Second paragraph - removed time line text and replaced with actual link to time line.</li> </ul> <p><b>Section 3.5.2</b></p> <ul style="list-style-type: none"> <li>➤ First and Fourth bullet – removed time line text and replaced with actual link to time line.</li> </ul> <p><b>Section 3.5.4</b></p> <ul style="list-style-type: none"> <li>➤ First bullet – added “LSE that gains”; “from another LSE” and removed “gaining (or Load obligations gaining) LSE”. Also removed time line text and replaced with actual link to time line.</li> </ul> <p><b>Section 4.2</b></p> <ul style="list-style-type: none"> <li>➤ Extensively rewritten regarding DMNC.</li> </ul> <p><b>Section 4.2.1</b></p> <ul style="list-style-type: none"> <li>➤ Last paragraph – extensively rewritten.</li> </ul> <p><b>Section 4.2.4</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – removed 1<sup>st</sup> reference to Attachment D.</li> </ul> <p><b>Section 4.4.11</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – changed “Effective” to “Equivalent.”</li> </ul> <p><b>Section 4.7</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – removed time line text and replaced with actual link to time line. Added last two paragraphs.</li> </ul> <p><b>Section 4.8</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – removed from first sentence “rounded down to the nearest whole MW.”</li> </ul> <p><b>Section 4.9.2</b></p> <ul style="list-style-type: none"> <li>➤ Under “Contents of Request” removed # 1 and a &amp; b. First paragraph-</li> </ul>

		<p>removed “Resource Reliability” and second paragraph added along with a &amp; b. Under “Response from the NYISO” - first paragraph extensively rewritten. Fourth paragraph - removed “either or both” and replaced with “any”. Added 3rd bullet. Under para 5, added “the initial requests for” and removed “requests” after Import Rights. Under “Response from NYISO,” added “the initial requests for” and removed “requests” after Import Rights.</p> <p><b>Section 4.9.2</b></p> <ul style="list-style-type: none"> <li>➤ Under “Other Allocations” italicized “Initial requests for Import Rights”</li> </ul> <p><b>Section 4.9.3</b></p> <ul style="list-style-type: none"> <li>➤ Second bullet – extensively rewritten.</li> </ul> <p><b>Section 4.12.2</b></p> <ul style="list-style-type: none"> <li>➤ Removed “submit an appropriate” added “provide to the”. Second paragraph removed reference to Attachment D.</li> </ul> <p><b>Section 5</b></p> <ul style="list-style-type: none"> <li>➤ Second paragraph, last sentence – removed “when submitting their Installed Capacity certifications.”</li> </ul> <p><b>Section 5.1</b></p> <ul style="list-style-type: none"> <li>➤ First and second paragraph – removed time line text and replaced with actual link to time line.</li> <li>➤ Second paragraph-removed “when submitting their Installed Capacity certifications.”</li> </ul> <p><b>Section 5.1.1</b></p> <ul style="list-style-type: none"> <li>➤ First and third paragraph – removed time line text and replaced with actual link to time line.</li> </ul> <p><b>Section 5.2</b></p> <ul style="list-style-type: none"> <li>➤ First and seventh paragraph – removed time line text and replaced with actual link to time line.</li> <li>➤ Second paragraph, last sentence – removed “excess” and added “that is not otherwise already committed and wish to make that Unforced Capacity available.”</li> </ul> <p><b>Section 5.3</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – removed time line text and replaced with actual link to time line.</li> <li>➤ Second paragraph – added “owns Unforced Capacity that is not otherwise already committed and wishes to make that Unforced Capacity available” and removed “owns excess Unforced Capacity.”</li> <li>➤ Fifth paragraph – removed time line text and replaced with actual link to time line.</li> </ul> <p><b>Section 5.4</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – removed time line text and replaced with actual link to time line.</li> <li>➤ Second paragraph – added “acquired through Bilateral Transactions” and removed “(through Bilateral Transactions, self-supply or ISO administered auctions).”</li> </ul> <p><b>Section 5.8</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – removed time line text and replaced with actual link to time line.</li> </ul> <p><b>Section 5.9</b></p> <ul style="list-style-type: none"> <li>➤ Italicized text after #4 – added to second sentence “detailed timeline that can be found by selecting the link provided” and removed</li> </ul>
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		<p>“applicable Capability Period on the Installed Capacity (ICAP) Market page of the NYISO website”</p> <p><b>Sections 5.10 &amp; 5.11</b></p> <ul style="list-style-type: none"> <li>➤ Second/fourth paragraph – removed time line text and replaced with actual link to time line.</li> </ul> <p><b>Section 5.13</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – removed “but is not limited to” from last sentence.</li> <li>➤ #2 – removed “for the time period appropriate to the auction” added “per month.”</li> <li>➤ #5 – removed “and if so, which Control Area(s).” added “or outside any specific Locality within the NYCA.”</li> <li>➤ Second paragraph – added “In order to participate in the Installed Capacity market, each LSE must sign.”</li> </ul> <p><b>Section 5.14</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – added (excerpt where noted).</li> <li>➤ #2 – deleted “for the time period appropriate to the auction” and added “per month.”</li> <li>➤ #4 – added (PTID) and “(this provision is not a requirement of Offers submitted for the Capability Period and Monthly auctions by Installed Capacity Suppliers offering Unforced Capacity from Generators located within the NYCA).”</li> <li>➤ Removed #5 “Documentation of that Installed Capacity Supplier’s DMNC (described above);”</li> </ul> <p><b>Section 5.15.1</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – under (2) added “limitation placed on the Unforced Capacity that can be procured from” and removed “quantity of accepted Bids that specified that Unforced Capacity could be located in.”</li> <li>➤ Sixth paragraph, first sentence – removed “of the locational constraints specified by Bidders whose Bids have been selected, violations of the limitations.”</li> <li>➤ Twelfth paragraph, last sentence – removed “Again, the ISO will only do this in order to avoid violating locational constraints specified by Bidders that state that a Bid is only valid for Unforced Capacity that is not located in a given External Control Area (or group of Areas).”</li> </ul> <p><b>Section 5.16</b></p> <ul style="list-style-type: none"> <li>➤ Removed second paragraph and #1 &amp; #2.</li> <li>➤ Replaced formula and added new text.</li> <li>➤ Removed #1 after anywhere in the NYCA.</li> </ul> <p><b>Section 5.17</b></p> <ul style="list-style-type: none"> <li>➤ First paragraph – removed “subject to the locational constraints specified in that Bidder’s Bid.”</li> <li>➤ Removed #2 &amp; #3.</li> </ul> <p><b>Section 6</b></p> <ul style="list-style-type: none"> <li>➤ 6.1.1 – first paragraph- removed time line text and replaced with actual link to time line.</li> <li>➤ 6.2-, first paragraph – removed time line text and replaced with actual link to time line.</li> </ul> <p><b>Attachment L</b></p> <ul style="list-style-type: none"> <li>➤ Reworded and reworked the example to remove 10% UCAP Requirement &amp; 10% excessive capacity</li> </ul>
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		<p><b>Attachment B</b></p> <ul style="list-style-type: none"> <li>➤ Ministerial changes.</li> </ul>
5.1	05/27/2004	<p><b>Changed Sections</b></p> <p><b>Changed Version to Revision within the title and revision history pages.</b></p> <p><b>Section 5.2 – Capacity Period Auctions</b></p> <ul style="list-style-type: none"> <li>➤ Replaced 4<sup>th</sup> paragraph.</li> </ul> <p><b>Section 5.3 – Monthly Auctions</b></p> <ul style="list-style-type: none"> <li>➤ Added to para 3 – Monthly price caps that are applicable to such generation that are consistent with the annual price cap shall be calculated as described in</li> </ul> <p><b>Section 5.2</b></p> <ul style="list-style-type: none"> <li>➤ -Deleted para 4.</li> </ul>
5.0	04/08/2004	<p><b>Complete Format Change</b></p> <p><b>Section 4.12.2-General Requirements</b></p> <ul style="list-style-type: none"> <li>➤ Added (3rd para) “An SCR may specify generation in excess of its facility load, provided that it has installed metering capability satisfactory to the NYISO in order to quantify the net load change during a curtailment. Such resources must certify to the NYISO that they have obtained all necessary regulatory approvals to sell energy at wholesale and meet applicable utility interconnection and delivery (including metering) requirements. Energy payment rates for such generation in excess of load shall not exceed the applicable real-time LBMP.”</li> <li>➤ Deleted (2<sup>nd</sup> para) “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 (ii)”</li> </ul>
4.2	12/04/2003	<p><b>Version 4.2 of the NYISO Installed Capacity Manual – SSF language changes &amp; Removal of Attachments</b></p> <ul style="list-style-type: none"> <li>➤ Clean Copy of ICAP WG November 2003 Revisions</li> <li>➤ Small editorial changes made such as on 4-17 and 4-18: replaced "EST" with "ET"; Attachments removed from body of Manual (each posted separately on the NYISO website).</li> </ul> <p><b>Attachment D</b></p> <ul style="list-style-type: none"> <li>➤ Converted to Excel spreadsheet and added automatic functionality such as calculating averages and error checking.</li> </ul> <p><b>Attachment F</b></p> <ul style="list-style-type: none"> <li>➤ F-1: removed "Deficiency auction" and replaced with language pertaining to the Spot Market in the first paragraph of the Recitals section; added text fields that can be modified electronically in the PDF document</li> <li>➤ F-4: replaced "Deficiency" with "Spot Market" in section 2 bullet (c)</li> <li>➤ F-7, F-8: added text fields that can be modified electronically in the PDF document.</li> </ul> <p><b>Attachment G</b></p> <ul style="list-style-type: none"> <li>➤ G-1: removed “Administered” from attachment title to be consistent with Attachment F; removed "Deficiency auction" and replaced with language pertaining to the Spot Market in the first paragraph of the</li> </ul>

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		<p>Recitals section; added text fields that can be modified electronically in the PDF document;</p> <ul style="list-style-type: none"> <li>➤ G-8: added text fields that can be modified electronically in the PDF document.</li> </ul> <p><b>Attachment I</b></p> <ul style="list-style-type: none"> <li>➤ I-5: replaced "[to be determined]" price cap value with appropriate language referring to \$112.95/kW-year UCAP in the first paragraph of section 3.1.</li> </ul> <p><b>Attachment K</b></p> <ul style="list-style-type: none"> <li>➤ K-5, K-6: replaced "if known," with "(Assigned)" for both the Utility Code and Unit Code fields</li> <li>➤ K-7: replaced SCR Commitment/Verification forms with reference to SCR Commitment Workbook on the NYISO website</li> <li>➤ K-8, K-9, K-10: deleted.</li> </ul>
<b>4.1</b>	<b>08/30/2002</b>	Supplemental Supply Fee changes
<b>4.0</b>	<b>03/20/2002</b>	Demand Curve, SCR Energy Strike Price and Miscellaneous
<b>3.0</b>	<b>02/15/2001</b>	Stage 1A Monthly OPP, UCAP
<b>2.0</b>	<b>03/31/2000</b>	Stage 1 – Forward requirements, eliminated back-buy provisions
<b>1.0</b>	<b>09/01/1999</b>	<b>Initial Release</b>

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# 1. INTRODUCTION

The New York Independent System Operator's (NYISO) Installed Capacity (ICAP) manual (the "Manual") contains the procedures that will be followed by the NYISO and its Customers with regard to the Installed Capacity markets and auctions administered by the NYISO pursuant to the [NYISO Services Tariff](#). The Installed Capacity Market provisions are discussed generally at Sections 5.9 through 5.16 of the NYISO Services Tariff as filed at Federal Energy Regulatory Commission (FERC).

The NYISO uses an Unforced Capacity methodology to determine the amount of Capacity that each Resource is qualified to supply to the New York Control Area (NYCA), and to determine the amount of Capacity that Load Serving Entities (LSEs) must procure. The Unforced Capacity methodology estimates the probability that a Resource will be available to serve Load, taking into account, forced outages. Section 2.194a of the NYISO Services Tariff defines Unforced Capacity as follows: The measure by which Installed Capacity Suppliers will be rated, in accordance with formulae set forth in the NYISO Procedures, to quantify the extent of their contribution to satisfy the NYCA Minimum Installed Capacity Requirement, and which will be used to measure the portion of that NYCA Minimum Installed Capacity Requirement for which each LSE is responsible.

While the NYISO uses an Unforced Capacity methodology, this Manual and the [NYISO Services Tariff](#) refer to the term "Installed Capacity" to describe the market as opposed to the product. For example, the NYISO administers "Installed Capacity auctions" where "Installed Capacity Suppliers" offer "Unforced Capacity" that LSEs will purchase to meet their "NYCA Minimum Installed Capacity Requirements."

Every Capability Period, the NYISO will translate the NYCA Minimum Installed Capacity Requirement and the Locational Minimum Installed Capacity Requirement into a NYCA Minimum Unforced Capacity Requirement and a Locational Minimum Unforced Capacity Requirement (see Sections 2.5, 2.6, 3.1, and 3.2 of this Manual). From the NYCA Minimum Unforced Capacity Requirement and the Locational Minimum Unforced Capacity Requirement, the NYISO will then calculate and establish each LSE's minimum Unforced Capacity requirement ("Minimum Unforced Capacity Requirement"). On the supply side, the NYISO will compile 12-month rolling averages of Operating Data that it will use to determine the amount of Unforced Capacity that each Installed Capacity Supplier is qualified to supply to the NYCA (see section 4.5 of this Manual). Thus, Market Participants will transact Unforced Capacity in Installed Capacity auctions and Bilateral Transactions.

The NYISO conducts three (3) types of Installed Capacity auctions: the Capability Period Auction, the Monthly Auction, and the ICAP Spot Market Auction. LSEs may use Unforced Capacity procured in the Installed Capacity auctions to meet their respective LSE Unforced Capacity Obligations for the applicable Obligation Procurement Period. Participation in the Monthly Auction and the Capability Period Auction shall consist of: (i) LSEs seeking to purchase Unforced Capacity; (ii) any other entity seeking to purchase Unforced Capacity; (iii) qualified Installed Capacity Suppliers; and (iv) any other entity that owns excess Unforced Capacity. Participation in the ICAP Spot Market Auction shall consist of all LSEs and any other entity that has an Unforced Capacity shortfall. Three ICAP Demand Curves shall be used in the ICAP Spot Market Auction: one to determine the locational component of LSE Unforced

Capacity Obligations for the Long Island Locality, one to determine the locational component of LSE Unforced Capacity Obligations for the New York City Locality, and one to determine the total LSE Unforced Capacity Obligations for all LSEs.

Capitalized terms used in this Manual shall have the same meaning as prescribed in the [NYISO Services Tariff](#), unless otherwise defined, excepted, or noted in this Manual.

## 2. 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 [NYISO 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 NYISO 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 NYISO converts the NYCA Minimum Installed Capacity Requirement into a NYCA Minimum Unforced Capacity Requirement.
- The NYISO determines Locational Minimum Installed Capacity Requirements and converts them into Locational Minimum Unforced Capacity Requirements.
- The NYISO assigns Minimum Unforced Capacity Requirements, including Locational Minimum Unforced Capacity Requirements, to LSEs on a Transmission District basis.
- The NYISO 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.
- The NYISO determines the amount of Unforced Capacity that Installed Capacity Suppliers may supply within the NYCA based upon these standards and qualifications.
- The NYISO 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 NYISO conducts three (3) types of Installed Capacity auctions: the Capability Period Auction, the Monthly Auction, and the ICAP Spot Market Auction.
- LSEs may procure adequate Unforced Capacity from Installed Capacity Suppliers, either bilaterally or through NYISO-administered auctions, to meet their requirements.
- Participation in the Monthly Auction and the Capability Period Auction shall consist of: (i) LSEs seeking to purchase Unforced Capacity; (ii) any other entity seeking to

purchase Unforced Capacity; (iii) qualified Installed Capacity Suppliers; and (iv) any other entity that owns excess Unforced Capacity.

- Three ICAP Demand Curves shall be used in the ICAP Spot Market Auction: one to determine the locational component of LSE Unforced Capacity Obligations for the Long Island Locality, one to determine the locational component of LSE Unforced Capacity Obligations for the New York City Locality, and one to determine the total LSE Unforced Capacity Obligations for all LSEs.
- Participation in the ICAP Spot Market Auction shall consist of all LSEs and any other entity that has an Unforced Capacity shortfall.
- The NYISO monitors the compliance of Transmission Owners, LSEs, and Installed Capacity Suppliers with the rules and procedures set forth in the [NYISO Services Tariff](#) and in this Manual.

## 2.2 Timeline

An up-to-date detailed timeline can be found by selecting the link provided: (<http://www.nyiso.com/public/products/icap/index.jsp>). 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 found in this detailed timeline.

## 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”). The NPCC Resource Adequacy Standard requires the probability of disconnecting firm Load due to a Resource deficiency (Loss of Load Expectancy, or “LOLE”) to 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 NYISO 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 NYISO 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 NYISO uses the procedures in the [NYISO Load Forecasting Manual](#).

## 2.5 The NYCA Minimum Unforced Capacity Requirement

For each Capability Period the NYISO calculates the NYCA Minimum Unforced Capacity Requirement by multiplying the NYCA Minimum Installed Capacity Requirement by the quantity one (1) minus the average Effective Forced Outage Rate on Demand (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 Minimum 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 NYISO and are contained in [Attachment B](#).

For each Capability Period the NYISO 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 [NYISO 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 NYISO 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. 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 NYISO 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 NYISO will determine the total NYCA Minimum Installed Capacity Requirement. The maximum Installed 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 Installed Capacity with External Installed Capacity from each adjacent Control Area. In subsequent simulations, an Installed Capacity import amount from each Control Area is determined. To determine the simultaneous maximum External Installed Capacity that may be procured from all neighboring Control Areas, the total of the maximum External Installed Capacity 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 Installed 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. MINIMUM UNFORCED CAPACITY REQUIREMENTS OF LOAD SERVING ENTITIES

This section contains information and procedures related to:

- Calculating the New York Control Area (NYCA) Minimum Installed Capacity Requirement;
- Calculating the NYCA Minimum Unforced Capacity Requirement;
- The Transmission District Minimum Unforced Capacity Requirements;
- Establishing an LSE's Minimum Unforced Capacity Requirement for an Obligation Procurement Period;
- Customer-switching;
- Procedures for calculating Locational Minimum Installed Capacity Requirements of LSEs;
- Procedures for calculating Locational Minimum Unforced Capacity Requirements of LSEs;
- Grandfathered External Installed Capacity Resources;
- The Capacity adjustment for firm Capacity sales by NYPA; and
- Calculating the LSE Unforced Capacity Obligation for each LSE. The [NYISO Services Tariff](#) reference for this section of this Manual is Section 5.11.

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

#### 3.1 The NYCA Minimum Installed Capacity Requirement

The NYISO 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 [NYISO Load Forecasting Manual](#).

#### 3.2 The NYCA Minimum Unforced Capacity Requirement

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



### 3.3 Transmission District Minimum Unforced Capacity Requirements

The Minimum 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<sub>t</sub> = Minimum Unforced Capacity Requirement for a Transmission District t;
- UCR<sub>NYCA</sub> = NYCA Minimum Unforced Capacity Requirement;
- OIPL<sub>t</sub> = Forecast Capability Year One-Hour independent Peak Load for TD t;
- T = the set of all Transmission Districts; and
- OIPL<sub>s</sub> = 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

A Load Serving Entities (LSE’s) minimum Installed Capacity requirement (“Minimum Installed Capacity Requirement”) is the sum of the Installed Capacity Requirements of each of its customers. Each LSE’s Minimum Installed Capacity Requirement is set before each Capability Year and remains constant throughout the Capability Year. Each LSE’s Minimum Installed Capacity Requirement is translated into a Minimum 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 Minimum Installed Capacity Requirement during the Capability Year.

Every month, each LSE must procure sufficient Unforced Capacity to meet its Minimum Unforced Capacity Requirement for the following Obligation Procurement Period. As an interim measure, the NYISO will calculate the Minimum 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 NYISO will first calculate an initial Minimum 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 NYISO will perform a second calculation in early April, when the NYISO provides each LSE with its binding Summer Capability Period Minimum Unforced Capacity Requirement. The NYISO will perform a third calculation in early October and provide each LSE with a binding Winter Capability Period Minimum 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 Minimum 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 Minimum 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<sub>x,t</sub> = Minimum Unforced Capacity Requirement for LSE x within TD t;
- UCR<sub>t</sub> = Minimum Unforced Capacity Requirement for Transmission District t;
- CPD<sub>x,t</sub> = Forecasted contribution to peak demand in Transmission District t for LSE x, as defined further below; and
- OIPL<sub>t</sub> = 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 Minimum 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 an retail partial requirements customer c; and
- $SRC_{x,t}$  = set of supplemental-requirements retail customers of LSE x in Transmission District t.

Prior to each Obligation Procurement Period, LSEs must certify to the NYISO demonstrating the amount of Unforced Capacity they have obtained for the upcoming Obligation Procurement Period. The certification shall 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 NYISO 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. The specific monthly dates by which all certifications are due can be found by selecting the link provided:

<http://www.nyiso.com/public/products/icap/index.jsp>.

LSEs at their discretion may provide certification data for the remaining Obligation Procurement Periods of the Capability Period. This additional certification data will help the NYISO in its Installed Capacity planning and reliability assessments.

To the extent an LSE certifies that it is procuring Unforced Capacity through a Bilateral Transaction for any Obligation Procurement Period(s), the Installed Capacity Supplier to that Bilateral Transaction must also confirm to the NYISO that it is obligated to supply UCAP to the LSE for the indicated Obligation Procurement Period(s) of the Capability Period. In the event an LSE-certified Bilateral Transaction is not confirmed by the associated Installed Capacity Supplier and the Bilateral Transaction remains unconfirmed at the close of certification, then the UCAP associated with an unconfirmed Bilateral Transaction purchase will not be credited to the originally certifying LSE. If the LSE does not procure other UCAP to replace an unconfirmed Bilateral Transaction, the LSE may then be deemed deficient and entered into the Spot Market Auction for the associated Obligation Procurement Period(s).

## 3.5 Customer-Switching

### 3.5.1 General Requirements for Customer-Switching within a Capability Year

#### Establishing Preliminary and Final LSE Minimum Unforced Capacity Requirements

Specific monthly deadlines for submitting customer-switching data can be found by selecting the link provided (<http://www.nyiso.com/public/products/icap/index.jsp>).

Transmission Owners submit supporting data which reflects verified customer-switching that has occurred or is scheduled for the current month. NYISO

Each Transmission Owner shall also submit aggregate peak Load data to the NYISO, 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 (specific monthly deadlines for submitting aggregate peak Load data can be found by selecting the link provided: (<http://www.nyiso.com/public/products/icap/index.jsp>). This data shall reflect verified customer-switching and may be derived from direct meters or Load profiles of customers served.

Based on documented customer-switching adjustments through the end of February, the NYISO shall calculate a preliminary Minimum Unforced Capacity Requirement for each LSE. The NYISO will provide each LSE with its preliminary Minimum Unforced Capacity Requirement estimate. The NYISO will provide each LSE with its final Minimum 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 NYISO shall nevertheless establish each LSE's final Minimum Unforced Capacity Requirement, subject to possible adjustments required from a resolution of the dispute.

#### ***Monthly Adjustments to LSE Minimum Unforced Capacity Requirement***

The Transmission Owners will update the NYISO and affected LSEs on a monthly basis concerning customer-switching. Each Transmission Owner will provide updated aggregated LSE reports NYISO for each LSE serving Load in the Transmission District by the date provided in the detailed timeline that can be found by selecting the link provided (<http://www.nyiso.com/public/products/icap/index.jsp>). 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 that 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 that 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 NYISO will make monthly adjustments to each LSE's Minimum Unforced Capacity Requirement for the month or months remaining in the Capability Year that 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 Minimum 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 NYISO will recalculate affected LSE's Minimum Unforced Capacity Requirement for the months of August through April (the last month of the Capability Year). The NYISO will provide affected LSEs with their new Minimum 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 detailed timeline that can be found by selecting the link provided: (<http://www.nyiso.com/public/products/icap/index.jsp>) for details concerning the schedule of updates and notification requirements related to monthly customer-switching.

### **3.5.2 Assignment of Minimum 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 Minimum 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 NYISO. Load growth assumptions typically include a component for new customers and a component for existing customers.

The Minimum 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 Minimum 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 Minimum Unforced Capacity Requirement. The Minimum 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 NYISO will provide each affected LSE with its new Minimum Unforced Capacity Requirement in accordance with the dates provided in the detailed timeline that can be found by selecting the link provided (<http://www.nyiso.com/public/products/icap/index.jsp>).

- In the absence of a direct assignment mechanism, the Minimum 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 NYISO and the relevant LSE of the new customer's Load based on its estimated peak Load coincident with the TD peak Load.
- The NYISO shall normalize the Minimum 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 Minimum Unforced Capacity Requirement for the Transmission District remains constant. The NYISO will provide each affected LSE of its new Minimum Unforced Capacity Requirement in accordance with the dates in the detailed timeline that can be found by selecting the link provided: (<http://www.nyiso.com/public/products/icap/index.jsp>).

If a dispute occurs concerning the assignment of Minimum 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 Minimum 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 NYISO will:

- Reduce the Minimum 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 NYISO 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 Minimum Unforced Capacity Requirements of all LSEs serving Load (including the Load-losing LSE) in the relevant Transmission District such that the total Minimum Unforced Capacity Requirement for the Transmission District remains constant.

Within two (2) business days, the NYISO will notify the LSE that (a) it has either been relieved of the LSE Unforced Capacity Obligation of that departing customer for the balance of that month and for the remaining months in the Capability Year, 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 NYISO's documentation requirement. When informing an LSE that its documentation is inadequate, the NYISO 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 [NYISO Services Tariff](#) and [Attachment L](#) of this Manual.

- The LSE that gains customers from another LSEs will financially cover the portion of the LSE Unforced Capacity Obligation associated with its new customers by paying the LSE that lost the customers for each day that the customer-gaining LSE serves that new customer, until the first day of the month following the month in which the NYISO provides each LSE with its new Minimum Unforced Capacity Requirement associated with the customer-switching (in the detailed timeline that can be found by selecting the link provided : <http://www.nyiso.com/public/products/icap/index.jsp>), at which time the Minimum 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 NYISO will use the monthly Installed Capacity billing cycle, in the same month in which the NYISO 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 NYISO and affected LSEs. Shortly thereafter, the NYISO will recalculate the Minimum Unforced Capacity Requirement of the affected LSEs and provide them prior to the Monthly Auction occurring in mid-July. Each affected LSE will be responsible for its new Minimum 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 portion of the LSE Unforced Capacity Obligation 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 NYISO Expedited Dispute Resolution Procedures (as set forth in Section 5.16 of the [NYISO Services Tariff](#)), or the relevant Transmission Owner's retail access procedures, as applicable.

If a dispute occurs, the NYISO 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**

Load Serving Entities (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 NYISO 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 Minimum 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 Minimum 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.*

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



*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:*

$$\text{Adjusted IC}_{\text{NYPA}} = \sum (\text{ICAF}_{\text{plant}} * \text{IC}_{\text{plant}})$$

where:

*Adjusted UC<sub>NYPA</sub> = the amount that the purchasers of firm capacity and NYPA use in their Unforced Capacity calculations;*

*ICAF<sub>plant</sub> = NYPA adjustment factor applied to the contractual amount from plant;*

*IC<sub>plant</sub> = the contractual Capacity amount purchased from plant; and*

*plant = Niagara, St. Lawrence, or Fitzpatrick.*

*Adjusted*

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

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## 4. INSTALLED CAPACITY REQUIREMENTS APPLICABLE TO INSTALLED CAPACITY SUPPLIERS

### 4.1 Overview

Resources must follow certain procedures and provide pertinent information to the NYISO 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 Dependable Maximum Net Capability (DMNC) testing and maintenance schedule reporting.

After completing the procedures listed above, Resources that have qualified as Installed Capacity Suppliers must fulfill certain additional requirements provided by the NYISO 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 or scheduled maintenance and forced outage notification requirements; the Installed Capacity certification requirements; and bidding, scheduling, and notification responsibilities.

Certain Installed Capacity Suppliers must fulfill alternative or additional requirements provided by the NYISO 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 addresses a different individual Resource.

Installed Capacity Suppliers that fail to fulfill the requirements detailed in Sections 4.2 through 4.13 are subject to sanctions, as provided in Section 5.12.12 of the [NYISO Services Tariff](#). Details regarding these sanctions may be found in Section 6.1 of this Manual.

Section 4.14 details the procedures for requesting, granting and applying Unforced Capacity Deliverability Rights (“UDRs”).

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

### 4.2 DMNC Procedures (Section 5.12.8 NYISO Services Tariff)

As specified in Section 4.2.2 below, in order to establish a DMNC rating, Installed Capacity Suppliers must submit results from a DMNC test or data from actual operation (“DMNC Demonstration”) from within the DMNC Test Periods (“in-period”) specified in Section 4.2.1 below, to the NYISO no later than sixty (60) days following the end of each DMNC Test Period. Refer to Section 4.12 of this Manual for additional information about requirements for Special Case Resources (SCRs). The submittal must provide the NYISO with the required documentation of the DMNC test data or data from actual operation and

be in accordance with the procedures described below (unless exempt in accordance with the provisions of Section 4.4.3 of this Manual). In addition, Section 5.12.8 of the [NYISO Services Tariff](#) provides for submitting DMNC test data or data from actual operation from outside the DMNC Test Period ("out-of-period") and prior to the next Capability Period. Failure to submit DMNC test data or data from actual operation may result in financial sanctions pursuant section 5.12.12 of the [NYISO Services Tariff](#) and section 6.1 of this Manual.

DMNC test data or data from actual operation that has been validated as described below constitutes a DMNC rating for the purpose of establishing a generating Resource's Installed Capacity value. A subsequent adjustment is made pursuant to Section 4.5 and Attachment J of this Manual to determine each Resource's Unforced Capacity value.

DMNC test data or data from actual operation must be submitted in an acceptable format or it will be rejected. A 30-day verification period starts with a determination that the data has been deemed complete. Until the DMNC review function of the ICAP Market System goes live, the NYISO will use its best efforts to notify an Installed Capacity Supplier that its submission has been deemed incomplete within ten (10) business days of that submission. Upon determination that the information that has been submitted is complete, the NYISO will validate and approve the DMNC rating or reject it within 30 days of submittal if such submittal has been deemed complete at least 45 days prior to the data submittal deadline as noted below. Submittals deemed complete less than 45 days before the DMNC submittal deadline will be processed within 45 days of such submittal.

If the NYISO approves the Installed Capacity Supplier's submittal, the submitted DMNC value will be valid for the subsequent like Capability Period, and at the request of the Installed Capacity Supplier, may also serve as the valid DMNC rating for the balance of the current Capability Period beginning in the month following approval.

If the NYISO rejects the submitted DMNC value, the Installed Capacity Supplier may:

- a. resubmit DMNC test results or data from actual operation from within the current DMNC Test Period, or
- b. accept the NYISO determined DMNC value and resubmit it, or
- c. request an audit.

If the Installed Capacity Supplier requests an audit, the NYISO will work with the Installed Capacity Supplier to schedule the audit. If the audit results reveal that the Installed Capacity Supplier DMNC rating is correct, the DMNC test data or data from actual operation submitted by the Installed Capacity Supplier will remain in place. If the audit reveals that the NYISO rating is correct, the NYISO will instruct the Installed Capacity Supplier to resubmit the DMNC test data or data from actual operation with the DMNC rating established through the audit and the Installed Capacity Supplier will be subject to deficiency charges, if applicable.

An Installed Capacity Supplier offering to supply Unforced Capacity as a System Resource must submit DMNC test data or data from actual operation for each Generator that it seeks to aggregate.

All generating Resources must test using usual and customary industry practices. For example, the operating configuration and fuel mix used to test must be the same

configuration and fuel mix expected to be used during the summer or winter peak Load conditions, as applicable. This requirement is not meant to exclude testing based on operating configurations of Capacity Limited Resources that have been approved by the NYISO and are in compliance with this Manual and Attachment M hereto. Test results shall be adjusted to appropriate ambient conditions using the procedures noted in this Section 4.2 and [Attachment D](#). Data-entry procedures for the ICAP Market System are described in the [ICAP Automated Market User's Guide](#), which can be found at:

<http://www.nyiso.com/public/products/icap/ucap.jsp>.

New Resources must qualify as Installed Capacity Suppliers based on the results of an appropriate DMNC Demonstration or Special Case Resource (SCR) registration before participating as an Installed Capacity Supplier in the NYISO Installed Capacity market. DMNC test data or data from actual operation shall be submitted as prescribed by this Manual by 5:00 PM on those days specified in the [ICAP Event Calendar](#). They will also be subject to validation requirements as set forth herein. All simple-cycle gas turbine and combined cycle units must temperature-adjust the results of their DMNC test data or data from actual operation using the procedures noted in [Attachment D](#) to this Manual or in the ICAP Automated Market User's Guide as noted above. New Resources approved as qualified Installed Capacity Suppliers after submitting the necessary DMNC test data or data from actual operation from outside the normally applicable DMNC Test Period ("out-of-period") must verify the approved "out-of-period" DMNC rating during the next DMNC Test Period. If the supplier is unable to verify the "out-of-period" DMNC rating in the next DMNC Test Period, then deficiency charges shall apply to any shortfall between the Installed Capacity equivalent of the UCAP sold from the unit and the results of the "in-period" test.

In addition to submitting appropriate DMNC Demonstration results, new generating Resources that want to participate in NYISO-administered auctions shall submit a notification letter to the NYISO. SCR notification is detailed in Section 4.12 of this Manual. The new generating Resource notification letter must include the unit's point ID (PTID) and 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 NYISO may reasonably request. This letter does not oblige a Resource to qualify as an ICAP Supplier; it allows the NYISO to prepare and be able to accommodate a Resource should that Resource request qualification and submit appropriate DMNC Demonstration results shortly before an auction. A Resource shall submit the notification letter to the NYISO by the first business day of the month before that month in which it wishes to qualify as an Installed Capacity Supplier. For example, to qualify in the month of April to participate in the May Installed Capacity market, the NYISO must receive notification by the first business day of March.

To qualify Installed Capacity for a Bilateral Transaction or for a self-supplying LSE, new Resources shall submit to the NYISO the results of an appropriate DMNC Demonstration or Special Case Resource registration prescribed by this Manual by 5:00 PM on the day specified in the ICAP Event Calendar, which can be found at:

[http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do).

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 Resources.

Existing Resources submitting DMNC Demonstration results from outside the normally applicable DMNC Test Period ("out-of-period") must verify the approved "out-of-period" DMNC rating during the next DMNC Test Period. If the supplier is unable to verify the "out-of-period" DMNC rating in the next DMNC Test Period, then deficiency charges shall apply to any shortfall between the Installed Capacity equivalent of the UCAP sold from the unit and the results of the "in-period" test.

The NYISO's Market Monitoring Unit will verify the DMNC test data submitted by Suppliers against NYISO billing information and will notify the Supplier if there is a discrepancy. Approval will be indicated via the ICAP Market System.

#### **4.2.1 DMNC Test Periods**

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

#### **4.2.2 Resource Specific Test Conditions**

The Resources listed below must meet the applicable DMNC test conditions specified below and in Attachment D hereto in order to be qualified as Installed Capacity Suppliers. Resources must also report DMNC test results to the NYISO. As used in this Section 4.2.2, DMNC shall mean the power delivered to the transmission system on a clock-hour basis (top-of-hour to top-of-hour), net of station service Load necessary to deliver that power, as described in Section 4.2.3 of this Manual.

##### ***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 capacity of the station taken as a whole; also the sum of the DMNC of individual turbine-generators under a single PTID cannot be greater than the DMNC of the PTID taken as a whole station. Each such turbine-generator is assigned a rating by distributing the combined Capacity among the units comprising the PTID.

##### ***Hydro Stations***

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 capacity of the station taken as a whole; also the sum of the DMNC of individual hydro units under a single PTID cannot be greater than the DMNC of the PTID taken as a single station. Each such hydro unit is assigned a rating by distributing the combined Capacity among the units comprising the PTID.

***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.
- d. The sum of the DMNC of individual units in a multi-unit station cannot be greater than the capacity of the station taken as a whole; also the sum of the DMNC of individual units under a single PTID cannot be greater than the DMNC of the PTID taken as a single station. Each unit in the station is assigned a rating by distributing the combined Capacity among the units comprising the PTID.

***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.



- d. In cases where the sum of the DMNC rating of individual units in a combined cycle plant is greater than the DMNC of the plant taken as a single station, each unit is assigned a rating by distributing the plant DMNC among the units.

#### ***Intermittent Power Resources (Wind Farms and Solar Arrays)***

The DMNC value of Intermittent Power Resources will be the combined nameplate capacity of all units (usually aggregated in groups of small individual units) in each station, wind farm or solar array, net of any station service Load required for operation and delivery to the NYCA transmission system. The sum of the DMNC values of all units under a single PTID cannot be greater than the DMNC of the PTID taken as a single unit. Each such individual unit is assigned a rating by distributing the combined Capacity among the units comprising the PTID.

#### ***Special Case Resources***

A Special Case Resource that supplies Load reductions solely through the use of a distributed generator must submit a demonstration test of the generator maximum net output for a one (1) hour period net of any auxiliary loads (including, but not limited to station service Load).

#### ***Energy Limited and Capacity Limited Resources***

Valid DMNCs for Energy Limited and Capacity Limited Resources are determined by the following:

- a. The sustained maximum net output averaged over a four (4) consecutive hour period, with the exception of Internal Combustion units or Combustion Turbines that are approved as Energy Limited or Capacity Limited Resources, which will instead use the sustained maximum net output for a one (1) hour period.
- b. For a multi-unit station, the DMNC is determined for the 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 capacity of the station taken as a whole; also the sum of the DMNC of individual units under a single PTID cannot be greater than the DMNC of the PTID taken as a single plant. Each such unit is assigned a rating by distributing the combined Capacity among the units comprising the PTID.

### **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 NYISO 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 NYISO Expedited Dispute Resolution Procedures (as set forth in Section 5.16 of the [NYISO 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 report the DMNC test data for each of its Resources to the NYISO using the ICAP Market System and in accordance with [Attachment D](#) to this Manual. The ICAP Automated Market User's Guide can be found at:

<http://www.nyiso.com/public/products/icap/ucap.jsp>

### 4.3 Maintenance Scheduling Requirements (Section 5.12.3 NYISO Services Tariff)

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

1. Submit a confidential notification to the NYISO 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 NYISO 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 NYISO, the NYISO will invoke mandatory re-scheduling using the procedures prescribed in the [NYISO 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 NYISO 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 rescheduling procedures described above.

An Installed Capacity Supplier that refuses the NYISO'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 (This Section intentionally left blank)**

#### **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 (Section 4.12 of this Manual)**

Although Special Case Resources are not subject to maintenance scheduling requirements, Responsible Interface Parties must report a change of status, including the expected duration, that would affect a Special Case Resource's ability to provide Capacity in the NYCA, at least two (2) business days prior to the status change. However, no relief from penalties or other obligations will be given for failure to perform if the Special Case Resource was an Installed Capacity Supplier in any month in which a Special Case Resource event or audit occurs.

### **4.4 Operating Data Reporting Requirements (Section 5.12.5 NYISO Services Tariff)**

Installed Capacity Suppliers shall submit Operating Data to the NYISO every month in accordance with the following subsections. Further details applicable to generating Resources are included in Attachment K to this Manual, at the NERC-GADS website <http://www.nerc.com/page.php?cid=4|43> and in the NERC Data Reporting Instructions at <http://www.nerc.com/page.php?cid=4|43|45>. The NYISO collects a subset of the data covered by the NERC Data Reporting Instructions and is focused principally on outage types. . For example, an exception to the NERC Data Reporting Instructions is covered in Section 4.6.2 of this Manual. The completeness, accuracy, and validity of the performance data sent to the NYISO are 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 [\*NYISO 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 NYISO at least seven (7) calendar days before the date by which any of the relevant obligations or requirements must be fulfilled.

If no designation is made to the NYISO, 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 [NYISO Services Tariff](#) as if they were a Seller.

#### 4.4.1 Generators

By the 20th day of each month, Generators shall submit to the NYISO Generating Availability Data System (GADS) Data or data equivalent to GADS Data pertaining to the previous month. For example, Generators shall submit by May 20, GADS Data or data equivalent to GADS Data pertaining to their operations during the month of April. Generators shall submit GADS Data or data equivalent to GADS Data in accordance with [Attachment K](#) of this Manual.

#### 4.4.2 System Resources

By the 20th day of each month, System Resources shall submit to the NYISO GADS Data or data equivalent to GADS Data pertaining to the previous month. For example, System Resources shall submit by May 20, GADS Data or data equivalent to GADS Data pertaining to their operations during the month of April. System Resources shall submit GADS Data or data equivalent to GADS Data in accordance with [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 NYISO CARL (Control Area Resource and Load) Data pertaining to the previous month. For example, Control Area System Resources shall submit by October 20, CARL Data pertaining to their operations during the month of September.

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;
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 (7) above for each month of the following Capability Period. Control Area System Resources shall submit data for items (8) and (9) 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 and Capacity Limited Resources**

By the 20th day of each month, Energy and Capacity Limited Resources shall submit to the NYISO GADS Data or data equivalent to GADS Data pertaining to the previous month. For example, Energy and Capacity Limited Resources shall submit by May 20, GADS Data or data equivalent to GADS Data pertaining to their operations during the month of April. Energy and Capacity Limited Resources shall submit GADS Data or data equivalent to GADS Data in accordance with [Attachment K](#) of this Manual.

#### **4.4.5 (This Section intentionally left blank)**

#### **4.4.6 Intermittent Power Resources**

Intermittent Power Resources shall submit to the NYISO data pertaining to their net dependable Capacity, actual generation, maintenance outage hours, planned outage hours, and other information as may be reasonably requested by the NYISO such as the location and name of the Intermittent Power Resource. Intermittent Power Resources shall submit actual operating data pertaining to the previous month on the 20th day of each month and in accordance with [Attachment K](#) of this Manual. For example, Intermittent Power Resources shall submit data by May 20 pertaining to their operations during the month of April.

#### **4.4.7 Special Case Resources (Section 4.12 of this Manual)**

Special Case Resources shall submit documentation to the NYISO, each time they are called upon to operate, using the Special Case Resource Workbook posted on the ICAP Auctions/Products page of the NYISO website for the applicable Capability Period.

#### **4.4.7.1 Special Case Resources that are Curtailable Load Resources**

Special Case Resources that were requested to reduce Load in any month shall submit performance data to the NYISO, within 75 days of each called event or audit, using the Special Case Resource Workbook posted at:

[http://www.nyiso.com/public/products/demand\\_response/scr\\_icap.jsp](http://www.nyiso.com/public/products/demand_response/scr_icap.jsp).

For example, Special Case Resources shall submit by June 29 their data pertaining to the month of April if they were called upon to reduce Load on April 15.

Failure to submit performance data for any Special Case Resources within the 75-day limit will result in zero performance attributed to those Resources for purposes of satisfying the Resource's capacity obligation as well as for determining energy payments.

#### **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 performance data to the NYISO within 75 days of each called event or audit, using the Special Case Resource Workbook posted at:

[http://www.nyiso.com/public/products/demand\\_response/scr\\_icap.jsp](http://www.nyiso.com/public/products/demand_response/scr_icap.jsp).

For example, Special Case Resources that are Generators shall submit by June 29 their data pertaining to the month of April if they were called upon to operate on April 15.

Failure to submit performance data for any Special Case Resources within the 75-day limit will result in zero performance attributed to those Resources for purposes of satisfying the Resource's capacity obligation as well as for determining energy payments.

#### **4.4.7.3 Reporting of Special Case Resource Operating Data**

The NYISO will treat the Special Case Resource-specific operating data that is reported to the NYISO as confidential Transmission System Information and shall provide copies of such resource-specific (disaggregated) operating data to the transmission function of the Transmission Owner in whose transmission district the Special Case Resource is located in accordance with Section 4.0 of the NYISO's Code of Conduct (Attachment F to the NYISO's OATT).

#### **4.4.8 Municipally-Owned Generation**

By the 20th day of each month, municipally-owned generation shall submit to the NYISO GADS Data or data equivalent to GADS Data pertaining to the previous month. For example, municipally-owned generation shall submit by May 20, data equivalent to GADS Data pertaining to their operations during the month of April.

#### **4.4.9 Resources Capable of Supplying Unforced Capacity in New York**

This subsection applies to Resources that (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 NYISO the appropriate Operating Data pertaining to its operations over the previous 17 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 2008 shall submit by June 10 Operating Data pertaining to January 2007 to May 2008, inclusively. Thereafter, the Resource shall submit Operating Data in accordance with Subsections 4.4.1 through 4.4.8 of this Manual, as applicable.

If an External Resource intends to request Import Rights in accordance Section 4.9, the Resource shall submit to the NYISO the results of an appropriate demonstration test (i.e. DMNC test data) and Operating Data pertaining to its operations covering at least the previous 17 months, if it was in operation, as prescribed by this Manual, and in the above paragraph, by 5:00 PM at least seven (7) business days before such Import Rights are to be requested.

#### **4.4.10 Resources not in Operation for the Past 17 Months**

A Resource that is required to submit GADS Data or data equivalent to GADS Data that was not in operation for the past 17 months and that wants to qualify as an Installed Capacity Supplier shall submit monthly Operating Data to the NYISO 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 Unforced Capacity (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 Equivalent Demand Forced Outage Rate (EFORD) 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 EFORD, but periods where the unit is not selected may be reported as Reserve Shutdown Hours, as defined in [Attachment J](#).



#### **4.4.12 Retired, Mothballed, and Inactive Generating Units**

The NERC Data Reporting Instructions define three (3) Inactive states; Inactive Reserve (IR), Mothballed (MB) or Retired (RU). A Resource that is a Generator that is Inactive with an indeterminate return to service, and excepting NYISO acknowledged forced outages or approved scheduled (Planned or Maintenance) outages with permissible extensions, is not qualified to participate in the NYISO Installed Capacity Market. Any exceptions to this rule must be requested of, and granted by, the NYISO, in writing.

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

The NYISO will calculate the amount of Unforced Capacity that Resources are qualified to supply to the NYCA for each Capability Period. The Unforced Capacity methodology estimates the probability that a Resource will be available to serve Load, taking into account forced outages and forced deratings. To evaluate this probability, the NYISO 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. Unforced Capacity values will remain in effect for the entire Capability Period, except in cases where corrections to historical data are necessary.

For each Capability Period, the NYISO will base the amount of Unforced Capacity a generating Resource is qualified to supply on the average of EFORD values calculated for that Resource covering the 12-month periods ending in January, February, March, April, May and June for the subsequent Winter Capability Period and the average of EFORD calculations for that Resource covering the 12-month periods ending in July, August, September, October, November and December for the subsequent Summer Capability Period. Detailed procedures for calculating the 12-month EFORD values are described in Attachment J of this Manual. Such EFORD values shall be for the same interval used to determine the Minimum Installed Capacity Requirement to Minimum Unforced Capacity Requirement translation for a given Capability Period, as noted in Sections 2.5 and 2.6 of this Manual.

For Special Case Resources, Unforced Capacity values will be based on two successive seasonal performance factors of each individual Special Case Resource as described in Section 4.12 of this Installed Capacity Manual.

Limited Control Run-of-River Resource values will have Unforced Capacity values based on seasonal performance factors calculated in accordance with Attachment J of the Installed Capacity Manual. Unforced Capacity from a Limited Control Run-of-River Resource for the summer capability period shall be based on NYISO GADS Data or data equivalent to GADS for the months of June, July and August during the Prior Equivalent Capability Period. Unforced Capacity from a Limited Control Run-of-River Resource for the winter capability period shall be based on NYISO GADS Data or data equivalent to GADS Data for the months December, January, and February during the Prior Equivalent Capability Period.

Intermittent Power Resource Unforced Capacity values will have Unforced Capacity values based on seasonal performance factors calculated in accordance with Attachment J of the Installed Capacity Manual. Unforced Capacity from an Intermittent Power Resource for the summer capability period shall be based on the average production during the 14:00 to 18:00 hours for the months of June, July and August during the Prior Equivalent Capability Period. Unforced Capacity from an Intermittent Power Resource for the winter Capability Period shall be based on the average production during the 16:00 to 20:00 hours for the months of December, January, and February during the Prior Equivalent Capability Period.

Initial Unforced Capacity values for new generating Resources will be based on NERC class average EFORD values for Resources of the same type. If no NERC class average exists, the NYISO will estimate a class average using capacity values for Resources of the same type currently providing capacity in the NYISO market; provided however, that for a new Intermittent Power Resource, the initial Unforced Capacity value (which is to be measured as the amount of capacity it can reliably provide during system peak Load hours) will be the product of the applicable Unforced Capacity percentage in the Table shown below and that resource’s DMNC value (nameplate rating net of station power). The Unforced Capacity percentages set forth below are taken from the Report on Phase II System Performance Evaluation “The Effects of Integrating Wind Power on Transmission System Planning, Reliability, and Operations” prepared by GE Energy, March 4, 2005.

Unforced Capacity Percentage			
	Zones A through J	Zone K (land-based)	Zone K (off-shore)
Summer	10%	10%	38%
Winter	30%	30%	38%

## 4.6 Operating Data Default Value and Exception for Certain Equipment Failures (Section 5.12.6(b) and (c) NYISO 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 NYISO will deem a Resource to be completely forced out during each month for which the Resource has not submitted its Operating Data in accordance with Section 4.4 of this Manual. Pursuant to Section 5.12.12 of the [NYISO Services Tariff](#), Resources that do not comply with Section 4.4 of this Manual also are subject to information submission requirements sanctions.

Resources that are deemed to be completely forced out during any month may submit new Operating Data to the NYISO 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 NYISO 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 NYISO 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, Energy/Capacity Limited Resource, System Resource, Intermittent Power 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

This exception is limited to an equipment failure that involves equipment located on the electric network beyond the generator step-up transformer, and including such step-up transformer on the output side of the Generator, Energy/Capacity Limited Resource, System Resource, Intermittent Power Resource or Control Area System Resource. This exception does not apply to fuel related outages or derates or other cause codes that might be classified as Outside Management Control in the NERC Data reporting Instructions. In reporting Operating Data (GADS data), a Generator, Energy/Capacity Limited Resource, or System Resource shall report a generator outage or derating caused by an equipment failure that involves equipment located on the electric network beyond the step-up transformer, and including such step-up transformer, in accordance with normal outage reporting procedures and document them as a forced outage (U1, U2, U3, D1, D2 or D3) with a cause code of 9300.

Intermittent Power Resources will report generator outage and derated hours caused by an equipment failure that involves equipment located on the electric network beyond the step-up transformer, and including such step-up transformer, in accordance with normal outage reporting procedures and document them in accordance with instructions for Intermittent Power Resources to be found in Attachment K to this Manual.

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 EFORd rating as a maintenance outage (MO) in the case of a forced outage (U1, U2, U3) or as a maintenance derate (D4) in the case of a forced derating (D1, D2, D3).

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 EFORd 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.

If a forced outage or derate extends into a previously approved scheduled outage, or an equipment failure or problem beyond the scope of a previously approved scheduled outage extends beyond the scheduled return date from such a scheduled outage, the GADS data must address both outage types by breaking the outage into a maintenance outage and a forced outage with the duration of the forced outage properly reflected in the data. For further explanation, refer to the NERC Data Reporting Instructions at:

[http://www.nerc.com/files/2008\\_GADS\\_DRI.pdf](http://www.nerc.com/files/2008_GADS_DRI.pdf)

## 4.7 Monthly Installed Capacity Supplier Certification

Each Installed Capacity Supplier must certify its Unforced Capacity to the NYISO no later than the deadline for monthly certification as provided in the detailed ICAP Event Calendar that can be found by selecting the link provided:

([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)), demonstrating that the Unforced Capacity it is supplying is not already committed to meet the Minimum 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 NYISO 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 ICAP Spot Market Auction.

If an Installed Capacity Supplier has sold UCAP and subsequently sells those UCAP assets on a date prior to the expiration of the UCAP sale, the responsibility for certifying the sold UCAP remains with the Installed Capacity Supplier that initially sold the UCAP. It is the responsibility of the selling Installed Capacity Supplier to either (1) arrange a bilateral agreement with the new owner of the UCAP assets to cover this requirement or (2) purchase the requirement through another bilateral transaction or through the NYISO-administered auctions.

If a bilateral transaction is certified by an Installed Capacity Supplier, but is not confirmed by the second party to the transaction, the bilateral transaction submitted by the Installed Capacity Supplier remains unconfirmed at the close of the certification period. The UCAP associated with the unconfirmed bilateral transaction sale remains with the Installed Capacity Supplier that submitted the bilateral transaction for certification.

## 4.8 Bidding, Scheduling, and Notification Requirements (Section 5.12.7 NYISO 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. Planned or Maintenance outages must be scheduled (“scheduled outages”) in advance of any Day-Ahead bidding. Any declared or unavailable Energy/Capacity not previously scheduled and approved as out of service must be reported as a Forced Outage or Forced Derating in accordance with the operating data reporting requirements in Section 4.4 and [Attachment K](#) of this Manual.

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 NYISO’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 maintenance or forced outage, the supplier must notify the NYISO Operations department.

### 4.8.2 Energy Limited and Capacity Limited Resources

Energy and Capacity 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 as well as conform to all of the requirements of Attachment M to this Manual. Energy Limited Resources must be able to provide, and provide if scheduled, 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, or for a period of time longer than four (4) hours that is specified by the NYISO after consultation with the Supplier.

Energy/Capacity Limited Resources must Bid or schedule in the Day-Ahead Market 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. See Attachment M to this Manual for additional details on qualifying Energy/Capacity Limited Resources and bidding and scheduling procedures for these resources.

### **4.8.3 [This Section intentionally left blank]**

### **4.8.4 Existing Municipally-Owned Generation**

Existing municipally-owned generators that qualify as Installed Capacity Suppliers pursuant to Section 5.12.11(b) of the [NYISO Services Tariff](#) and Section 4.13 of this Manual are not required to Bid or schedule in the Day-Ahead Market but will be required to respond to a NYISO request to make available the uncommitted portion of the Installed Capacity Equivalent of the Unforced Capacity they are qualified to supply.

### **4.8.5 Special Case Resources (Section 4.12 of this Manual)**

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 Responsible Interface Party (“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 NYISO associated with such Unforced Capacity. This Minimum Payment Nomination will act as a strike price, allowing the NYISO to call on a specific amount of Special Case Resources to perform, based on price and NYCA zone in accordance with the NYISO Emergency Operations Manual. 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 NYISO Auxiliary Market Operations department 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 [NYISO 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 NYISO Services Tariff. To qualify as Installed Capacity Suppliers, Intermittent Power Resources shall comply with the notification requirement of Section 5.12.7 of the NYISO Services Tariff by notifying the NYISO of all outages.

## **4.9 External Resources, Imports, Exports and Wheels Through**

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 NYISO 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 17 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 NYISO 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 NYISO 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 NYISO and this 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 section 4.4.9 of this Manual.

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

#### **4.9.2 Allocation of Import Rights**

The NYISO 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 NYISO 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 NYISO 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 NYISO Customer may submit a request along with all required supporting documents seeking External Installed Capacity rights.

#### ***Request***

Requests for Import Rights for one or more months within a Capability Period may be sent by facsimile to the NYISO (at the number listed below) during the following time period. A request sheet is available at:

[http://www.nyiso.com/public/webdocs/products/icap/icap\\_manual/forms/FCFS\\_Import\\_Rights-FAX-FORM.rtf](http://www.nyiso.com/public/webdocs/products/icap/icap_manual/forms/FCFS_Import_Rights-FAX-FORM.rtf) or participants may use their own request sheet.

- Beginning at 8:00 AM ET
  - 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: on the first business day not more than thirty (30) days prior to a Capability Period (strip) Auction, and
- Ending at 5:00 PM ET four (4) business days prior to a Capability Period Strip Auction.

On or about February 15 the NYISO 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 NYISO.

If Import Rights are not fully subscribed after the Capability Period (strip) Auction has concluded, the NYISO 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 NYISO will post the available Import Rights after each subsequent auction.

For each month within a Capability Period, requests for Import Rights may be sent by facsimile to the NYISO (at the number listed below) during the following time period:

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

#### ***Determination of Start Time for Submission of Requests***



**DRAFT - For Discussion Purposes Only**

As described above, submissions by facsimile of requests for Import Rights, whether prior to the start of a Capability Period or prior to the start of a Monthly Auction, may be made only after the occurrence of the start time of 8:00 AM ET.

This procedure will be implemented by programming of the NYISO's facsimile machine (the "FAX Machine") to begin receiving faxes only after the occurrence of 8:00 AM ET based on the synchronization of the clock in the FAX Machine with a Network Time Protocol (NTP) server that is, in turn, synchronized with the U.S. atomic clock. Accordingly, NYISO Customers may wish to synchronize their fax-sending equipment with, or time the sending of their facsimiles based upon, the U.S. atomic clock. However, the clock in the FAX Machine will establish, for Import Rights allocation purposes, the occurrence of the start time of 8:00 AM ET. The FAX Machine will create a log of received faxes and place a date/time stamp on each request.

A clock displaying Eastern (EST/EDT) time in hours, minutes and seconds (HH:MM:SS) will be visible on the NYISO website. This clock will be synchronized with a NTP server that is, in turn, synchronized to the US atomic clock. This NYISO website clock display is for the convenience of Customers only and does not govern the start time for the Import Rights allocation process. Instead, as noted above, the FAX Machine establishes the start time of the Import Rights allocation process.

#### Contents of Request

Each request must contain the following information:

1. The identity of the NYISO Customer making the request;
2. The identity of the External Installed Capacity Supplier;
3. The name and location of the Resource;
4. The Control Area in which the Resource for which the Installed Capacity Supplier seeks rights is located;
5. The MW amount requested, equal to the Installed Capacity Equivalent of the Unforced Capacity sale to the NYCA from the Resource designated in (4) above. For example, a request for 100 MW of Import Rights from a Resource with a 10% EFORD will support a UCAP sale of 90 MW;
6. The time period, in blocks of whole months, for which the rights are requested;
7. 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 Auxiliary Market Operations via facsimile to the following NYISO Fax Machine number: 518-356-6208.

If the NYISO determines that the information provided in the request is incomplete or inadequate, the NYISO will immediately notify the requesting party. By 5:00 PM of the day on which requests are received, the NYISO will notify all requestors that have submitted a complete and adequate request for Import Rights of their priority.

#### Priority

Only complete requests submitted within the time periods specified above will be evaluated by the NYISO. A facsimile transmission that is shown on the FAX Machine log as

incomplete will result in the treatment as incomplete of any requests included in any portion of the facsimile transmission that is received. The start time for these time periods will be established in the manner described in the “Determination of Start Time for Submission of Requests” section above. The time/date stamp provided by the FAX Machine (as described in that section) will determine the relative priority among the requests received following the start time; however, the maintenance of a Customer’s priority is contingent upon the NYISO’s receipt from the Customer of the supporting documents within the time period set forth in the “Supporting Documents” section below. If the complete and adequate supporting documents are not submitted within that time period, the corresponding request will be automatically rejected upon expiration of that time period.

If multiple requests are to be submitted by a Customer in multiple separate facsimile transmissions within a single request period with the intent that the ISO evaluate each request individually, the Customer must provide notice to the ISO of that intent separately and in writing (by e-mail to: ICAP\_Info@nyiso.com) at least one hour prior to the start time for the request period. If a Customer’s request (by separate facsimile transmission) changes the content of a prior request submitted by that Customer in an earlier facsimile transmission within the same request period without prior notice of intent to submit separate requests for individual evaluation, or if an identical request is submitted more than once in multiple facsimile transmissions, the latest time stamp will determine its priority relative to other Customers’ requests. If duplicate requests are submitted in the same facsimile transmission, they must be identified as duplicates or they will be treated by the NYISO as requests for a cumulative megawatt amount.

#### Supporting Documents

In addition, the requestor must submit documentation of the bilateral agreements for which External Capacity Import Rights are being requested, 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. a LSE within the NYCA; or,
- b. a marketer that is not an affiliate of the External Installed Capacity Supplier.

The supporting documentation of bilateral agreements must be received by 5:00 PM ET of the business day following the day in which the requests for Import Rights are submitted to the NYISO.

If the NYISO determines that the information provided as supporting documentation is incomplete or inadequate, the NYISO will immediately notify the requesting party. The submission of incomplete or inadequate information does not alter the time frame in which such documents are due. For example, a requestor that has submitted incomplete or inadequate supporting documentation has until 5:00 PM ET of the business day following the day in which the requests for Import Rights are submitted to the NYISO to provide adequate and complete supporting documentation.

#### Response from the NYISO



Upon receipt of supporting documentation of a bilateral transaction, the NYISO will respond by 5:00 PM ET of the second business day following the day in which the requests for Import Rights are submitted to the NYISO.

The NYISO 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 and supporting documentation. If accepted, the NYISO will provide a confirmation number. A rejection may be based on any of the following:

- Incomplete or inadequate information;
- Fully subscribed External Installed Capacity rights;
- Late submission of supporting documentation of bilateral agreements;
- Unqualified External Installed Capacity Suppliers; or,
- The MW amount provided in the supporting documentation is less than the MW amount included in the Import Rights request.

If a request is rejected, the allocation of ICAP Import Rights proceeds using the assigned priorities as if that request had never been submitted.

#### ***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 web site

<http://www.nyiso.com/public/products/icap/index.jsp>.

#### ***Obligations of Recipients of Import Rights***

If at any time, the NYISO 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 NYISO will promptly issue an announcement to all Market Participants, alerting them to this fact. Recipients of these Import Rights will have until 12:00 PM ET two business days following the issuance by the NYISO of this announcement or until 5:00 PM ET 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 NYISO. The NYISO 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 NYISO prior to this deadline, will be under no further obligation associated with those Import Rights. Likewise, if the NYISO never makes such an announcement pertaining to Import Rights to import Installed Capacity from a given Control Area for a given month (because the NYISO 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 NYISO-administered auctions. The NYISO will notify all

Market Participants when Import Rights have been made available due to Import Rights that have been returned back to the NYISO from previously awarded Import Rights recipients. Any Import Rights that are returned to the NYISO shall be available for allocation to market participants or for use to support the purchase of Installed Capacity in NYISO-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 NYISO, shall be able to demonstrate to the NYISO no later than the deadline for monthly certification, as provided by the applicable Capability Period on the Installed Capacity (ICAP) Market page of the NYISO web site (<http://www.nyiso.com/public/products/icap/index.jsp>), 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 LSE Unforced Capacity Obligation 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 NYISO-administered auction nor has entered into a bilateral agreement to supply Installed Capacity to a New York LSE using those Import Rights, the associated Installed Capacity will be offered for sale into the ICAP Spot Market Auction as price taker, i.e., at a price of \$0/MW, and the NYISO will not accept any other offers to sell Installed Capacity from other Suppliers located in the corresponding external Control Areas. 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 NYISO Administered Auction

All purchasers of Unforced Capacity that is located in an External Control Area in an NYISO-administered auction shall receive the External Installed Capacity rights necessary in order to permit that Unforced Capacity to count towards the LSE Unforced Capacity Obligation; consequently, in order to ensure that there are sufficient external Installed Capacity rights available, the NYISO 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 NYISO 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 NYISO 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 NYISO 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 NYISO 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 NYISO 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 certify that Unforced Capacity sold to NYCA LSEs has not been sold elsewhere for each month that they intend to supply Unforced Capacity to the NYCA., These External Installed Capacity Suppliers and any Wheels-Through from an External Control Area to the NYCA or to another neighboring Control Area must provide the MIS transaction number to the NYISO on the date specified in the [ICAP Event Calendar](#).

See also Section 4.7 of this Manual for complete information in connection with monthly Installed Capacity Supplier certification requirements. The NYISO 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.

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,
  - (i) Secure External Installed Capacity Import Rights during the first-come, first-serve allocation period described above with a bilateral agreement; or
  - (ii) Sell External Unforced Capacity in an NYISO-administered Installed Capacity auction pursuant to the procedures identified in this Manual; or
- b. For External Installed Capacity associated with UDRs,
  - (i) The External Installed Capacity must have a sufficient amount of UDRs either owned or under contract for the term of the transaction.

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 Hour Ahead Market (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 F

- 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.

#### **4.9.5 Exports - External Sales of NYCA Installed Capacity**

Qualified NYCA Installed Capacity Resources that have sold Unforced Capacity to serve LSE obligations in External Control Areas must submit MIS transaction numbers for these exports to the NYISO via e-mail to ICAP\_Info@nyiso.com by the deadline shown in the

[ICAP Event Calendar](#) (i.e., in the month prior to ICAP export). The NYISO will verify this data with the appropriate External Control Area.

## 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 NYISO. 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:

1. PJM
2. ISO-NE
3. Quebec
4. Ontario

Resources located in the Ontario Control Area may not qualify as Installed Capacity Suppliers, since this Control Area does not currently meet the ISO's recall or Curtailment requirements for Installed Capacity Suppliers.

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

- Name and location of Generators included in the portfolio.
- Documentation that satisfies the General Requirements for DMNC determination specified in Section 4.2 of this Manual.
- Documentation that satisfies the Maintenance Scheduling Requirements specified in Section 4.3 of this Manual.
- Documentation that satisfies the Operating Data information submission requirements specified in Section 4.4 of this Manual.
- Expected return date from full or partial outages.
- 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 NYISO. Instead, the NYISO 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 NYISO 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 NYISO 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 NYISO.

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 NYISO 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 NYISO 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](#) to this Manual, Section 3.4.

## 4.11 [This Section intentionally left blank]

## 4.12 Special Case Resources

Special Case Resources are end-use Loads capable of being interrupted upon demand, and distributed generators, both of which must be rated 100 kW or higher and are invisible to the ISO's Market Information System. Small customer aggregations may also qualify as SCRs. 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](#) to this Manual.



#### 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 LSE Unforced Capacity Obligation or be offered into an auction administered by the NYISO 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. Responsible Interface Parties shall be responsible for all forms of communication to and from the NYISO for purposes of Minimum Payment Nomination, notification, dispatch, validation, billing and verification of Special Case Resources and the Unforced Capacity associated with Special Case Resources.

#### 4.12.2 General Requirements

Every RIP must submit a Special Case Resource registration in accordance with the [SCR Workbook](#) located on the NYISO website at

<http://www.nyiso.com/public/products/icap/manuals.jsp>.

The most recent version of the SCR Workbook is located on this web page for the applicable Capability Period. In addition, each Special Case Resource must be accepted by the NYISO as an Installed Capacity Supplier before its Unforced Capacity may be claimed by an LSE towards its LSE Unforced Capacity Obligation or be offered in an auction administered by the NYISO. Every RIP must submit a Special Case Resource registration to the NYISO in accordance with the schedule specified in the ICAP Event Calendar that can be found by selecting the link provided:

[http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)

Special Case Resources must also obtain an identification number from the NYISO.

Interval billing meters are required of all Special Case Resources, unless the Special Case Resources are part of a Small Customer Aggregation. Such metering must satisfy all requirements of the Metering, Verification, Billing and Settlement Section of the [NYISO Emergency Demand Response Program Manual](#) including installation by a qualified Meter Service Provider and be read by a qualified Meter Data Service Provider as further explained in the [NYISO Emergency Demand Response Program Manual](#) posted at: [http://www.nyiso.com/public/products/demand\\_response/edrp.jsp](http://www.nyiso.com/public/products/demand_response/edrp.jsp). The metering must also reflect the end-use nature of the Special Case Resource, i.e., single metering of multiple end-use customers on primary, secondary, or tie-line feeders is prohibited.

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 in accordance with Section 3.3(b) of [Attachment J](#) hereto shall provide to the NYISO DMNC test data as part of its Special Case Resource registration in addition to other generator information requested in that registration. 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 in accordance with Section 3.3(b) of [Attachment J](#) must deduct from the output of such generator: (i) any

auxiliary Load consumed by the generator and supplied from an external source; and (ii) any Load from a load bank used in conjunction with the generator when responding to NYISO dispatch under Section 4.12.3.

A Special Case Resource may specify generation in excess of its facility load, provided that it has installed metering capability satisfactory to the NYISO in order to quantify the net load change during a curtailment. Such resources must certify to the NYISO that they have obtained all necessary regulatory approvals to sell energy at wholesale and meet applicable utility interconnection and delivery (including metering) requirements.

Special Case Resources must meet the qualifications and comply with the procedures described below. A RIP 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 NYISO or be claimed by an LSE towards its LSE Unforced Capacity Obligation 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. Aggregations of this type may only be used to meet the 100 kW block requirement but cannot be used to allow over-performance by one Special Case Resource to compensate for under-performance by another Special Case Resource. The performances of each Special Case Resource shall be reported individually using the Special Case Resource Workbook and shall be tracked in accordance with the procedures contained in this Section 4.12. Performance measurements will be calculated in accordance with Section 3.3 of Attachment J to this Manual.

RIP performance will be based on the performance of its overall portfolio of Special Case Resources. A RIP will not be charged with a deficiency penalty if the total performance of its individual Special Case Resources meets or exceeds the total capacity it is committed to supply from all of its individual Special Case Resources. If the RIP's portfolio of Special Case Resources does not meet its full commitment, the RIP will be subject to deficiency penalties as applicable to any Installed Capacity Resource.

The NYISO will also allow participation by aggregations of small customers using alternative metering and performance measurement subject to the procedures and limitations set forth in the [NYISO Emergency Demand Response Program Manual](#), except that the total of all such aggregations for Special Case Resources shall not exceed 100 MW. Each small customer aggregation will be reviewed by the NYISO staff and the Installed Capacity Working Group, and must be approved by at least four of the Chairs and Vice-Chairs of the Management Committee and the Business Issues Committee and the Chairs of the Installed Capacity Working Group and Price Responsive Load Working Group.

### **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 NYISO 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 NYISO can use to prioritize which Special Case Resources to call. 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 Nomination 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 NYISO using the SCR Workbook located on the NYISO website at <http://www.nyiso.com/public/products/icap/manuals.jsp>. Responsible Interface Parties 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.

Special Case Resource Minimum Payment Nominations will be used only when the NYISO Operations department determines the need to call on these Resources in accordance with the NYISO Emergency Operations Manual. In the event the NYISO Operations department makes such a determination, the Minimum Payment Nominations placed for each Special Case Resource will allow the NYISO to call for Load reduction based on Special Case Resource zone location and price. As a result, the NYISO 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 NYISO may determine that it needs a Demand Reduction response of 25 MW in Zone J. A total of 50 MW 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 \$0/MWh to \$500/MWh. In order to fulfill its need for 25 additional MW of reserves, the NYISO will call the 25 MWs of Special Case Resources in economic order based on their submitted Minimum Payment Nominations starting with the lowest values. See Section 4.12.8 for situations where multiple Special Case Resources have placed the same top Minimum Payment Nomination called upon by the NYISO and the total MW 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 that have been previously considered and approved by the NYISO require a shorter block), in amounts that correspond to the

Installed Capacity Equivalent of the amount of Unforced Capacity it supplies to the NYCA, by reducing Load or by transferring Load to a distributed generator. The obligation to reduce Load or to transfer Load to a distributed generator shall commence at the top of the hour after the NYISO has provided the following notices:

- a. on the day before the Special Case Resource's performance may be required, the NYISO shall provide twenty-one (21) hour notice to the RIP, so long as notification is provided by 3:00 PM ET. If notice is provided to the RIP after 3:00 PM ET on the day before the Special Case Resource's performance may be required, then the NYISO shall instead provide twenty-four (24) hours notice;
- b. following the advance notice described in (a) above, on the operating day the NYISO shall provide at least two (2) hours notice to the RIP that the Special Case Resource's performance will be required. The Special Case Resource shall reduce its Load or to transfer Load to a distributed generator (as appropriate) commencing at the top of the hour immediately after the two-hour notice period has expired. In the alternative, the NYISO may specify the hour at which the Special Case Resource shall commence performance of its obligation by reducing its Load or to transferring Load to a distributed generator (as appropriate), so long as the start hour specified by the NYISO is at least two hours in the future.

If the Special Case Resource is unable to provide full output within two (2) hours due to operational constraints, the RIP may petition the NYISO 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 NYISO will calculate the appropriate de-rating factor for use in determining the amount of Unforced Capacity that such Special Case Resource can provide in the future.

The NYISO will use the average of the one-hour peak Loads during the noon to 8 PM time period during the four (4) middle months in each Capability Period to create a Special Case Resource Average Peak Monthly Demand ("APMD") baseline. If a new resource has no interval billing meter data from the Prior Equivalent Capability Period, its Installed Capacity value shall be provisionally based on peak monthly metered demands. Such declarations will be subject to actual in-period verification using actual hourly interval billing meter data for the applicable Capability Period and the resource's performance during an event or audit that rely on estimated data shall be subject to all the same deficiency payments and forward deratings as apply to all other Special Case Resources.

In the case where a Special Case Resource is using a distributed generator for demand reduction, the Installed Capacity value of that Special Case Resource is based on the net contribution to reducing the NYCA peak Load in the prior Capability Year. The normal production level of the distributed generator does not qualify as Special Case Resource capacity except as provided below. For example, a back-up generator that was not operating during the prior year NYCA peak would qualify for its full output value less associated parasitic consumption, auxiliary and load bank Load, if any. A generator that was operating during the prior NYCA peak would only get Capacity credit for the net increase over its contribution to the prior year's NYCA peak Load.

An exception is made when the Special Case Resource, LSE, Transmission District and NYCA peak Load upon which Installed Capacity requirements were based are grossed up to account for the Special Case Resource's operation. Under these circumstances the Special Case Resource would be treated as a back-up generator that was not operating during the prior year NYCA peak. Special Case Resources that use a distributed generator for demand reduction during the NYCA peak Load period and that desire to qualify this demand reduction as Installed Capacity must authorize the RIP to request such treatment of the NYISO. The RIP must, in turn, notify the NYISO of the Special Case Resource's authorization to treat the Special Case Resource generator's production as Installed Capacity. The NYISO will then assume responsibility for notifying the Transmission Owner in whose Transmission District the Special Case Resource generator exists and ensure that the generator demand reduction is properly accounted for in the relevant customer's Load, the LSE's Load, the Transmission District's Load forecast and the NYCA peak Load forecast.

The [SCR Workbook](#) used to register and report performance in accordance with these procedures, along with detailed instructions on its use, is located on the NYISO website at <http://www.nyiso.com/public/products/icap/manuals.jsp>.

Small customer aggregations as described in Section 4.12.2 of this Manual will use the CBL as defined in Section 3.8 of the [NYISO Emergency Demand Response Program Manual](#) to establish their Installed Capacity baseline.

A Special Case Resource may be required by the NYISO to demonstrate its pledged Load reduction capability once in every Capability Period for a period not to exceed one clock hour if it has not otherwise already been called by the NYISO to reduce Load in such period. There will be no Energy payments for these one hour audits. Audits will be conducted any time during the applicable Capability Period. The NYISO will not ordinarily require a Special Case Resource to demonstrate its pledged Load reduction capability via an audit until such time as it appears unlikely that a Special Case Resource event will be called in the relevant Capability Period.

For purposes of determining deficiencies, Special Case Resources must demonstrate their pledged load reduction for a minimum of one hour each Capability Period. This demonstration must be during an actual called Special Case Resource event or audit. If there are no such Special Case Resource events, one-hour audit results will be used. If a Special Case Resource does not meet its pledged Load reduction during an event, or if there is no event and the audit result is applied, the Special Case Resource will be subject to derating for the next like Capability Period and the RIP will be subject to deficiency penalties if the overall performance of all Special Case Resources in the RIP portfolio is less than that committed and certified in accordance with the applicable calculations in Section 3.3 of Attachment J to this Manual.

UCAP values will be calculated for each Special Case Resource in accordance with Section 3.3 of Attachment J to this Manual. Performance for each Special Case Resource shall be reported for all hours during all called Special Case Resource events and one-hour audits in a Capability Period. The NYISO will calculate performance factors for each Special Case Resource based on the best set of four (4) consecutive hours in each event for events of four hours or more and all hours for events of less than four hours (including audits).



Performance factors will apply to the next like Capability Period and its succeeding Capability Period. If no data is provided for any of the hours used for performance measurement, then they will be treated as forced outage hours. All hours, including those in excess of the hours used for performance measurement, may be used to determine Energy payments in accordance with Section 4.12.8, statistics for NYISO internal use and as the basis for various external reports.

If results are reported for any audits during a Capability Period, they will also count toward determining the UCAP value for each Special Case Resource. For example, if there are no Special Case Resource events, then audit results will apply. If an audit is conducted in August and there are subsequent Special Case Resource events, all event hours will apply plus the audit hour.

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 Minimum Unforced Capacity Requirement of the LSE serving that customer is based, the LSE's Minimum Unforced Capacity Requirement shall be increased by the amount of Load that was served or interrupted by the Special Case Resource.

#### **4.12.5 NYISO Notification Procedures**

The NYISO 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 (and described in Section 4.12.4, above), to the RIP. The former notification will be provided after 11 am, day-ahead, when the Day-Ahead Market closes. The NYISO commits not to use the day-ahead notification of potential need to operate indiscriminately but rather only when the Day-Ahead Market indicates potential serious shortages of supply for the next day in accordance with the Emergency Operations Manual. The day-ahead notice may occur on a weekend day or a holiday, as needed.

The NYISO shall provide notice no less than two (2) hours ahead of required operation or interruption, in the manner described in Section 4.12.4, above. Requested hours of operation within the two hour notification window and/or beyond the maximum 4 hours obligation will be considered voluntary for purposes of performance measurement. Notifications will normally be specified from, and to, specific clock hours, on-the-hour. Performance calculations and energy payments will normally be calculated for energy reductions for whole clock hours; i.e. from 13:00 to 14:00, 14:00 to 15:00, etc. In cases where events are initiated other than on-the-hour, energy payments will be computed for partial hours but performance calculations will only be calculated for whole hours.

RIPs shall contact their Special Case Resources through whatever communication protocols are agreed to between the Special Case Resources and the RIPs. Communication from the RIP to the Special Case Resource is the responsibility of the RIP. Such communication is subject to review by the NYISO. Any misrepresentation of the NYISO program in such notifications is subject to sanction by the NYISO, up to and including disqualification as a RIP.

RIPs claiming Special Case Resource Unforced Capacity shall provide the NYISO with their phone and Internet contact information that allows for notification by the NYISO at any time. Responsible Interface Parties shall confirm receipt of both instances of notification (day-ahead and two (2) hour) within 1 hour by Internet or telephone reply to the NYISO. 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**

Seasonal performance factors will be calculated in accordance with Attachment J of this Manual. Existing Special Case Resources that have a performance record from the Prior Equivalent Capability Period will have initial Unforced Capacity values determined based on the Attachment J calculation. New Special Case Resources will be assigned Unforced Capacity values based on the ratio of the sum of all Unforced Capacity values to the sum of all Installed Capacity values of all Special Case Resources in the associated RIP's portfolio of resources in accordance with calculations set forth in Section 3.3 of Attachment J. A Special Case Resource that fails to respond to RIP notification by reaching pledged Load reduction capability or maximum pledged generator output following notice from the NYISO to the RIP, or that fails to provide output for the period required by the NYISO 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 and calculation of a Special Case Resource's Unforced Capacity value.

A Special Case Resource that has successfully petitioned the NYISO 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 NYISO to the RIP until the Special Case Resource attains pledged Load reduction or maximum output.

A Special Case Resource (SCR) 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 and will have its Unforced Capacity rating calculated accordingly.

#### **4.12.7 RIP Requirements**

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

- Obtain authorization from each Special Case Resource allowing the RIP to act on behalf of the Special Case Resource during each Capability Period or for the term of the agreement. The authorization must specify that the RIP has authority to sell the Special Case Resource's Unforced Capacity, act as the organization of record for all financial transactions, and shall be signed by an authorized representative of the Special Case Resource. Upon request, the RIP shall forward such authorization the NYISO.



- Notify the NYISO at least two (2) business days in advance, 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 NYISO for all hours during all called Special Case Resource events and one-hour audits in a Capability Period and as required in Section 4.4.7 using the [SCR Workbook](#) located on the NYISO website at <http://www.nyiso.com/public/products/icap/manuals.jsp>
- Make certifications to the NYISO 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 of [Attachment J](#)) for the period following the NYISO notice under Section 4.12.4. See the Emergency Demand Response Program Manual for metering requirements. 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 NYISO will also accept operations logs to augment metered output to ensure accurate verification.
- The RIP (including a Transmission Owner that is a RIP) 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

Except in the case of an audit test, which may require performance for one hour in each Capability Period, 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, measured in terms of the Energy supplied during each clock hour of its performance using the Energy calculation methodology specified in the EDRP Manual. If the NYISO 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 NYISO as the starting time of the activation, or, in the event that the NYISO specified that the Demand Reduction begin as soon as possible, starting with the next whole clock-hour at which the Special Case Resource began its response. Each Special Case Resource shall be paid the zonal Real-Time LBMP per MWh of Energy reduced for the duration of the event. Payment for Special Case Resource Load reductions are conditioned upon verification of performance for the time period requested by the NYISO.

If the NYISO 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 scarcity pricing rules, in accordance with this Section 4.12.8, for the duration of the NYISO request or for two (2) hours, whichever is greater, starting with the hour specified by the NYISO as the starting time of the event, or, if the NYISO specified that the Demand Reduction begin as soon as possible, starting with the hour that the Special Case Resource began to perform. Except in the case of an audit, each Special Case Resource shall be paid

the zonal Real- Time LBMP per MWh of Load reduced for 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 NYISO.

Special Case Resource Minimum Payment Nominations would be eligible to participate in the LBMP price setting under the scarcity 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 NYISO to perform during an event, the NYISO will specify the number of MWs of the amount of Special Case Resources that must perform during that event such that all such resources are selected in the same zone provided that single source resources shall be taken without being called upon for partial performance.

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.

For event performance data submitted by RIPs at least ten (10) business days prior to the date of the initial settlement invoice for the month in which the event occurred (Initial Event Data Submission Date), the NYISO will, on a best efforts basis, process the submitted event performance data such that Energy payments for the event are reflected in the initial settlement invoice. Event data submitted after the Initial Event Data Submission Date referenced above shall be processed for the true-up or final invoice.

#### **4.12.9 NYISO Verification**

The NYISO retains the right to audit any records kept by the RIP, the Transmission Owner, or the Special Case Resource that 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 Minimum 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 NYISO 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, availability of the facility, and appropriate NYSRC reliability studies.

### 4.14.2 Requesting, Granting, Duration and Adjustment of Unforced Capacity Deliverability Rights

An incremental transmission project will be awarded UDRs after a formal request to the NYISO that includes the pertinent technical information needed to determine such award. The NYISO may request additional information as necessary and will grant UDRs to the requestor, or designated rights holder, quantified as the Installed Capacity Equivalent of the Unforced Capacity to be delivered to the Interconnection Point in MW, throughout its project life. The amount of UDRs awarded to a particular project may be adjusted periodically by the NYISO. Adjustments to such an award will reflect changes in physical characteristics and availability of the associated project.

The formal request may be made anytime after submittal of the studies required to support the NYISO's Interconnection process, or if the NYISO is conducting those studies, after the NYISO has completed the studies. If a formal request is received by the NYISO from a rights holder for a facility after August 1, the request for UDRs will not be granted for the

upcoming Capability Year, and the NYSRC will consider the UDRs associated with the new facility as emergency support capability in the reliability studies conducted for the upcoming Capability Year. The holder may use timely requested UDRs awarded for the upcoming Capability Year, as described in Section 4.14.3.

The formal request for UDRs must include the following information.

- Interconnection points (i.e., bus names and voltage levels)
- Expected in-service date
- External Control area of interconnection, if applicable
- Internal Locality(ies) of interconnection
- Normal summer/winter ratings in MW of facility, and design temperatures
- Limiting element(s)
- Average expected outage rate, and average expected repair time
- Rights holder of record at the time of the request
- The formal request must be provided to:

New York Independent System Operator, Inc.  
Director, System and Resource Planning  
10 Krey Blvd.  
Rensselaer, NY 12144

#### **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 Installed Capacity associated with an identifiable physical Resource.

When an entity combines External UDRs with acceptable Installed Capacity/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.

Annually, prior to August 1st or such later date as agreed to by the NYSRC, the holder of External UDRs may return to the NYCA a quantity of the External UDRs, up to the maximum amount awarded under Section 14.4.2, to be used in the NYSRC and NYISO reliability studies that determine the NYCA Installed Reserve Margin and the Locational Minimum Installed Capacity Requirements, respectively, for the next Capability Year. This capability will be considered emergency support capability in these reliability studies to benefit all LSEs when determining the NYCA Installed Reserve Margin and the Locational Minimum Installed Capacity Requirements.

For example, assume a transmission project is awarded 300 MW of External UDRs from ISO-NE to Long Island. Further, assume that the holder of these External UDRs is able to contract for an amount of UCAP that requires 200 MW of UDRs. Prior to August 1, the holder of these External UDRs may return up to 100 MW of the External UDRs for use in the reliability studies for the next Capability Year.

Each year, the entire quantity of External UDRs awarded a transmission project under Section 14.4.2 will be available to the holder to make the determination described above.

External Installed Capacity Suppliers using External UDRs must fulfill all External Installed Capacity Supplier requirements found in the [NYISO Services Tariff](#) and NYISO 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.

Annually, prior to August 1st or such later date as agreed to by the NYSRC, the holder of Local UDRs may return to the NYCA a quantity of the Local UDRs, up to the maximum amount awarded under Section 14.4.2, to be used as transmission capability in the NYSRC and NYISO reliability studies that determine the NYCA Installed Reserve Margin and the Locational Minimum Installed Capacity Requirements, respectively, for the next Capacity Year. This transmission capability will be considered free-flowing capability in these reliability studies to benefit all LSEs when determining the NYCA Installed Reserve Margin and the Locational Minimum Installed Capacity Requirements.

Each year, the entire quantity of Local UDRs awarded a transmission project under Section 14.4.2 will be available to the holder to make the determination described above.

Installed Capacity Suppliers using Local UDRs must fulfill all Installed Capacity Supplier requirements found in the Services Tariff and NYISO 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 NYISO-administered Installed Capacity Auctions when previously combined with qualified Unforced Capacity. External Unforced Capacity combined with UDRs and sold in an NYISO-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 NYISO at least ten (10) business days prior to an NYISO-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 NYISO and this 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).



## 5. NYISO ADMINISTERED INSTALLED CAPACITY AUCTIONS

The NYISO will administer Installed Capacity auctions to accommodate Load Serving Entities (LSEs) and Installed Capacity Suppliers' efforts to enter into Unforced Capacity transactions and to allow LSEs to satisfy their respective LSE Unforced Capacity Obligations. In the various NYISO administered auctions, LSEs will have the opportunity to purchase the Unforced Capacity necessary to meet the LSE Unforced Capacity Obligations established by the [NYISO Services Tariff](#), and to purchase or sell excess Unforced Capacity. Installed Capacity Suppliers will have the opportunity to sell Unforced Capacity.

Load Serving Entities and Installed Capacity Suppliers may also purchase or sell Unforced Capacity through Bilateral Transactions. Load Serving Entities holding Unforced Capacity, which they want credited against their LSE Unforced Capacity Obligations, must certify such Unforced Capacity.

Participation in NYISO-administered auctions is restricted to NYISO Customers. Unforced Capacity supplied through the auction may only be used for the commercial interests of the purchaser. In addition, any Unforced Capacity purchased through a NYISO administered auction may not be resold for the purposes of meeting Installed Capacity requirements imposed by operators of External Control Areas.

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

### 5.1 Overview of Auction Structure and Timing

The NYISO will conduct regularly scheduled Installed Capacity auctions before and during Capability Periods. See the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)) for the upcoming Capability Period schedule of auctions. The schedule is structured to ensure adequate time between the date that auction results from monthly auctions are posted and the date that LSEs are required to demonstrate the amount of Unforced Capacity that they have procured prior to the ICAP Spot Market Auction. Auctions shall be conducted prior to the start of each Capability Period and each month during a Capability Period.

The NYISO will post the results of Installed Capacity auctions according to the schedule in the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)). The ICAP Event Calendar will ensure that there are at least four (4) business days between the date that auction results from the Monthly Auction are posted and the date that LSEs are required to certify the quantity of Unforced Capacity that it has or has obtained for the upcoming Obligation Procurement Period, pursuant to Section 5.11.2 of the [NYISO Services Tariff](#). LSEs attempting to credit against their LSE Unforced Capacity Obligations any Unforced Capacity that they hold in excess of their Minimum Unforced Capacity Requirement must certify such Unforced Capacity.



### 5.1.1 General Auction Requirements

The NYISO shall conduct regular auctions at the times specified in Section 5.13.1 of the NYISO Services Tariff and in the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)). Installed Capacity Suppliers, LSEs, and Installed Capacity Marketers that are Customers under the [NYISO Services Tariff](#) will be allowed to participate in Installed Capacity auctions, provided that they satisfy the creditworthiness requirements set forth in Section 11.0 of the NYISO OATT.

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

Installed Capacity Suppliers that wish to participate in an NYISO-administered auction must certify to the NYISO in accordance with the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)), demonstrating that their Unforced Capacity has not been committed to a Bilateral Transaction.

Unforced Capacity from Resources electrically located within Zone J, New York City (“In-City”) may be subject to FERC-approved capacity market mitigation measures. See [NYISO Services Tariff](#), Attachment H, § 4.5.

## 5.2 Capability Period Auctions

A Capability Period Auction will be conducted no later than thirty (30) days prior to the start of each Capability Period in which Unforced Capacity will be purchased and sold for the entire duration of the Capability Period. The exact date of the Capability Period Auction shall be established in the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)).

The Capability Period Auction will be conducted and solved simultaneously to purchase Unforced Capacity, which may be used by an LSE toward all components of its LSE Unforced Capacity Obligation for each Obligation Procurement Period. Participation shall consist of: (i) LSEs seeking to purchase Unforced Capacity; (ii) any other entity seeking to purchase Unforced Capacity; (iii) qualified Installed Capacity Suppliers; and (iv) any entity that owns Unforced Capacity that is not otherwise already committed and wishes to make that Unforced Capacity available.

Buyers that are awarded Unforced Capacity shall pay the applicable Market-Clearing Price of Unforced Capacity in the Capability Period Auction. Sellers that are selected to provide Unforced Capacity shall receive the applicable Market-Clearing Price of Unforced Capacity in the Capability Period Auction in accordance with the [NYISO Services Tariff](#).

The results of the Capability Period Auction will be made available to Market Participants at the times specified in the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)), which shall

be prior to the start of the Monthly Auction held prior to the beginning of each Capability Period.

### 5.3 Monthly Auctions

Monthly Auctions will be held, during which Unforced Capacity may be purchased and sold for the forthcoming Obligation Procurement Period, and any other month or months remaining in the Capability Period, as specified in the detailed ICAP Event Calendar that can be found by selecting the link provided

([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)).

Each Monthly Auction will be conducted and solved simultaneously to purchase Unforced Capacity, which may be used by an LSE toward all components of its LSE Unforced Capacity Obligation for each Obligation Procurement Period. Participation shall consist of: (i) LSEs seeking to purchase Unforced Capacity; (ii) any other entity seeking to purchase Unforced Capacity; (iii) qualified Installed Capacity Suppliers; and (iv) any other entity that owns Unforced Capacity that is not otherwise already committed and wishes to make that Unforced Capacity available.

Buyers that are awarded Unforced Capacity shall pay the applicable Market-Clearing Price of Unforced Capacity in the Monthly Auction. Sellers that are selected to provide Unforced Capacity shall receive the applicable Market-Clearing Price of Unforced Capacity in the Monthly Auction in accordance with the [\*NYISO Services Tariff\*](#).

The results of each Monthly Auction will be made available to Market Participants in accordance with the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)).

### 5.4 ICAP Spot Market Auction

The NYISO shall conduct an ICAP Spot Market Auction to purchase Unforced Capacity, which shall be used by an LSE toward all components of its LSE Unforced Capacity Obligation for each Obligation Procurement Period immediately preceding the start of each Obligation Procurement Period. The exact date of the ICAP Spot Market Auction shall be established in the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)). All LSEs shall participate in the ICAP Spot Market Auction as described herein. In the ICAP Spot Market Auction, the NYISO shall submit monthly Bids on behalf of all LSEs at a level per MW determined by the applicable ICAP Demand Curve established in accordance with Section 5.14.1(b) of the [\*NYISO Services Tariff\*](#) and Section 5.5 of this Manual. The ICAP Spot Market Auction will set the LSE Unforced Capacity Obligation for each NYCA LSE.

Prior to the ICAP Spot Market Auction, LSEs shall certify all Unforced Capacity acquired through Bilateral Transactions that will be counted toward their respective Minimum Unforced Capacity Requirement. Each entity that has previously committed to supply Unforced Capacity for the Obligation Procurement Period will also certify to the NYISO the amount of Unforced Capacity it is using to meet those requirements. The NYISO shall receive offers from qualified Installed Capacity Suppliers for the ICAP Spot Market

Auction for any amount of qualified Unforced Capacity that they have not previously certified. The NYISO shall also receive offers for the ICAP Spot Market Auction of Unforced Capacity from any LSE for any amount of qualified Unforced Capacity such LSE has in excess of its NYCA Minimum Unforced Capacity Requirement or Locational Minimum Unforced Capacity Requirement, as applicable.

The ICAP Spot Market Auction will be conducted and solved simultaneously for Unforced Capacity that shall be used by an LSE towards all components of its LSE Unforced Capacity Obligation for that Obligation Procurement Period using the applicable ICAP Demand Curves, as established in Section 5.5 of this Manual. LSEs that are awarded Unforced Capacity in the ICAP Spot Market Auction shall pay to the NYISO the applicable Market-Clearing Price of Unforced Capacity determined in the ICAP Spot Market Auction. The NYISO shall pay Installed Capacity Suppliers that are selected to provide Unforced Capacity the applicable Market-Clearing Price determined in the ICAP Spot Market Auction in accordance with the [NYISO Services Tariff](#)

In accordance with Attachment H to the [NYISO Services Tariff](#), seasonally adjusted UCAP Offer Reference Levels will be applied to Installed Capacity supplied by In-City generation that is subject to capacity market mitigation measures. If the owner of an In-City resource requests a unit-specific reference level, then the supplier must provide information on its Going-Forward Costs. If accepted, the NYISO will shape the adjusted UCAP Offer Reference level for each Generator  $n$  for the Summer and Winter months as follows:

$$SARP_n = \frac{AGFC_n}{6 \cdot \left( 1 + R_n \cdot \frac{DCL - R}{DCL - 1} \right)}$$

and

$$WARP_n = SARP_n \cdot \frac{DCL - R}{DCL - 1},$$

**Where:**

$SARP_n$  is the adjusted UCAP Offer Reference Level during each month of the Summer Capability Period for Generator  $n$ ;

$AGFC_n$  is the annual Going Forward Cost for Generator  $n$ ;

$R_n$  is the ratio of (1) the winter generating capacity of Generator  $n$  to (2) the summer generating capacity of Generator  $n$ ;

$DCL$  is the ratio of (1) the amount of In-City ICAP at which the demand curve reaches a zero price to (2) the In-City ICAP requirement;

$R$  is the ratio of (1) the sum of the winter generating capacities of all In-City generation to (2) the sum of the summer generating capacities of all In-City generation; and

$WARP_n$  is the adjusted UCAP Offer Reference Level during each month of the Winter Capability Period for Generator  $n$ .

## 5.5 Demand Curve and Adjustments

Three (3) ICAP Demand Curves have been established: one to determine the locational component of LSE Unforced Capacity Obligations for the New York City Locality, one to

determine the locational component of LSE Unforced Capacity Obligations for the Long Island Locality, and one to determine the total LSE Unforced Capacity Obligations for all LSEs serving load in the NYCA. Installed Capacity Demand Curves have been determined for the 2008/2009, 2009/2010 and 2010/2011 Capability Years and will be adjusted for subsequent three-year periods pursuant to the process set forth in the NYISO Services Tariff and in accordance with Section 5.6, below.

Each ICAP Demand Curve is composed of three (3) straight-line<sup>1</sup> portions:

1. A horizontal line segment, consisting of all points for which the price of ICAP is equal to 1.5 times the estimated localized levelized cost per kW-month to develop a new peaking unit<sup>2</sup> in each Locality (for the ICAP Demand Curves for the New York City and Long Island Localities) or in the Rest-of-State region (for the NYCA ICAP Demand Curve), and for which the quantity of ICAP supplied is greater than or equal to zero but less than the quantity of ICAP supplied at the point where this segment intersects segment (2), which is described below.
2. A line segment with a negative slope, which is a portion of a line that passes through the following points:
  - a. a point at which the amount of ICAP supplied is equal to the NYCA Minimum Installed Capacity Requirement (for the NYCA ICAP Demand Curve) or the Locational Minimum Installed Capacity Requirement (for the ICAP Demand Curves for the New York City and Long Island Localities), and the price of ICAP is equal to the monthly ICAP Reference Point price (as described below) for the NYCA or one of the Localities, as applicable; and
  - b. a point at which the amount of ICAP supplied is set at the Zero Crossing Point, defined as the smallest quantity of Installed Capacity counting towards the NYCA Minimum Installed Capacity Requirement or a Locational Minimum Installed Capacity Requirement, as applicable, for which the price of ICAP is zero.

The line segment which comprises this portion of the ICAP Demand Curve consists of all points on this line for which the quantity of ICAP supplied is greater than or equal to the quantity of ICAP supplied at the point where this segment intersects segment (1), but less than or equal to the Zero Crossing Point defined for the NYCA Minimum Installed Capacity Requirement or the Locational Minimum Installed Capacity Requirement, as applicable.

3. A horizontal line, consisting of all points for which the price of ICAP is zero, and for which the quantity of ICAP Supplied is greater than the Zero Crossing Point defined for the NYCA Installed Capacity or the Locational Installed Capacity, as applicable.

The horizontal portions of the ICAP Demand Curves therefore define maximum and minimum prices for ICAP in the Localities (in the case of the Locational ICAP Demand

<sup>1</sup> In the ICAP Market System, each ICAP Demand Curve is represented by a piece-wise linear function (step function). Each linear segment has a length of 0.1 MW and a price as calculated based on the slope of the Demand Curve.

<sup>2</sup> A peaking unit is defined as the unit with technology that results in the lowest fixed costs and highest variable costs among all other units' technology that are economically viable.

Curves) and for Installed Capacity in the Rest-of-State Region (in the case of the NYCA ICAP Demand Curve). The sloped portion of each Demand Curve permits the price of capacity to change as a function of the amount of Installed Capacity supplied, relative to each Minimum Installed Capacity Requirement.

The NYCA Minimum Installed Capacity Requirement is determined by the NYISO after the New York State Reliability Council sets the NYCA Installed Reserve Margin and the NYISO determines the Locational Minimum Installed Capacity Requirement (see Section 2 of this Manual for further explanation). The monthly ICAP Reference Point price for the NYCA and each Locality is based on the Annual Reference Value for that location, which is the estimated cost for a peaking unit for the Rest-of-State region (in the case of the Annual Reference Value for the NYCA) or a Locality (in the case of the Annual Reference Value for a Locality) less an estimate of annual net revenue offsets from the sale of energy and ancillary services for the Rest-of-State region or a Locality, as appropriate. Since the Annual Reference Value is based on generator ratings using an average annual temperature (59 degrees Fahrenheit, per International Standards Organization (ISO) standards), each monthly ICAP Reference Point price calculation shall include adjustments to take seasonal effects on the amount of UCAP that can be supplied, as well as the price of UCAP, into account.

Each monthly ICAP Reference Point price is set to the level that would permit a peaking unit to be paid an amount over the course of the year that is equal to the Annual Reference Value, given the following assumptions:

- Each summer month's revenue is equal to the product of the Summer DMNC of the peaking unit and the monthly ICAP Reference Point price for the NYCA or a Locality, as appropriate.
- Each winter month's revenue is equal to the product of the Winter DMNC of the peaking unit and an assumed Winter ICAP price for the NYCA or a Locality, as appropriate, calculated as:

$$WP_i = RP_i \cdot \left( 1 - \frac{WSR_i - 1}{ZCPR_i - 1} \right)$$

**Where:**

$WP_i$  = the assumed winter ICAP price for location  $i$ ;

$RP_i$  = the monthly ICAP Reference Point price for location  $i$ ;

$ZCPR_i$  = the ratio of the Zero Crossing Point defined for the NYCA Minimum Installed Capacity Requirement to the NYCA Minimum Installed Capacity Requirement, if  $i$  is the NYCA, or the ratio of the Zero Crossing Point defined for a Locational Minimum Installed Capacity Requirement to that Locational Minimum Installed Capacity Requirement, if  $i$  is a Locality; and

$WSR_i$  = the ratio of the sum of winter DMNCs of ICAP providers in location  $i$  to the sum of summer DMNCs of ICAP providers in location  $i$ , using the most recent ratio of winter-to-summer DMNCs that is available from the NYCA market as reported in the annual Load and Capacity Data and posted at the time of the periodic review in the Planning section of the NYISO website

([http://www.nyiso.com/public/services/planning/planning\\_data\\_reference\\_document\\_s.jsp](http://www.nyiso.com/public/services/planning/planning_data_reference_document_s.jsp)).

Consequently:

$$RP_i = \frac{ARV_i \cdot \frac{AssmdCap}{SDMNC}}{6 \cdot \left[ 1 + \frac{WDMNC}{SDMNC} \cdot \left( 1 - \frac{WSR_i - 1}{ZCPR_i - 1} \right) \right]}$$

**Where:**

- ARV<sub>i</sub>* = the Annual Reference Value for location *i*;
- AssmdCap* = the capacity assumed for the peaking unit when calculating Annual Reference Values;
- SDMNC* = the summer DMNC assumed for the peaking unit at 90 degrees F;
- WDMNC* = the winter DMNC assumed for the peaking unit at 20 degrees F;

and all other variables are as defined above.

Maximum clearing prices, monthly ICAP Reference Point prices and Zero Crossing Points for the Installed Capacity Demand Curves are provided in Section 5.14.1 (b) of the [NYISO Services Tariff](#).

Quantities on each of these ICAP Demand Curves are stated in terms of amounts of ICAP supplied and prices are stated in terms of dollars per kW-month of ICAP supplied, but the metric actually used in the ICAP market is UCAP. Therefore, each of these ICAP Demand Curves must be translated into UCAP Demand Curves, so that quantities are stated in terms of UCAP supplied and prices are stated in terms of dollars per kW-month of UCAP supplied. This translation will be performed as follows: Before the beginning of each Capability Period, the NYISO will calculate an ICAP-to-UCAP translation factor for each ICAP Demand Curve, equal to one minus the average value of the six (6) most recent 12-month rolling average EFORds calculated for all resources in the NYCA (in the case of the ICAP Demand Curve for the NYCA) or in a Locality (in the case of the ICAP Demand Curve for that Locality). Each price on each ICAP Demand Curve shall then be converted into a price on the corresponding UCAP Demand Curve by dividing it by one minus the ICAP-to-UCAP translation factor calculated for that ICAP Demand Curve. Each quantity on each ICAP Demand Curve shall be converted into a quantity on the corresponding UCAP Demand Curve by multiplying it by one minus the ICAP-to-UCAP translation factor calculated for that ICAP Demand Curve.

The resulting Unforced Capacity Demand Curves can be found on the NYISO web site at <http://www.nyiso.com/public/products/icap/auctions.jsp> for the applicable Capability Period.

## 5.6 Demand Curve Adjustment Process

An independent periodic review of the ICAP Demand Curves will be performed every three (3) years to determine whether the parameters of the ICAP Demand Curves should be adjusted in accordance with the [NYISO Services Tariff](#). Currently, the NYISO envisions a



nearly two year process to conduct this review. The review will include the development of an RFP to select a consultant to perform required analyses, development of a consultant report, issuance of proposed Demand Curves, NYISO Board review of the Demand Curves and a FERC filing of the Demand Curves. The review includes Market Participant and NYISO Market Advisor input, review and comment in many of the steps throughout the process.

The initial review of the Demand Curve parameters was conducted for the three year period commencing with the 2005/2006 Capability Year.

### **5.6.1 Development and Issuance of Schedule**

By mid-May (target May 15th) two years prior to the effective date of the Demand Curves to be filed under this review, the NYISO will issue for Market Participant review and comment a draft schedule providing the completion dates of the major review activities. By May 30th, a schedule will be finalized for the Demand Curve review.

### **5.6.2 Development of a Request for Proposal (RFP)**

In accordance with the schedule developed in Section 5.6.1, the NYISO will issue to Market Participants and the NYISO Market Advisor for their review and comment a draft RFP to engage a consultant to perform the required analyses under the review. Prior to the issuance of the RFP, face to face reviews with NYISO Staff, NYISO Market Advisor, and interested stakeholders will be conducted to allow input and discussion of all relevant issues and the development of appropriate methodologies to be followed for the review. To expedite and focus the process, NYISO Staff may provide a strawman for consideration.

These discussions will lead to a set of desired assumptions and acceptable methodologies to be guidance for bidder responses to the RFP.

### **5.6.3 Selection of Consultant**

Upon finalization of the RFP, but no later than the date established in the approved schedule for the Demand Curve review, the NYISO will issue the RFP to a selected list of bidders.

The RFP will provide potential bidders an opportunity to seek clarification of items included in the RFP through a Bidder's Conference. Although interested stakeholders are welcome at the conference, this conference will not be used as an opportunity to elicit support from the consultant for any particular issue of importance to any one party.

The NYISO will have sole responsibility for

- The development of a selection criteria to determine the winning bidder,
- The evaluation of the RFPs submitted, and
- The selection of the winning bidder.

The NYISO will award the contract to the winning bidder in accordance with the established schedule.



#### **5.6.4 Development of Consultant Final Report**

Prior to the winning consultant beginning work, meetings will be conducted to finalize the study assumptions and required sensitivity analysis. These meetings will include NYISO Staff, NYISO Market Advisor, interested stakeholders and the consultant. In the event that agreement cannot be reached on the assumptions or sensitivities, NYISO Staff in consultation with the NYISO Market Advisor, will make the final determination of the assumptions to be used and the sensitivity analyses to be included in the review.

Upon issuance of a draft report by the consultant, meeting(s) will be convened to allow review and comment of the data and assumptions used in the review and the conclusions drawn by the consultant. These meetings will include NYISO Staff, NYISO Market Advisor, interested stakeholders and the consultant. The NYISO Market Advisor may propose adjustments to certain data or assumptions with input from NYISO staff and stakeholders. Comments made by NYISO Staff, NYISO Market Advisor and interested stakeholders will be included in the consultant's final report. In addition, the consultant will include its rationale for inclusion or exclusion of these comments in the final results of their analysis.

The consultant will issue its final report in accordance with the established schedule.

#### **5.6.5 Issuance of NYISO Draft Demand Curve Recommendations**

The NYISO will issue its draft Demand Curve recommendations in accordance with the established schedule. The contents of these recommendations will include:

- The localized, levelized embedded cost of a peaking unit in each NYCA Locality and the rest of state for each of the three capability years included in the review;
- The associated energy and ancillary services revenues in each NYCA Locality and the rest of state at or slightly in excess of equilibrium conditions;
- The “zero-crossing point” where the Demand Curves cross \$0 (the point beyond which Unforced Capacity has no value) for each of the three capability years included in the review;
- The rationale for the selection of each recommendation provided above; and
- The rationale for the inclusion or exclusion of MP comments in determining these recommendations.

#### **5.6.6 NYISO Board Review**

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

### 5.6.7 FERC Filing of ICAP Demand Curves

A filing to FERC of the NYISO Board approved ICAP Demand Curve parameters will be made by November 30th in the year prior to commencement of the first Capability Period included in the review. Once the ICAP Demand Curves have been approved by FERC, they shall remain binding for the 3-year period until the next review, absent exigent circumstances.

## 5.7 Supplemental Supply Fee

Any LSE that has not met its share of the NYCA Minimum Installed Capacity Requirement or its share of the Locational Minimum Installed Capacity Requirement after the completion of an ICAP Spot Market Auction shall be assessed a supplemental supply fee. The supplemental supply fee shall be the applicable Market-Clearing Price of Unforced Capacity as determined in the ICAP Spot Market Auction multiplied by the number of MWs the deficient LSE needs to meet its share of the NYCA Minimum Installed Capacity Requirement or its share of the Locational Minimum Installed Capacity Requirement.

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

Offers from Installed Capacity Suppliers are subject to mitigation measures in accordance with [Attachment H to the NYISO Services Tariff](#). Installed Capacity Suppliers selected by the NYISO to provide Capacity after the ICAP Spot Market Auction will be paid a negotiated price. The NYISO will not pay an Installed Capacity Supplier more than the applicable Market-Clearing Price of Unforced Capacity determined in the ICAP Spot Market Auction per MW of Unforced Capacity, pro-rated to reflect the portion of the Capability Period for which the Installed Capacity Supplier provides Unforced Capacity.

## 5.8 ICAP Supplier Shortfalls and Deficiency Payments

In the event that an Installed Capacity Supplier sells more Unforced Capacity than it is qualified to sell in any specific month in the Capability Period or Monthly Auctions, the Installed Capacity Supplier shall be deemed to have a shortfall for that month. To cover this shortfall, the Installed Capacity Supplier shall purchase sufficient Unforced Capacity in the relevant Monthly Auction or through Bilateral Transactions, and certify to the NYISO consistent with the detailed ICAP Event Calendar that can be found by selecting the link

provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)) that it has covered such shortfall. If the Installed Capacity Supplier does not cover such shortfall or if it does not certify to the NYISO in a timely manner, the NYISO shall prospectively purchase Unforced Capacity on behalf of that Installed Capacity Supplier in the appropriate ICAP Spot Market Auction or, in the event of shortages in that auction, through post-ICAP Spot Market Auction Unforced Capacity purchases to cover the remaining shortfall.

In the event that an External Installed Capacity Supplier fails to deliver to the NYCA the Energy associated with the Unforced Capacity it committed to the NYCA due to a failure to obtain appropriate transmission service or rights, the External Installed Capacity Supplier shall be deemed to have a shortfall from the last time the External Installed Capacity Supplier “demonstrated” delivery of its Installed Capacity Equivalent (“ICE”), or any part thereof, until it next delivers its ICE or the end of the term for which it certified the applicable block of Unforced Capacity, whichever occurs first, subject to the limitation that any prior lack of demonstrated delivery will not precede the beginning of the period for which the Unforced Capacity was certified. An External Installed Capacity Supplier deemed to have a shortfall shall be required to pay to the NYISO a deficiency charge equal to one and one-half times the applicable Market-Clearing Price of Unforced Capacity as determined in the Spot Market Auction multiplied by the number of MWs the Installed Capacity Supplier is deficient, pro-rated for the number of hours in the month that External Installed Capacity Supplier is deemed to have a shortfall (i.e., ((deficiency charge ÷ total number of hours in month of shortfall) \* number of hours the shortfall lasted) \* number of MWs of shortfall).

The NYISO shall submit a Bid, calculated pursuant to Section 5.14.1 of the [NYISO Services Tariff](#), in the appropriate ICAP Spot Market Auction on behalf of an Installed Capacity Supplier deemed to have a shortfall as if it were an LSE. Such Installed Capacity Supplier shall be required to pay to the NYISO the applicable Market-Clearing Price of Unforced Capacity established in that ICAP Spot Market Auction. In the event that the ICAP Spot Market Auction clears below the NYCA Minimum Installed Capacity Requirement or the Locational Minimum Installed Capacity Requirement, whichever is applicable to the Installed Capacity Supplier, the Installed Capacity Supplier shall be assessed the applicable Market-Clearing Price of Unforced Capacity as determined in the Spot Market Auction multiplied by the number of MWs the Installed Capacity Supplier needs to meet its shortfall.

If an Installed Capacity Supplier is found, at any point during a Capability Period, to have had a shortfall for that Capability Period, e.g., when the amount of Unforced Capacity that it supplies is found to be less than the amount it was committed to supply, the Installed Capacity Supplier shall be retrospectively liable to pay the NYISO the applicable deficiency charge equal to one and one-half times the applicable Market-Clearing Price of Unforced Capacity as determined in the Spot Market Auction multiplied by the number of MWs the Installed Capacity Supplier is deficient.

Any remaining monies collected by the NYISO pursuant to Sections 5.14.1 and 5.14.2 of the [NYISO Services Tariff](#) will be applied as specified in Section 5.14.3 of the NYISO Services Tariff.

## 5.9 Timing of Auctions

The NYISO will develop a Capability Period ICAP Event Calendar *that to the extent practicable will* ensure that:

1. A Capability Period Auction where Unforced Capacity shall be made available for purchase for the entire six-month Capability Period will be held at least thirty (30) days before the beginning of that Capability Period;
2. Pre-Capability Period Monthly Auctions where Unforced Capacity is made available for purchase for any or all Obligation Procurement Periods within the Capability Period will be held at least fifteen (15) days before the beginning of that Capability Period;
3. During a Capability Period, Monthly Auctions will be held at least fifteen (15) days before the beginning of each Obligation Procurement Period in which Unforced Capacity will be made available for any or all remaining Obligation Procurement Periods within that Capability Period; and
4. A monthly ICAP Spot Market Auction will be held at least two (2) business days before the beginning of each Obligation Procurement Period during which the NYISO will procure LSE Unforced Capacity Obligations on behalf of each LSE.

*The above guidelines may be adjusted for weekends and holidays. The intent of the above will direct the NYISO towards fair compromises when developing or amending the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do))*

## 5.10 Bids to Buy and Sell - General Requirements

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

Bidders who wish to purchase Unforced Capacity and Offerors who wish to supply Unforced Capacity in any NYISO-administered auction may submit Bids to the NYISO only on the day of the auction, unless otherwise specified in the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)). If no Offerors submit offers to supply Unforced Capacity in an auction, the NYISO may cancel that auction. By contrast, if at least one Offeror submits an offer to sell in an auction, the NYISO will not cancel that auction, and will allow a Market-Clearing Price to be calculated in that auction, even if no Bidder submits a bid to buy in that auction.

All LSEs with Unforced Capacity in excess of their share of the NYCA Minimum Installed Capacity Requirement or their share of the Locational Minimum Installed Capacity Requirement, as applicable, may offer such Unforced Capacity into the ICAP Spot Market Auction on their own behalf.

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

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

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

The amount of Unforced Capacity that any given Offeror is permitted to offer for sale in the Spot Market Auction shall not exceed the Offeror's share of the amount of Unforced Capacity its Installed Capacity Suppliers are permitted to offer for sale, as calculated above, less any Unforced Capacity that Offeror has offered for sale either through Bilateral Transactions or through sales to External Control Areas. To the extent that an LSE seeks to offer into the ICAP Spot Market Auction, such LSE is limited to offering only those amounts of Unforced Capacity that are in excess of its share of the NYCA Minimum Installed Capacity Requirement or its share of the Locational Minimum Installed Capacity Requirement, as applicable.

Installed Capacity Suppliers that wish to participate in the Spot Market Auction must certify to the NYISO by the date posted in the detailed ICAP Event Calendar that can be found by selecting the link provided ([http://icap.nyiso.com/ucap/public/evt\\_calendar\\_display.do](http://icap.nyiso.com/ucap/public/evt_calendar_display.do)). The certification shall demonstrate: (i) that they own, have contracted to purchase, or have been designated as the agent for the share of each Resource that they claim when making offers to supply Unforced Capacity; and (ii) that the Unforced Capacity they offer has not been committed or sold to provide Unforced Capacity in the New York market or an External Control Area. Any offer to sell that would cause the total amount of Unforced Capacity offered by that Offeror from that Resource to exceed the amount of Unforced Capacity it is permitted to offer from that Resource will be rejected in its entirety.

If an Installed Capacity Supplier (or a portion of the Unforced Capacity attributable to an Installed Capacity Supplier) is selected in the auction to provide Unforced Capacity, that Resource (or portion thereof) cannot provide Installed Capacity to any other Control Area, and shall be required to adhere to the requirements for Installed Capacity Suppliers set forth in the [NYISO Services Tariff](#) and in this Manual. Entities wishing to purchase Unforced Capacity that will count toward Minimum Installed Capacity Requirements in other Control Areas will not be able to purchase such Unforced Capacity in an NYISO-administered auction.

## 5.12 Limitations on Bidders' Participation in Installed Capacity Auctions

As part of its evaluation of each Bidder's creditworthiness, the NYISO may establish credit limits for each Bidder. The NYISO will reject Bids from Bidders if acceptance of that bid could cause the total amount owed by that Bidder as a result of the auction to exceed that Bidder's credit limit. The credit criteria used by the NYISO are contained in Article 8 of the [NYISO Services Tariff](#).

## 5.13 Required Information in Bids to Buy

In the Capability Period and Monthly Auction, each Bidder may submit multiple Bids. Each bid to purchase Unforced Capacity submitted by a Bidder must include the following information:

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

In the ICAP Spot Market Auction, the NYISO will enter Bids on behalf of all LSEs. Prior to the ICAP Spot Market Auction, LSEs will certify the amount of Unforced Capacity that they have obtained for the upcoming Obligation Procurement Period. After LSE certification, the NYISO will enter Bids into the ICAP Spot Market Auction in accordance with the applicable Demand Curve for each Locality and the NYCA. In order to participate in the Installed Capacity market, each LSE must sign the NYISO Unforced Capacity Purchase Agreement that is found in [Attachment F](#) to this Manual.

## 5.14 Required Information in Offers to Sell

In the Capability Period Auction, the Monthly Auction, and the ICAP Spot Market Auction, each Offeror may submit multiple offers. Each offer to sell Unforced Capacity submitted by an Offeror must include (except where noted) to the following information:

1. The amount of Unforced Capacity it offers to sell in increments of 100 kW;
2. The minimum price it is willing to accept for the Unforced Capacity it is offering to sell in its offer, in \$/kW per month;
3. The auction to which the offer applies;
4. The name (PTID) of the Installed Capacity Supplier providing the Unforced Capacity offered for sale (this provision is not a requirement of Offers submitted



- for the Capability Period and Monthly auctions by Installed Capacity Suppliers offering Unforced Capacity from Generators located within the NYCA);
5. Whether that Installed Capacity Supplier is located in a Locality, and if so, which Locality; and
  6. Whether that Installed Capacity Supplier is located in a Control Area outside the NYCA, and if so, which Control Area.

## **5.15 Selection of Bids and Offers; Determination of Market-Clearing Prices**

### **5.15.1 Capability Period and Monthly Auctions**

In the Capability Period and Monthly Auctions, the NYISO will determine which Bids to purchase and which offers to sell Unforced Capacity are selected by maximizing the sum of the Bids submitted by winning bidders minus the offers submitted by winning offerors subject to the following constraints: (1) the amount of Unforced Capacity in each Locality for which offers were accepted must be sufficient to satisfy all accepted Bids that specified that Unforced Capacity must be located in that Locality. (Unforced Capacity combined with UDRs will be treated as Unforced Capacity in the relevant Locality.); (2) the amount of Unforced Capacity in each Control Area outside the NYCA for which offers were accepted cannot exceed the limitation placed on the Unforced Capacity that can be procured from that Control Area; and (3) the amount of Unforced Capacity associated with In-City generation that is subject to capacity market mitigation measures for which offers were accepted shall not exceed the amount of Unforced Capacity accepted from Bids which specify that such Unforced Capacity must be located in the New York City Locality.

All, part, or none of a Bid to purchase or an offer to sell Unforced Capacity may be selected in any Capability Period or Monthly Auction. As a result, if a Bidder offers in a Bid to purchase a given amount of Unforced Capacity at a given price, it may be awarded that amount of Unforced Capacity, or it may be awarded any amount lower than the amount it offered to purchase (including zero MWs).

Neither Bidders nor Offerors will be permitted to submit Bids or offers, which specify that either all or none of a Bid or offer can be selected. Bids to purchase or offers to sell Unforced Capacity in a given Capability Period or Monthly Auction cannot be made contingent on the outcome of another auction; e.g., an Offeror will not be permitted to offer Unforced Capacity within one month's auction contingent upon its sale of Unforced Capacity in another month's auction.

In cases in which multiple Bidders Bid to pay the same price for Unforced Capacity in a given location (or group of locations, if there is no price difference between those locations) in the same Capability Period or Monthly Auction, and some but not all of those Bids can be selected, the amount of Unforced Capacity awarded to each of those Bidders in association with each of those Bids shall be proportional to the amount of Unforced Capacity that Bidder Bid to purchase in that location (or group of locations, if there is no price difference between those locations) at that price. Likewise, in cases in which multiple Offerors offer to sell Unforced Capacity in a given location (or group of locations, if there



is no price difference between those locations) for the same price in the same Capability Period or Monthly Auction, and some but not all of those offers can be selected, the amount of Unforced Capacity selected from each of those Offerors in association with each of those offers shall be proportional to the amount of Unforced Capacity that the Offeror offered to sell in that location (or group of locations, if there is no price difference between those locations) at that price.

As a result of each Capability Period or Monthly Auction, the following Market-Clearing Prices for Unforced Capacity will be determined:

1. Prices for Unforced Capacity located in each Locality.
2. Prices for Unforced Capacity located in each Control Area outside the NYCA.
3. Price for Unforced Capacity located in the portion of the NYCA that is not located in a capacity-constrained Locality.

Market-Clearing Prices per MW of Unforced Capacity will be calculated for each Locality, for the NYCA, and for each External Control Area.

1. The Market-Clearing Price for a Locality will be the price at which one could have satisfied an incremental increase in demand in the auction for Capacity that had to be located in the Locality.
2. The Market-Clearing Price for the NYCA will be the price at which one could have satisfied an incremental increase in demand in the auction for Capacity that could have been located anywhere in the NYCA.
3. The Market-Clearing Price for an External Control Area will be the price at which one could have satisfied an incremental increase in demand in the auction for Capacity that could have been located in the NYCA.

The objective function that the NYISO will use in the Capability Period and Monthly Auctions, which was described in the previous section, will be to select the offers of Unforced Capacity with the lowest offer prices, insofar as doing so would not cause violations on the total amount of Unforced Capacity that can be purchased from an External Control Area (or group of Areas), pursuant to Section 4.9.3. But the need to honor these locational constraints may require the NYISO to accept some offers, which specify relatively high offer prices for Unforced Capacity while not accepting other offers with lower offer prices, because purchasing the lower-priced Unforced Capacity would violate locational constraints. In such cases, locational constraints will be binding and Market-Clearing Prices of Unforced Capacity may differ from location to location. If no locational constraints are binding (i.e., if the limitations on the total amount of Unforced Capacity that can be sold from any given Control Area did not force the NYISO to select more expensive offers of Unforced Capacity in the auction than it would have selected in the absence of those locational constraints), then the Market-Clearing Price of Unforced Capacity will be the same at every location.

When locational constraints do not bind, the Market-Clearing Price of Unforced Capacity in a given Capability Period or Monthly Auction will be the marginal bid cost of providing additional Unforced Capacity in such Monthly Auction or Capability Period Auction, as applicable. This procedure for calculating Market-Clearing Prices is analogous to the procedure that will be used to calculate LBMP prices in the Energy market (which are

based upon the marginal bid cost of supplying an increment of Load at a location). Illustrations of these procedures for calculating prices appear in [Attachment H](#) of this Manual.

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

When locational constraints bind, the Market-Clearing Price of Unforced Capacity at each location will still be the marginal bid cost of providing additional Unforced Capacity in either the Capability Period or Monthly Auction, as applicable, but it will be the marginal bid cost of providing Unforced Capacity located in a given area.

First, the locational constraints will be divided into two groups. A Locality constraint is binding if the NYISO selects offers of Unforced Capacity located in a certain Locality while not selecting lower-priced offers of Unforced Capacity from outside that Locality. The NYISO will only do this in order to avoid violating locational constraints specified by Bidders that state that a Bid is only valid for Unforced Capacity located in a given Locality. A Locality constraint will also be binding for the New York City Locality if the NYISO does not select lower-priced offers of Unforced Capacity from the New York City Locality, but instead selects higher-priced offers of Unforced Capacity in the New York City Locality or elsewhere. The NYISO will only select such higher-priced offers in order to avoid violating the limitation on sales of In-City generation that is subject to capacity market mitigation measures.

An External Control Area constraint is binding if the NYISO does not select offers of Unforced Capacity located in a particular External Control Area (or group of Areas), while selecting offers with higher offer prices from Installed Capacity Suppliers located in the NYCA or in other External Control Areas or to avoid violating the limits on the total amount of Unforced Capacity that can be sold from a given External Control Area (or group of Areas), pursuant to Section 4.9.3 of this Manual.

Then:

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

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

The NYISO will identify Bids that are accepted as follows:

1. Bids for Unforced Capacity that must be located in a Locality that were above the Market-Clearing Price for that Locality will be accepted in their entirety. Bids equal to the Market-Clearing Price will be accepted on a pro rata basis.
2. Bids for Unforced Capacity that could be located anywhere in the NYCA that were above the Market-Clearing Price for Rest of State will be accepted in their entirety. Bids equal to the Market-Clearing Price will be accepted on a pro rata basis.
3. Bids for Unforced Capacity that could be located anywhere in the NYCA or in one or more External Control Areas that were above the Market-Clearing Price for Rest of State will be accepted in their entirety. Bids equal to the Market-Clearing Price will be accepted on a pro rata basis.

The NYISO will identify offers that are accepted as follows:

1. Offers for Unforced Capacity in a Locality that were below the Market-Clearing Price for that Locality will be accepted in their entirety. Offers equal to the Market-Clearing Price will be accepted on a pro rata basis.
  - a. An exception applies to Unforced Capacity associated with In-City generation that is not subject to capacity market mitigation measures. Offers for such

Unforced Capacity shall be accepted if they are below either the Market-Clearing Price for the New York City Locality or the Market-Clearing Price for Rest of State, whichever is higher. Offers equal to the greater of the Market-Clearing Price for the New York City Locality or the Market-Clearing Price for Rest of State shall be accepted on a pro rata basis.

2. Offers for Unforced Capacity in Rest of State that were below the Market-Clearing Price for Rest of State will be accepted in their entirety. Offers equal to the Market-Clearing Price will be accepted on a pro rata basis.
3. Offers for Unforced Capacity in an External Control Area that were below the Market-Clearing Price for that External Control Area will be accepted in their entirety. Bids equal to the Market-Clearing Price will be accepted on a pro rata basis.

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

### **5.15.2 ICAP Spot Market Auction**

In the ICAP Spot Market Auction, the NYISO will construct a supply curve for the total Unforced Capacity offered in the NYCA, which includes all Capacity that LSEs or Installed Capacity Suppliers had designated for use to meet their respective LSE Unforced Capacity Obligations through self-supply, as well as all other Capacity offered into the ICAP Spot Market Auction. In cases in which the total amount of Capacity in a given External Control Area, or the combination of all External Control Areas, would exceed limits on the amount of Capacity that can be located in these areas, the NYISO shall eliminate the highest offers (or parts of those offers) in the affected External Control Areas from this supply curve until those limits are no longer exceeded.

In the ICAP Spot Market Auction, the NYISO will also construct a supply curve for all Unforced Capacity offered for each Locality which includes all Capacity in that Locality that LSEs or Installed Capacity Suppliers had designated for use to meet their respective LSE Unforced Capacity Obligations through self-supply, as well as all other Capacity in that Locality offered into the ICAP Spot Market Auction. Capacity combined with Unforced Capacity Deliverability Rights (UDRs) shall be treated as Capacity in the relevant Locality.

In the ICAP Spot Market Auction, the Market-Clearing Price shall be determined for the NYCA, for each Locality, and for each External Control Area. The Market-Clearing Price for the NYCA will be the price at which the supply curve for the total Unforced Capacity intersects the applicable ICAP Demand Curve for the total Installed Capacity market, subject to applicable constraints. The Market-Clearing Price for a Locality will be the price at which the supply curve for that Locality intersects the Demand Curve for that Locality unless the Market-Clearing Price determined for Rest of State is higher in which case the Market-Clearing Price for that Locality will be set at the Market-Clearing Price for Rest of State.

The Market-Clearing Price for an External Control Area will be set to the Market-Clearing Price for the NYCA unless there were offers below the NYCA Market-Clearing Price from Installed Capacity Suppliers in External Control Areas that were not accepted. If an offer in the ICAP Spot Market Auction was not accepted because it would cause the limit on the total amount of Capacity provided by Installed Capacity Suppliers located outside the NYCA to have been exceeded, the Market-Clearing Price for all External Control Areas shall be set to the price at which one could have obtained an incremental amount of Capacity from anywhere outside the NYCA unless there were offers below such Market-Clearing Price from Installed Capacity Suppliers in a given External Control Area that were not accepted. In that case, the Market-Clearing Price for that External Control Area would be set to the price at which one could have obtained an incremental amount of Capacity in that External Control Area.

## 5.16 Billing and Settlements

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

The capacity-weighted Market-Clearing price for all capacity purchased to satisfy accepted Bids that did not state that capacity used to meet those bids must be provided from Resources in a Locality. That price shall be determined for each Auction as follows:

$$CP_a = \frac{ROSP_a \cdot \left( NYCASale_a - \sum_{l \in L} LocPurch_{l,a} \right) + \sum_{e \in E} (ECAP_{e,a} \cdot ECASale_{e,a})}{\left( NYCASale_a - \sum_{l \in L} LocPurch_{l,a} \right) + \sum_{e \in E} ECASale_{e,a}},$$

**Where:**

$CP_a$  is the capacity-weighted average Market-Clearing price charged to purchasers of capacity in Auction  $a$  as described above;

$ROSP_a$  is the Market-Clearing price in Auction  $a$  for Unforced Capacity provided by Resources in Rest of State;

$NYCASale_a$  is the amount of Unforced Capacity sold in Auction  $a$  from Resources within the NYCA, including Localities;

$LocPurch_{l,a}$  is the amount of Unforced Capacity purchased in Auction  $a$  by auction participants stating that the capacity purchased in association with their bid must be located in Locality  $l$ ;

$L$  is the set of Localities in the NYCA;

$ECAP_{e,a}$  is the Market-Clearing price in Auction  $a$  for Unforced Capacity provided by Resources in external Control Area  $e$ ;

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$ECASale_{e,a}$  is the amount of Unforced Capacity sold in Auction  $a$  from Resources in external Control Area  $e$ ; and

$E$  is the set of external Control Areas.

For all Installed Capacity auctions, entities selling Unforced Capacity will be paid:

1. The Market-Clearing Price for the Locality times the number of MW of offers they submitted that were accepted for Capacity in that Locality. (Capacity combined with UDRs will be treated as Capacity in the relevant Locality.)
2. The Market-Clearing Price for the NYCA times the number of MW of offers they submitted that were accepted.
3. The Market-Clearing Price for an External Control Area times the number of MW of offers they submitted that were accepted for Capacity in that External Control Area.

In the ICAP Spot Market Auction, the NYISO will pay entities purchasing Unforced Capacity the Market-Clearing Price as determined in Section 5.15 of this Manual.

Settlements for all Installed Capacity auctions will occur in the month following the month for which the Unforced Capacity was purchased. For example, Unforced Capacity purchased for the month of May will be billed and paid for in the month of June. The schedule for bills and payments for Unforced Capacity will follow the Energy Market schedule. A timetable for bills and payments for the Energy Market can be found on the NYISO web site: ([www.nyiso.com](http://www.nyiso.com)).

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

## 5.17 Allocation of Winning Bids

In the Capability Period and Monthly Auctions, each Bidder whose Bid to purchase Unforced Capacity is selected will be allocated a pro rata share of the Unforced Capacity purchased in the auction using the following procedure:

1. Bidders whose Bids specified that the Unforced Capacity must be associated with an Installed Capacity Supplier located in a Locality will be awarded such Unforced Capacity.
2. Any remaining purchasers of Unforced Capacity shall be allocated capacity provided by all remaining sellers of Unforced Capacity on a pro-rata basis.

## 5.18 Posting of Results

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



1. The Market-Clearing Price for each Locality, each External Control Area, and the portion of the NYCA not included in any other Locality, in each NYISO-administered auction.
2. The total amount of Unforced Capacity associated with Installed Capacity Suppliers in each Locality, each External Control Area, and the portion of the NYCA that is not included in any other Locality that was sold in each NYISO-administered auction.
3. The total amount of Unforced Capacity purchased in each NYISO-administered auction, broken down by the constraints placed upon the location of that Unforced Capacity by the Bidders placing those Bids.

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



## 6. SANCTIONS

The NYISO may impose sanctions on Installed Capacity Suppliers, LSEs, and Transmission Owners for failing to comply with requirements set forth in the [NYISO Services Tariff](#) and requirements enumerated in this Manual.

Sanctions may be assessed against Installed Capacity Suppliers for actions that fall into the following two categories:

- Failure to provide required information; and
- Failure to comply with bidding, scheduling and notification requirements, and procedures.

An LSE that fails to comply with the ISO's requirement to demonstrate ahead of an Obligation Procurement Period that it has procured sufficient Unforced Capacity to cover its Minimum Unforced Capacity Requirement is penalized through the procedures and financial consequences of the Deficiency Procurement Auction. Please refer to Section 5 of this Manual for details.

A Transmission Owner that fails to provide the information required by Section 5.11.3 of the Service Tariff in a timely fashion is subject to sanctions as described below in section 6.2 of this Manual. The NYISO Services Tariff references are Sections 5.11.3, 5.12.1, 5.12.12, and 5.14.1.

### 6.1 Supplier Sanctions

#### 6.1.1 Failure to Provide Required Information

Section 4 of this Manual, and the detailed timeline that can be found by selecting the link provided (<http://www.nyiso.com/public/products/icap/index.jsp>), contain detailed descriptions of the types of information that Installed Capacity Suppliers must provide to the NYISO, and the deadlines for receipt of that information.

With the exception of a failure to comply with Subsection 5.12.1(v) of the [NYISO Services Tariff](#), the NYISO may take the following actions if an Installed Capacity Supplier fails to provide the required information in a timely fashion:

- On the first day that the required information is late (unless that day falls on a weekend or official New York State holiday, in which case the notification shall be made on the next business day), the NYISO shall notify the Installed Capacity Supplier that the information is past due and that the NYISO reserves the right to impose financial sanctions if the information is not provided by the end of the next day.
- Starting on the third day that the required information is late, the NYISO may impose a daily financial sanction up to the higher of \$500 or \$5 per MW of Unforced Capacity that the Installed Capacity Supplier is capable of providing.
- Starting on the tenth day that the required information is late, the NYISO may impose a daily financial sanction up to the higher of \$1000 or \$10 per MW of Unforced Capacity that the Installed Capacity Supplier is capable of providing.

If an Installed Capacity Supplier fails to provide information required by Subsection 5.12.1(v) of the NYISO Services Tariff in a timely fashion, the NYISO may take the following actions:

- On the first day that the required information is late, the NYISO shall notify the Installed Capacity Supplier that required information is past due and that it reserves the right to impose financial sanctions if the information is not provided by the end of that first calendar day; and
- Starting on the second calendar day that the required information is late, the NYISO may impose a daily financial sanction up to the higher of \$500 or \$5 per MW of Unforced Capacity that the Installed Capacity Supplier is qualified to supply and/or place the Installed Capacity Supplier in the ICAP Spot Market Auction in order to purchase an amount of Unforced Capacity equal to the amount that Supplier is qualified to sell.

### 6.1.2 Failure to Bid, Schedule and Notify the NYISO of Outages

[Section 4.8](#) of this Manual contains the daily bidding, scheduling, and notification requirements applicable to Installed Capacity Suppliers.

On any day in which the Installed Capacity Supplier, or its designated scheduling entity, fails to comply with these requirements, the NYISO may impose a financial sanction up to the product of a daily deficiency charge and the maximum number of MWs for which the NYISO should have received a bid, schedule, or other notification of operating status.

The deficiency charge may be up to one and one-half times the applicable Market-Clearing Price of Unforced Capacity determined in the ICAP Spot Market Auction for each month in which the Installed Capacity Supplier is determined not to have complied with the foregoing requirements (see also Section 5.12.12(b) of the [NYISO Services Tariff](#)).

The NYISO will assess the sanction against the entity that the Installed Capacity Supplier has designated to provide the bids, schedules, and status notification.

## 6.2 Transmission Owner Sanctions

The [NYISO Load Forecasting Manual](#), and the detailed timeline that can be found by selecting the link provided (<http://www.nyiso.com/public/products/icap/index.jsp>), contain detailed descriptions of the types of information that Transmission Owners must provide to the NYISO, and deadlines for receipt of that information.

If a Transmission Owner fails to provide the required information, the following procedures will be followed:

- On the first day that the required information is late (unless that day falls on a weekend or official New York State holiday, in which case the notification shall be made on the next business day), the NYISO shall notify the Transmission Owner that the information is past due and that the NYISO reserves the right to impose financial sanctions if the information is not provided by the end of the next day.
- Starting on the third day that the required information is late, the NYISO may impose a daily financial sanction up to \$5000 per day.

- Starting on the tenth day that the required information is late, the NYISO may impose a daily financial sanction up to \$10,000 per day.

### **6.3 Procedural Safeguards**

If the NYISO staff becomes aware of potentially sanctionable activity by a Market Participant, it shall report the activity to NYISO's Discretionary Acts Committee ("DAC"). The DAC will evaluate the reported activity pursuant to its procedures and, if warranted, shall recommend an appropriate sanction. All DAC decisions shall be made in a reasonable and non-discriminatory manner.

If the DAC recommends a sanction, the NYISO shall send a "Notice of Recommended Sanction" to any Market Participant potentially subject to sanctions pursuant to the DAC procedures. The DAC shall afford Market Participants a reasonable opportunity to demonstrate that its activities are not sanctionable. Market Participants shall also have a reasonable opportunity to bring any mitigating circumstances to the DAC's attention and to explain why the DAC, in the event that it decides to recommend a sanction, should reduce the sanction's severity.

If a Market Participant accepts a sanction recommended by the DAC, the NYISO will automatically impose the sanction. If a Market Participant disagrees with a recommended sanction it may appeal the DAC's decision to the ISO's President and Chief Executive Officer ("CEO"), who must approve all contested sanctions. Market Participants may challenge any sanction approved by the CEO pursuant to the NYISO Dispute Resolution Procedures.

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