

**DRAFT ICAP Manual Revisions for the  
2005-2008 ICAP Demand Curve Adjustments**

2/15 Base Revision for Comment by 2/18

**5.5. Demand Curve and Adjustments**

Three (3) ICAP Demand Curves will be established: one to determine the locational component of LSE Unforced Capacity Obligations for 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 servicing load in the NYCA. The ICAP Demand Curves were implemented in June, 2003 for the 2003/2004 and 2004/2005 Capability Years. The Installed Capacity Demand Curves are to be determined for the 2005/2006, 2006/2007 and 2007/2008 and phased in over three (3) Capability Years beginning in 2003 and will be adjusted in subsequent three year periods in accordance with Section 5.6, below.

Each ICAP Demand Curve is composed of 3 straight--line segmentsportions;:

(1) a horizontal line segment, consisting of all points for which the price of ICAP is set at a value of 1.5 times the estimated localized levelized cost of per MW to develop a new gas turbine (the "Estimated GT Cost") in each Locality (for the 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, thus establishing the maximum clearing prices for LSEs and suppliers, and intersected by

(2) a negatively-sloped line segment, which is a portion of a line that straight line passing through two the following points;:

(a) one a point at which the amount of ICAP supplied is (the annual Reference Value) which is based on the GT Cost localized, levelized cost of a gas turbine, less taking into account associated Energy and Ancillary Services estimated net revenue offsets (the annual Reference Value), and set at the NYCA Minimum Installed Capacity Requirement (for the NYCA ICAP Demand Curve) or the Locational Minimum Installed Capacity Requirement (for the Demand Curves for the New York City and Long Island Localities), as applicable and the price of ICAP is set at the monthly ICAP Reference Price for the NYCA or one of the Localities, as applicable, which is described below, and

(b) the second a point at which the amount of ICAP supplied is set at Installed Capacity requirement level where the Installed Capacity price value declines to zero the (Zero Crossing Point defined for the NYCA Minimum Installed Capacity Requirement or the Locational

Minimum Installed Capacity Requirement, as applicable), and the price of ICAP is set at zero;

The line segment which comprises part 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; and

- (3) ~~a~~Another horizontal segment 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 Minimum Installed Capacity Requirement or the Locational Minimum Installed Capacity Requirement, as applicable. ~~which is set at a price of zero for all requirements which are more than the Zero Crossing Point.~~

~~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 Curves) and the Rest-of-State Region (in the case of the NYCA ICAP Demand Curve). The sloped portion of the each Demand Curve, so defined, reflects the value permits the price of capacity to change as a function of the amount of Installed Capacity supplied, relative to each Minimum Installed Capacity Requirement level. The Demand Curves also continues upward to the left until they reach a value of 1.5 times the fixed costs of a new gas turbine, thus establishing the maximum clearing prices for LSEs and suppliers.~~

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. The monthly ICAP Reference Price for the NYCA and each Locality is based on the Annual Reference Value for that location, which is the Estimated GT Cost 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 per MW of capacity from the sale of energy and ancillary services for the Rest-of-State region or a Locality, as appropriate. is translated to a monthly ICAP Reference Point price for each Demand Curve by using the most recent ratio of winter-to-summer capacity that is available from the NYCA market as reported in annual the annual Load and Capacity Data and posted in the Planning section of the NYISO website (<http://www.nyiso.com/services/planning.html>). ~~Since the Annual Reference Value is based on generator ratings using an average annual temperature, the each monthly ICAP Reference Point Price calculation shall reflect an include adjustments to take into effect Summer seasonal DMN effects on the amount of UCAP that can be supplied, as well as the price of UCAP, into account.~~

~~conditions. The Each monthly ICAP Reference Point price is set to the price level that would permit a GT to be paid an amount over the course of the year that is equal to at which the Annual Reference Value can be achieved for a GT, given the following assumptions:~~

- ~~Each summer month's revenue to be equal to the product of the Summer DMNC of a GT times 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 to be the Winter DMNC of a GT times and the assumed Winter Market Clearing ICAP Price for the NYCA or a Locality, as appropriate, calculated as:~~

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

where:

WP<sub>i</sub> = the assumed winter ICAP price for location i;

RP<sub>i</sub> = the monthly ICAP Reference price for location i;

ZCPR<sub>i</sub> = the ratio of the Zero Crossing Point defined for the NYCA Minimum Installed Capacity Requirement to the NYCA Minimum Installed Capacity Requirement, or the ratio of the Zero Crossing Point defined for a Locational Minimum Installed Capacity Requirement to that Locational Minimum Installed Capacity Requirement, as applicable; and

WSR<sub>i</sub> = 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 in the Planning section of the NYISO website (<http://www.nyiso.com/services/planning.html>).

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;



|  |                   |                   |                   |                   |
|--|-------------------|-------------------|-------------------|-------------------|
|  | 100%              | 100%              | 100%              | 100%              |
|  | \$0.00 @ 118%     | \$0.00 @ 118%     | \$0.00 @ 118%     | \$0.00 @ 118%     |
| LI   | \$10.33 @<br>100% | \$12.52 @<br>100% | \$12.90 @<br>100% | \$13.28 @<br>100% |
|  | \$0.00 @ 118%     | \$0.00 @ 118%     | \$0.00 @ 118%     | \$0.00 @ 118%     |
| NOTE: All percentages are <u>in terms of the applicable relative to the NYCA Minimum Installed Capacity Requirement and/or the Locational Minimum Installed Capacity Requirement, as applicable.</u> |                   |                   |                   |                   |

Quantities on each of these ICAP Demand Curve are stated in terms of amounts of ICAP supplied and prices are stated in terms of dollars per MW 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 quantities are stated in terms of dollars per MW of UCAP supplied. This translation will be performed as follows: Before the beginning of each Capability Period, the ISO will calculate an ICAP-to-UCAP translation factor for each ICAP Demand Curve, equal to ~~In subsequent years, the costs assigned by the ICAP Demand Curves to the NYCA Minimum Installed Capacity Requirement and each of the Locational Minimum Installed Capacity Requirements will be defined by the results of the independent review conducted pursuant to Section 5.14.1(b) of the NYISO Services Tariff.~~

The monthly ICAP based Reference Points shown in the table above are converted to UCAP based Reference Points using a Capability Period specific ICAP to UCAP translation factor. The UCAP based Reference Point (\$/kW -Month) equals the ICAP based Reference Point (\$/kW -Month) divided by one minus the ICAP/UCAP translation factor. The ICAP/UCAP translation factor equals one minus the EFORD for the appropriate location (i.e. NYCA, New York City or Long Island). The EFORD used is the average value of the six (6) most recent 12-month rolling average EFORDs ~~of-calculated for all resources in the NYCA (in the case of the ICAP Demand Curve for the NYCA) or respective location 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.

~~In subsequent years, the costs assigned by the ICAP Demand Curves to the NYCA Minimum Installed Capacity Requirement and each of the Locational Minimum Installed Capacity Requirements will be defined by the results of the independent review conducted pursuant to Section 5.14.1(b) of the NYISO Services Tariff.~~

~~{These last two paragraphs should probably be switched}~~

## **5.6. Periodic Independent Review**

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

Each periodic independent review, which will include stakeholder input, will be completed by September [July?] 1 in time to determine the ICAP Demand Curves to be applied for the three subsequent Capability Years.

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

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

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