NYISO Demand Curve for the NYCA Installed Capacity Market

Harvard Electric Policy Group (HEPG)
May 21, 2003

Electric Market Products in New York

- The Resource Adequacy (ICAP) market is a Reliability product intended to allow suppliers to recover a portion of their fixed (capital) costs. Each LSE is required to purchase its share of the total ICAP requirement set by the New York State Reliability Council (NYSRC).
- The Energy market allows a supplier to recover its variable costs and to compete for profits.
- The Ancillary market allows a supplier to recover lost opportunity costs when providing ancillary services.
- The total revenues from these markets is the true revenue stream of a supplier.
NY ICAP Market

- ICAP Requirements are set in advance for the upcoming Capability Year by the NYSRC.
- LSEs meet their ICAP requirements by:
  - Self-Supply
  - Bilateral Transactions with Suppliers
  - Capability Period Auctions (6-month strip)
  - Monthly Auctions (for balance of Capability Period)
  - Deficiency/Spot Market Auction (1-month)

Current/Past ICAP Markets
Northeast U.S.

- The current ICAP markets have a fixed MW requirement for all LSEs for a reliability year.
- The fixed resource requirement leads to a highly volatile and unpredictable revenue stream
  - Prices tend to reach very low levels when the available resources slightly exceed requirements.
  - When resources are barely adequate or short of requirements, prices approach deficiency prices.
  - Deficiency prices alone do not appear to be an adequate incentive for new resources to be built, particularly with the current short term markets.
**NY Demand Curve Proposal**

- New York Department of Public Service first introduced the concept in May 2002.
- Numerous stakeholder meetings followed to work on and refine the Demand Curve concept.
- The basis for the Demand Curve is the revenue stream ("cost of entry") to incent new entry in the NYCA and its Localities (NYC and LI).
- Pending FERC Approval for implementation in the current 2003-2004 Capability Year.

---

**Demand Curve - NYISO Objectives**

- Offer an alternative to the current ICAP market.
- Increase system and resource reliability by valuing additional ICAP above the NYCA and Locational Requirements.
- Reduce price volatility and send a more stable revenue signal for new resources.
- Continue to ensure a competitive, fair, and non-discriminatory market for capacity in the NYCA.
Demand Curve Spot Market Auction

- Replaces current Deficiency Auction.
- Uses a Demand Curve in place of LSE Bids.
- The Demand Curves are based on the cost of new entry and the decreasing value of ICAP above the NYCA or Locational Requirements.
- Resources have the opportunity to supply ICAP above the NYCA and/or Locational ICAP Requirements.
  - Reduces stranded capacity.

All LSEs participate in the Spot Market Auction.
LSEs certify the amount of ICAP they own prior to Spot Market Auction – NYISO will consider all previously certified ICAP and all Resource offers.
The Spot Market Auction will determine the amount of ICAP each LSE must obtain for the following Obligation Procurement Period (one month).
The Spot Market Auction clears at the point where the ICAP supply bid curve crosses the Demand Curve.
NY Demand Curve Variables

<table>
<thead>
<tr>
<th>Cost of new entry (GT) in $/kW year of ICAP</th>
<th>Additional ICAP will be valued up to a percentage above the NYCA or Locational Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROS - $85</td>
<td>ROS – 112%</td>
</tr>
<tr>
<td>NYC - $159</td>
<td>NYC – 118%</td>
</tr>
<tr>
<td>LI - $139</td>
<td>LI – 118%</td>
</tr>
</tbody>
</table>

NYISO Proposal - Additional Elements

- Independent review every 3 years to determine Demand Curve variables (i.e., cost of entry and value of additional ICAP). First Review will be conducted during 2003/04 Capability Year. Energy and Ancillary revenue will be considered as offsets.
- Current 6-month Strip and Monthly Auctions continue.
- LSEs and Resources continue to certify monthly.
- Supplemental Supply Fee/Deficiency Charge set at 1.5 times the monthly cost of the marginal resource (GT).
Summary

- The Resource Adequacy (ICAP) market is a Reliability product intended to allow suppliers to recover a portion of their fixed (capital) costs.
- LSEs meet their ICAP requirements by self-supply, bilateral transactions, or through NYISO administered auctions.
- The near-term fixed resource requirement leads to a highly volatile and unpredictable revenue stream.
- The Demand Curve approach offers an alternative to the current ICAP market that:
  - Increases reliability by valuing ICAP above the minimum requirements.
  - Reduce price volatility and send a more stable revenue signal for new resources.