Straw Proposal for Reserve Scarcity Pricing Design

Shucheng Liu, Ph.D.
Principal Market Developer

California ISO
Your Link to Power

Stakeholder Meeting
September 12, 2007
What is Scarcity Pricing and Why Is It Needed?

- A “perfect” market can self-correct
  - “Invisible” hand balances the supply and demand
- Electricity market is not perfect
  - It is prone to exercise of market power
  - Market power mitigation measures may suppress prices.
- Scarcity Pricing can redress the inefficiency
  - Prices rise automatically when supply is short
- Scarcity prices provide incentives for
  - demand response, additional supply from existing generation and outside resources, long-term contracting, and new investments
**Scarcity Pricing Is a Compliance Filing with FERC**

FERC directed the CAISO to implement a reserve shortage Scarcity Pricing mechanism that

- has an administratively-determined operating reserve demand curve
- applies to prices of energy and reserves, in DA and RT markets
- needs to be implemented within 12 months after MRTU Release 1
Conceptual Design Needs to Address the Following Issues

- Scarcity Pricing scope:
  - System-wide, or
  - Locational – A/S Regions and Sub-Regions

- Reserve products to be included
  - Upward A/S Reserves: RegUp, Spinning, and Non-Spinning with substitution capability

- Triggers of scarcity condition
  - Minimum A/S requirements in A/S Regions and Sub-Regions, same criteria for Stage 1 Emergency
Scarcity Reserve Demand Curve
- Will be similar to what NYISO and ISO-NE have
- Link benchmark price to ISO price cap or value of lost load (VoLL)

Scarcity Reserve Demand Curve Values (SRDCV)
- Use designs of NYISO and ISO-NE as references
- Follow certain rules to set SRDCVs for A/S reserves in A/S Regions and Sub-Regions
- Prices cascade up from lower quality to higher quality A/S reserves and from Region to Sub-Regions
Energy price in case of reserve shortage
  - It may or may not be affected by the scarcity prices of A/S reserves
  - See examples in Appendix A of the Straw Proposal

RA resources DA A/S must-offer requirement
  - It is a must-have requirement for Scarcity Pricing
Stakeholders Have Raised Issues Related to Scarcity Pricing Design

- Demand response (DR) is critical to Scarcity Pricing
  - With sufficient demand response resources, the system would never face deficiency
  - Integrating Demand Response into wholesale markets is in the scope of Post-Release 1 phase (it is still in the stakeholder process and will be decided in October)

- Scarcity Pricing and Capacity Payments
  - Scarcity Pricing is a solution for short-term shortage
  - Capacity Market focuses on long-term supply sufficiency.
  - Implementing both lets the ISO make best use of all available resources according to market demand
Project is Scheduled for Board Decision in December

- ISO Issue Paper: 5/31/07
- Stakeholder Meeting: 6/6/07
- ISO Straw Proposal: 9/5/07
- Stakeholder Meeting: 9/12/07
- ISO Draft Proposal: Late September
- Stakeholder Meeting: Early October
- ISO Final Proposal: Late October
- Stakeholder Meeting (Op.): Early November
- Board Decision: December
Stakeholders Are Encouraged to Submit Written Comments

Please submit written comments to

SPComments@caiso.com

using the template posted at

http://www.caiso.com/1bef/1bef12b9b420b0.html

Written comments are due by September 19, 2007