Review of Convergence Bidding Design: Issues Discussed to Date

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Your Link to Power

Convergence Bidding Stakeholder Meeting
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Brief Discussion on CB Design Features

1. Deferral of granularity policy decision
2. Building features for all-encompassing functionality
   - Position Limits
   - Uninstructed Deviation Penalty
   - CRR Settlement Rule
   - Ability to Suspend Virtual Trading

3. Major features of CB design that have been reviewed *(though further discussion is likely)*
   - Characteristics of Virtual Bids
   - Day Ahead Modifications
   - Credit policy conceptual proposal

4. Features of CB design that remain to be resolved *(requiring further discussion)*
   1. Scheduling incentives for Seller’s Choice contracts
   2. Release of Virtual Bid information
   3. Virtual Bidding at interties
   4. Virtual Bidding at Trading Hubs
   5. Proposed Cost Allocation proposal

* This list of CB design issues does not preclude other issues being raised in future stakeholder discussion.
The CAISO is deferring the policy decision on nodal or LAP-level virtual bidding until LMP markets have been operating for several months.

- The CAISO will build capability for virtual bidding with scalable granularity.

**Position Limits**

- The CAISO is also building capability to limit virtual bidding by each SC to a percentage of the MW amount for a PNode or APNode.

**The CAISO seeks greater consensus.**

- Targeting first Quarter, 2009: Management recommendation to CAISO Board on the granularity of virtual bidding upon implementation
Building the Functionality for Convergence Bidding

The CAISO intends to build capability for additional features.

- **CRR Settlement Rule**: adjusts the revenues received by an SC from CRRs impacted by virtual bidding behavior.

- **Uninstructed Deviation Penalty (UDP)**: functionality exists, but CAISO would need filing to FERC prior to implementing UDPs.

- **Ability to Suspend Virtual Bids**: both for individual SCs and for all virtual trading.
Proposed Characteristics for Virtual Bids

Virtual bids would:

- Be explicit (flagged)
- Be submitted only in DAM; automatically liquidated at Real Time price
- Include a price and quantity ($/MWh)
  - Energy Bids only
  - Single energy curve that starts at zero MWhs; up to ten segments
  - No start-up or minimum energy costs

- The CAISO would use the same distribution factors that are applied to physical bids in the relevant market for LAP-level virtual bids.

- Virtual bids would be subject to the same bid caps as physical bids.

- Virtual bids would not be subject to local market power mitigation.
Proposed Day Ahead Modifications
(regardless of granularity)

Pre-IFM Process for Local Market Power Mitigation

- Maintain the MPM/RRD run, but use **Bid-in Demand** rather than forecasted Demand
  - Virtual bids may impact the market power of physical bids
  - Aligns bid mitigation with the IFM
  - LECG recommendation and FERC directive to use Bid-in Demand
Conceptual CB Credit Policy
(regardless of granularity)

- Credit checking based on dollar value of virtual bids
- Dynamic (daily) update of credit information
- Virtual bids failing credit checks would be rejected following the last in, first out rule
- Calculating estimated Virtual Bid values based on initial Market Clearing Prices (MCP)
Unresolved Issues / CB Design Elements

Scheduling Incentives for Seller’s Choice contracts? (relevant for nodal only)

Release of Virtual Bid Information?
- The CAISO has proposed to post the aggregated clearing quantities of virtual bids by location (not by SC) upon the daily publication of IFM results.

Virtual bidding at the interties?
- CAISO has proposed not permitting
  - Increased risk of gaming opportunities
  - Intertie schedule adjustments can be accomplished through HASP

Virtual bids at Trading Hubs?

Cost allocation for virtual bids?
Can Convergence Bids be used to hedge transactions at Trading Hubs?

Trading Hubs are zones at which SCs can engage in bi-lateral (or Inter-SC) trading

- Trading Hub prices are not outputs of the optimization, but rather are calculated ex post as a weighted average of nodal prices
  - Trading Hub prices are part of a settlement service for bi-lateral transactions that occur outside the CAISO markets.
  - The weights used for calculating Trading Hub prices are fixed. (They are the same as those used for calculating CRR settlements.)

In order to use Convergence Bidding to hedge an Inter-SC Trade (IST) at a Trading Hub, an SC could…

- Submit convergence bids in proportion to the weights at all the nodes that make up that Trading Hub. (This would only be an approximate hedge as not all the bids would necessarily clear)
- Or, the CAISO can accept convergence bids at the Trading Hub geography, and use the weights to parse those bids down to the nodal level using the fixed weights. This potential option is being investigated for feasibility.
Allocate IFM Tier 1 Uplift to virtual demand only in the case where virtual demand plus physical demand exceeds the CAISO Forecast

Allocate RUC Tier 1 Uplift to virtual supply based on the quantity of physical supply that was displaced by virtual supply in the DAM resulting in the need for the CAISO to procure additional supply in RUC.

SCs obligation based on the pro-rata share of the total obligation as determined by the total (gross) cleared virtual demand or the total (gross) cleared virtual supply bids
Stakeholder Feedback on Cost Allocation Proposal

- Support proposal if SCs obligation to pay is based on net rather than gross virtual position
- Proper cost allocation should eliminate all concepts of virtual netting
- Support for proposal if issues with RTM uplift are addressed as part of convergence bidding design
  - “Two Tier Real Time BCR” is currently listed in Market Initiatives Roadmap as a “FERC-mandated – Release 2 issue”
- A number of market participants open to exploring the possibility of a flat fee