Convergence Bidding Stakeholder Conference Call

Margaret Miller
Senior Market Design & Policy Specialist

Convergence Bidding Stakeholder Conference Call
August 13, 2009
Agenda

1:00 – 1:15 - Plan for Stakeholder Engagement
1:15 – 1:45 - SC Certification
1:45 – 2:15 - GMC Allocation
2:15 - 3:00 - IFM and RUC BCR Uplift charges
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>August 13</td>
<td>Stakeholder Conference Call</td>
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<td>August 27</td>
<td>Stakeholder Conference Call</td>
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<td>September 9</td>
<td>Stakeholder Conference Call</td>
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<td>September 11</td>
<td>Draft Final Proposal posted</td>
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<td>September 18</td>
<td>MSC Stakeholder Meeting</td>
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<td>October 2</td>
<td>Stakeholder Comments Due</td>
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<td>October 29 – 30</td>
<td>ISO Board Meeting</td>
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Convergence Bidding SC Certification Requirements

Wade McCartney
Senior Market Design & Policy Specialist

Convergence Bidding Stakeholder Conference Call
August 13, 2009
All CAISO Market Participants must fulfill some registration requirements -- application, training, testing (in some instances), posting credit, disclosing affiliate relationships, and establishing a Fed-wire connection for settlement purposes.

**Question**: Should the Convergence Bidder (CB) Certification Process be modeled more on the CAISO process for Scheduling Coordinator (SC) Certification, or on the application and certification process for the Candidate CRR Holder?

**Proposal**: Because Convergence Bidders will be interfacing with the CAISO in much the same way as a Scheduling Coordinator (SC), the application and certification process for Convergence Bidders (CB) should be modeled on the SC certification process with modifications.
Comparison of CAISO SC and CRR Holder Certification Requirements

<table>
<thead>
<tr>
<th>Certification Step</th>
<th>Scheduling Coordinator (SC)</th>
<th>CRR Holder</th>
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<tbody>
<tr>
<td>Application</td>
<td>At least 120 days before start date.</td>
<td>At least 60-days prior to a CRR Allocation or Auction</td>
</tr>
<tr>
<td>Training</td>
<td>1. Detailed Settlements</td>
<td>1. CRR Allocation, Auction and Secondary Registration System (SRS)</td>
</tr>
<tr>
<td></td>
<td>2. CAISO SC Certification Workshop</td>
<td>2. CRR Settlements</td>
</tr>
<tr>
<td>Testing</td>
<td>1. Fed Wire Test -- To ensure that an SC Applicant can submit payments to/and receive payment from CAISO.</td>
<td>1. Fed Wire Test -- To ensure that a Candidate CRR Holder can submit payments to/and receive payment from CAISO.</td>
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<tr>
<td></td>
<td>2. Real Time Grid Ops Test -- All SC Applicants must complete real-time and contact drills. These drills demonstrate a twenty-four hour real-time desk capability and sufficient understanding of the CAISO Markets to respond correctly to Dispatch Instructions in a timely manner.</td>
<td></td>
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<tr>
<td></td>
<td>3. Market Proficiency Test to demonstrate proficiency in submitting various types of Bids and Self-Schedules to the CAISO.</td>
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</table>

California ISO
Thank you for joining us.
### Comparison of CAISO SC and CRR Holder Certification Requirements

#### (Part 2 of 2)

<table>
<thead>
<tr>
<th>Certification Step</th>
<th>Scheduling Coordinator (SC)</th>
<th>CRR Holder</th>
</tr>
</thead>
</table>
Parties may also acquire CRRs from CRR Holders through the Secondary Registration System (SRS) through which CRRs are traded bilaterally. See BPM for CRR, Section 13.2.1. |
| Affiliate Disclosure | None Required | Must notify the CAISO of all affiliates of the Candidate CRR Holder or CRR Holder, that are themselves Candidate CRR Holders, CRR Holders or Market Participants, any Affiliate that participates in an organized electricity market in North America, and any guarantor of any such Affiliate. (See CAISO Tariff § 36.7.3 and §39.9) |
# Proposal for Certification for Convergence Bidder (CB) in CAISO Markets

<table>
<thead>
<tr>
<th>Certification Step</th>
<th>Convergence Bidder (CB) Certification</th>
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<tbody>
<tr>
<td>Application</td>
<td>Must submit at least 60 days before any CB market activity.</td>
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</table>
| Training           | New Detailed Settlements Class for CBs  
Rationale: CBs will only be concerned with Day-Ahead and Real-Time energy settlement and IFM and RUC BCR uplift. |
| Testing            | 1. Fed Wire Test -- Same as SC.  
2. Real Time Grid Ops Test – does not apply to CBs  
3. Market Proficiency Test – Same as SC, because CB will interface with market systems (SIBR, CMRI, Settlements) |
| Posting Credit     | Same as for Scheduling Coordinators (SCs):  
Before Registration. Credit must be posted in accordance with the CAISO Credit Policy and Procedure Guide, [http://www.caiso.com/2390/2390758c49b20.htm](http://www.caiso.com/2390/2390758c49b20.htm) |
| Affiliate Disclosure | Same as for a CRR Holder.  
Rationale: Affiliate Disclosure is a requirement in other ISO markets, and knowledge of affiliate relationships is required for CRR settlement rule and position limits |
Convergence Bidding (aka, Virtual Bidding) in Other ISO Markets

- Virtual Bidding (VB) is viewed as a Market Participant transaction, not as another market participant type. (e.g., check the box if you want to do VB…)

- Training & Testing: There are no mandatory training or testing requirements for Market Participants in other ISOs, including virtual bidders.

- Credit & Collateral: Market Participants in other ISOs are required to periodically post adequate credit and collateral prior to engaging in virtual transactions.

- Affiliate Disclosure is required for all Market Participants in other ISOs, including virtual bidders.
GMC Charges to Convergence Bids

Don Tretheway
Senior Market Product Developer

Convergence Bidding Stakeholder Conference Call
August 13, 2009
GMC Allocated Service Charges

- Not Applicable to Convergence Bidding
  - Core Reliability Services – Demand Charge
  - Core Reliability Services – Energy Export Charge
  - Energy Transmission Services – Net Energy Charge
  - Energy Transmission Services – Uninstructed Deviations Charge
  - Core Reliability Services/Energy Transmission Services – Transmission Ownership Rights Charge
  - Market Usage Charge (AS and RTM Markets)

- Applicable to Convergence Bidding
  - Forward Scheduling Charge
  - Market Usage Charge (DA Market)
  - Settlements, Metering and Client Relations Charge
Benchmarking with other ISOs
Attempt to align Administrative Cost Recovery to CAISO GMC service charges

<table>
<thead>
<tr>
<th></th>
<th>CRS + ETS + CRS/ETS TOR</th>
<th>FS</th>
<th>MU</th>
<th>MU-FE</th>
<th>SMCR</th>
<th>Tariff</th>
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<tbody>
<tr>
<td>PJM</td>
<td>NO</td>
<td>$0.0577 Bid/Offer Segment</td>
<td>N/A</td>
<td>$0.0399 + AC2 per MWh</td>
<td>N/A</td>
<td>Schedule 9</td>
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<td>NYISO</td>
<td>NO</td>
<td>Variable $0.10 per Bid</td>
<td>NO</td>
<td>TBD</td>
<td>N/A</td>
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<td></td>
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<td>$0.05 Rebate if Cleared</td>
<td></td>
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<tr>
<td>MISO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>~$0.085 per MWh</td>
<td>N/A</td>
<td>Schedule 17</td>
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<td>ISO-NE</td>
<td>NO</td>
<td>$0.0050 Submitted</td>
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<td>NO</td>
<td>N/A</td>
<td>Section 2</td>
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<td>$0.06 Cleared</td>
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<tr>
<td>CAISO*</td>
<td>NO</td>
<td>$1.0963 per Schedule</td>
<td>NO</td>
<td>$0.3000 per MWh</td>
<td>$1000 per month</td>
<td>Appendix F Schedule 1 Part A</td>
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</table>

* Current rates do not include CB in denominator.
Recommendation

- Apply following GMC service charges to CB:
  - Forward Scheduling Charge
  - Market Usage Charge (DA Market)
  - Settlements, Metering and Client Relations Charge

- GMC Stakeholder process should be used by market participants to modify
  - Amount of Billing Unit
  - Determination of Billing Unit
Convergence Bidding – Allocation of IFM and RUC Tier 1 BCR Uplift

Margaret Miller
Senior Market Design & Policy Specialist

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Review of Current BCR Tier 1 Uplift Charges

- **IFM Tier 1**
  - Allocated to SCs based on their IFM Scheduled Demand (Load plus Exports) in excess of their IFM Self-Scheduled Generation and IFM Imports
  - SC charged an amount equal to their net positive IFM scheduled demand multiplied by the IFM Uplift Rate

- **RUC Tier 1**
  - Allocated to SCs based on their net negative demand deviation
  - SC charged an amount equal to their Net Negative CAISO Demand Deviation multiplied by the RUC Uplift Rate
Review of cost allocation proposal for IFM Tier 1 BCR Uplift to virtual demand described July 2 Straw Proposal

IFM Tier 1 Uplift

- Allocated to virtual demand only when virtual demand + physical demand > ISO Forecast
- The total virtual demand obligation will equal the quantity that the virtual demand put the IFM solution above the ISO Forecast
- Allocated to gross virtual demand
The ISO is proposing the following revisions to IFM BCR Uplift to Virtual Demand

- Propose to allocate IFM Tier 1 Uplift to virtual demand when Physical Demand (PD) + Virtual Demand (VD) – Virtual Supply (VS) > ISO Forecast
- Obligation for each SC to pay uplift will be based on quantity of net virtual demand
- Total system obligation will be equal to the sum of all SCs net virtual demand (MW)
Revisions were made because:

- Prior proposal did not take into consideration virtual supply when determining whether physical demand + virtual demand exceeded ISO forecast.
- Total obligation for virtual demand should be based on each SC's individual contribution to uplift not group contribution.
- Allocation for Tier 1 uplift to each SC should be based on each SC's net virtual demand position rather than gross virtual demand.
Review of cost allocation proposal for RUC Tier 1 BCR Uplift to virtual demand described July 2 Straw Proposal

- If the virtual supply cleared in the IFM is = < than virtual demand that cleared in the IFM than there will be no charges for RUC Tier 1 Uplift allocated to virtual supply.
- Total obligation equals the positive system net of virtual supply and virtual demand.
- If there is a virtual supply obligation it will be distributed to all SCs with a net virtual supply position based on their pro-rata share of the total obligation.
The ISO proposes the following revisions to RUC Tier 1 Uplift to virtual supply

- Virtual supply will pay when Physical Demand + Virtual Demand - Virtual Supply < Load Forecast
- Allocation will be to SCs with net virtual supply position
- System obligation will be equal the total of all SCs net virtual supply
Revisions were made because:

- Prior proposal looked at the positive system net of virtual supply when determining whether or not virtual supply would pay RUC Tier 1 uplift and left effect of virtual demand out of the equation.

- Total obligation for virtual supply to pay RUC Tier 1 uplift was based on system net of virtual supply and virtual demand instead of each individual SCs contribution based on net virtual supply.
Review Examples
Next Steps

- Market participants that did not provide comments on the call today or have the desire to provide additional comments may submit written comments via e-mail to mmiller@caiso.com

- Next call scheduled for August 27