SCE’s Comments on the CAISO’s Straw Proposal for Convergence (Virtual) Bidding
November 15, 2006

Southern California Edison (SCE) appreciates the opportunity to comment on the CAISO’s straw proposal for convergence/virtual bidding and the white paper “Convergence Bidding: Market Monitoring and Mitigation Issues” dated November 7, 2006.

SCE offers the following comments.

Spatial Granularity: The CAISO straw proposal and the Department of Market Monitoring (DMM) support limiting convergence bidding to the LAP levels.

SCE supports LAP-only bidding and agrees it helps address implementation and market monitoring issues while still providing the major potential benefits (addressing concerns of underscheduling, potentially mitigating system-wide supplier market power, reduces implicit virtual bids (VB), increases market liquidity, allows generation to reasonably hedge against real-time outages, reduces amount of gaming/price manipulation relative to what is possible under a nodal VB system). In addition, LAP-only bidding appears to integrate well into the current MRTU software and should be available within 12-months after MRTU implementation.

On a related issue, any consideration of “nodal” convergence bidding must address infeasibilities created by virtual bids. Feasible schedules are a cornerstone of the MRTU design and a major motivating factor for abandoning the current market design. SCE is concerned that, as currently structured, MRTU cannot efficiently address infeasible schedules which may come about as the result of VB. Limiting VB to the LAPs largely addresses this concern, but any movement to nodal VB must be accompanied by an efficient mechanism to resolve physical infeasibilities resulting from virtual bids.

Mitigation Measures
SCE supports the CAISO’s recommendation to explicitly flag virtual bids, and for the CAISO to have tools (such as PROBE) to rerun the market to analyze the impact of virtual bids both market-wide and on individual SC portfolios. We also support CAISO tariff authority to limit or suspend trading if abusive practices are detected. VB should also be subject to the existing market-wide bid caps/floors per the straw proposal. Depending on how credit requirements and other features are decided, the CAISO may also need to explicitly charge both submitted and cleared virtual bids. This should act to both prevent “bid spamming” and to allow parties that use such bids to fully fund the systems and development costs related to convergence bidding infrastructure.

SCE agrees that by limiting VB to the LAPs, special rules related to CRRs are not initially needed. The CAISO should have the ability to track this issue incase any
problems do develop. Once again, any nodal implementation would require explicit CRR mitigation rules and possibly additional mitigation measures.

SCE remains concerned that the details of exactly how VB will integrate into the LMPM runs have not been discussed. For example, will the CAISO include VB in its initial unconstrained and constrained passes or will VB only be included in the final pricing runs? SCE requests the CAISO to provide additional details on this procedure.

*Allocation of Optimization Uplifts Costs*

SCE agrees that convergence bids should be allocated optimization uplifts. Because convergence bids are integral to the optimization and impact/create a host of uplifts, cleared virtual bids should be allocated optimization uplifts in a manner that creates parity with uplifts allocated to physical bids. In its 7/28/06 comments SCE provided the following proposal for the allocation of optimization uplifts:

<table>
<thead>
<tr>
<th>Market</th>
<th>Day-Ahead Bid Type</th>
<th>Charges/Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day-ahead</td>
<td>Virtual Supply</td>
<td>Paid Day-ahead price (LAP price per SCE)</td>
</tr>
<tr>
<td>Day-ahead</td>
<td>Virtual Supply</td>
<td>Charged RUC uplifts</td>
</tr>
<tr>
<td>Day-ahead</td>
<td>Virtual Demand</td>
<td>Charged Day-ahead price (LAP price per SCE)</td>
</tr>
<tr>
<td>Day-ahead</td>
<td>Virtual Demand</td>
<td>Charged IFM commitment costs (start-up, minimum load, bid cost guarantee)</td>
</tr>
<tr>
<td>Real-time</td>
<td>Virtual Supply</td>
<td>Charged total Real-time price (same final price charged to load served out of the Real-time market including the “adder”, HASP adjustments, and price adjustments based on final meter data) Real-time commitment costs (start-up, minimum load, bid cost guarantee) Tier 2 Ancillary Service costs Real-time Ancillary Service costs</td>
</tr>
<tr>
<td>Real-time</td>
<td>Virtual Demand</td>
<td>Paid total Real-time price (same final price paid to load that “provides” energy to the Real-time market [i.e. consumes less than its final schedule] including the “subtractor” and any price adjustment based on final meter data)</td>
</tr>
</tbody>
</table>

SCE notes that this table may not have identified all optimization uplift costs, and that the CAISO may change the details of its real-time LAP pricing. As a result, this table may not be complete and/or may require changes to reflect changes to MRTU. The CAISO should generate a more detailed and comprehensive proposal for the treatment of uplifts and discuss it with stakeholders.

On a related note, convergence/virtual bids *should not* be eligible for a rebate of the Marginal Loss Surplus (MLS). Note that the MLS is not optimization uplift; rather it results from the calculation of and charges for the LMPs. Thus it is inappropriate to simply treat MLS as optimization uplift. Moreover, by design convergence bids always occur in buy/sell pairs at the same location. That is, a VB that buys energy in the day-ahead market must then sell the power in the real-time market. As a result of this
requirement for a buy/sell pair, VB are already insulated from the over-collection aspects of marginal losses: when buying the VB *pays* a price that includes marginal losses, and when selling they *are paid* a price that includes marginal losses. In effect, the cost impact of marginal losses nets out to zero by at the end of the virtual transaction. Thus, by design convergence bidders are not “harmed” by marginal losses, are insulated from the impact of the overcollection of marginal losses, and as a result have no valid claim to a MLS rebate.

Finally, simply rebating MLS to VB could create a “money machine” for virtual bidders. For example, if the MLS is allocated to virtual demand clearing in the day-ahead market, a party could simply clear a like amount of both virtual demand and virtual supply in the day-ahead market. The party would have no exposure to day-ahead or real-time energy prices and would then receive a portion of the MLS allocated to its virtual demand: a perfect money machine.

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1 Assuming equal marginal loss components in the day-ahead and real-time markets.
2 This example raises the issue as to whether the CAISO should institute rules prohibiting a party from clearing both virtual supply and virtual demand at the same location at the same hour. In any event, the CAISO should be cognizant of this strategy and avoid implementing a system which allows any form of true arbitrage. That is, the CAISO must implement rules for uplift and other charges applied to VB which ensure that clearing like amounts of virtual load and virtual generation at the same location at the same time is not profitable.