Opinion on "The DEC Bidding Activity Rule under MRTU"

by
Frank A. Wolak, Chairman
James Bushnell, Member
Benjamin F. Hobbs, Member
Market Surveillance Committee of the California ISO

May 7, 2008

1. Introduction

The California Independent System Operator (CAISO) has asked the Market Surveillance Committee (MSC) to comment on its DEC Bidding Activity Rule proposal.[1] The "DEC Bidding Rule" as currently written in the Market Redesign and Technology Upgrade (MRTU) tariff prohibits a Scheduling Coordinator (SC) from submitting decremental (DEC) energy bids to supply less energy than their final Day-Ahead (DA) schedule in the Hour-Ahead Scheduling Process (HASP) or Real-Time (RT) market that are lower than the bid prices offered by that SC and accepted in DA Integrated Forward Market. For example, if a generation unit owner offers 100 MWh at a bid price of $50/MWh, an additional 50 MWh for a bid price of $55/MWh and 50 MWh more at a bid price of $70/MWh and 175 MWh is accepted from this unit in the DA-IFM at a price of $70/MWh, then this generation unit owner can offer 25 MWh of DEC energy at $70/MWh or more, additional 50 MWh of DEC energy at $55/MWh or more and finally up to 100 MWh of DEC energy for $50/MWh or more into the HASP or RT market under this tariff provision.

This DEC Bidding Rule was designed to prevent suppliers from taking advantage of transmission or generation outages or derates that occur between the close of the DA market and real-time system operation that could make an accepted DA schedule infeasible. In the above example, if a transmission outage made 75 MWh of the 175 MWh DA schedule accepted in the IFM infeasible and the generation unit owner knew this immediately following the close of the DA market, this supplier could submit an extremely low DEC energy bid, to the bid floor of -$30/MWh, and still be accepted in the HASP or RT market if it is the only generation unit able to meet this DEC energy need.

The CAISO management has recommended suspension of the implementation of this DEC Bidding Rule at the start of MRTU and has asked the MSC to comment on this. The MSC discussed the DEC Bidding Rule and heard stakeholder comment during the February 8, 2008 joint MSC/Stakeholder meeting. During this meeting, several MSC members argued that the costs of imposing this restriction on decremental energy bids was not justified by the market efficiency benefits that would result from keeping it in place. These MSC members urged the CAISO to start MRTU without these restrictions in place, and only impose them if market outcomes justified their imposition, which is the proposal the CAISO has now adopted.

---

[1] This proposal and stakeholder comments are summarized in the documents "Straw Proposal for The DEC Bidding Activity Rule," March 7, 2008, and "Revised Straw Proposal for The DEC Bidding Activity Rule," April 14, 2008. Both are available at www.caiso.com/1fb1/1fb184c166370.html.

2. Rationale for Suspension of DEC Bidding Rule

The intent of the DEC Bidding Rule is to prevent the so-called "DEC game" under MRTU, where a supplier over-schedules in the DA market and then sells this energy back in the HASP or RT market at a lower price. Because MRTU uses a full network model for the DA-IFM, the opportunities for this DEC game to occur are confined to periods when transmission or other operating constraints change after the DA market closes and the RT market starts. This is different from the current zonal market design where DA energy schedules are accepted subject only to inter-zonal transmission capacity constraints. Intra-zonal transmission capacity constraints are not recognized in the current DA scheduling process even though these constraints must be satisfied in real-time system operation. Consequently, circumstances when the DEC game is profitable are significantly less likely to occur under MRTU than they are under the current market design.

Moreover, a sustained transmission or generation outage that requires revising the transmission network model used in the DA-IFM, HASP and RT markets should not increase the opportunities generation unit owners have to engage in this "DEC game." Infeasible schedules relative to this revised network model will not be accepted in the DA-IFM. Generation unit owners will therefore be unable to over-schedule over multiple days relative to expected real-time production from their generation units because the revised network model in the DA-IFM will prevent this from occurring.

As noted earlier, suspending the DEC Bidding Rule allows generation unit owners to modify their DEC bids to take advantage of a change in transmission or other operating constraints on their generation unit between the close of the DA-IFM and the RT market. However, even with the DEC Bidding Rule in place suppliers can still take advantage of this change in operating constraints. A supplier that knows that one of its generation units needs to reduce its DA schedule because of this change in operating conditions can achieve virtually the same outcome as submitting a very low DEC energy bid by not submitting a DEC energy bid. Under these circumstances the HASP and RT market would put a default DEC energy bid in for this unit at the bid floor of -$30/MWh. If this unit was the only one available to meet the DEC energy need, then this bid would be accepted and would set, at most, a -$30/MWh price at that location. In this way, the supplier would be able to take maximum advantage of its knowledge that its unit is the only one available to meet this DEC energy need.

The above logic demonstrated that the DEC Bidding Rule does not prevent a generation unit owner from accomplishing virtually the same market outcome as submitting a low DEC energy bid that violates the DEC Bidding Rule. In addition, a number of stakeholders have argued that implementing the DEC Bidding Rule increases the likelihood that generation unit owners do not submit DEC bids into the HASP or RT market. This increases the likelihood that the CAISO will have to rely on default DEC bids to meet its decremental energy needs.

If market participants submit fewer DEC energy bids, system reliability problems and market inefficiencies can result. With fewer DEC energy bids above the -$30/MWh default bid floor level, the CAISO operators will have to rely on generation units that did not submit DEC energy bids to meet their DEC energy needs. Some of these units may truly be unable to reduce

their DA schedules and must therefore refuse a DEC instruction issued by the CAISO. The CAISO operators may have a difficult time determining in advance of RT system operation which units are physically unable to respond to these DEC instructions. Consequently, the CAISO operators may be forced to call on additional units to provide DEC energy just to get the MWh they actually need. This is also likely to increase the cost of managing the system in real-time because DEC energy prices will be at least -$30/MWh at those locations in the network.

We believe that a superior balance of the costs and benefits of different means to manage the risk that suppliers can take advantage of changes in the network model between the DA and RT is to allow suppliers to submit DEC bids that might violate the DEC Bidding Rule constraint. Under these circumstances, suppliers will have no incentive not to submit DEC energy bids above the -$30/MWh bid floor. Although RT energy prices at these locations are likely to be significantly lower than the DA price during those periods when the network model changes between DA and RT, the advantage of this approach is that CAISO operators will have sufficient DEC energy bids at or below the -$30/MWh DEC bid floor to manage the system. These DEC bids will be submitted by units actually willing and able to provide DEC energy so that the CAISO operators face a significantly lower probability that the units they ask to provide decremental energy are in fact unable to provide it.

3. Concluding Comments

For the reasons described above, we support the CAISO position that the DEC Bidding Rule be suspended at the start of MRTU. Nevertheless, we recommend that the Department of Market Monitoring (DMM) monitor the volume of DEC bidding activity and DEC bid prices to ensure that there are sufficient DEC bids to operate the system in real-time without having to resort to calling on units that did not submit DEC bids. Specifically, we believe that DMM should monitor the frequency and magnitude of the event that units that did not submit DEC bids were required to meet a DEC energy need that arose between the close of the DA IFM and the RT market.