Straw Proposal for Modifying Rules Limiting Supply Bid Pool in Integrated Forward Market

August 7, 2009

Straw Proposal for
Modifying Rules Limiting
Supply Bid Pool in
Integrated Forward Market

Table of Contents

1   Introduction

The California Independent System Operator Corporation (ISO) current market design includes a mechanism in the Integrated Forward Market (IFM) for local market power mitigation. In the pre-IFM Local Market Power Mitigation process, the IFM market model is first run with only Competitive Constraints enforced. A second run of the model is then performed with All Constraints enforced. Supply resources that are dispatched to a higher level in this second All Constraints run are then subject to bid mitigation. These pre-IFM Local Market Power Mitigation runs use the ISO demand forecast rather than bid-in demand.

The supply resources that are dispatched in the Local Market Power Mitigation process are then made available to the IFM for market clearing of supply resources and bid-in demand. Currently, bids from resources that are not dispatched in the Local Market Power Mitigation process are not made available to the IFM.   The purpose for this rule is to prevent the potential for high unmitigated supply bids to set market clearing prices in the IFM.

This rule has generally worked as expected. However, this rule has the potential to raise overall costs in the IFM in some situations, especially when the bid-in demand is significantly higher than the ISO demand forecast. For example, on July 26, 2009, for hour-ending 17 and 18, the demands that cleared in the IFM were approximately 7% higher than the ISO demand forecast. Due to limited supply resources, the IFM cleared at a high priced segment of the bid-in demand curve. The average energy prices of the three Load Aggregation Points (LAPs) rose to between $400/MWh and $500/MWh during this two-hour period, although prices in this range have not been approached on other days.

On June 17, 2009 the ISO Department of Market Monitoring (DMM) discussed modifying this rule with stakeholders at the Market Surveillance Committee meeting. The recommendation based on that discussion and written comments subsequently submitted by stakeholders was that the ISO would not propose any change to the rule governing the pool of supply bids used in the IFM, but would continue to assess the impacts of the rule under different market conditions.[1] However, the cases DMM reviewed at the stakeholder meeting did not include a scenario similar to what occurred on July 26, 2009.

After the July 26, 2009 event, ISO Management decided to continue the discussion with stakeholders about the possibility of modifying the rules limiting the IFM supply bid pool. This Straw Proposal describes some alternative approaches to facilitate the discussion with stakeholders.

2   Alternative Approaches for Discussion

The ISO proposes to consider the following alternative approaches to address the issue of limits on the IFM supply bid pool. The ISO will discuss the approaches with stakeholders and seek comments as well as suggestions for additional alternatives.

---

[1]   "Initial Recommendation on Potential Changes in Market Design Rule Limiting the Pool of Resources Considered in Integrated Forward Market", July 2, 2009, http://www.caiso.com/23df/23dfb81a48990.pdf

2.1 Approach 1 – Use all bids in the IFM

In this approach, the Local Market Power Mitigation process will be run against the ISO demand forecast, as it does today. However, all bids, including bids from resources that are not dispatched in the Local Market Power Mitigation process, will be available to the IFM.

This approach is effective in situations when the bid-in demand is significantly higher than the ISO demand forecast. For example, in the re-run of the July 26, 2009 HE 17 and 18 cases with all bids considered, the LAP average energy prices dropped from above $400/MWh to around $65/MWh.

The DMM white paper analyzed the impacts on total IFM market cost and resources committed in the IFM in comparison with the existing approach.[2]

Of the thirteen days considered in DMM's analysis the total IFM cost went up slightly in seven of those days. In theory adding additional supply bids to the IFM should not increase the total cost. The increases observed were attributed to Mixed Integer Programming (MIP) gaps in the optimization process. Further analysis of these cases is in process and will be reported in future documents. So allowing all bids in the IFM has limited impact on overall costs.

In addition, the DMM analysis resulted in an average of 0.5 additional thermal units committed per day. The impact on unit commitment is, therefore, also quite limited.

DMM's analysis did discover, however, significant increases in the IFM software run time. Running additional cases confirmed this observation. The increased run time could limit the ability of the ISO to re-run the IFM when it is needed to resolve issues that arise during the ISO's validation of Day-Ahead Market results prior to the completion of the market. This can be problematic on days with critical system conditions and is an issue that needs to be addressed for this approach to be viable.

2.2 Approach 2 – Use all bids conditionally in the IFM

In this approach, by default, the Local Market Power Mitigation process and IFM will run as it does today. The Local Market Power Mitigation process will run against the ISO demand forecast and only the bids from resources that are dispatched in the Local Market Power Mitigation process are available for the IFM. The ISO would establish a threshold for determining whether to re-run IFM using all supply bids rather than only those that are dispatched in Local Market Power Mitigation process. For example, if it is observed that the demand cleared in the IFM is higher than the ISO demand forecast by more than an established threshold percentage, such as 5%, the IFM will be re-run with all supply bids, including bids from resources that are not dispatched in Local Market Power Mitigation process. An alternative threshold could be utilization in IFM of more than a predetermined fraction of the capacity that has been committed through the Local Market Power Mitigation process.

This approach is the same as Approach 1 when the bid-in demand is significantly higher than the ISO demand forecast, but it does not need to run the IFM with all of the bids all of the time. The increase in run time is likely to have less of a negative impact on the market software performance.

---

[2] *Id.*

2.3 Approach 3 – Use the greater of the ISO demand forecast and bid-in demand in the Local Market Power Mitigation process

Under this approach the greater of the ISO demand forecast and bid-in demand will be used in the Local Market Power Mitigation process. Only the bids that are dispatched in the Local Market Power Mitigation process will be available for the IFM. There will always be sufficient supply bids to meet the demand in the IFM, unless there is already a supply deficiency in the Local Market Power Mitigation process.

The downside of this approach, however, is that it may open the door for potential gaming. If the bid-in demand is consistently higher than the ISO demand forecast and actual demand, it could lead to over-mitigation of supply bids and suppression of market clearing prices.

2.4 Approach 4 – Use bid-in demand in the Local Market Power Mitigation process

In its September 21, 2006 Order, FERC directed the ISO to develop systems and tariff language so that the bid-in demand will be used for the Local Market Power Mitigation process no later than Release 2.[3] This issue appears in the Updated Catalogue of Market Design Initiatives.[4] It is considered as a sub-issue of convergence bidding and is projected to be implemented with that initiative.

3 Next Steps

August 14, 2009	Stakeholder conference call
August 18, 2009	Stakeholder comments due

---

[3] September 2006 MRTU Order, 116 FERC ¶ 61,274, at P 1089.
[4] http://www.caiso.com/23ea/23eaef9d40990.pdf