

Opinion on “Start-Up and Minimum Load Bid Caps Under MRTU”

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August 20, 2007

We have been asked to comment on proposals by the California Independent System Operator (CAISO) for setting caps on the start-up and minimum load (SUML) costs bids of generation unit owners under MRTU. Suppliers in the day-ahead market under MRTU submit three-part bids for each generation unit for start-up costs, minimum load costs and variable operating costs. Units committed based on these bids in the day-ahead market are assured recovery of their SUML costs bids through an uplift payment if their market revenues are insufficient to cover all as-bid start-up costs and minimum load costs.

Current MRTU rules allow generating unit owners to choose from two alternatives for determining their SUML costs bids. One is cost-based, in which SUML costs are calculated by the CAISO based on publicly available spot market input fuel prices and technical parameters of the generation unit provided by the owner. The other is bid-based, in which the unit owner submits bids that cannot be changed for six months. Unlike energy bids, SUML bids are not subject to local market power mitigation (LMPM) under the current MRTU rules. The stakeholders and the CAISO originally felt that requiring these bids to be fixed for six months as well as adequate competition from other unit owners would be sufficient to limit the magnitude of these bids because setting them too high could price a generator out of the market for many hours. However, where generators possess significant local market power, competition from other suppliers may be insufficient to cause these unit owners to submit competitive SUML bids. During the hours when conditions in the market mean that high SUML bids would keep a generation unit from being selected to provide energy, the owner could still self-schedule the unit if energy prices were expected to be high enough to cover its start-up, minimum load and operating costs. During hours when transmission constraints or other operating constraints confer local market power on the generation unit, the owner can bid the unit into the market and reap revenues far in excess of actual SUML costs.

Recognizing the potential for the exercise of local market power through uneconomic SUML bids, the eastern ISOs all have mechanisms in place to mitigate these bids. For the CAISO, we believe that the most suitable approach would be an extension of the MRTU LMPM mechanism to encompass all bids submitted by generators, not just energy bids. Such a mechanism would require bids to be automatically set to cost-based default levels if the imposition of non-competitive transmission constraints in the pre-IFM runs results in an increase in a generator’s output relative to the level set in the pre-IFM run that only imposes competitive constraints.

The current MRTU LMPM mechanism approved by FERC only mitigates energy bids. Expanding it to include SUML bids would be an effective means to mitigate market power that might be exercised through these bids. However, the time required to develop the software necessary to implement this generalized LMPM mechanism precludes including this approach in Release 1 of MRTU. Nevertheless, we support implementing this mechanism in a future release of MRTU.

Implementing Release 1 of MRTU without a bid cap on SUML costs would leave the CAISO as the only FERC-regulated ISO with no protection against SUML bids that reflect the exercise of substantial unilateral market power. This has the potential to harm market efficiency and increase costs to consumers, particularly in constrained areas where competition is insufficient to cause unit owners to bid close to their actual costs. For this reason, we support the CAISO's effort to impose caps on SUML bids.

There are several design principles that a system of caps should follow:

- It should be effective in mitigating market power, thereby promoting market efficiency and protecting consumers
- It should promote participation in the market, imposing no more regulatory burden on market participants and administrative burden on the CAISO than is necessary
- It should provide generators with an opportunity to recover their actual costs
- It should provide strong incentives for generation unit owners to minimize their total costs of operation

We believe that the CAISO's cap proposal generally adheres to these principles as well as any system of cost-based caps can, and represents a satisfactory interim solution until a more comprehensive LMPM mechanism can be implemented.

In particular, we believe that the proposal to limit bids within locally constrained areas (LCAs) to 200% of the generation unit's cost is a reasonable compromise between the needs to mitigate market power and to cover supplier actual costs. A level significantly above 100% is necessary because of the relatively high risks facing generators resulting from the combination of three factors: (1) volatile input fuel markets, (2) the six-month duration of the bids, and (3) the uncertain number of starts that the generation unit will be made. These risks imply that generator owners may need to bid above their current SUML costs in order to have assurance of recovery of these costs over the entire six month period, although it is important to recognize that they have the option to switch to a cost-based SUML bid if gas prices do rise substantially. The CAISO's analysis shows that based on historical price patterns, there is an approximately 90% probability that a 200% cap will be adequate to cover spot gas costs during every day of the 6 month commitment period, and that any spike in spot market gas prices above the gas futures prices used in setting the 200% cap would be expected to last only a few days.¹ A lower cap

¹ See Table 2 of CAISO Department of Market Monitoring, "MRTU Market Power Mitigation: Options for Bid Caps for Start-Up and Minimum Load Costs: Supplemental Report," May 16, 2007, available at <http://www.caiso.com/1be1/1be1b86023e30.pdf>. Out of 58 six-month periods considered in the years 2002-2006, only in 6 periods did the maximum spot price during the six-months exceed 200% of the maximum NYMEX monthly futures price for that period. The fraction of the days for which the spot price exceeded 200% of that

would increase the probability of non-cost recovery under market-based bids and resulting generator requests to revise bids, which we believe is undesirable.

We find that the proposal to have a higher cap (400%) outside of LCAs appealing because in these areas competition should provide sufficient incentives for suppliers to submit bids that are reasonably close to their actual costs. This two-regime system of mitigation is consistent with the philosophy of market power mitigation under MRTU which focuses on limiting the exercise of local market power, and when mitigation occurs, the bids are set to achieve market outcomes as close to what would occur if the supplier with local market power instead faced effective competition.²

To further protect suppliers from the risk that actual SUML costs exceed the unit owner's bids during the six-month period, we also endorse the idea of providing an escape hatch so that exceptional increases in fuel prices can be accommodated. In the interest of simplicity, we prefer the option proposed by the CAISO that bidders be allowed to switch to a cost-based bid if short-term fuel prices rise above the price implicit in their bid. Generation unit owners should not be allowed to switch back to bid-based SUML values until after the six-month period of the original bid expires. However, they should be allowed to exercise the option of switching to cost-based anytime after the fuel spot price has exceeded the threshold implicit in the bid cap relevant to that market participant. We believe that in addition to simplicity, this particular proposal has the advantage of encouraging lower start-up and minimum load costs bids in the first place compared to the other alternatives.³

Finally, we prefer LMPM mechanisms that provide incentives to maximize efficiency of operations and minimize production costs, because these cost savings should eventually show up in lower retail prices. The CAISO proposal provides some incentives for suppliers to be more efficient. In particular, generators will be motivated to minimize their fuel procurement costs, because they will retain any cost savings they obtain in that manner. On the other hand, caps based on a multiple of actual costs provide little incentive to decrease heat rates or otherwise improve the physical efficiency of a plant, if market conditions are such that bidding at the cap is profitable. However, this is a problem shared by most market power mitigation measures. It could be addressed by indexed caps, or caps that reflect industry-wide costs for classes of generators, but lack of experience with such mechanisms as well as higher risk of non-recovery of costs means that, at this time, a cap based on unit-specific costs is likely to be more practical for the CAISO.

futures price was far less (approximately 1%). For a 150% threshold, 13 of 58 periods saw a maximum spot price in excess of that threshold. None of the periods saw spot prices ever exceed a 300% threshold, so we believe that such a threshold provides more headroom than is necessary and inadequately protects consumers.

² See "Market Power Mitigation under Locational Marginal Pricing" available at <http://www.caiso.com/docs/2004/11/23/2004112316123829554.pdf>.

³ For instance, if instead bidders are allowed to change their bid or switch to cost-based bids only if they have submitted a bid that equals that cap, this provides a strong incentive to make the highest allowed bid in order to secure that option. This will likely result in higher bids than the alternative we prefer.