

## **Comments on Changes to Bidding Start-Up and Minimum Load**

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### **1. Background**

The Market Redesign and Technology Upgrade (MRTU) markets commit generation units based on start-up (SU) and minimum load (ML) offers and the unit's energy offer curve. Market participants have two options for setting their SU and ML offers. The first option allows suppliers to set these offers at any level below a unit-level offer cap set by the ISO subject to the restriction that these offers must remain fixed for six months. The second option allows the generation unit owner to submit cost-based offers that adjust on a daily basis using a formula set by the ISO that depends on natural gas prices.

A number of suppliers that elected the cost-based offer option at the start of MRTU have found that several of their quick start generation units are repeatedly committed at minimum output for a short period of time in the real-time market and then quickly de-committed. These suppliers argue that these quick-start units are being turned on and off far more frequently than they were under the former ISO real-time market and this is leading to increased wear and tear on the generation units not accounted for in the current cost-based option for SU and ML offers. In addition, some of these quick-start units are subject to environmental restrictions on the annual or seasonal maximum number of starts and it is claimed that several of these units have already used a significant fraction of their total seasonal or annual allocation of starts. The opportunity cost of a start for a generation unit subject to these environmental constraints is also not incorporated into the current cost-based SU and ML offer option.

Consequently, the ISO is considering revising its policy on how frequently suppliers can revise their offers under the offer-based option or switch between the cost-based option and the offer-based option from six months to 30 days. The ISO's Department of Market Monitoring (DMM) favors allowing this change because offer caps for SU and ML offers did not exist when these two options were originally implemented. The ISO is also considering a number of long-term options that would allow hourly offers for SU and ML but require these offers to be subject to local market power mitigation.

### **2. Analysis of Issue**

Economically efficient regulation implies that suppliers should be allowed to express all verifiable SU and ML costs in their cost-based offers. We also believe that

both the increased wear and tear costs to the generation unit due to the increased number of starts and the opportunity cost of a start due to environmental restrictions on the total annual number of starts are both legitimate reasons for setting higher cost-based SU offers. However, developing a reasonably accurate methodology for determining what these costs are for each generation unit is likely to involve a lengthy stakeholder process.

We are also concerned that the current proposal to increase the frequency that generation units are able to adjust their SU and ML offers and switch to the cost-based option could significantly enhance the ability of generation unit owners to withhold capacity in order raise wholesale prices. If a generation unit owner finds out that it has the ability to raise market prices during a month because of a transmission or generation outage, it could switch to the offer-based option and substantially raise the revenues it receives during this month by submitting SU and ML offers at or near the offer caps. Once the transmission line or generation unit has been put back in service, the unit owner could revise their SU and ML offers downward to reflect the increased competition that the unit now faces.

We also do not see how the DMM could prevent this behavior if the ISO proposal to allow generation unit owners to alter their SU and ML offers every 30 days is adopted. The current ISO offer caps on SU and ML give units outside of Locally Constrained Regions (LCR) the ability to submit offers that are 400% of the cost-based option. Units in LCRs can only submit offers that are 200% of the cost-based option. Consequently, particularly for units located outside of LCR there is the potential that these units could exercise significant market power through their SU and ML offers with DMM having little ability to prevent these market outcomes.

Prior to implementing a long-term solution to this problem, there are strategies that generation owners can use to protect themselves against too many starts. Unfortunately, these strategies can also produce other problems with the market. The current MRTU rules allow generation unit owners significant flexibility to manage when and for how long their units operate through the energy and ancillary services offers they submit to the ISO markets. For example, a quick-start generation unit with few available starts could submit as a price-taker into one of the ISO's ancillary markets and designate its energy as contingency only—to be called upon only in the event that the ISO experiences a contingency. This would allow the unit owner to better manage its available starts. However, it could reduce the amount capacity available to the real-time energy market. But if the unit truly only has a finite number of starts available to it during a fixed time period that it ultimately exhausts, this strategy does not change the total number of starts the unit makes only when the unit is started. Nevertheless, if this strategy is used by unit owners to reduce their total number of starts it could increase energy market price volatility.

We also recognize that, absent a change, under the current option suppliers that are currently dissatisfied with the cost-based option could, six months after go-live, elect the offer-based option in October 2009 and submit extremely high SU and ML offers that would remain fixed for six months. Although the high SU and ML offers would limit

the market participation of these units, owners could offset this by self-scheduling in the day-ahead or real-time market when they would like to operate their units. This would mean the owners would forego the certain recovery of their SU and ML offers that is guaranteed by having their offers accepted in the day-ahead or real-time market. The prospect of this outcome is worrisome, but we do not believe will be widespread. Self-schedulers are unlikely to be able to anticipate the precise intervals when prices will be high in the presently volatile MRTU real-time markets, and this could worsen the volatility of real-time prices and increase total wholesale energy and ancillary services costs.

For all of these reasons, we believe the ISO should proceed with caution in allowing suppliers greater flexibility in changing their SU and ML costs offers. We recommend that the CAISO proceed with a solution to this problem only after careful consideration of the alternatives and methods for estimating start-up costs for purposes of market power mitigation. We discuss some alternative long-term solutions in the next section. If the ISO believes there is a need for expediency in crafting a solution given that many quick-start units may exhaust the number of starts they have available before the end of the year, then a compromise interim solution might be to implement the ISO's proposed solution but couple it with either lowering the offer cap to 200% of the cost-based option, or allowing the DMM to unilaterally set a unit's offer cap at 200% of the cost-based option if it determines the owner is using its ability to change its SU and ML offers every 30 days to exercise significant unilateral market power.

Another attractive solution would be to allow suppliers to submit a hybrid of the cost-based and offer-based option, where the fuel cost portion of the SU and ML costs are adjusted daily based on the price of natural gas and the unit owners submit a fixed payment that remains fixed for six months that recovers the wear and tear and opportunity costs of a start. This offer could be capped as some benchmark values for the wear and tear costs and opportunity costs of a start. The attraction of this solution is that market participant would have to live with the offer component of its SU and ML costs for six months so it would have less of an incentive to use these offers to exercise unilateral market power. Moreover, with the possible exception of environmental or contractual limits on the number of starts, it is unlikely that the true wear and tear costs of starts for a generation unit owner would vary significantly over a six month period.

Another alternative is to simply retain the status quo until a more permanent solution can be put in place and allow generation unit owners to manage their risk of being started up using the approaches described above. Unfortunately, even this option may involve software and master file changes, thereby making it impractical as a "short-term" solution.

### **3. Long-Term Recommendation**

Over the long-term, we urge the ISO to revise the cost-based option to incorporate both wear and tear and the opportunity cost of a start into the cost-based option. The hybrid approach suggested above is one possible way to accomplish this. We are

skeptical of the market efficiency benefits of allowing suppliers to change their SU and ML offers more frequently than every six months without subjecting these offers to some form of local market power mitigation. For this reason, we support the ISO's long-term goal of subjecting SU and ML offers to local market power mitigation if they are allowed to be changed more frequently than every six months. One possible alternative is to wait to implement any change in the frequency that SU and ML offers can be revised until a local market power mitigation mechanism for these offers can be implemented.

Regardless of what long-term approach the ISO takes, we believe it will be necessary to formulate a methodology for determining the wear and tear and opportunity costs of starts to incorporate into the cost-based option. We also believe that any increase in the frequency the SU and ML offers can be revised must be accompanied by a local market power mitigation mechanism. If the ISO believes that these issues can be addressed in a stakeholder process within the next three months, then delaying any change in the current approach appears to be the favored approach.