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Submitted to the CAISO at initiativecomments@CAISO.com by Rachel Gold (Policy Director) and Susan Schneider (Consultant)

RE: Comments of the Large-scale Solar Association on Stepped Constraint Parameters – Issue Paper

The Large-scale Solar Association (LSA) hereby submits these comments on the CAISO's May 5th document, Stepped Constraint Parameters – Issue Paper (Paper). The Paper states that the CAISO is contemplating the following changes:

- **Relaxing the transmission constraint scheduling parameter** to different levels based on the magnitude of the violation and voltage level;
- **Reducing the shift-factor effectiveness threshold** from 2% to 0.1%;
- I**mplement a tier relaxation approach for power balance constraint violations**, in both the upward and downward directions;
- **Revise the EIM transfer limitation that applies when a Balancing Authority Area (BAA) fails to meet the EIM hourly resource sufficiency requirement**, to apply a penalty structure instead of limiting incremental EIM transfer into and out of that BAA to the last FMM schedule from the prior operating hour;
- **Lower the energy bid-price floor**, to -$300/MWh as contemplated in a prior stakeholder process or perhaps as low as -$1,000/MWh to match the $1,000/MWh bid-price cap.

LSA generally supports these proposals, since they appear to be common-sense revisions that would increase market efficiency. LSA's remaining comments offer additional support for the last proposal, to reduce the energy bid-price floor.

The Paper states (at p.11) that a lower floor price should be considered because the current asymmetry between that price and the $1,000 bid-price cap "results in a market wide bias to over-schedule demand in the day-ahead market because in the real-time market if there is insufficient supply it can trigger $1000/MWh prices to serve demand, but if there is excess supply the load must buy back at $150/MWh." LSA has long supported lowering the bid-price floor, including support in 2011 for levels lower than the current -$150/MWh floor, and believes that there is ample support for a lower floor price for other reasons as well.

Most important, if the CAISO wants to increase the pool of decremental economic bids, the bid-price floor must be low enough to provide true compensation for the total value of the energy not produced. This is true for both renewable and conventional resources.

For renewable energy, determination of the value of the energy not produced (and thus the bid-price floor) should account for the following factors:

- **The stated prices in Power Purchase Agreements (PPAs)**, including the many PPAs (most of the energy that will meet the current 33% RPS) executed earlier with prices above the lower levels seen in more recent PPAs;

- **The impact of time-of day multipliers**, especially for daytime production reductions – for example, a $100/MWh PPA with a peak-hour multiplier of 2.8-3 would require a price of around $300/MWh just to make up for the loss of PPA payments from decremental energy bids;

- **The value of the Renewable Energy Certificates (RECs)**, which can be used by the off-taker or sold to others;

- **The reduction in Resource Adequacy Net Qualifying Capacity (NQC)** when production is reduced during the peak hours used to determine QC, for intermittent resources under the Exceedance Methodology; and

- **Potential penalties for not meeting minimum production guarantees**.

The PPA price, multiplier, and minimum-production guarantees would also apply to production reductions by other resource types. The bid-floor price should also consider, for those other resources:

- **Take-or-pay or minimum-take gas or other fuel contracts;**

- **Incremental wear-and-tear** from additional unit cycling;

- **Opportunity costs for hydro facilities spilling water instead of generating energy**, or for other Use-Limited Resources (ULRs); and

- **Loss of related industrial production** for combined heat-and-power (CHP) units.

The CAISO should work with stakeholders to identify other reasons that do or could discourage decremental energy bids.

A lower bid-price floor would also help support development of other market solutions that could address over-generation conditions by improving the economics of such solutions. Those solutions could include additional energy storage facilities, new or expanded energy export arrangements, and revisions of current inflexible energy import contracts.

Generally speaking, there is no obvious reason that the floor price should not mirror the ceiling price. If the CAISO decides not to go all the way to equalize the two prices in this initiative, LSA supports the proposal, suggested by some stakeholders in 2011, to consider further reductions in the future if the CAISO market clears at the new bid-price floor.