

Southern California Edison Stakeholder Comments

CAISO Stepped Constraint Parameters Issue Paper, dated May 5, 2016

Submitted by	Company	Date Submitted
Paul Nelson – (626)302-4814 Wei Zhou – (626)302-3273	Southern California Edison	May 26, 2016

Southern California Edison (SCE) herein comments on the California Independent System Operator's (CAISO) Stepped Constraint Parameter Issue Paper, dated May 5, 2016 (the Issue Paper)¹. SCE supports this initiative as it has the ability to reduce unnecessary price volatility. Currently, when constraints are relaxed for a small amount of load, the price can jump from the prior clearing price of say \$60/MWh to \$1,000/MWh. With stepped parameters, a 1 MW relaxation would be unlikely to result in the highest possible price. This approach presents a more reasonable price signal and reduces economically inappropriate price volatility, and in turn should improve market efficiency.

1. The transmission constraint relaxation parameters need adjustment.

The Issue Paper suggests the following parameters based upon magnitude and voltage:

1. 230kV and above
 - a) \$750 scheduling parameter for below a 2% exceedance of the original limit
 - b) \$1,500 scheduling parameter for a 2% or more exceedance of the original limit
2. 115kV and lower
 - a) \$500 scheduling parameter for below a 2% exceedance of the original limit
 - b) \$1,000 scheduling parameter for a 2% or more exceedance of the original limit

Although the proposed values would improve the market compared to the process in place today, they may still result in unnecessary price volatility given the level of the proposed values. Therefore, instead of only having two tiers, SCE suggests the CAISO consider including three tiers such as the following, which can provide more flexibility for the optimization:

1. 230kV and above
 - a) 0-1% in exceedance of the original limit is a \$500 scheduling parameter

¹ <http://www.caiso.com/Documents/IssuePaper-SteppedConstraintParameters.pdf>

- b) >1 - 2% in exceedance of the original limit is a \$750 scheduling parameter
- c) > 2% in exceedance of the original limit is a \$1,000 scheduling parameter

2. The change to the shift factor effectiveness threshold needs more investigation.

Currently, generation resources with a shift factor of less than two percent are not included in the optimization because of their very limited ability to resolve congestion on the constraint. The two percent threshold seems reasonable as an operator would unlikely consider resources with less than two percent effectiveness to resolve a transmission congestion. The Issue Paper suggested lowering the shift factor threshold from 2% to 0.1%. The Issue Paper provides information on the number of additional resources that would be included from December 1, 2014; however, the analysis excludes price impacts. Under an extreme condition, it is possible that a resource with 0.1% shift factor can add to the cost in a magnitude of 1,000 times of its bid price (i.e., to resolve 1MW of congestion, the resource would need to be dispatched for 1,000MW given the 0.1% effectiveness). SCE suggests the following information be included in the straw proposal:

- More sampling to capture seasonal differences by including a summer peak day
- Price impacts of the change in the threshold
- Interaction with existing/proposed transmission parameters

SCE is also concerned about the time to achieve solutions with increasing nodes due to the growth of the Energy Imbalance Market (EIM) and the possible expansion of the CAISO to include PacifiCorp. What may be technically feasible now, may not be in the future.

3. SCE supports stepped pricing parameters for the Power Balance Constraint.

Similar to the transmission constraint parameters, SCE supports exploring tiered pricing levels for the Power Balance Constraint similar to those used by the NYISO. SCE seeks clarification on more details of the CAISO proposal and that its proposal will be applied to all CAISO markets, and not just for EIM Entities.

4. Penalty prices for the EIM transfer limit during failed resource sufficiency conditions needs more investigation.

Currently, with a balancing authority fails the resource sufficiency condition, the amount of EIM transfers is limited to the amount when they passed the sufficiency condition. This was done to prevent resource leaning by balancing authorities. The Issue Paper recommends using a penalty price for additional transfers instead of limiting the amount of transfers. This could send the improper incentive as the penalty price is lower than the cost of additional resources. It is likely such penalty approach would undermine the purpose of preventing resource leaning. More discussions are needed, especially in evaluating this approach in the context of resource adequacy and from the cost-benefit perspective. The CAISO should consider whether other methods² exist to achieve same benefits while preventing inappropriate leaning.

5. Reducing the bid floor needs more investigation on the problem it is trying to resolve. At this time, SCE opposes any change to the bid floor without demonstrating that the current bid floor is inadequate.

The CAISO proposed to lower the bid floor from $-\$150/\text{MWh}$ to $-\$1,000/\text{MWh}$ to increase the market based incentives to reduce excess generation. As mentioned in the Issue Paper, a $-\$1,000/\text{MWh}$ bid floor would contribute to extreme negative price spikes. At this time, SCE opposes any change to the bid floor. Until the CAISO can demonstrate the current floor is inadequate, lowering the floor simply increases the likelihood of inappropriate volatility and the potential for wealth transfers. SCE does incorporate curtailment language in many of our renewable contracts which allows for a certain number of hours of economic curtailment. In addition, all of our energy contracts allow for curtailment during any CAISO declared emergency. For these reasons, lowering the bid floor from $-\$150/\text{MWh}$ to $-\$1,000/\text{MWh}$ is unnecessary.

² Such as limiting the transfers up to 2% of the transfer limit when the sufficiency test fails and within the 2% the same penalty parameters as internal constraints would apply (e.g. the existing $\$1,000/\text{MWh}$ or the proposed $\$750/\text{MWh}$ and $\$1,000/\text{MWh}$). This may still be superior to “freezing” incremental transfer as it would provide some flexibility for the optimization. If, however, the penalty parameter (e.g. at the existing $\$1,000/\text{MWh}$ value) is already being applied today when “freezing” the transfer, then the CAISO Proposal might not be needed.