Stakeholder Comments

Contingency Modeling Enhancements
Revised Straw Paper

Submitted by	Company	Date Submitted
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The following are Southern California Edison's (SCE) comments on the California Independent System Operator's (CAISO) Revised Straw Paper[1]. SCE supports the CAISO's procurement of tools to research and analyze this problem to improve current processes.

However, SCE does not support the CAISO's proposal for the following reasons:

1. **Common understanding of the NERC and the WECC standards must be reached among PTOs and the CAISO as a precondition to moving forward. Technical details of the NERC TOP-007 and TOP-007-WECC-1 standards must be properly understood by PTOs before initiating market design changes.**

   As raised in its prior comments[2], SCE is concerned that the proposal was drafted without first reaching a common understanding of transmission operations and standards as interpreted by the PTOs and the CAISO. Details such as the proper SOL limits and time of recovery allowed by the standards for these limits (4-hour, 1-hour, 30-minute, etc.) must be fully evaluated and communicated to the PTOs. Otherwise, unnecessary costs may be imposed on the market while there is no guarantee that the proposal will address the reliability issue as intended. From the stakeholder call on 6/25/13, the CAISO agrees a technical conference is needed to further discuss details pertaining to the requirements. SCE further suggests that the technical conference should include PTOs and that common understanding of the requirements should serve as a prerequisite to any further determination of any new market design proposal.

2. **The CAISO proposal, as well as the alternatives, need to be fully studied. SCE supports the use of market simulation to address market concerns. Without demonstration, there is no basis to conclude the proposal is just and reasonable.**

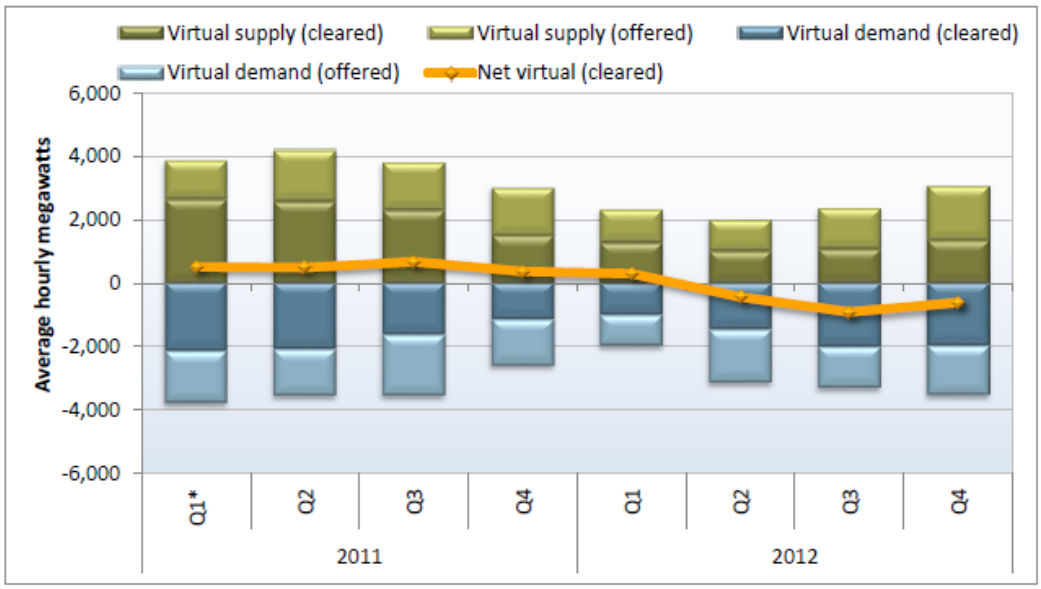
   The CAISO proposes significant changes to the current market structure. For example, it proposes a new capacity price at each node which doesn't currently exist in the CAISO market (or any other market to our knowledge). And yet, the questions about why this price is needed and how it interacts with existing market prices have not been answered. With the significant changes proposed by the CAISO, the following basic questions must be addressed:

   - How does the proposal work with virtual bids?

[1] http://www.caiso.com/Documents/RevisedStrawProposal-ContingencyModelingEnhancements.pdf
[2] SCE's comments on CAISO Straw Proposal - http://www.caiso.com/Documents/SCE-Comments-ContingencyModelingEnhancementsStrawProposal.pdf

The CAISO has emphasized that this proposal is to address the flow-based reliability requirement. We note these requirements only apply to real-time actual flows. However, SCE does not understand how incorporating post-contingency constraints in the DAM will achieve the reliability goal (i.e., the ISO's ability to meet SOL requirements) in real-time. For example, during 2012, the cleared virtual demand averaged 1,585 MW per hour, while virtual supply averaged 1,240 MW per hour (the offered virtual bids are even higher). We have observed virtual bids exceed 5,000MW under certain conditions[3]. In addition, about 64 percent of cleared virtual positions were held by pure financial trading entities that do not serve load or transact physical supply[4], in other words, about 64% of cleared virtual positions are not intended to be hedged with equivalent physical positions. Clearly the flow created by material virtual bids are significantly different than the flows created by physical conditions in real-time. Since the CAISO's must deal with a physical problem, why does the proposal co-mingle (often material amounts) of financial flows?

Figure 4.1 Quarterly average virtual bids offered and cleared[75]



It is worth noting that there may be other NERC requirements specifically for the day-ahead timeframe, but the NERC/WECC requirements cited by the CAISO are for real-time and physical flows only.

- How does the proposal work with wind and other sources of deviations?

  The CAISO has stated that post-contingency constraints dispatch more efficiently compared to A/S and EDs[5]. However, given the nature of post-contingency constraints, i.e., the flow within 30 minute after an N-1 event occurs, it is questionable that the

[3] For example, the cleared virtual demand was 5,074MW HE20 on 3/22/2011. There are days in 2012 and 2013 when the virtual bid cleared close to or above 4,000MW in a single hour.
[4] 2012 DMM Annual Report, Pages 101-104 - http://www.caiso.com/Documents/2012AnnualReport-MarketIssue-Performance.pdf
[5] Table 18, Column 3, CAISO Revised Straw Proposal - http://www.caiso.com/Documents/RevisedStrawProposal-ContingencyModelingEnhancements.pdf

dispatch by post-contingency constraints will be as robust as A/S or EDs considering the output from wind and other sources may not be forecaste well in the day-ahead timeframe (or even in 30-minute real time in some cases).

- How does the proposal work with existing A/S products, Flexi-ramp constraint, and Resource Adequacy?

  In a real situation when an emergency occurs, it may be prudent for the CAISO to use all the tools and capacity that are available to recover, which includes the capacity brought online through flexi-ramp, A/S products, etc. There seems to be a disconnect between real life and the CAISO proposal if the capacity brought online through other products (for example, flexi-ramp) is not counted toward meeting the N-1 requirement.

- Why do RA units receive double payments for capacity?

  RA units have already been paid for capacity. But under the CAISO proposal, such units may also receive a second capacity payment for providing SOL relief even if the units incur no opportunity cost. For example, an off-line peaker that has already sold RA may receive a second payment for SOL relief even if the unit never runs and never incurs an opportunity cost.

- How does the proposal work with the LMPM?

  Since the CAISO proposal introduces a nodal capacity price that will interact with the nodal energy price, there is a market mitigation concern that is not captured by the existing LMPM. Even a new capacity-only market power mitigation may not work, as the proposal may lead to a gaming issue with entities using capacity to manipulate the energy market, or vice versa. The importance of market power mitigation cannot be stressed enough as CAISO is proposing a new dimension of constraints that are temporal (post-contingency). Combinations of spatial and temporal constraints can create numerous scenarios that cannot easily be predicted and thus mitigated.

The CAISO proposal adds significant complexity to the current market. The impacts of such complexity cannot be assessed solely based on theory or a 3-bus system example. If not properly addressed and mitigated, the added complexity has the potential to reduce market competitiveness.

SCE supports the CAISO's effort to simulate and fully demonstrate its proposal, but we strongly recommend developing alternatives for consideration. The simulation effort should include alternatives since the CAISO has not demonstrated that its current proposal is cost effective and whether or not a more cost-effective alternative exists. Some of the alternatives that need to be fully explored are the following (not an exhaustive list).

- RUC process improvement

RUC processes have the benefit of enforcing physical resources commitment. Given that the need that the CAISO proposal is attempting to address is driven by the reliability flow requirements, RUC processes seem to be the perfect fit –at the very least this option needs to be fully explored. RUC ignores financial bids and ensures that RA units do not receive a "double payment". Similarly, enhancements to MOC should also be considered.

- A/S improvement

  Instead of Contingency Modeling Enhancement, the CAISO should explore the option of A/S Market Enhancement. For example, to increase A/S procurement granularity by creating additional zones or subzones or increasing the procurement target of the existing A/S products.

In summary, SCE feels it is imperative that the CAISO and PTOs have a common understanding of what the relevant NERC and WECC standards require and allow. The SOL-related ED problem represents a fraction of a percent of the total transactions in the CAISO's electricity market. SCE believes the CAISO should refine existing practices through enhanced situational awareness and enhanced planning tools and should not introduce additional products without further research, testing, and justification. To date, the CAISO has not provided any due diligence in providing the evidence that new products, rather than refinements of existing products and procedures, produce superior benefits to customers and the grid. At this time, SCE is far from persuaded that the correct solution is to make major, unproven changes to the entire market as proposed by the CAISO and has no basis to conclude the CAISO's proposal will result in just and reasonable outcomes.