

December 22, 2015

COMMENTS ON BEHALF OF THE CITIES OF ANAHEIM, AZUSA, BANNING, COLTON, PASADENA, AND RIVERSIDE, CALIFORNIA ON THE CONTINGENCY MODELING ENHANCEMENTS THIRD REVISED STRAW PROPOSAL

In response to the ISO's request, the Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California (collectively, the "Six Cities") submit the following comments on the ISO's November 20, 2015 Contingency Modeling Enhancements Third Revised Straw Proposal (the "Third Proposal").

The Six Cities oppose implementation of the Contingency Modeling Enhancements as currently proposed by the ISO. The Third Proposal, like the earlier proposals, continues to fail to respond adequately to the issue raised in the Six Cities' May 28, 2013 comments on the Straw Proposal regarding the effects of virtual bidding on the ability of the contingency modeling changes to satisfy the objective of enhancing the probability that the ISO will be able to recover from an N-1-1 contingency within the required thirty minute period. As discussed in the Cities' previous comments, the requirements for post-contingency recovery are flow-based, but virtual bidding results in virtual flows that may either add to or offset physical flows. If virtual bids are included in the optimization used to select resources for corrective capacity under the proposed contingency modeling approach, it is not clear how the ISO can be confident that the selected corrective capacity resources will be effective in recovering from an actual contingency leading to a post-contingency topology that may be very different from the combination of virtual and physical flows utilized in the optimization process.

The May 30, 2013 Department of Market Monitoring comments on the Straw Proposal "noted that virtual bids in the IFM may distort the commitment and positioning of resources to meet the corrective constraints." The DMM's observation reveals a fundamental flaw in the ISO's contingency modeling proposal. Operational contingencies are physical events, and post-contingency constraints involve limitations on physical flows. Virtual bids may create hypothetical flows in the IFM, but it is understood that virtual bids will be reversed in the Fifteen-Minute Market and will not create real-time flows. If corrective capacity resources are selected in the IFM based on an optimization that includes the effects of virtual bids, there is no reason to expect that they will be effective in addressing post-contingency physical limitations. If, as the DMM recognized, virtual bids distort the positioning of resources to meet the corrective constraint, load will be required to pay for capacity that will not meet the intended purpose.

The Third Proposal does not address at all the potentially distorting effects of virtual bids on selection of corrective capacity. During the December 10, 2015 stakeholder conference on the Third Proposal, an ISO representative asserted that because the ISO's markets treat virtual bids and physical bids identically, it is appropriate to include virtual bids in the optimization that produces corrective capacity awards. The ISO's markets, however, do not treat virtual bids and physical bids the same for all purposes. The RUC process explicitly recognizes that virtual bids will not be reflected in real-time physical operating conditions. One possible way of addressing the distorting effects of virtual bids on

positioning of corrective capacity resources would be to identify Day-Ahead corrective capacity awards as part of the RUC process rather than in IFM. Another possible approach would be to award corrective capacity only in the Real-Time markets. The Six Cities note that the ISO's December 17, 2015 Flexible Ramping Product Revised Draft Final Proposal indicates at page 8 that Flexible Ramping Product procurement will occur only in the Real-Time markets and not in the IFM. There is no obvious reason why different treatment is necessary or appropriate for corrective capacity.

More generally, the Six Cities continue to question whether benefits of contingency modeling will justify the increased complexity introduced by this proposed market design change. The ISO committed in June 2013 to develop a prototype model for the Contingency Modeling Enhancements and apply it to a saved production level case so as to provide information on how the proposed preventive-corrective constraint will function and impact the market. See the June 18, 2013 Revised Straw Proposal at 47, stating:

We agree with stakeholders that the preventive-corrective constraint will add complexity to the ISO market and market software. We believe we and our systems are capable of adopting this constraint. To demonstrate this, we are taking steps to develop a prototype to share with market participants based on a realistic example using a production level case. We will rerun a saved case with the constraint to demonstrate how the constraint will function and impact the results of the saved case. We believe this effort will take about two months to accomplish.

Now, more than two years later, the results of the prototype analysis still are not available. Among other considerations, evaluation of the prototype analysis must include careful consideration of the impact of virtual flows on the outcome of the preventive-corrective optimization process and the likely effectiveness of selected resources on the ISO's ability to meet SOL requirements. More fundamentally, before implementing design changes that the ISO acknowledges will add complexity to the ISO's already complex market processes, the ISO should demonstrate through the prototype analysis that optimizing for the corrective constraint can be expected to produce tangible, and not just theoretical, improvements in the ISO's ability to recover system stability following contingency events.

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