

September 5, 2017

**COMMENTS ON BEHALF OF THE CITIES OF ANAHEIM, AZUSA, BANNING,  
COLTON, PASADENA, AND RIVERSIDE, CALIFORNIA ON THE  
CONTINGENCY MODELING ENHANCEMENTS DRAFT FINAL 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 August 11, 2017 Contingency Modeling Enhancements Draft Final Proposal (the "Draft Final Proposal").

The Six Cities continue to oppose implementation of the Contingency Modeling Enhancements as described in the Draft Final Proposal. The Draft Final Proposal, like the ISO's earlier proposals, does not respond adequately to the issue initially 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 stated objective of enhancing the probability that the ISO will be able to recover from an N-1-1 contingency within the required time frame. 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 in the IFM 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, Real-Time contingency leading to a post-contingency topology that may be very different from the combination of virtual and physical flows utilized in the IFM 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. Although the Six Cities appreciate the ISO's clarification that virtual bids will not be eligible to receive corrective capacity awards (Draft Final Proposal at 5, 8, 55), the potential remains that inclusion of virtual bids in the IFM optimization may result in payments for corrective capacity to resources that would not be effective in responding to contingency events.

The Draft Final Proposal acknowledges at pages 33, 56, and 70 that the resources receiving corrective capacity awards in the IFM will not necessarily be used to respond to actual

contingency events, because the selection of corrective capacity will be re-optimized in the Real-Time market processes. The ISO's prototype analysis omitted any consideration of the potentially distorting effects of virtual bids in the IFM optimization or the potential that resources would receive awards and be paid for corrective capacity in the IFM that will not be effective in responding to actual contingency events. The ISO's prototype analyses all were based on Day-Ahead production cases. *See* Contingency Modeling Enhancements Prototype Analysis with Production Cases ("Prototype Analysis") at 5. There is no comparison of the outcome of applying the contingency modeling process to the Real-Time conditions that succeeded the Day-Ahead production cases. Without such a comparison, there is no basis for concluding that the Contingency Modeling Enhancements will lead either to improved reliability or enhanced efficiency as compared with the tools currently utilized to address potential contingencies (*i.e.*, Minimum Online Constraints and Exceptional Dispatch). For example, the ISO asserts at pages 10-11 of the Prototype Analysis that in the prototype analysis, the contingency modeling process resulted in lower overall resource commitments at a reduced cost to the system. However, if the re-optimization of corrective capacity in the Real-Time market processes leads to a substantially different array of corrective capacity awards than the IFM optimization produced, the result may very well be that resources receive payments in the IFM for capacity that will not be effective in addressing contingency events, requiring procurement of additional corrective capacity in the Real-Time market and resulting in reduced efficiency.

The Draft Final Proposal does not adequately address the potentially distorting effects of virtual bids on selection of corrective capacity nor justify potential payments to resources for corrective capacity that cannot be used to respond to real-time contingencies. The Draft Final Proposal asserts at page 5 that because the IFM treats virtual bids and physical bids identically in the Security Constrained Economic Dispatch, it is appropriate to include virtual bids in the optimization that produces corrective capacity awards in the IFM. The ISO's markets, however, do not treat virtual bids and physical bids the same for all purposes, and it is not obvious why the Contingency Modeling Enhancements must be implemented in the IFM.

The ISO's treatment of the Flexible Ramping Product is instructive. The ISO identifies resources to supply Flexible Ramping Product only in the Real-Time market processes. *See* ISO Tariff § 44. In response to comments challenging the ISO's proposal to implement the Flexible Ramping product only in the Real-Time market, the ISO explained that "the benefits of procuring the flexible ramping product in the day-ahead market were not significant enough to overcome the inefficiencies caused by different settlement and dispatch periods between the day-ahead and real-time market. These inefficiencies include significant flexible ramping product re-procurement in the real-time market." California Independent System Operator Corporation, Docket No. ER16-2023-000, Transmittal Letter at 16. The FERC agreed in its order approving the Flexible Ramping Product Tariff amendments, finding that "the inefficiencies of implementing the flexible ramping product in the day-ahead market, such as the potential of having to procure significant amounts of additional flexible ramping capability in the real-time market, outweigh the benefits of this suggested market feature." *Cal. Indep. Sys. Operator Corp.*, 156 FERC ¶ 61,226 (2016) at P 42. The same concern regarding the potential need to re-procure or procure additional capacity different from or beyond the capacity awarded in the IFM applies with regard to corrective capacity.

There are at least two ways of addressing the distorting effects of virtual bids on positioning of corrective capacity resources in the IFM optimization. One would be to award corrective capacity only in the Real-Time markets, like Flexible Ramping capacity. Awarding corrective capacity only in the Real-Time markets also would avoid impacts on CRR revenues, since CRRs are settled on the basis of Marginal Cost of Congestion in the IFM. *See* Tariff § 11.2.4.

If, however, the ISO believes that waiting to identify corrective capacity in the Real-Time markets would raise reliability concerns, another possible approach would be to identify Day-Ahead corrective capacity awards as part of the RUC process rather than in IFM. The RUC process explicitly recognizes that virtual bids will not be reflected in Real-Time physical operating conditions. Modeling for corrective capacity as part of the RUC process therefore would appear less likely to result in the selection of resources for corrective capacity awards that would not be effective in responding to contingency events.

Submitted by,

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