

# Memorandum

**To:** ISO Board of Governors  
**From:** Eric Hildebrandt, Director, Market Monitoring  
**Date:** December 6, 2017  
**Re:** **Department of Market Monitoring report**

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*This memorandum does not require Board action.*

## EXECUTIVE SUMMARY

This memo provides comments by the Department of Market Monitoring (DMM) on two Management proposals being presented to the Board for approval.

- **Contingency modeling enhancements.** DMM supports the proposed contingency modeling enhancements (CME) for constraints with corrective time frames up to 30 minutes. While analysis indicates this feature will not result in significant cost savings, the ISO committed to implement CME under its November 2014 settlement agreement with FERC and NERC. However, the current CME design was not developed to support corrective time frames greater than 30 minutes. Therefore, DMM does not support the ISO seeking the tariff authority to apply the CME design to constraints with corrective time frames of over 30 minutes and up to four hours, as proposed in the ISO's August 2017 *Draft Final Proposal*. If the ISO seeks to expand the CME design to constraints with corrective time frames beyond 30 minutes, DMM recommends that the ISO work with stakeholders on developing an appropriate design for these constraints and seek approval of that design from the Board and FERC after the design is complete. Management's memo indicates that Management agrees with DMM's recommendation on this issue and has removed implementation of the contingency modeling enhancements functionality for timeframes longer than 30 minutes from the proposal being presented to the Board.
- **Energy imbalance market initiatives.** DMM supports management's consolidated energy imbalance market initiatives proposal.

## Contingency modeling enhancements

DMM has long supported the contingency modeling enhancements (CME) design that has been discussed over the five year course of this initiative. However, the ISO made significant changes to this design in the August 2017 Draft Final Proposal and its addendum. In particular, the ISO proposed to apply the CME design to CME constraints with corrective time frames greater than 30 minutes and up to four hours.<sup>1</sup>

A modeling enhancement that could optimally dispatch resources to prepare for constraints with four hour corrective time frames could be a valuable addition to the ISO market. However, the current CME design was not developed to support corrective time frames much greater than 30 minutes. In proposals prior to the Draft Final Proposal, the ISO only proposed modeling CME constraints with 30-minute corrective time frames.

The proposed CME design does not account for changes in load. Constraints with 30-minute corrective time frames are constraints on which flows must be reduced to the post-contingency limit within 30 minutes. The estimation error from not accounting for load changes is not as large a concern for 30-minute corrective time frames as it is for longer corrective time frames.<sup>2</sup>

In the Draft Final Proposal the ISO proposed for the first time to apply the CME design to constraints with corrective time frames greater than 30 minutes and as long as 4 hours. CME is not designed to handle four hour corrective time frames. Load can change significantly over four hours.<sup>3</sup> Large changes in load would change flows on the corrective constraint. Not accounting for these flow changes means the incorrect amount of corrective capacity is likely to be procured. Either too much capacity will be procured and paid for, or too little capacity will be procured and the reliability needs would not be met by the CME design.

Unfortunately, there does not appear to be a simple design change that would allow the ISO to account for the change in load over multi-hour time periods. If the ISO alters the CME design to account for expected load changes up to four hours, this would fundamentally alter the nature of the corrective capacity product and design. Corrective capacity would not be the product described in the scope of the CME initiative or discussed throughout the CME stakeholder process.

The ISO released an addendum to the Draft Final Proposal in which the ISO explained that it would initially only implement CME constraints with 30-minute corrective time frames. Before implementing CME constraints on limits with corrective times greater than 30

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<sup>1</sup> *Comments on Contingency Modeling Enhancements Draft Final Proposal Draft Final Proposal Addendum*, Department of Market Monitoring, August 31, 2017. <http://www.caiso.com/Documents/DMMComments-ContingencyModelingEnhancementsDraftFinalProposal.pdf>

<sup>2</sup> Also, the corrective capacity for 30-minute constraints has to be deliverable within 20 minutes.

<sup>3</sup> Other factors not discussed here can also change significantly over four hours.

minutes the ISO now plans to “...provide a study and comment period through existing stakeholder forums.”<sup>4</sup>

The policy for modeling CME constraints with corrective time frames greater than 30 minutes is not complete. Key design elements are left to be developed after Board approval. As explained above, the potential choices for how to implement the corrective constraints with time frames greater than 30 minutes can significantly affect the efficacy of CME and fundamentally change the product from what is presented in the Draft Final Proposal. If not properly designed, expanding CME to constraints with corrective time periods beyond 30 minutes and up to four hours could have detrimental rather than positive impacts. Therefore, if the ISO seeks to expand the CME design to constraints with corrective time frames beyond 30 minutes, DMM recommends that the ISO work with stakeholders on developing an appropriate design for these constraints and seek Board and FERC approval of that design after the design is complete.

Management’s memo indicates that Management agrees with DMM’s recommendation on this issue and has removed the relatively late modification to implement the contingency modeling enhancements functionality for timeframes longer than 30 minutes from the proposal being presented to the Board.

DMM also continues to question the benefits of implementing CME relative to other initiatives and implementation needs. The ISO’s CME technical analysis does not show significant effects or benefits from implementing CME. Implementing the changes needed for corrective capacity settlements, CRR settlements, and market power mitigation procedures will require significant additional resources. The largest benefit seems to be that the ISO would fulfill its obligation to implement CME under its November 28, 2014 settlement agreement with FERC and NERC.<sup>5</sup>

The expected benefits from implementing CME in terms of reduced market costs are likely to be low relative to other market enhancements that will be delayed or canceled in order to complete the CME implementation. If the ISO believes implementing CME is the best way to fulfill its obligations under the FERC/NERC settlement, then implementing a completed CME design for the constraints with 30 minute corrective time frames listed in proposals prior to the Draft Final Proposal may be justified.

### **Consolidated energy imbalance market initiatives**

DMM supports Management’s consolidated energy imbalance market initiatives proposal. In this initiative, the ISO proposes to use the generic non-generator resource model in ways that extend beyond demand response and non-generator resources such as storage and distributed energy resources.

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<sup>4</sup> *Contingency Modeling Enhancements Draft Final Proposal Addendum* August 29, 2017 pp. 36:  
<http://www.caiso.com/Documents/AddendumDraftFinalProposal-ContingencyModelingEnhancements.pdf>

<sup>5</sup> IN14-10: <https://www.ferc.gov/enforcement/civil-penalties/actions/2014/IN14-10-000.pdf>

Under the current tariff, demand response and non-generator resources are not subject to local market power mitigation. DMM worked closely with the ISO to develop local market power mitigation rules which contemplate expanded uses of the generic non-generator resource model. These rules ensure that mitigation will generally be applied to resources using the generic non-generator resource model, while maintaining consistency with existing mitigation rules for demand response, storage, and other non-generator resources.