Comments on the Contingency Modeling Enhancements – Draft Final Proposal and Draft Final Proposal Addendum

Department of Market Monitoring
August 31, 2017

The California ISO Department of Market Monitoring (DMM) appreciates the opportunity to comment on the ISO's Contingency Modeling Enhancements Draft Final Proposal[1] and yesterday's Addendum.[2]

DMM has long supported the Contingency Modeling Enhancements (CME) design that has been discussed over the course of the stakeholder process. In theory, the CME design will allow the ISO to more efficiently manage post-contingency recovery requirements, price the reliability service, and compensate resources for providing the service. Given the series of significant changes to the ISO's policy in the week before the deadline for these comments, DMM is still considering whether or not it supports the ISO requesting the tariff authority to implement CME for system operating limits with greater than 30 minute corrective timeframes.

The ISO announced a very significant change to the CME design during the August 22, 2017 stakeholder meeting to discuss the Draft Final Proposal. The ISO explained that it planned on applying the CME design to a 4-hour corrective timeframe. The ISO also indicated that it would alter the design to somehow account for the potentially large changes in load and constraint flows that would occur in many 4-hour corrective timeframes.

In response to the change announced on the August 22 call, DMM pointed out that if the ISO alters the CME design to incorporate 4-hour corrective timeframes it would fundamentally alter the nature of the corrective capacity product. Corrective capacity would not be the product described in the scope of the CME initiative or discussed throughout the CME stakeholder process.

Just yesterday, the ISO announced the release of its Addendum to the Draft Final Proposal. In this Addendum, the ISO explained that in response to stakeholder comments on the August 22nd call, the ISO would not alter the design to account for the changes in load that would occur in 4-hour corrective timeframes. The Addendum also states that the ISO will provide a study and comment period through existing stakeholder forums prior to implementing CME for corrective timeframes in excess of the 30 minute period for which CME was designed.

[1] *Contingency ModelingEnhancements – Draft Final Proposal*, August 11, 2017: http://www.caiso.com/Documents/DraftFinalProposal-ContingencyModelingEnhancements.pdf.
[2] *Contingency ModelingEnhancements – Draft Final Proposal Addendum*, August 30, 2017: http://www.caiso.com/Documents/AddendumDraftFinalProposal-ContingencyModelingEnhancements.pdf.

Given this series of significant changes to the ISO's policy over the last week, DMM is still considering whether or not it supports the ISO requesting the tariff authority to implement CME for system operating limits with greater than 30 minute corrective timeframes. In its proposals prior to the Draft Final Proposal, the ISO clearly spelled out a specific limited list of constraints that would be modeled with corrective action.[3] The ISO has now stated that it is seeking the tariff authority to apply the CME design to any preventive-corrective constraint with a 4 hour or less corrective timeframe.

In a given market run, the ISO can only model a limited number of constraints with corrective action. For each corrective constraint the ISO models, the optimization's computional complexity grows highly non-linearly. The ISO will likely have to choose a limited set of constraints to model with corrective action.

When the ISO chooses to model longer corrective timeframes, it might affect the purpose and effectiveness of the CME design. The CME design released in the Addendum dated August 29 assumes that load does not change between base case and the end of the corrective timeframe.[4] But load can change significantly in four hours. Large changes in load would change flows on the corrective constraint. Not accounting for this change in flows means the incorrect amount of corrective capacity is likely to be procured. During four hour periods with large increases in load, this could undermine the purpose of modeling the constraint. During four hour periods with large decreases in load, this could significantly harm the efficiency of the CAISO schedules relative to not implementing the constraint at all.

Finally, DMM continues to question the cost vs benefits of CME relative to other higher value initiatives that are being deferred. The ISO's analysis does not show significant effects or benefits from implementing CME.[5] Implementing the changes needed to 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.[6] DMM does not think the expected benefits in terms of reduced market costs are a compelling case for moving forward with CME. 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 30 minute corrective timeframes may be justified.

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[3] See pp. 8, Table 1 of the *Contingency Modeling Enhancmetns Third Revised Straw Proposal* November 20, 2015: http://www.caiso.com/Documents/ThirdRevisedStrawProposal-ContingencyModelingEnhancements.pdf.

[4] See the capacity balance constraint $\sum_{i=1}^{n} \Delta P_i^{kc} = 0$ on pp. 33 of the Draft Final Proposal. ΔP_i^{kc} are corrective capacity awards which cannot be awarded to non-participating load, see pp.52 of the Proposal.

[5] At least on the 30-minute constraints studied. We do not know whether CME will bind, change commitments, or create benefits for the new expanded set of constraints that were not studied.

[6] IN14-10: https://www.ferc.gov/enforcement/civil-penalties/actions/2014/IN14-10-000.pdf