

# Memorandum

**To:** ISO Board of Governors  
**From:** Eric Hildebrandt, Executive Director, Market Monitoring  
**Date:** July 7, 2021  
**Re:** Department of Market Monitoring update

---

***This memorandum does not require Board action.***

## EXECUTIVE SUMMARY

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

- Hybrid resources
- Resource adequacy availability incentive mechanism (RAAIM) exemption option

DMM supports both of these proposals, which represent significant improvements in the current market design.

## HYBRID RESOURCES

DMM supports the ISO's proposal for the *Hybrid Resources Aggregate Capability Constraint (for Co-located Resources - Final Proposal)*. The proposal balances the benefits of ensuring that dispatch instructions to hybrid resources are within private contractual limitations with the need to ensure that physical transmission system and equipment limits are also enforced. The proposal balances these in a way that protects reliability and is designed to allow efficient use of available interconnection and resource capacity during tight system conditions.

The ISO's proposal is based on available capacity constraints to be incorporated in the market model.<sup>1</sup> Subordinate available capacity constraints would reflect contractual shares of interconnection rights allocated to different project off-takers behind the same point of interconnection. The total of the limits of all subordinate available capacity constraints behind a given point of interconnection would equal the interconnection rights limit, which will be represented by the master available capacity constraints.

---

<sup>1</sup> <http://www.caiso.com/Documents/DMM-Comments-on-Hybrid-Resources-Aggregate-Capability-Constraint-for-Co-Located-Resources-Final-Proposal-Jun-15-2021.pdf>

The ISO has clarified that the master available capacity constraint would not be subject to relaxation by the market optimization, and could only be relaxed if the ISO determines it is infeasible to enforce this constraint in the market model in emergency conditions. However, subordinate available capacity constraints would be modeled using a penalty parameter just below that of the power balance constraint. This would allow for relaxation of subordinate available capacity constraints under tight supply conditions, before relaxation of the power balance constraint.

DMM supports the ISO's proposal to allow relaxation of subordinate available capacity constraints before relaxation of the power balance constraint. This would allow maximum use of co-located resources and interconnection capacity under tight supply conditions, when this capacity is needed to achieve power balance.

DMM understands that parties may have entered contractual arrangements to prevent one off-taker from utilizing more than its allotted share of the total interconnection limit and preventing other off-takers from accessing their full share of the interconnection limit. As DMM understands, the ISO's proposal to allow relaxation of subordinate available capacity constraints would not threaten parties' access to contractually allocated shares of interconnection rights. Further, DMM understands that the amount of the relaxation of a subordinate available capacity constraint should not exceed the amount by which other co-located resources at the same point of interconnection are unable to produce output up to their respective subordinate available capacity constraint limits.

Thus, when all co-located resources behind a point of interconnection are physically available and have economic bids up to the limit of the applicable subordinate available capacity constraint, other subordinate available capacity constraints will not be relaxed when the penalty parameter is above the bid cap and near the power balance penalty parameter as described. A subordinate available capacity constraint could only be relaxed when needed to achieve power balance, and the capacity of another set of co-located resources behind the same point of interconnection is not physically available or does not have economic bids up to the limit of its subordinate available capacity constraint.

This approach maximizes efficient use of interconnection and generation capacity that may otherwise go unused during periods of tight supply, and may minimize total cost by preventing relaxation of the power balance constraint. The approach further ensures that the market dispatches of any set of co-located resources do not prevent other co-located resources behind the same point of interconnection from producing the full amount for which they have submitted economic bids and are physically capable, up to their subordinate available capacity constraint limit.

### **RESOURCE ADEQUACY AVAILABILITY INCENTIVE MECHANISM (RAAIM) EXEMPTION OPTION**

DMM supports the ISO's *RAAIM Exemption Options for Demand Response – Revised Final Proposal*. The proposal will exempt a variable-output demand response resource from the resource adequacy availability incentive mechanism penalty if the resource uses an effective load carrying capability, or similar, counting methodology to determine its resource

adequacy qualifying capacity. The proposal also clarifies that resources utilizing this option will meet their must offer obligations by bidding their forecasted availability into ISO markets.

Compared to traditional load impact protocol evaluations, these counting methodologies may be more accurate in counting many variable-output demand response resources' ability to contribute to meeting the grid's reliability needs. However, the forecasted availability of a variable-output demand response resource could still frequently differ from the static qualifying capacity value determined by these more accurate accounting methodologies.

Effective load carrying capability or similar counting methodologies explicitly consider the resource's variability when determining its qualifying capacity. If a demand response resource chooses this counting method, exposing it to the resource adequacy availability incentive mechanism penalty would effectively penalize the resource twice for its variability and could discourage the resource owner from choosing the more accurate counting methodology.

As a result, the ISO's proposal should facilitate variable-output demand response resources switching to these alternative counting methodologies. DMM supports the ISO's proposed tariff changes as significant improvements to ISO rules that should reduce barriers to variable-output demand response resources utilizing potentially more accurate methods for counting their qualifying resource adequacy capacity.