

Comments on WEIM Resource Sufficiency Evaluation Enhancements Phase 2 Revised Final Proposal

Department of Market Monitoring

November 16, 2022

Summary

The Department of Market Monitoring (DMM) appreciates the opportunity to comment on the *WEIM Resource Sufficiency Evaluation Enhancements Phase 2 – Revised Final Proposal*.¹

The revised energy assistance approach in the Revised Final Proposal seems to be a reasonable compromise that could encourage a large portion of WEIM balancing areas to participate in this option. Under the proposal, when an area opting into the energy assistance program fails a test, the penalty payments will be based on the lower of (1) the amount by which the area failed the capacity or flexibility test, or (2) dynamic WEIM transfers made into the area. With this approach, the total cost of the penalty is scaled much more closely with the degree to which areas may be relying on the WEIM when failing the test. While further refinements to this approach may be developed, the relative simplicity of the proposal will allow implementation of this option by summer 2023.

DMM is conducting analysis to estimate the cost impacts of the Revised Final Proposal's energy assistance program on each WEIM balancing area, and plans to publish that analysis when it is completed. DMM expects the cost impacts of the Revised Final Proposal to be significantly less than the impacts of the ISO's prior energy assistance proposal.

DMM also supports the proposal to exclude low priority exports from the CAISO balancing area from the CAISO area's test requirements. However, DMM recommends the ISO work on further enhancements in the next phase of the initiative in order to eliminate inconsistencies between exports that do not count as requirements in the CAISO area's tests but that can count as supply in the importing area's tests in tight conditions when CAISO may not deliver the exports.

Finally, DMM expects that even with more testing, the quantile regression method that will be used to calculate the uncertainty adder included in the tests will fluctuate significantly interval by interval, making it difficult for balancing areas to reproduce or predict in advance.

Therefore, DMM continues to recommend that the ISO and stakeholders consider developing much simpler and more transparent uncertainty adders in the next phase of this initiative.

¹ *WEIM Resource Sufficiency Evaluation Enhancements Phase 2 – Revised Final Proposal*, California ISO, November 7, 2022.

<http://www.caiso.com/InitiativeDocuments/RevisedFinalProposal-WEIMResourceSufficiencyEvaluationEnhancementsPhase2.pdf>

Comments

Energy assistance and consequences of failing resource sufficiency evaluation

As described in the Revised Final Proposal, the ISO proposes to add an energy assistance program to its existing resource sufficiency evaluation design. Each WEIM balancing area will be able to choose whether or not it elects to receive energy assistance.

If an area elects to be eligible for energy assistance, the proposal will change the consequences of that area failing a sufficiency test. Instead of limiting import transfers to the previous interval's transfer level, an area failing the test could receive the transfers needed to meet load. However, instead of paying the locational marginal price for all transfers, an area failing the test would pay an additional out-of-market energy assistance penalty cost for some of the transfers.

The penalty cost will be set at the CAISO/WEIM penalty price (\$1,000 or \$2,000/MWh). The quantity of transfers into an area paying the energy assistance penalty cost would be the lesser of (1) the amount by which the area failed an upward WEIM capacity or flexibility RSE test, or (2) dynamic WEIM transfers into the area. The ISO is not proposing to change existing sufficiency test failure consequences for balancing areas that do not elect energy assistance eligibility.

In a prior proposal, the ISO had proposed applying the energy assistance penalty cost to all of a failing balancing area's real-time imbalance energy when that area had any WEIM transfers into its area. DMM's analysis of this prior proposal showed that applying the energy assistance penalty to all real-time imbalance energy could significantly raise real-time market costs for balancing areas failing the sufficiency tests.²

DMM is conducting analysis to estimate the cost impacts of the Revised Final Proposal's energy assistance program on WEIM balancing areas, and plans to publish that analysis when it is completed. DMM expects the cost impacts of the Revised Final Proposal to be significantly less than the impacts of the ISO's prior energy assistance proposal.

Moreover, the Revised Final Proposal seems to be a reasonable compromise that helps to limit large penalty payments to the amount of capacity that the failing balancing area had never made available to the WEIM's multi-interval optimization. As a result, assuming some WEIM balancing areas would choose to opt into receiving energy assistance, DMM supports the current energy assistance proposal.

DMM continues to recommend that in the next phase of this initiative, the ISO and stakeholders consider further refinements to the consequences a balancing area faces when it

² *Supplemental Comments on WEIM Resource Sufficiency Evaluation Enhancements, Phase 2 – Revised Draft Final Proposal*, Department of Market Monitoring, September 27, 2022, pp. 2-6:
<https://www.caiso.com/Documents/DMM-Comments-WEIM-Resource-Sufficiency-Evaluation-Enhancements-Phase2-Draft-Final-Proposal-Sep-27-2022.pdf>

fails a sufficiency test.³ For balancing areas that elect to not opt into the energy assistance program, the consequence of only limiting WEIM import transfers at the last interval's transfer level can be too lenient. In some situations, the transfer limitation could allow the failing area to have access to more capacity than the failing area had ever made available to the multi-interval optimization, without requiring compensation on the same order of magnitude as a capacity payment. In the next phase of this initiative, the ISO should continue to refine the failure consequences for areas that elect to not opt into the energy assistance program.

Treatment of low priority exports in resource sufficiency evaluations

The ISO also proposes to change how the resource sufficiency evaluation treats low priority exports scheduled out of the CAISO balancing area over its interties. Currently, any such low priority export that ends up receiving a schedule in the hour-ahead market is included in the requirements that must be met by CAISO balancing area capacity in both the flexibility and capacity tests. The ISO proposes that low priority exports will only be included in the CAISO balancing area's test requirements if the export has first received an award in the CAISO's day-ahead residual unit commitment process, and then proceeds to receive an hour-ahead market schedule.

This change is an improvement to the CAISO balancing area's current sufficiency test requirements. The ISO has clarified that the CAISO balancing area would curtail any low priority exports with hour-ahead market awards within the hour when the CAISO balancing area does not have enough resources to meet its load and reserve obligations.⁴ Therefore, the CAISO balancing area could potentially justify not including any low priority exports in its resource sufficiency test requirements.

However, in situations when the CAISO balancing area will not curtail an export, it would be extremely inefficient to not allow other WEIM balancing areas to count export schedules out of CAISO towards meeting their resource sufficiency evaluation obligations. Furthermore, inconsistencies between how these exports are included as obligations for the CAISO balancing area and as supply for the receiving WEIM balancing areas create clear inaccuracies in the test accounting that could ultimately allow a receiving WEIM balancing area to "lean" on other WEIM areas—i.e. to utilize capacity from other WEIM areas in excess of what the receiving area had ever made available to the market.

The proposed change to the treatment of low priority exports out of CAISO is a reasonable interim compromise between (1) placing excessive requirements on the CAISO balancing area for exports it ultimately would not deliver in a reliability emergency and (2) not allowing other

³ DMM's *September 27 Supplemental Comments on Resource Sufficiency Evaluation Enhancements, Revised Draft Final Proposal*, p. 1 and p. 7.

⁴ California ISO's *November 7 Revised Final Proposal*, p. 18.

WEIM areas to count as capacity the exports that CAISO would always deliver in non-reliability emergency situations.

CAISO balancing area operators utilize adjustments to the residual unit commitment market load forecasts to help limit exports that receive awards in that market to only those exports that operators expect to ultimately be able to deliver in real-time. Not allowing the receiving WEIM balancing areas to count these exports from CAISO as supply in their resource sufficiency evaluations would force the receiving WEIM balancing areas to procure other supply instead. This could result in significant inefficiencies when power from CAISO is less expensive than the alternatives. Therefore, we support counting exports that receive residual unit commitment awards as part of the sufficiency test requirements for the CAISO balancing area and as supply to meet the test requirements of receiving balancing areas, assuming they receive awards in the subsequent hour-ahead market.

Exports out of CAISO that ultimately do not receive awards in the hour-ahead market are not counted as part of CAISO's sufficiency test requirements. Similarly, since CAISO will not deliver this power, WEIM balancing areas that had tried to schedule an export that did not receive an hour-ahead market award cannot include these exports as part of their base schedules, and so they will not count as supply in their sufficiency tests. Therefore, the only source of inconsistency between exports out of CAISO not counted as requirements in CAISO's tests but counted as supply in receiving WEIM balancing area's tests will be low priority exports that did not receive residual unit commitment awards but subsequently self-scheduled out of CAISO in the hour-ahead market.

CAISO operators have the ability to conform the hour-ahead market load in order to help limit these exports to power that CAISO expects to deliver except in only rare reliability emergency situations. As the CAISO balancing area will cut these exports before other exports and its own load when an unexpected contingency occurs after the hour ahead market run, it is reasonable for the CAISO balancing area to not count these exports as requirements in its sufficiency tests. However, the inconsistency that arises from allowing the receiving WEIM balancing areas to count these exports as supply in their tests is problematic. DMM continues to recommend that in the next phase of this initiative, the ISO develop policy that would not allow the receiving balancing area to count these exports as supply in their tests during tight system conditions when CAISO is at risk of not delivering the exports, such as during an EEA event.⁵

Incorporating uncertainty adder into test requirement

The resource sufficiency evaluation was adopted at the beginning of the WEIM as an incentive for balancing areas to make sufficient capacity available to meet their loads and to deter

⁵ *WEIM Resource Sufficiency Evaluation Enhancements Phase 2 Revised Draft Final Proposal*, Department of Market Monitoring, September 16, 2022, p. 3:
<https://www.caiso.com/Documents/DMM-Comments-WEIM-Resource-Sufficiency-Evaluation-Enhancements-Phase2-Draft-Final-Proposal-Sep-16-2022.pdf>

“leaning” on other balancing areas to meet reliability needs – while still allowing economic transfers between areas. Including an adder for uncertainty about load and resource availability in the evaluation requirements would make each balancing area’s total requirement greater than each area’s expected net load. While incorporating some level of uncertainty into the test is reasonable, there is not an objectively correct answer to what this uncertainty adder should be.

On the one hand, increasing the test requirements by adding uncertainty adders will create more incentives for WEIM areas to procure more capacity in advance of the real-time market and will reduce the potential for one area to “lean” on another – i.e. to utilize more capacity than the receiving area had ever made available to the WEIM multi-interval optimization. On the other hand, it would be prohibitively expensive to adopt test requirements designed to ensure that each balancing area can meet its full imbalance requirements 100 percent of the time with just the resources made available to the real-time market in that area.

Therefore, the question of how to set an uncertainty adder used in the resource sufficiency test is a policy question that can only be answered through debate and consensus amongst the balancing areas participating in the WEIM. There could be significant value in developing an uncertainty adder that has general consensus amongst WEIM balancing areas.

DMM understands that the ISO and many stakeholders believe the quantile regression methodology the ISO is developing requires further assessment before being implemented in the sufficiency tests. Even with more development, DMM expects the quantile regression adder to fluctuate significantly interval by interval, making it very difficult for balancing areas to reproduce or predict in advance. Therefore, DMM continues to recommend that the ISO and stakeholders consider developing much simpler and more transparent uncertainty adders in the next phase of this initiative.⁶

⁶ DMM’s *September 16 Comments on Resource Sufficiency Evaluation Enhancements, Revised Draft Final Proposal*, pp. 1-2.