

# WEIM Resource Sufficiency Evaluation Enhancements Phase 2 Straw Proposal

## Department of Market Monitoring

July 28, 2022

### Comments

The Department of Market Monitoring (DMM) appreciates the opportunity to comment on the *WEIM Resource Sufficiency Evaluation Enhancements Phase 2 Straw Proposal*.<sup>1</sup>

#### ***Use of uncertainty in the resource sufficiency evaluation tests***

The resource sufficiency evaluation (RSE) was adopted at the beginning of the energy imbalance market as an incentive for balancing areas to make sufficient capacity available to meet their loads and to deter “leaning” on other balancing areas to meet reliability needs – while still allowing economic transfers between areas. Including an adder for load and resource availability uncertainty 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 requirement uncertainty adders will create more incentives for EIM areas to procure more capacity in advance of the real-time market and will reduce the potential for “leaning”. On the other hand, it would be prohibitively expensive to meet requirements and resource-specific counting methodologies that would ensure each balancing area would be able to meet its full imbalance requirements 100 percent of the time with just the resources it made available to the real-time market.

Therefore, the question of how to define an adder onto the resource sufficiency test requirements to account for load and resource availability uncertainty is a policy question that can only be answered through debate and consensus amongst the balancing areas participating in the WEIM. While DMM is not recommending a specific method or target uncertainty adder level, DMM believes there may be value in considering much simpler and more transparent uncertainty adders.

If there is consensus that each area should have sufficient capacity to meet its net load 97.5% of the time or more, then utilizing a sophisticated and opaque method such as quantile regression to determine each balancing area’s capacity requirements each hour seems appropriate. However, the 97.5% threshold appears to simply be a relic of the original flexible ramping product design. It does not appear to be based on any reliability standards or analysis.

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<sup>1</sup> *WEIM Resource Sufficiency Evaluation Enhancements Phase 2 Straw Proposal*, California ISO, July 1, 2022: <http://www.caiso.com/InitiativeDocuments/StrawProposal-WEIMResourceSufficiencyEvaluationEnhancementsPhase2.pdf>

The 97.5% threshold also does not appear to be indicative of an area meeting its reliability needs and therefore not relying on leaning on other WEIM areas for capacity. In particular, if a balancing area only has sufficient capacity to meet its net load in 97.5% of intervals, that area should expect to rely on reserves or energy assistance to meet its energy needs for more than half an hour each day.<sup>2</sup>

If the 97.5% threshold is not actually a meaningful uncertainty target, stakeholders may want to consider a more straightforward uncertainty adder. This is because the uncertainty adder produced by the quantile regression method is likely to fluctuate significantly interval by interval and could be very difficult for balancing areas to reproduce or predict in advance. A simpler adder, such as a fixed percentage of each interval's net load, could result in much more transparent and easily predictable RSE test requirements, as well as significantly smoother transitions between RSE test requirements throughout the day. A simple percentage of load adder, such as a planning reserve margin, has a long history of being successfully utilized in the electricity industry for setting standards for forward procurement of capacity to meet uncertainty needs. It could be worth considering for the WEIM (and EDAM) as well.

### ***Treatment of low priority exports in resource sufficiency evaluations***

The ISO proposes to reduce the amount of low priority (LPT) exports counted in the CAISO balancing area's RSE requirements so that these low priority exports cannot cause the CAISO balancing area to fail the RSE. In particular, the RSE would reduce LPT exports *pro rata* (in the tests accounting only) until the CAISO balancing area has sufficient capacity to meet its RSE obligations and the remaining LPT exports. The RSE would also reduce the LPT exports counted as supply in other WEIM areas' tests. By reducing the LPT exports only by the amount the CAISO needed to pass the RSE each interval, the proposal keeps the LPT exports from causing the CAISO to fail the RSE while maximizing the amount of LPT exports that other WEIM areas can use to meet their RSE requirements.

This proposal seems reasonable if the CAISO balancing area will actually cut low priority exports that received HASP awards before cutting CAISO native load. The tariff clearly gives CAISO the authority to cut low priority exports with HASP awards before native load. The tariff revisions effectuating the market enhancements for summer 2021 policy pertaining to export and load prioritization also clearly indicates that all real-time markets, including post-HASP markets such as RTPD and RTD, will prioritize load over low priority exports with HASP awards.<sup>3</sup>

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<sup>2</sup>2.5% of 24 hours in a day is 0.6 hours per day.

<sup>3</sup> See *Compliance Filing – Market Enhancements for Summer 2021, Load, Export, and Wheeling Through Priorities*, CAISO, FERC Docket No. ER21-1790, July 26, 2021, pp. 2-6; and Tariff section 34.12.1 – Increasing supply

However, it is not clear how the ISO will implement these prioritizations in the market software and in its operating procedures. The business practice manual for market operations includes an extra penalty price for tagged exports that give exports that have cleared HASP and been tagged a higher priority than native load in the post-HASP real-time market runs.<sup>4</sup> CAISO's operating procedure 4420 on system emergency actions describes arming available firm load to count toward the CAISO BA's contingency reserve requirements in emergency situations. DMM has not found evidence in these documents that CAISO operators would arm low priority exports to cut before native load during emergencies.

DMM appreciates that the ISO now proposes to have RTPD advisory intervals return a list of low priority exports for operators to cut before CAISO balancing area native load in emergencies. DMM's reading of the tariff indicates that this should already be the CAISO balancing area and market optimization's current practice. DMM therefore requests that CAISO clarify how the balancing area will effectuate in practice cutting low priority exports before native load as part of its current proposal for reducing the extent to which low priority exports out of CAISO get counted in the RSE tests.

***Energy Assistance through WEIM appears workable and reasonable if there is stakeholder consensus for changing the consequences of RSE test failure***

Freezing transfers to a balancing area that is short on capacity and taking emergency action could be detrimental to western reliability when other balancing areas have excess capacity to trade. Therefore, DMM continues to support the ISO and stakeholders considering alternative design options for consequences of failing the capacity or flexibility tests.

The resource sufficiency evaluation was adopted at the beginning of the energy imbalance market as an incentive for balancing areas to make sufficient capacity available to meet their loads and to deter "leaning" on other areas to meet reliability needs – while still allowing economic transfers between areas. Changes to the failure consequences ultimately involve important policy decisions about the trade-off between these two goals, and should be decided through debate and consensus amongst the balancing areas participating in the WEIM.

DMM believes the framework of the ISO's WEIM energy assistance proposal appears to be a workable design that strikes a reasonable balance between allowing areas with excess capacity to provide it to areas in need of assistance – while creating disincentives for an area to lean on others for capacity.

A critical element of this design is the effectiveness of the existing constraint to prevent WEIM transfers out of a balancing area if that would entail the exporting area violating its power balance constraint or utilizing available balancing capacity. DMM supports robust protections to prevent WEIM areas from providing energy assistance that may risk the export transfer

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<sup>4</sup> BPM for Market Operations v82\_clean, p. 251.

area's own reliability. If the overall WEIM is short on energy, the areas that are short on capacity should not be able to receive transfers that could jeopardize the reliability of areas that had sufficient capacity. Furthermore, a design that ensures that any overall WEIM energy shortfall is borne by areas that fail the RSE tests is critical for incentivizing each balancing area to procure sufficient capacity ahead of the WEIM resource sufficiency test time frame.

***Stakeholders may want to consider adding a form of capacity payment for WEIM energy assistance.***

To further incentivize balancing areas to procure capacity before the WEIM RSE tests, some form of capacity payment might be appropriate as part of the WEIM energy assistance settlement. For example, WEIM could charge an area the capacity procurement mechanism (CPM) soft offer cap price per kilowatt-month for the maximum assistance megawatts a balancing area uses over a month in addition to the hurdle rate for each megawatt hour of energy assistance. Another option could be settling the higher of the monthly capacity price and the monthly assistance megawatt hours times the hurdle rate.

***DMM would report needed information on the use of WEIM energy assistance.***

DMM would report on WEIM energy assistance performance if implemented. This reporting would include balancing areas triggering the energy assistance, the transfer values, and the hours and intervals of energy assistance use as outlined in the workshop.