

# Supplemental Comments on WEIM Resource Sufficiency Evaluation Enhancements

## Phase 2 Revised Draft Final Proposal

Department of Market Monitoring

September 27, 2022

### Summary

The Department of Market Monitoring (DMM) is submitting supplemental comments on the California ISO's *WEIM Resource Sufficiency Evaluation Enhancements Phase 2 Revised Draft final Proposal*.<sup>1</sup> DMM has updated its views on the proposal based on issues raised and discussed at the September 19, 2022 Market Surveillance Committee (MSC) meeting.

The ISO proposes to apply the energy assistance penalty costs (which the proposal refers to as the "incremental transfer costs") to all of the BAA's real-time market imbalance transactions. These real-time transactions include three components: (1) the BAA's transactions in the 15-minute market aside from WEIM transfers; (2) transfers through the WEIM up to the level at which the receiving BAA's transfers are capped during intervals after failing the test; and (3) incremental transfers above this cap that can occur for BAAs opting into the energy assistance program.

DMM has conducted analysis to help assess the implications of applying the energy assistance penalty cost to all real-time market imbalance transactions, rather than just to the incremental energy transfers needed to cure a resource insufficiency. As shown by this analysis, applying the energy assistance penalty to all real-time imbalance energy could significantly raise real-time market costs for BAAs failing the RSE tests. The impact could be particularly large for the CAISO BAA. This analysis also shows that during many of the intervals when BAAs have failed the test, no additional transfers into those BAAs from the WEIM would have occurred as a result of their participation in the energy assistance program.

As a result of this analysis, DMM suggests that the ISO and WEIM BAAs may want to consider alternative approaches that would apply the energy assistance penalty only to WEIM transfers (i.e. excluding real-time imports outside of the WEIM), or only to the incremental WEIM transfers needed to cure resource insufficiency.

Regardless of the final design in this phase of the initiative, DMM recommends that the ISO carefully stakeholder and clarify the process and criteria that would be used to determine whether the CAISO BAA would opt into utilizing the energy assistance program. Finally, DMM recognizes that for BAAs that do not elect to utilize energy assistance, the current failure consequence to cap WEIM imports at the level occurring at the last passed interval may not result in a significant deterrent to inappropriate leaning. Therefore, DMM recommends that

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<sup>1</sup> California ISO, *EIM Resource Sufficiency Evaluation Enhancements Phase 2 Draft Final Proposal*, September 6, 2022: <http://www.caiso.com/InitiativeDocuments/RevisedDraftFinalProposal-WEIMResourceSufficiencyEvaluationEnhancementsPhase2.pdf>

the ISO and stakeholders further reconsider the consequences of test failures for BAAs that elect to not utilize the energy assistance program.

DMM understands that some BAAs may view the currently proposed energy assistance program as an important WEIM improvement to have implemented by summer of 2023. Therefore, DMM is not suggesting that the above recommendations should prevent the energy assistance proposal from proceeding on its current timeline. In order to proceed with getting energy assistance implemented for BAAs that want it by next summer, the default election for the CAISO BAA should be to not utilize the energy assistance until a subsequent stakeholder process evaluates the appropriateness of its use for the CAISO BAA. Similarly, enhancements to the failure consequences for BAAs not electing to utilize energy assistance could be developed in a third phase of this initiative.

## Supplemental Comments

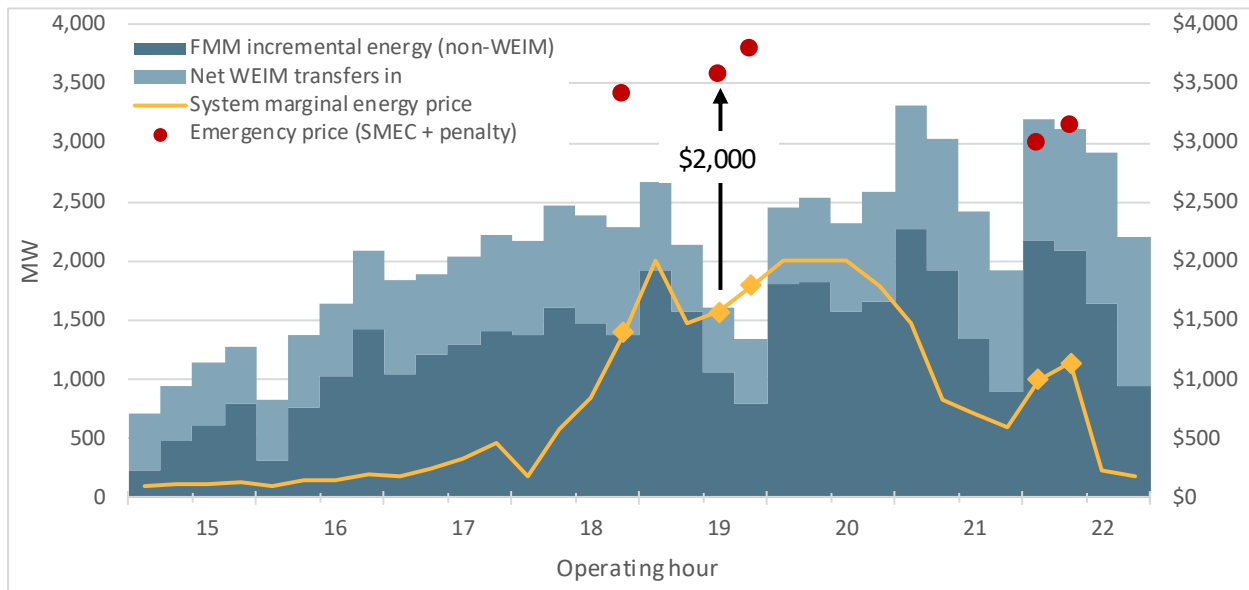
### ***Applying the energy assistance penalty to all incremental fifteen-minute transactions has very large cost implications.***

The ISO proposes to apply the energy assistance penalty to the price of all real-time market imbalance transactions of the receiving BAA. Two alternative designs could be to apply the penalty only to (1) WEIM transfers (i.e. excluding real-time imports outside of the WEIM), or (2) the incremental WEIM transfers needed to cure resource insufficiency.

DMM has conducted analysis to help different balancing areas assess the implications of these different design options. For this analysis, DMM performed a back cast of what the costs and potential impacts of the energy assistance program *would* have been during the two-week period from September 1 to 14, 2022. This analysis quantified these costs under the proposed design, as well as the alternative design options in which the penalty would not be applied to all real-time market imbalance transactions of the receiving BAA.

Figure 1 helps illustrate these different design options and the methodology used in this analysis, using results for the California ISO balancing area for September 5, 2022. On this day, the CAISO BAA failed the resource sufficiency evaluation during five 15-minute intervals. The red dots in Figure 1 show what the total price paid to suppliers of incremental real-time energy would have been during these five 15-minute intervals under the ISO's proposal. As shown in Figure 1, the price in these intervals would equal the real-time energy price (shown by the yellow line) plus the \$2,000/MWh energy assistance penalty during hours when an area fails the capacity test.

**Figure 1. CAISO area real-time energy volumes and prices (September 5, 2022)**



The light blue bars in Figure 1 show the volume of net transfers into the CAISO balancing area made in the WEIM. The darker blue bars show the volume of incremental energy paid in the 15-minute market (FMM) from non-WEIM sources, which includes additional imports and resources within the CAISO balancing area. Under the proposal, the real-time energy represented by both the light and dark blue bars would be paid at the energy assistance price (system marginal energy price plus energy assistance penalty).

Table 1 provides summary results of this analysis by balancing area for the two-week period from September 1 to 14, 2022. As shown in Table 1, this analysis shows that relative to other design options, applying the incremental transfer cost to all real-time imbalance energy (rather than only to WEIM transfers) would significantly raise real-time market costs for BAAs failing the RSE tests. The impact could be particularly large for the CAISO BAA. DMM also notes that during this period there were errors in the tests, which if corrected, would have resulted in additional failures that are not accounted for in this analysis.<sup>2</sup> In other balancing areas, most of the payments for real-time energy in the 15-minute market (excluding WEIM transfers) would be made to a single integrated utility, which owns most of the supply and serves as the main load serving entity in each of the other WEIM areas.

<sup>2</sup> DMM’s August RSE report describes one such issue in which battery capacity counted in the test exceeded actual availability. Additional information on the accuracy errors in the test will be provided in the upcoming September report. See Department of Market Monitoring, *WEIM Resource Sufficiency Evaluation Metrics Report Covering August 2022*, September 20, 2022: <http://www.caiso.com/Documents/Aug-2022-Metrics-Report-on-Resource-Sufficiency-Evaluation-in-WEIM-Sep-20-2022.pdf>

**Table 1. Estimated impacts of energy assistance proposal by balancing area  
September 1-14, 2022**

BAA	FMM interval failures	15-minute market				WEIM Transfers		Total penalty amount
		MWh FMM	MWh WEIM	FMM MWh x SMEC	FMM penalty amount	WEIM MWh x SMEC	WEIM penalty amount	
BANC	9	10,214	128	\$12,091,897	\$20,427,980	\$67,030	\$256,520	\$20,684,500
BCHA	3	1,052	184	\$111,764	\$1,052,360	\$19,634	\$183,500	\$1,235,860
BPAT	9	17,045	16	\$13,866,554	\$34,089,880	\$9,376	\$31,675	\$34,121,555
CISO	15	18,578	11753	\$28,149,086	\$37,156,980	\$18,382,588	\$23,506,460	\$60,663,440
IPCO	13	16,458	92	\$25,965,164	\$32,915,460	\$96,968	\$183,560	\$33,099,020
LADWP	2	1,592	0	\$3,072,051	\$3,183,720	\$0	\$0	\$3,183,720
NEVP	2	1,383	0	\$146,574	\$1,383,300	\$0	\$0	\$1,383,300
NWMT	5	5,464	17	\$6,481,098	\$10,927,460	\$22,585	\$33,035	\$10,960,495
PACE	2	2,441	0	\$4,341,886	\$4,881,100	\$0	\$0	\$4,881,100
PACW	3	4,922	5	\$6,271,357	\$9,844,660	\$3,788	\$9,085	\$9,853,745
PNM	1	1,320	0	\$2,297,003	\$2,639,960	\$0	\$0	\$2,639,960
PSEI	9	14,412	13	\$23,047,162	\$27,025,790	\$24,653	\$25,015	\$27,050,805
SCL	9	10,372	2	\$1,419,803	\$20,744,400	\$304	\$3,980	\$20,748,380
SRP	17	19,561	296	\$18,776,284	\$36,839,120	\$121,125	\$572,350	\$37,411,470
TEPC	7	5,218	63	\$4,195,006	\$7,735,880	\$6,575	\$62,810	\$7,798,690
TIDC	3	4,903	0	\$7,140,697	\$9,806,900	\$0	\$0	\$9,806,900
TPWR	1	1,410	18	\$224,056	\$2,820,620	\$2,854	\$35,925	\$2,856,545

***In practice, the energy assistance proposal may result in very limited amounts of additional WEIM energy transfers into BAAs failing the resource sufficiency evaluations.***

Currently, when a BAA fails the RSE, imports from other areas through the WEIM are capped at the level of imports from the WEIM that occurred during the last interval (or the base WEIM transfer if greater). However, as shown in DMM’s monthly reports on the resource sufficiency test, this cap is often not binding in the 5-minute market and can have little or no impact on limiting imports from the WEIM when BAAs have failed the test.<sup>3</sup> The energy assistance proposal does not modify these current rules for BAAs that do not opt to participate in the energy assistance program.

DMM has also used data from September 1 to 14 to analyze the degree to which imports from the WEIM may have increased if each BAA had been participating in the energy assistance program. Figure 2 provides an example of this analysis, using data for the CAISO area on September 6, 2022. On this day, the CAISO BAA failed the test in two 15-minute intervals so that the net WEIM import limit for the CAISO BAA was capped (as shown by yellow lines). However, net WEIM imports in the 5-minute market were lower than this cap during both of

<sup>3</sup> For example, see Figure 6.54 (p.18) in DMM’s *Western Energy Imbalance Market Resource Sufficiency Evaluation Metrics Report covering August 2022*, September 20, 2022.

<http://www.caiso.com/Documents/Aug-2022-Metrics-Report-on-Resource-Sufficiency-Evaluation-in-WEIM-Sep-20-2022.pdf>

these 15-minute intervals. This indicates that imports from the WEIM would not have increased if the CAISO had been participating in the energy assistance program during these intervals. However, as illustrated in the prior section of these comments, prices paid for all incremental real time energy dispatched in the CAISO BAA during these intervals would have been increased by the \$2,000/MWh penalty.

**Figure 2. Net WEIM imports in 5-minute market are often less than import limit imposed due to failure of RSE (CAISO, September 6, 2022)**

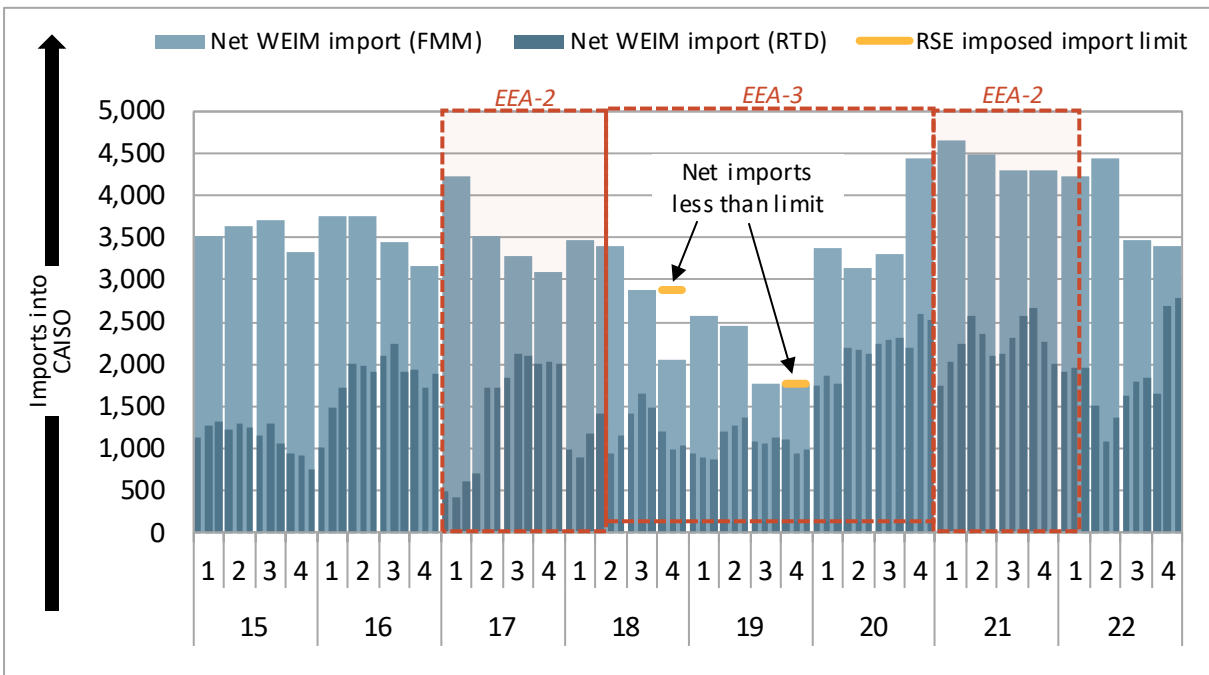


Table 2 shows summary results of this analysis for all WEIM areas for the two-week period from September 1 to 14, 2022. This analysis also shows that during many of the intervals when BAAs failed the test, no additional transfers into those BAAs from the WEIM would have occurred through participation in the energy assistance program.

Table 2 also shows the portion of intervals when this cap was binding in each BAA, so that additional energy transfers from the WEIM may have occurred if the area was participating in the energy assistance program. Table 2 provides the average volume of imports occurring during the intervals when the cap was imposed due to failure of the RSE. The degree to which additional transfers into those BAAs from the WEIM may have occurred in these intervals would require additional analysis.

**Table 2. WEIM imports and limits imposed due to failure of RSE by balancing area  
September 1-14, 2022**

BAA	Resource Sufficiency Evaluation failures	Market transfers below the imposed import limit			Market transfers at the imposed import limit		
		Percent of RTD failure intervals	Average RTD dynamic import limit	Average RTD dynamic net WEIM import	Percent of RTD failure intervals	Average RTD dynamic import limit	Average RTD dynamic net WEIM import
BANC	9	41%	84	56	59%	65	65
BCHA	3	0%	—	—	100%	250	250
BPAT	9	7%	24	-65	93%	10	10
CISO	15	100%	3,262	1,630	0%	—	—
IPCO	13	10%	498	47	90%	24	24
LADWP	2	100%	0	-59	0%	—	—
NEVP	2	100%	0	-189	0%	—	—
NWMT	5	27%	27	-67	73%	29	29
PACE	2	33%	0	-69	67%	186	186
PACW	3	33%	0	-260	67%	1	1
PNM	1	100%	0	-153	0%	—	—
PSEI	9	37%	17	-26	63%	10	10
SCL	9	100%	26	-7	0%	—	—
SRP	17	35%	39	-91	65%	173	173
TEPC	7	52%	8	-66	48%	15	15
TIDC	3	89%	2	-20	11%	0	0
TPWR	1	0%	—	—	100%	72	72

Emergency program would not have resulted in additional imports. No impact.

Emergency program may have resulted in additional imports. Potential impact.

As shown in Table 2, the CAISO area imported an average of 1,630 MW from the WEIM during the forty-five 5-minute intervals during which imports were capped due to RSE failures during this period. However, the cap was never binding in the 5-minute market. As explained above, this indicates that no additional transfers into the CAISO area from the WEIM would have occurred if the CAISO had been participating in the energy assistance program.

These findings reflect the fact that WEIM transfers into the CAISO BAA are almost always significantly higher in the 15-minute market than the 5-minute market, as illustrated in Figure 1. This trend results from the high level of load bias that CAISO BAA operators routinely apply in the hour-ahead and 15-minute markets. This load bias increases supply scheduled in the 15-minute market through the WEIM, as well as through the CAISO BAA’s scheduling process for non-WEIM imports and resources within the CAISO BAA. Since demand (due mainly to the lower load bias) is then much lower in the 5-minute market, the actual amount of energy dispatched from all resources that are dispatchable in the 5-minute market is routinely lower than in the 15-minute market.

***The CAISO balancing authority area should not elect to utilize energy assistance without a thorough decision making process.***

DMM supports the proposal to allow each BAA to elect whether the BAA wants to utilize energy assistance as part of its participation in the WEIM. As shown above, under the current proposal, electing to utilize the energy assistance program could significantly raise real-time market costs in many WEIM BAAs. Therefore, allowing each BAA to elect to not utilize the energy assistance program is a critical aspect of this proposal.

As illustrated in the prior section, the costs of utilizing the energy assistance program could be high for many balancing areas, including the CAISO BAA. DMM’s understanding is that

non-CAISO WEIM BAAs will carefully consider the pros and cons of the energy assistance program before electing to utilize it. DMM recommends that the CAISO BAA exercise similar caution before electing to utilize the program.

As described above, DMM understands that some BAAs may view the currently proposed energy assistance program as an important WEIM improvement to have implemented by summer of 2023. Therefore, DMM is not suggesting that the process for determining if the CAISO BAA utilizes the energy assistance program be determined in Phase 2 of this initiative. Rather, the energy assistance proposal could proceed along its current timeline with the CAISO BAA's default election being to not utilize the energy assistance until a subsequent stakeholder process and FERC filing justifies its use for the CAISO BAA.

***The consequences of failing RSE tests for BAAs not utilizing energy assistance warrants further consideration***

The ISO proposes to maintain the current RSE test failure consequences for BAAs that do not elect to utilize the energy assistance program. These failure consequences include limiting transfers to the transfer amount in the market interval immediately before the failed interval, or to the base scheduled transfer amount if greater.<sup>4</sup>

DMM agrees with some stakeholders that the current consequences of failing the RSE may not provide a sufficient incentive to deter the failing BAA from leaning on other WEIM BAAs for capacity. Therefore, DMM continues to recommend that the ISO and stakeholders reconsider the consequences for failing an RSE test.

As some BAAs may view the proposed energy assistance program as an important improvement to get approved in 2022 for summer 2023 implementation, DMM recommends that the ISO commit to a third phase of the RSE Enhancements initiative in order to continue to improve both the RSE test requirements, capacity counting, and test failure consequences. The energy assistance program has been designed in an expedited stakeholder process and so it is not appropriate for all BAAs as a substitute for the currently implemented consequences of failing an RSE test.

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<sup>4</sup> Revised Draft Final Proposal, p. 23.