



WEIM Resource Sufficiency Evaluation Enhancements – Phase 2 Draft Final Proposal

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Agenda

Topic	Presenter
Welcome and stakeholder process	Isabella Nicosia
Evolution of the WEIM RSE	Danny Johnson
Proposal	Danny Johnson
EIM Classification and Next Steps	Isabella Nicosia

Stakeholder Process



EVOLUTION OF THE WEIM RESOURCE SUFFICIENCY EVALUATION

During 2021, the ISO developed an initial set of RSE enhancements specifically designed to increase the accuracy of the test

- Approved through Joint Governance in February 2022; implemented June, 2022
- The enhancements:
 - Revised counting rules for supply made available to the real-time market
 - Ensured the reference point used for flexible ramping sufficiency requirement calculation reflected actual operating conditions
 - Expanded framework for demand response participation
 - Suspended inertia uncertainty adder
 - Revised balancing test revenue allocation
 - Increase transparency relating to the WEIM RSE
- Additional accuracy enhancements were deferred to provide time for additional analysis

The RSEE Phase 2 was begun on an accelerated schedule during the spring of 2022

- During March-to-June 2022 the CAISO conducted analysis on the impact to the WEIM RSE of load conformance, uncertainty and the effect of WEIM offers in clearing the HASP market
 - Analysis to support the policy development was responsive to stakeholder concerns and perspectives
- Held 2 stakeholder workshops during the spring of 2022
- Published the straw proposal in June of 2022

The accelerated policy development of RSEE Phase 2 is in direct response to stakeholder desire to leverage the WEIM for energy assistance during the summer of 2023

PROPOSAL

Phase 2 of the RSEE investigates numerous additional accuracy enhancements as well as the concept of leveraging the WEIM to increase reliability

1. Incorporation of load conformance
2. Consideration of capacity test uncertainty adders
3. Adjustment of RSE obligations to account for WEIM transfers, imports, and low-priority exports
 - Clarification of the firmness of low-priority exports within the hour and establishing tagging rules for low-priority exports
 - In the final proposal will clarify how CAISO BAA counts imports by constraining the counting to the limit of ITC constraints
4. Development of the WEIM assistance energy product

The CAISO is not proposing to include load conformance in the WEIM RSE test obligations for any BAA

- Robust analysis determined no 1-to-1 relationship between load conformance and increased WEIM transfers. Conformance can also drive:
 - Increased output or additional commitment of resource internal to each BAA
 - Increase in hourly import schedules
 - Decrease of hourly export schedules
- Stakeholder comments indicate broad support for not including load conformance in the WEIM RSE
 - A stakeholder advocated for additional enhancements to test for real-time needs

No changes to how net-load uncertainty is tested for in the WEIM RSE

- The WEIM RSE will continue to test for uncertainty in the flexible ramping sufficiency
 - Will be revised to use the quantile regression methodology once FRP refinements is implemented; testing for the quantile regression will be conducted as part of FRP implementation
- Analysis shows that the quantile regression methodology represents an improvement in accuracy in predicting future uncertainty
 - Primary improvement is driven by incorporating forecast data in addition to historical observations
- Propose to defer implementation of net-load uncertainty in the capacity test
 - Select stakeholder continue to advocate that the capacity uncertainty adder is critical if RSE does not consider load conformance

No proposed change to the way intertie uncertainty is tested for in the WEIM RSE

- Proposing to not re-introduce the intertie uncertainty adder
- Stakeholders support not re-introducing the intertie uncertainty adder
 - Agreement that the intertie uncertainty adder does not regularly add accuracy to the WEIM RSE
 - Not strong support for changing the percentile (97.5) that upward uncertainty is procured to

Analysis has shown that lower priority exports from the CAISO BAA, that are currently considered in the WEIM RSE, can inadvertently lead the CAISO BAA to fail the WEIM RSE

- WEIM advisory import transfers result in clearing additional LPT HASP exports from the CAISO BAA
 - Obligations are added to CAISO BAA RSE requirement
 - The WEIM advisory transfers are not counted as CAISO BAA supply
- Analysis shows this interaction can result in hundreds to thousands of additional MW being included on CAISO BAA's RSE obligations
 - Reliability issues and the need for LPT curtailment is exacerbated when the CAISO BAA is limited from accessing incremental WEIM imports following an WEIM RSE failure

Proposing to not consider lower priority exports from the CAISO BAA in the CAISO BAA's WEIM RSE obligation

- The CAISO BAA would not have LPT exports included in the derivation of its RSE obligations for the capacity or flexible ramping up test
 - Stakeholders acknowledge HASP scheduling can cause the CAISO to inappropriately fail WEIM RSE
- In practice, the CAISO BAA would curtail LPT exports prior to curtailing its own demand and PT export obligations
 - Accounting for RSE obligations in clearing the HASP may be technically complicated, and/or can lead to inefficient market result that decrease the benefit of the WEIM
 - The CAISO BAA would look to support as many LPT exports as possible prior to placing its own load at risk

Propose to retain current rules that all lower priority exports from CAISO BAA to be counted as supply in WEIM RSE for WEIM BAA's

- Stakeholders outside CAISO maintain LPT exports from CAISO BAA should count towards importing BAA's RSE obligations
 - Not allowing a subset of LPT exports to be shown in base schedules would result in operational challenges in updating base schedules within the real-time horizon
 - Not allowing LPT exports to be shown in base schedules may lead to significant market inefficiency due to increased base scheduling requirements
 - The CAISO does recognize that in effect this can lead to the CAISO BAA “firming up” the WEIM advisory supply through the HASP process

Proposing to require lower priority exports to be tagged as “Firm Provisional”

- Extends the existing market scheduling priorities post HASP
 - LPT exports would be curtailed prior to risking CAISO BAA load; including the arming of firm load as reserves
 - The tagging changes provide better visibility regarding firmness of the product for both ISO system operators as well as neighboring BAA’s
- If necessary, curtailment would occur manually outside of the market
 - The CAISO BAA will carry reserves for these exports
 - The ISO will provide priority, through manual curtailment, between day-ahead and real-time LPT exports

Propose to enhance reliability in the western interconnection through WEIM *assistance energy transfers*

- Cure undersupply conditions through allowing incremental WEIM transfers at a hurdle rate
 - WEIM may be able to optimally find additional supply to cure capacity shortfalls as compared to non-market based emergency energy assistance
- Leverages an existing constraint to ensure a WEIM BAA can not export itself into a capacity deficiency; WEIM exports can't occur with a PBC relaxation
- Under marginal pricing principles, all load in the deficient BAA would be settled at resultant LMPs
- Optional for each BAA
 - Flag in masterfile; the timing of masterfile is consistent with decision to utilize the WEIM to increase BAA reliability

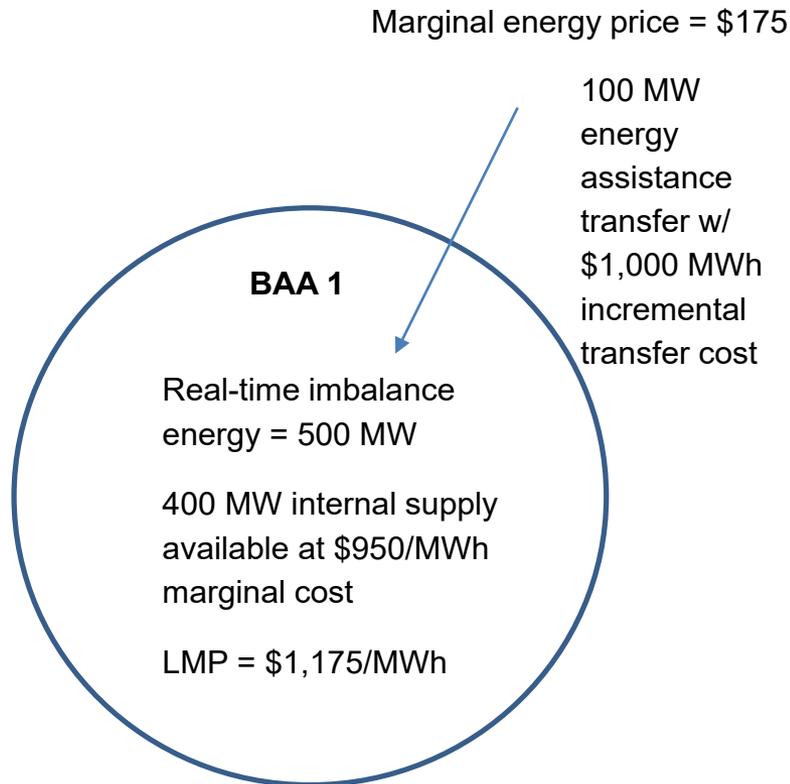
Stakeholders in their previous comments have indicated strong support for this concept

- The majority of feedback focused on requests for additional detail on impacts to price formation, implementation and settlements
- Some stakeholders continued to raise concerns regarding the proposed functionality being abused
 - Absent consensus on administrative consequences, the ISO proposes to monitor and report on potential misuse. If necessary, would develop mitigating measures once evidence and patterns of misuse are established
- While support was offered for the potential to cure oversupply conditions, the ISO is proposing to defer developing policy due to the resource and timing constraints that arise from implementing import energy assistance by summer 2023

Assistance energy transfers will occur following the failure of the WEIM RSE capacity or flexible ramping sufficiency upward test

- Assistance energy will modeled as a \$1000 or \$2000 incremental transfer cost in the market
 - Cost would be reflected within the congestion component of the LMP
- Penalty prices will be coordinated in the scheduling run to ensure all internal supply and available balancing capacity (ABC) would be utilized prior to clearing assistance energy transfers
 - Requires changes to power balance penalty price when assistance energy is elected. Changes are necessary to ensure all supply and ABC is used prior to clearing incremental transfers
 - \$2000 during normal conditions
 - \$4000 when energy costs are above \$1000

The proposed implementation is illustrated in the following example



- Rather than relaxing the PBC at penalty price, assistance energy transfers have an adder equal the prevalent price cap
- All imbalance energy in the receiving BAA is charged the resultant LMP (SMEC + adder)
 - External LMPs aren't directly affected by the assistance energy transfer

Propose to allocate the assistance energy revenue by net WEIM export to WEIM BAAs who have passed the WEIM RSE

- Revenue is collected from metered demand as the proposed formulation embeds the cost within the LMP
 - Settlement systems will identify the congestion cost associated with assistance energy transfer
- Creates incentive for WEIM BAAs to make additional supply, bid in at cost, available to the WEIM
- The proposed allocation is the only potential allocation that has the potential to be implemented by the summer of 2023
 - CAISO systems already calculate net WEIM export information

NEXT STEPS

EIM Decisional Classification

- The CAISO is proposing Joint Authority for all elements of the proposal with the exception of the changes to the lower priority export tagging rules
 - The proposed LPT tagging would change the rules about how to tag exports from the CAISO balancing authority area, and are not applicable to WEIM participants in their capacity as WEIM participants
 - The CAISO views the proposed changes to the tagging rules as severable for the remainder of the proposal

Proposed Schedule

Date	Milestone
August 25, 2022	Publish Draft Final Proposal
September 2, 2022	Stakeholder Call for Draft Final Proposal
September 12, 2022	Comments Due on the Draft Final Proposal
September 26, 2022	Publish Final Proposal
August / September 2022	Development of Draft Tariff Language and BRS
October 26, 2022	Decision at Joint Governance Meeting
June 1, 2023	Implementation

Comments

- All related information for the WEIM RSEE Phase 2 initiative is available at:
<https://stakeholdercenter.caiso.com/StakeholderInitiatives/EIM-resource-sufficiency-evaluation-enhancements>
- Please submit stakeholder written comments on today's discussion and the WEIM RSEE Phase 2 straw proposal by September 12, 2022, through the ISO's commenting tool
 - The commenting tool is located on the Stakeholder Initiatives landing page (click on the “commenting tool” icon):
<https://stakeholdercenter.caiso.com/StakeholderInitiatives>