Comments of the

Western Energy Imbalance Market Body of State Regulators to the

CAISO's EIM Resource Sufficiency Evaluation Enhancement Initiative

January 10, 2022

The Western Energy Imbalance Market (EIM) Body of State Regulators (BOSR) appreciates the opportunity to submit consensus comments on the CAISO's EIM Resource Sufficiency Evaluation Enhancement Initiative.[1] The EIM BOSR's role is provided in the Charter for Energy Imbalance Market Governance. The BOSR is a self-governing, independent body composed of one commissioner from each state public utilities commission in which load-serving regulated utilities participate in the EIM, including the ISO real-time market.[2] This currently includes Commissioners representing the states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. The BOSR also currently includes two liaisons representing consumer-owned utilities and a liaison representing a federal power marketing administration. One of the BOSR's responsibilities is to express a common position, where possible, in the CAISO stakeholder processes or to the EIM Governing Body on EIM issues.[3]

I. Background on the EIM Resource Sufficiency Evaluation Enhancements Initiative

During multiple discussions of Market Enhancements for the Summer 2021 Readiness Initiative, consensus developed that the EIM Resource Sufficiency Evaluation (RSE) is not fully working as intended.[4] The Summer Readiness Initiative is an expedited initiative that focuses on limited market design changes that can be implemented in a short time frame. The CAISO elected to focus on the EIM Resource Sufficiency Evaluation Enhancement initiative separately to address more comprehensive changes that technically develop, analyze, and implement proposed solutions over a longer period of time. On December 16, 2021, the CAISO published the Revised Draft Final

[1] Information about the initiative is available at: https://stakeholdercenter.caiso.com/StakeholderInitiatives/EIM-resource-sufficiency-evaluation-enhancements
[2] Charter, Energy Imbalance Market Body of State Regulators at 1 (rev. April 30, 2021) ("BOSR Charter"). See also, Charter for Energy Imbalance Market Governance, V.1.3 (rev. March 27, 2019), § 5.
[3] BOSR Charter, Purposes and Responsibilities at 1.
[4] Information about the initiative is available at: https://stakeholdercenter.caiso.com/StakeholderInitiatives/Market-enhancements-for-summer-2021-readiness

Proposal, covering a range of issues in the EIM RSE. Final comments on the Revised Draft Final Proposal from stakeholders are due by January 10, 2022. These comments identify what the BOSR believes are fundamental principles to consider in evaluating the proposal for EIM RSE Enhancements.

II. The BOSR's Comments on the EIM RSE Enhancements Revised Draft Final Proposal

As noted in the BOSR's March 2021[5] comments on the EIM RSE, the BOSR acknowledges the importance of the EIM RSE in supporting reliability and efficiency across the entire EIM footprint. The CAISO's Revised Draft Final Proposal considers a range of issues, including schedules of the initiative, the EIM RSE test design changes, and data transparency. The BOSR appreciates the CAISO's efforts to improve the accuracy of the RSE and to task the Department of Market Monitoring (DMM) with providing more granular data and regular reporting on market issues and performance. Recent analyses published by the DMM are valuable resources that support a better understanding of EIM RSE test results and the impacts of proposed design changes.

Many of the proposed changes to the Revised Draft Final Proposal are largely consistent with the BOSR's prior comments. However, the BOSR has some concerns about the Bid Range Capacity Test (BRCT) modification, which can potentially compromise the accuracy of the test, and some equity related issues in the proposal. The BOSR adds the following comments to those positions:

As the CAISO emphasizes in the Revised Draft Final Proposal, the current EIM RSE test design appears to contain inaccurate elements. Therefore, the BOSR strongly encourages improving the accuracy of the test as the most urgent issue to be resolved.

To improve the accuracy of the RSE on an ongoing basis, it is important for all EIM Entities, including those outside of California, to understand the elements and results of the RSE. To achieve this, it is essential that all participants have access to the data used in the testing design and process. In this sense, the BOSR believes transparency is the fundamental principle of the EIM

[5] The BOSR's previous comments on the RSE in March 2021, are available: https://www.westernenergyboard.org/eim-bosr-comments-on-the-market-enhancements-for-summer-2021-readiness-initiative-draft-final-proposal-march-2-2021/

RSE and requests that the DMM develop metrics and provide additional data to help EIM Entities to better understand the test designs and results.

The BOSR recommends that the EIM Governing Body, in exercising its joint authority over this issue, apply the principles identified below in evaluating the proposed RSE enhancements.

Principle 1: The accuracy of the RSE is paramount to achieving the intended purpose of the EIM RSE, ensuring that participants have sufficient capacity and ramping capability prior to enjoying the benefits of the EIM.

Maintaining high accuracy of the RSE test is a starting point to achieving the major goal of the EIM RSE. An inaccurate test design can cause EIM Entities to count on unreliable resources in the real-time market, which undermines the reliability of the entire EIM footprint. In light of such inaccuracies, EIM participants may lose trust and confidence in the market. As a result, any inaccuracy in the RSE threatens the ongoing viability of the EIM in addition to causing a specific reliability issue. Therefore, improving the accuracy must be a top priority.

Improving accuracy ensures the inputs and variables, including the resource's physical capability, the CAISO's demand forecast, and uncertainty elements reflected in the test, are close to their actual values. In the multiple analyses by the CAISO and its DMM, it was observed that the existing test design includes inaccurate inputs and variables. For example, in its issue paper titled, "EIM Resource Efficiency Evaluation Enhangements", the CAISO noted incorrect accounting for derates and uncertainty requirements. "The events of August 2020 presented challenging operating conditions for many EIM entities. When derates were correctly accounted for, four additional EIM entities would have failed the capacity test during the heat wave. Accounting for the addition of the uncertainty requirement that was approved as part of the Market Enhancements for Summer 2021, two additional EIM entities would have experienced capacity test failures during this period. The RSE failures are not unique to any specific region."[6] A more recent document from the CAISO also addressed the issues in the "Intertie Deviation Adder (IDA)." This document illustrated that the design of the IDA does not appear to accurately capture future uncertainty and inappropriately inflates capacity test requirements for some BAAs which has

[6] The Issue Paper is available:
http://www.caiso.com/InitiativeDocuments/IssuePaper-EIMResourceEfficiencyEvaluationEnhancements.pdf

resulted in increased RSE failures. Moreover, the CAISO acknowledges that the IDA does not cover the historical deviation range and is not always an accurate indicator of future expected intertie uncertainty.[7]

The existing inaccuracy of the RSE design has the potential to pass BAAs with insufficient resources or fail BAAs whose resources are sufficient.

Given the importance of accuracy in the current RSE design, the BOSR recommends:

- The accuracy of the RSE must be a top priority among other RSE design principles such as market efficiency or adequacy of RSE failure consequences.
- The BRCT should ensure confirmed physical resources are counted based on their actual operating capability in the hour being evaluated.
- Uncertainty calculation errors should be corrected as soon as possible.

Principle 2: Transparency plays a significant role in ensuring that the EIM RSE design is accurate, effective, and consistently applied. Providing granular data and reporting is necessary to improve transparency.

Enhanced transparency is necessary to achieve market fairness and is beneficial for the market operations. As the CAISO is taking on both the role of market operator and an EIM Balancing Authority Area (BAA), asymmetrical information problems are inherent in the EIM RSE. To create an equitable market, the information related to RSE tests should be accessible to all participating BAAs. Moreover, it is reasonable for a third party to take the responsibility of providing and reporting the data. In this sense, the BOSR appreciates the CAISO's decision to task the DMM to provide stakeholders with more granular data. With detailed data, each BAA can schedule their resources more accurately. This will also help create more concrete trust in the market by each BAA. As this process continues, BAAs can better understand the EIM RSE and better contribute to the RSE test design enhancements by evaluating the adequacy of the design changes.

To summarize, additional transparency is necessary to:

[7] "Analysis of the Intertie Deviation Adder Used in the Capacity Test" by CAISO, release in Oct. 6, 2021 http://www.caiso.com/InitiativeDocuments/Analysis-IntertieDeviationAdderUsed-CapacityTest.pdf

i. Help EIM participants interpret and understand RSE test results;

ii. Evaluate the accuracy and effectiveness of the RSE on an ongoing basis;

iii. Build a level playing field for the EIM participants both inside and outside the CAISO; and

iv. Identify issues and prioritize enhancements in a timely manner.

In this regard, the BOSR recommends the following for the final proposal:

- Provide more granular data to support better understanding of test results and inputs, such as:
    - Inputs and results of the capacity test reflecting the proposed design changes for the period July through December 2021 (and throughout 2022); and
    - Routine reporting on the magnitude and impact of the CAISO's market solutions' elements affecting RSE test results (i.e., Net Load Uncertainty, Load Conformance, Load Forecast Error, etc.).

Principle 3: Implementation of the RSE and the consequences for failure should be applied impartially to all EIM Entities to support market efficiency and reliability.

Impartial treatment of all participants is fundamental for any market environment. Accordingly, the benefits from the market and efforts to maintain system reliability should be applied to each BAA equitably. Therefore, the EIM RSE design principles should require impartial application of incentives and consequences. During stakeholder calls for the EIM RSE Enhancements Initiative, stakeholders raised concerns about equity issues. For example, some stakeholders[8] pointed out that there is inequity in applying the balancing test to EIM Entities but not to the CAISO BAA. Also, as the Power Generating Pool (PGP) indicated in its comments on the Draft Final Proposal, there is a possibility that the CAISO would not be exposed to under and over-scheduling penalties for either insufficient supply or demand forecast errors while other

[8] Public Power Council, Public Generating Pool and SMUD

BAAs would be exposed to the penalties. This indicates that the CAISO is not subject to the same penalty mechanism. The BOSR recognizes that because the CAISO is not a bilateral market participant, the tools available to it to cure possible difficiencies may be different than those available to other EIM Entities. However, in the end the application of the tests must achieve the same quantitative result.The BOSR believes that any uneven application of the EIM RSE mechanisms will undermine the market design principles and should be fixed immediately.

In conclusion, the BOSR recommends:

- The DMM should develop metrics and provide routine reporting on the frequency and magnitude of the amount that CAISO or any entity that does not submit base schedules would have failed the balancing test if it were applied to them.

- The EIM RSE tests and any consequences for failure should be applied to all BAAs equitably.

Principle 4: The consequences of failing the RSE should provide appropriate economic incentives for BAAs to acquire sufficient resource capacity and ramping capability.

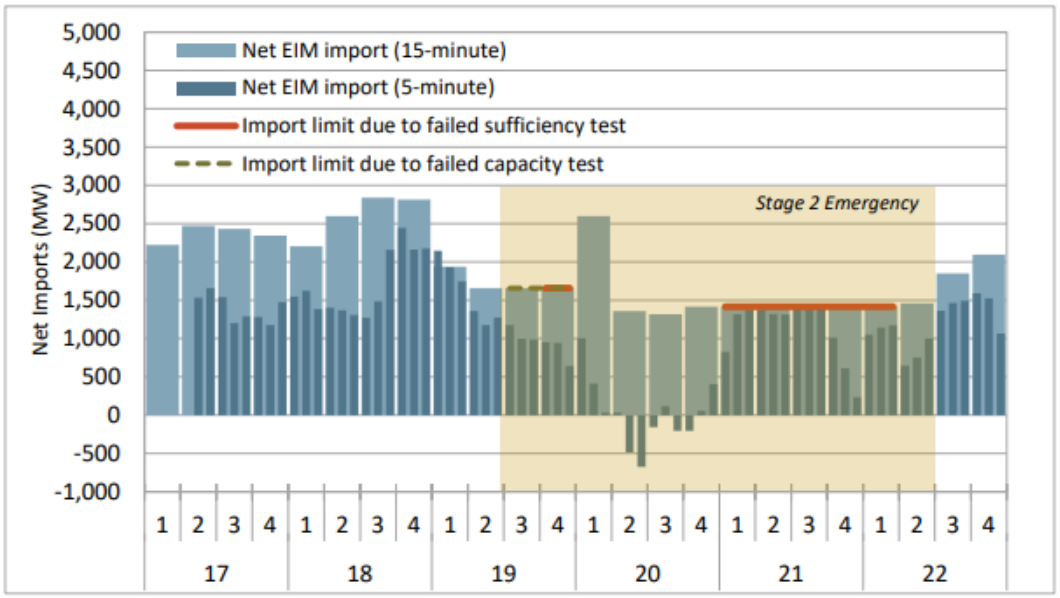
The BOSR asserts that the consequences of failing the BRCT should provide appropriate incentives for BAAs to use forward procurement to acquire sufficient resources to meet their demand obligations in advance of their participation in the EIM to avoid imposing economic harm on other BAAs.[9] In other words, the failure consequences should ensure BAAs do not lean on the EIM when their resources are insufficient. Along with accurate test design, granular data publication and well-structured failure consequences will complete the fundamental principles necessary for the successful and equitable use of the EIM RSE.

Under the current construct, EIM entities that fail the BRCT are allowed to trade in the EIM at the level that they were trading prior to the BRCT failure. No other penalties are applied. Some stakeholders posited that this is not a severe enough consequence since EIM entities are able to lean on the EIM to cure their capacity shortages, while other stakeholders think it is sufficient. According to the recent analysis conducted by DMM,[10] the CAISO could import up to 1,500 MW

[9] EIM BOSR comments on the Market Enhancement for Summer 2021 Readiness Initiative, March 1, 2021
[10] EIM Resource Sufficient Evaluation Metrics Report covering July and August 2021, CMM, September 23, 2021

during the July 9, 2021, emergency condition.

Figure 1. Limits on EIM imports into CAISO due to resource sufficiency evaluation failure (July 9, 2021)



This graph from the analysis shows 15-minute and 5-minute market energy imbalance market imports coming into the CAISO during peak hours on July 9, 2021. The red and green lines show the intervals in which the ISO failed the sufficiency or capacity test, limiting transfers to the transfer level of the last binding 15-minute interval.[11] In interval 2100, the import limit was around 1,500 MW and the CAISO was importing significant amounts of capacity from the EIM during that interval. This implies that any BAA can mitigate its capacity shortages from the EIM.

It is critical that the consequence of failing the BRCT is properly calibrated to a failure of the capacity test and that the consequence sufficiently incentivizes participants to be resource sufficient as a prerequisite to participation in the EIM. Further, the consequence should not negatively impact the BAAs that passed the test and have qualified to participate in the imbalance market.[12]

Since we have seen that leaning can happen under the current structure of the failure

http://www.caiso.com/Documents/Report-on-Resource-Sufficiency-Evaluation-in-the-Energy-Imbalance-Market-for-July-and-August-2021-Sep-23-2021.pdf

[11] From the same document.
[12] EIM BOSR comments on the Market Enhancement for Summer 2021 Readiness Initiative, March 1, 2021

consequences, which can have an adverse impact on the market, the BOSR encourages the CAISO to prioritize and address this issue. We acknowledge CAISO's concerns that applying failure consequences before implementing improved test design will adversely affect BAAs, however we believe it is important for CAISO to start discussing the failure consequences after implementing Phase 1. Therefore, the BOSR recommends initiating Phase 2 immediately after implementing Phase 1, starting in February 2022.

In conclusion, as the EIM Governing Body exercises its primary authority over this issue, it should apply the principles we have articulated in these comments to evaluate any proposal offered by the CAISO that impacts the EIM Resource Sufficiency Evaluation. The BOSR appreciates this opportunity to provide consensus comments on the EIM Resource Sufficiency Evaluation Enhancements Initiative.