



California ISO

Extended Day Ahead Market
Working Group 1 Weekly Report

Supply Commitment and Resource Sufficiency
Week 6 Report
2/07/22 – 2/11/22

Progress Tracker

Topic	Schedule
Core Design Decision	
Resources qualifying	Discussed 1/12,19,21,24,26; in progress
Expected granularity and detail	Discussed 1/10,12,19,21,31, 2/7; in progress
Ancillary Services requirement	Discussed 1/12; in progress
Transfer Reliability	
Reliability and confidence in EDAM transfers	
RSE Advisory Showing	
Characteristics of 45 day ahead advisory showing	Discussed 1/5&10; on hold
RSE Timing	
Timing of conducting the EDAM RSE	Discussed 1/10&12; in progress
EDAM RSE Components	
Capacity Test	Reviewed concepts 1/12
Ramp Capability Test	Reviewed concepts 1/12
Test Constraints	
Inputs	
EDAM RSE	
Resource Counting Rules	Discussed 1/12,19,21,24,26,31, 2/7; in progress
Failure Consequences	Planned for 2/14
EDAM to EIM RSE	
Interaction with Western RA Programs and Reserve Sharing Groups	
Reserve Sharing	
RA Programs	

Weekly Discussion

February 7

Scope Items Discussed: Resource Sufficiency Evaluation – Optimization Framework

Presenters: George Angelidis - CAISO

Discussion

The meeting opened with a reminder there will only be one meeting this week and the two meeting per week cadence will resume the week of February 14th. This was followed by a review of the objectives for the day's discussion which was planned to include: a Resource Sufficiency Evaluation (RSE) framework discussion review, presentation of an optimized sufficiency portfolio framework and WSPP resource counting details as time allows. The RSE framework review first covered points of general acceptance for any framework and a brief description of the various concepts discussed in recent meetings. The points generally accepted include: evaluating day ahead sufficiency across the full 24 hour horizon, test for both capacity and flexibility, allow on-demand RSE runs by the EDAM entity and a final scheduled advisory run at 0900 with inputs locked at this time. Additional tests will be required to ensure sufficient ancillary service and imbalance reserve bids to satisfy the associated requirements. The conceptual frameworks in the recent discussions included: a day ahead sufficiency plan in which each entity submits a load/resource plan with commensurate bids; a hybrid bid schedule in which sufficiency is demonstrated through bids with a new advisory operating schedule component; and an optimized sufficiency portfolio framework in which bids are evaluated, subject to selected constraints, to identify the best supply/load balance to establish sufficiency.

The discussion turned to the Optimization Framework presentation which began with a discussion of the objectives to: use submitted bids, minimize hourly failures, honor energy bid limits, ramp rates, variable energy resource (VER) forecast, daily energy limits, and state of charge (SOC) limits. With the concept of a very quick on-demand execution, the proposed simplifications included: no transmission constraints or scheduling limits, and no constraints for start-up, minimum up/down time or daily starts. While these simplifications seems to be generally accepted, simplifications related to multi-stage generators (MSG), ancillary services (AS), imbalance reserves (IR), and ramp rates generated a comment that the approach should strive to do the best and most accurate test possible with the time allowed. These sentiments were reinforced with additional comments of concern that the MSG, AS, IR and ramp rate simplifications may create inaccurate results. There were several comments generally supportive of the concept along with the general idea of a process to maximize accuracy while maintaining a short run duration. Other comments suggested the mechanism include validation to ensure no double counting of capacity. A question regarding the duration expectation of the RSE received responses suggesting the duration not exceed 5 minutes.

Discussion also included a question of whether there would be an opportunity for an EDAM entity to use the optimization on their own and the response was all entities should be using the same tools on a single platform. A question regarding how import bids will be treated was provided a response that the model will take the resources as provided in the test. The question of how each BAA will cure for any failure circumstances will be left as a question each BAA must answer for itself. An inquiry regarding the transparency of the RSE was introduced and the response provided was that everyone should know and

the information is aggregated, so it could be shared and sharing may help facilitate a cure. Other comment supported the optimization framework to avoid the additional steps of the previous alternatives discussed, and expressed concern for the publishing status of the RSE. These points were acknowledged with a commitment to consider as details are developed further. Following this discussion, the presentation of the optimization model continued.

Details of the proposed framework were reviewed including notation used, requirement constraints, capacity and ramp capability constraints, objective function alternatives, and properties. A question regarding whether outages would be considered was confirmed with a reply that outages will be applied to bids prior to running through the RSE. Regarding the properties, the use of weighting factors to give the importance to critical periods received supporting comments. There was also a suggestion to utilize the existing objective function to the extent possible as this will be the best way to ensure there is no leaning. It was also suggested that economics may make the optimization easier while GHG may create additional challenges. Stakeholder comments ranged from support for the proposed framework with condition to identify key constraints and AS considerations to an expressed need for time to consider the proposal. There was also a suggestion to consider how the GHG approach may impact this proposal in the planned combined meeting; however, a response was provided that the GHG approach will not have an impact on the RSE. The topic and meeting closed with a commitment to consider the feedback and refine the optimization framework accordingly. The WSPP Schedule C topic proposed for discussion will be taken up at the meeting next week along with starting the discussion on failure consequences.

Conclusion:

With only one meeting this week and a plan to return to two meetings per week cadence next week, the meeting focused on a detailed discussion on identifying a common RSE framework. Elements believed to be common to any framework included: need to evaluate day ahead sufficiency across the full 24-hour horizon; a test for both capacity and flexibility; an on-demand RSE run capacity by EDAM Entity; and a final scheduled advisory run at 0900 with inputs locked at this time. After a brief review of frameworks examined, discussion for the remainder of the meeting focused on the optimized sufficiency portfolio framework that utilizes the submitted bid ranges for all resources to simultaneously calculate a high/low feasible schedule that meets the high/low capacity targets subject to ramp capability and energy limit constraints. The objective: use submitted bids, minimize hourly failures, subject to energy bid limits, ramp rates, VER forecast, daily energy limits, SOC limits. While simplification was desirable to shorten the RSE run time, accuracy is also viewed as critical to success, so the optimization framework will be refined to incorporate feedback received during the meeting to find the right accuracy and run duration balance to keep run time below 5 minutes. There were several entities openly supporting the optimization framework with refinements including consideration for who can run and see the results. The discussion will continue next week to continue with the WSPP Schedule C and failure consequences.