



California ISO

Extended Day Ahead Market
Working Group 1 Weekly Report

Supply Commitment and Resource Sufficiency
Week 11 Report
3/14/22 – 3/18/22

Progress Tracker

Topic	Schedule
Core Design Decision	
Resources qualifying	Discussed 1/12,19,21,24,26, 2/14,16,23
Expected granularity and detail	Discussed 1/10,12,19,21,31, 2/7,14,16,23
Ancillary Services requirement	Discussed 1/12
Transfer Reliability	
Reliability and confidence in EDAM transfers	Discussed 3/9,14,16
RSE Advisory Showing	
Characteristics of 45 day ahead advisory showing	Discussed 1/5,10
RSE Timing	
Timing of conducting the EDAM RSE	Discussed 1/10,12, 2/16,23,25,28, 3/2
EDAM RSE Components	
Capacity Test	Discussed 1/12
Ramp Capability Test	Discussed 1/12
Test Constraints	Discussed 2/7, 14, 25
Inputs	Discussed 2/7, 14, 25
EDAM RSE	
Resource Qualification Rules	Discussed 1/12,19,21,24,26,31, 2/7,14,16
Failure Consequences	Discussed 2/16,23, 3/7
EDAM to EIM RSE	Discussed 3/9
Interaction with Western RA Programs and Reserve Sharing Groups	
Reserve Sharing	Referenced
RA Programs	Referenced

Weekly Discussion

March 14

Scope Items Discussed: EDAM Transfer Reliability, Example 2

Presenters: Bobby Olsen Salt River Project (SRP)

Discussion

The meeting began with a review of the March 9th working group session which included presentation of extended day ahead market (EDAM) concepts and presentation/discussion of two EDAM transfer examples consisting of three balancing authority areas (BAAs), transfers between areas A and B and between areas B and C, area C entering the EDAM short capacity, sufficient footprint capacity to meet collective requirements, and then a real time loss of generation in area A. In the first example, there was sufficient footprint capacity to cover the generator loss while the second example the footprint capacity was slightly deficient. The second example generated enough discussion that the dialog was continued to this working group session. Bobby Olsen resumed with a review of the second example and then opened for questions and comments. A question regarding how reserves fit into the situation was raised along with another regarding which BAA should carry the deficiency and whether there should be load shedding. Responses included descriptions in which reserves can be used in the current hour to meet the need and then reserves depleted would need to be replaced in the next hour. There were suggestions of potential for different levels of firmness based on system conditions as well as discussion around potential obligation linked to any BAAs failing the resource sufficiency evaluation (RSE); however, there was also a sentiment expressed by several that the BAA with the lost generation should be on the hook to procure the replacement capacity. The group contemplated the question, who should be responsible for the real time deficiency given the area C RSE failure. One argument for maintaining the firmness and obligation for area A to secure replacement is the idea that the deficient BAA will be subject to a failure consequence and to impose another consequence to replace in a contingency event may constitute a double penalty. Clarifications were provided to explain that the EDAM solves the minor deficiency in area C by optimizing available capacity in EDAM, then the Western Energy Imbalance Market (WEIM) RSE receives credit for the EDAM determined transfers, and then the WEIM re-optimizes to find the best overall solution with remaining capacity following the event. A question submitted in the chat asked, is it worth considering formally structuring WEIM/EDAM as a reserve sharing group? Other comments included: should there be a mechanism to signal a BAA receiving transfer awards to identify any need to carry additional reserves; BAAs in general expect to carry and deploy reserves to support transfers up to point of load shed; is there need for a mechanism to communicate the amount of transfers a BAA can support from a reserve prospective; the market optimization does optimize to ensure the contingency reserves are feasible; a concern regard a potential asymmetry in capacity margin for the CAISO if all capacity is offered into the market while other BAAs are not required to offer all capacity; and replacement reserve products may be used to replace reserves during contingency events.

Conclusion:

The working group spent the entire meeting discussing the EDAM transfer example 2 and the primary question of which entity has the obligation for the real time loss of generation in area A when area C

was deficient entering the RS. With questions and comment remaining at the end of the meeting, this discussion will continue in the March 16th meeting.

March 16

Scope Items Discussed: Confidence in EDAM Transfer

Presenters: Mark Rothleder, CAISO

Discussion

Overview

The meeting objective was to complete the discussion of the transfer reliability examples with this being the last working group 1 meeting. Mark Rothleder joined in the discussion for this meeting and opened with an overview of the working group identifying the role of resource sufficiency in providing confidence in transfers, summarizing the broad topics covered culminating with the EDAM transfer reliability topic which is important to give participants confidence, and he expressed gratitude for the strong participation demonstrated throughout the process. Mark also discussed the goal of designing a resource sufficiency evaluation (RSE) to provide a common element to ensure capacity to meet the needs of the EDAM as essential given the varied nature of capacity paradigms across the participating entities. Opening remarks included mention of several confidence building blocks for all stakeholders such as: an element to build in sufficient capacity to cover significant uncertainty; ideas around potential consequences to incent BAAs to pass the EDAM RSE; discussion around the potential use of residual unit commitment (RUC) and convergence bidding (CB) elements; and design elements of the imbalance reserve components.

EDAM Transfer Examples

Focus then turned back to the EDAM transfer example discussed in the last session and the intent to be more specific about aspects of the example. Before review of the example began, there were some comments regarding the potential for asymmetry between BAAs due to differing must offer requirements of participating entities and a concern expressed that this may result in some areas with tighter supply than others. Any asymmetry is not expected to be significant and the market should provide an incentive to bid which should minimize the potential for this concern. Following this, the discussion moved back to the example with clarification the contingency reserves are separate from the uncertainty needs, and the EDAM transfers due to economic optimization of 100 MW from A to B and from B to C for energy and 100 MW from C to B and from B to A for imbalance reserve up (IRU). Questions and comments helped to clarify that both the energy and IRU in the example are a result of the EDAM economic optimization, the energy schedule is not dependent on the IRU, and the IRU is introduced as part of the Day Ahead Market Enhancements (DAME) initiative. A question introducing an intertie resource was given the response that existing rules would stand. Mark next described another example in which the IRU procurement was concentrated in area A and there were no questions.

Normal Operations Q&A

Mark continued with discussion of several questions related to the examples and the answers. The first was what is the scheduling priority of a transfer? The answer provided there is no priority because the transfers are scheduled and re-optimized economically. A question regarding the requirements for reserves was clarified as the larger of 3% load plus 3% generation or most severe single contingency (MSSC). The second question was what is the firmness of a transfer? The answer was the underlying transmission is highly reliable and the transfer is scheduled and re-optimized economically. This brought question and subsequent clarification that the re-optimization includes self-schedules included at

penalty prices. There was also another question regarding potential limitations of multi-stage generator (MSG) resources given differences in granularity between the day ahead and real time market and the answer provided the WEIM can unwind or make further commitments to the extent feasible for given time frames. A clarifying question regarding whether the test will change in real time was given response that the EDAM transfers will be considered in the WEIM RSE. The next question was does a transfer increase reserve requirements? The answer was there is no need to procure reserves because the market does this with contingency reserves and IRUs. The next question was what if there is a generator forced outage in area A? In this case, the contingency reserve is dispatched in A to substitute for lost supply. And the final question was what if there is an outage on an intertie that supports a transfer? The answer provided a specific description from the example indicating as long as IRU is feasibly procured, it should be able to meet collective realized uncertainty. Several variations were discussed with conclusion that the participants see benefits from EDAM because the optimizations make everyone better off than without the EDAM.

Emergency Operations Q&A

Mark then discussed questions and answers regarding emergency conditions. The first was what if a contingency occurs beyond the MSSC? In this situation, all contingency reserves are dispatched followed by flexible ramp up and energy bids. The next question was what if uncertainty materializes beyond the 95th percentile for every BAA in the market footprint? All flexible ramp and all energy bids are dispatched. In either of these cases, if more is still needed, the operator actions may be necessary out of the market including: conditional supply or demand response dispatch, emergency assistance from other BAAs, manual commitment and dispatch capacity not in the market, interruptible demand options, and the last resort, and pro rata export cut and load management. This final option was proposed as a shared pain approach which received a supporting comment.

Conclusion:

In this final session of working group 1, discussion began with an overview of the work group progress followed by a return to complete the EDAM transfer reliability discussion led by Mark Rothleder. The examples were reframed with a focus on energy and imbalance reserve up (IRU) transfers and identification of contingency and imbalance reserves. Questions and answers were explored regarding both normal operations and emergency conditions to complete the EDAM transfers topic.