



## Extended Day-Ahead Market Working Group 1: *Supply Commitment and Resource Sufficiency Evaluation*

### *Resource Sufficiency Evaluation details*

Facilitator: Mark Richardson

Scribe: Bob Kott

March 7<sup>th</sup>, 2022

Meeting Cadence: Mondays and Wednesdays, 1 – 3 p.m.

# Agenda:

<b>Time:</b>	<b>Topic:</b>	<b>Presenter:</b>
1:00 – 1:05	Welcome/introductions	Brenda Corona
1:05 – 2:00	Continue Failure Consequences discussion	ISO Team
2:00 – 2:15	Conclude RUC & CB	Mark Richardson
2:15 – 2:50	Start conversation on EDAM Transfers	Danny Johnson
2:50 – 2:55	Recap of Discussion	Bob Kott
2:55 – 3:00	Upcoming topics	Mark Richardson

## Reminders:

- These collaborative working groups are intended to foster open dialogue and sharing of ideas and perspectives
- Please raise your hand if you have a question or comment at any time during the meeting and the facilitator will call on you
  - Please start by stating your name and affiliation
- Meetings are recorded and video files posted on corresponding working group webpages
- Stakeholders are welcome to present perspectives at these meetings
  - Please submit a request to present using the link located on the EDAM Resources slide at the end of this presentation

# Financial Failure Consequences

- Scope of consequences
  - Is there merit to increase consequences for persistent failures?
  - Thoughts on different levels of financial consequence depending on time of year of failure (if in summer v. other conditions)?
  - Increase magnitude of consequence depending on magnitude of failure (X% of requirement)?

## Financial Consequences – Hurdle Rate

During failed hours, limit transfers. Relax limitation and allow transfers once a predefined hurdle has been met

- Can be used to ensure supply within a deficient BAA is utilized; depending on size of the hurdle rate
  - What are the implications of economic displacement occurring if hurdle rate is set below penalty price. How to determine this price?
- Compensates entities who supported the incremental transfers
  - Is this equitable from a revenue allocation perspective?
- Potential for prices to deviate from prevailing bilateral prices depending on the size of the hurdle rate
- Would it be optional for BAA to cure day-ahead resource insufficiency through this process?
- How can the hurdle rate be adjusted for persistent insufficiency?

# Financial Consequences – Admin Penalty

Administer EDAM RSE to determine MW insufficiency in a BAA. Allow uncapped transfers to cure insufficiency. Apply administrative penalty to incremental MW

- Running the RSE provides counterfactual to measure incremental transfers
- What would these penalties be priced at?
- How is reliability insured? If larger footprint is resource sufficient can multiple BAA's become resource insufficient due to transmission limitations?
- What is the appropriate revenue allocation? Pro-rata? Net Export?

# EDAM Transfer Reliability

# EDAM benefit will be achieved through economic displacement through the footprint

- To realize this benefit, participating entities will need to rely on EDAM dispatch rather than committing resources internal to or controlled by their BAA
- Ensuring transfers are reliable is a prerequisite for this to occur. Mechanisms to ensure reliability include
  - DAME / Imbalance reserves
  - Utilization of RUC
  - The RSE test requiring showings for ancillary services



# EDAM design and DAME enhancements can serve to make EDAM transfers reliable

- Day-ahead market enhancements (IRU) ensures supply sufficiency to meet upward uncertainty to a 97.5 confidence level
  - Geographic diversity of EDAM provides decrease likelihood of upward uncertainty beyond 97.5% materializing coincidentally across the footprint
  - EDAM optimization will be a full SCED with activated identified contingencies
- Pooled WEIM RSE for EDAM footprint
  - Procurement for highly levels of uncertainty through IRU in multiple BAA's helps to account for uncertainty that is not procured for
- Extend Low Priority Export frame work to EDAM footprint

# DAME enhancements account for the majority uncertainty that can materialize between day-ahead and real-time

- Day-ahead market enhancements (IRU) ensures supply sufficiency to meet upward uncertainty to a 97.5 confidence level
  - What is risk associated with 2.5% uncertainty materializing? Materializing coincidentally across the EDAM footprint?
  - Uncertainty relating to hydro forecast is not a component of the uncertainty calculation
  - No accounting for uncertainty relating to generation outages. No replacement reserve product or showing is currently part of the day-ahead process
- What is the impact of the CAISO's proposal to procure imbalance reserves through graduated penalty prices?

# The outcome of EDAM is closely related to the operation of the WEIM RSE

## Example:

### EDAM BAA RSE Obligations:

*Forecast: 1000 MW*

*AS Requirement: 75 MW*

*97.5 % Upward uncertainty: 50 MW*

*Total Requirement: 1125 MW*

*EDAM BAA Supply Bid: 1200 MW*

- The market could optimally utilize all 1200 MW of supply to meet requirements internal to the EDAM BAA as well as to facilitate economic displacement through EDAM transfers
- Should either a 50 MW generation outage occur between EDAM and WEIM is the BAA 50 MW short in RT? What if additional uncertainty materializes beyond 97.5%?
- How to avoid incentives to withhold day-ahead supply to meet these intraday variations?

## The EDAM can ensure reliability between the day-ahead and real-time

- Test the EDAM BAA footprint as a whole in WEIM RSE for resource sufficiency
  - To the extent upward uncertainty beyond the 97.5<sup>th</sup> percentile does not occur simultaneously, residual capacity can be used to address other types of uncertainty that can arise (outage and hydro)
  - Testing for delivery may be necessary to ensure real-time reliability
  - Should footprint fail WEIM RSE, the WEIM RSE could be applied on BAA basis to isolate deficient BAA
    - Options for deficient BAA procurement through the WEIM will be developed concurrently as part of the RSEE Phase 2.

# Is the prioritization between EDAM load and BAA load necessary in the EDAM

- Should prioritization be given to EDAM transfers over exports cleared from the EDAM (not backed by specific pre-identified resources)?
  - This would be an extension of the CAISO LPT framework. Can help to address uncertainty that can arise between day-ahead and RT
- What are the rules for occurrence of non-credible contingencies between day-ahead and real-time (N-1-2, N-3, ect) due to events such as fires?
  - Is there opportunities to leverage the EDAM?

# Check In

- Continue discussion on Failure Consequences
- Start discussion on Certainty and Confidence of EDAM Transfers
- Next Steps
  - Continue discussion on Certainty and Confidence of EDAM Transfers

# Questions?

# EDAM Resources

- List of [\*Common EDAM design principles and concepts\*](#)
- Initiative and working webpages:
  - EDAM initiative webpage:  
<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Extended-day-ahead-market>
  - Working Group 1 webpage:  
<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Extended-Day-Ahead-Market-Working-Group-1-Supply-Commitment-Resource-Sufficiency-Evaluation>
    - The working group webpages include meeting materials, initial scope items, and weekly summary reports
- Please submit EDAM WG inquiries and/or requests to present at <https://www.surveymonkey.com/r/EDAMWG-Inquiries>
  - Presentations due 5 business days prior to the meeting where they are scheduled to present, if time allows
- [Register](#) for working groups to help the ISO gauge interest and facilitate communication throughout process.
- Nov 30, 2021 Day-Ahead Market Overview Training: <https://youtu.be/lbXRsfVbCg>