

Day-Ahead Market Enhancements: Configurable Parameters Implementation Working Group

Session 1
August 7, 2024



**This session will
begin at 2:00 PM**

Housekeeping



RECORDING

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COLLABORATION

This working group is intended to stimulate open dialogue and engage different perspectives



RESPECT

Keep comments professional

Housekeeping



REMAIN MUTED

Keep yourself muted to minimize background noise



ASKING QUESTIONS

Unmute to ask verbal questions or write in the chat pod



RAISING HAND

Raise your hand using WebEx interactivity tools

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Our Meeting Agenda

Today we will cover...

- Purpose and goals
- Schedule and milestones
- DAME configurable parameters and testing approach
- Imbalance Reserves
- Wrap up and next steps

Purpose and Goals



Section Focus

- The purpose of an implementation working group
- Implementation working group details

What is an implementation working group?

- What it is:
 - An optional step in the project implementation to gain participant feedback on specific issues. Feedback could include:
 - Business process options for interaction with the ISO
 - Technical information before final decisions are made
 - Parameters used in calculations
 - Other options that match approved policy implementation
- What it is **not**:
 - An opportunity to debate approved policies or tariff language
 - A release user group that covers project planning and tracking
 - A technical user group that brainstorms and evaluates technology solutions
 - A settlements user group that discusses specific settlement topics

As part of the effort to implement the Day-Ahead Market Enhancements, CAISO is facilitating an Implementation Working Group

- The purpose of this session is to provide an overview of the overall plan for the Day-Ahead Market Parameters Implementation Working Group
- This working group effort will be focused on the five different parameters that were in scope of the Day-ahead Market Enhancements
- Next meeting will be held in Q1 of 2026
- Additionally, there will be a separate effort to assess the methodology that will be implemented for the calculation of the Imbalance Reserve requirements

What Questions Do You Have?



Unmute yourself

or



Raise your hand

Schedules and Milestones



Section Focus

- Implementation working group schedule
- Market simulation

California ISO stakeholder process

PROPOSAL DEVELOPMENT

Issue paper and working groups

↳ Straw proposal

Draft final proposal

Draft business requirement specification

Draft tariff and business practice manual revisions

Final proposal

DECISION

ISO Board
WEIM Governing Body

Tariff filing

FERC

IMPLEMENTATION

Business practice manual
Training
Market simulation

Go Live



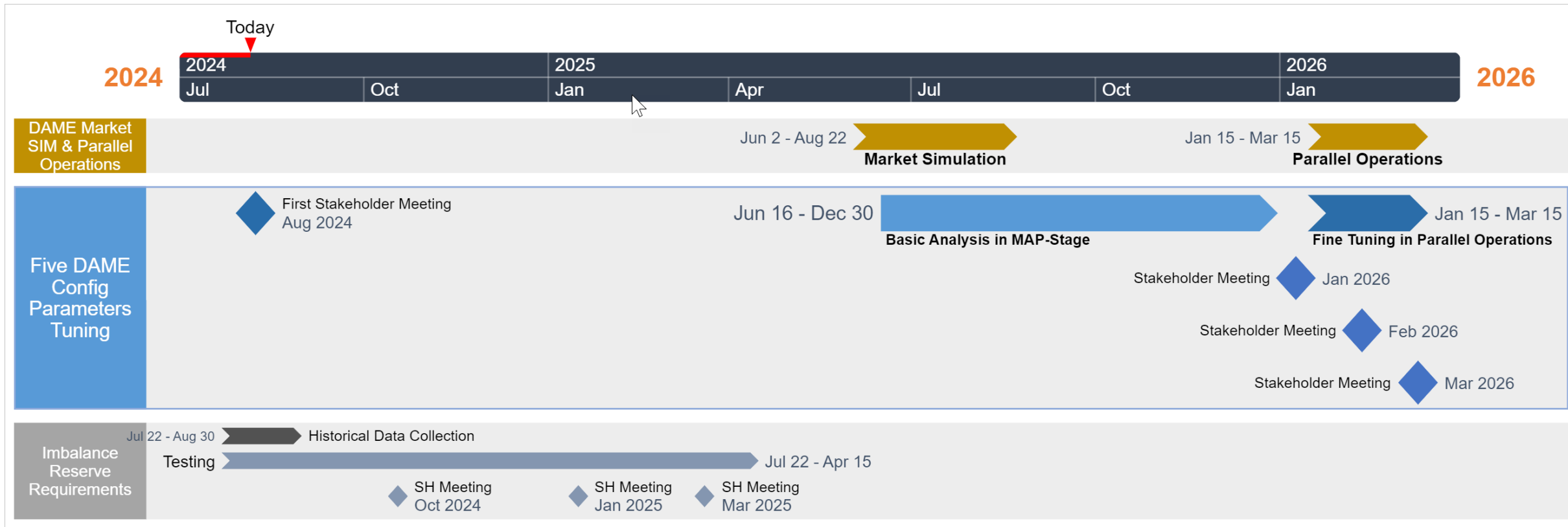
Stakeholder input

This represents the typical process, and often stages of the process run in parallel.

**We are here:
Implementation
working group**

Current Implementation Working Group Schedule

DAME Configurable Parameters Tuning Timeline



What Questions Do You Have?



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Configurable Parameters for Day-Ahead Market Enhancements

Testing Approach

What are the configurable parameters in the scope of this working group?

1. Set of transmission constraints enforced for deployment scenarios
2. Proportion of imbalance reserves that are “deployed” in deployment scenarios
3. Envelope constrain multipliers for energy storage
4. Imbalance reserve demand curve cap
5. Default availability bid prices for Imbalance Reserves Up and Reliability Capacity Up mitigation

CAISO will assess market performance with all parameters in place

- Market simulation will be run with initial values of all these parameters
- First effort is to identify optimal configuration and performance of each parameter
- There can be interactions among the configuration of different parameters
- Once all parameters are configured, CAISO will assess performance of all parameters in place to identify any needed calibration / synchronization or unintended interplays
- Revised values, as applicable, will be used in parallel operations

Set of transmission constraints enforced in the deployment scenarios during market simulation

- Initially all flowgates and nomograms will be activated in market simulation for energy will be also activated for Imbalance reserves
- **Testing approach:**
 - CAISO team will enforce all the flowgates and nomograms for the EDAM entities in market simulation to assess computational performance
 - Enforcement of constraint will allow to assess deliverability of imbalance reserves
 - Based on performance analysis, team will assess additional benefits and feasibility to enforce contingencies. All the other configurable parameters would be kept fixed while this analysis is underway
- **Change process:** Based on analysis, the selected set will be activated in parallel operations. Changes of constraints enforced can be implemented directly within the analysis and simulation process. The final optimized configurations will be used for parallel operations and go-live

Tunable parameter for proportion of imbalance reserves that are “deployed” in deployment scenarios

- Market simulation will use an initial value of 1 (100%). This will be the same value in all areas participating in the market
- **Testing approach:**
 - Assessment if parameter working as intended in market simulation
 - CAISO will perform sensitivity analysis for this tunable parameter to assess its performance. While performing sensitivity analysis for this parameter, all the other configurable parameters would be kept fixed.
- **Change process:** Based on analysis, the selected value will be deployed in parallel operations and market participants will have an opportunity to evaluate and provide feedback. The final optimized configurations will be used for parallel operations and go-live

Energy storage “envelope constraint” multipliers

- Market simulation will use initial multiplier values of 85%. These are new parameters for which there is no operational data
- **Testing approach :**
 - Assess in market simulation parameter and constraints function as intended
 - Perform sensitivity analysis for this tunable parameter. While performing sensitivity analysis for this parameter, all the other configurable parameters would be kept constant
- **Change process :** After analysis, optimized values will be deployed in parallel operations and market participants will get have an opportunity to evaluate and provide suggestions for any changes. The final optimized configurations will be used for parallel operations and go-live

Imbalance reserve demand curve cap

- Market simulation will run on the default value of \$55
- **Testing approach :**
 - Assess in market simulation that parameter and demand curves are working as intended
 - Perform sensitivity analysis of the tariff-defined value of \$55 imbalance reserve demand curve cap and assess market outcomes. While performing sensitivity analysis for this parameter, all the other configurable parameters would be kept constant
- **Change process :** The value of this parameter is defined in the Tariff and changes to it may require additional steps. The final optimized configurations will be used for parallel operations and go-live

Default availability bid prices for Imbalance Reserve Up and Reliability Capacity Up mitigation

- Market simulation will run on the default value of \$55
- **Testing approach:**
 - Assess this parameter and market mitigation is working as intended in market simulation
 - CAISO team will assess the impact of the tariff-set \$55 IRU/RCU bid mitigation value and may do sensitivity analysis to gain additional understanding of this parameter effects
- **Change process:** The value of this parameter is defined in the Tariff and changes to it may require additional steps. The final optimized configurations will be used for parallel operations and go-live

Next Steps

- Submit questions and comments through the comments template located on the [DAME initiative webpage](#)
 - Comments are due by **September 4, 2024**
- The ISO will review and respond to feedback from customers
- The ISO will establish the dates for future working group sessions

What Questions Do You Have?



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Imbalance Reserve Requirements



Overview

Assessment of methodology to calculate Imbalance Reserves is a separate effort from the day-ahead configurable parameters

- Ongoing evaluation of Imbalance Reserve mosaic quantile regression parameters will occur prior to market simulation.
- **Testing approach:** CAISO team will trial adjustable parameters based on published external BRS to assess the overall performance of the Imbalance reserve requirements. Based on the outcome of the analysis and participants feedback, CAISO will decide if additional trials are needed.
- **Change process:** After analysis, CAISO team will present simulation outcomes. Market participants will get an opportunity to evaluate and provide comments. The final optimized configurations will be used for parallel operations and go-live
- **Next Step:** Separate stakeholder call tentatively scheduled for October 2024

What Questions Do You Have?



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Thank you for your participation!



Reminder: Submit questions and comments on comments template available on the [DAME initiative webpage](#) by **September 4, 2024.**



Reference Links

DAME Revised Final Proposal:

<https://stakeholdercenter.caiso.com/InitiativeDocuments/RevisedFinalProposal-Day-AheadMarketEnhancements.pdf>

DAME/EDAM Tariff Amendment: <http://www.caiso.com/Documents/Aug22-2023-DAME-EDAM-Tariff-Amendment-ER23-2686.pdf>

DAME Business Requirements Specification (BRS):

<https://www.caiso.com/documents/businessrequirementspecification-day-aheadmarketenhancement.pdf>

Parallel Operations Plan: <https://www.caiso.com/documents/draft-parallel-operations-plan-edam-dame-2026.pdf>

Market Simulation Scenarios:

<https://www.caiso.com/documents/marketsimulationstructuredscenarios-dayaheadmarketenhancements.pdf>



REGISTRATION IS OPEN

2024 STAKEHOLDER SYMPOSIUM

Welcome reception - Oct. 29
at Kimpton Sawyer Hotel, Sacramento, CA

Symposium program - Oct. 30
SAFE Credit Union Convention Center
Sacramento, CA

Visit the event website: www.reg.eventmobi.com/2024stakeholdersymposium

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