



California ISO

# Market Simulation Forum

May 22, 2025

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ISO PUBLIC

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# Overview

- Presentation Summary of Changes
- Market Simulation Overview
- Market Simulation MAP Stage Availability
- Market Simulation MAP Stage Code
- Market Simulation Activities
- Market Simulation Settlements (if needed)
- Market Simulation Initiatives - Current
  - FERC881 Track 2
  - Transmission Exchange Agreement (TEA)
- Market Simulation Initiatives - Upcoming
  - Subscriber Participation Transmission Ownership Model (Subscriber PTO)
  - EDAM/DAME/Western EIM/BAA/ISO

# Summary Of Changes

- Slide 8: Updated MAPSTAGE availability
- Slide 13: Updated Activation Date for CRR
- Slide 22: Updated Subscriber PTO dates
- Slide 23: Updated next meeting dates

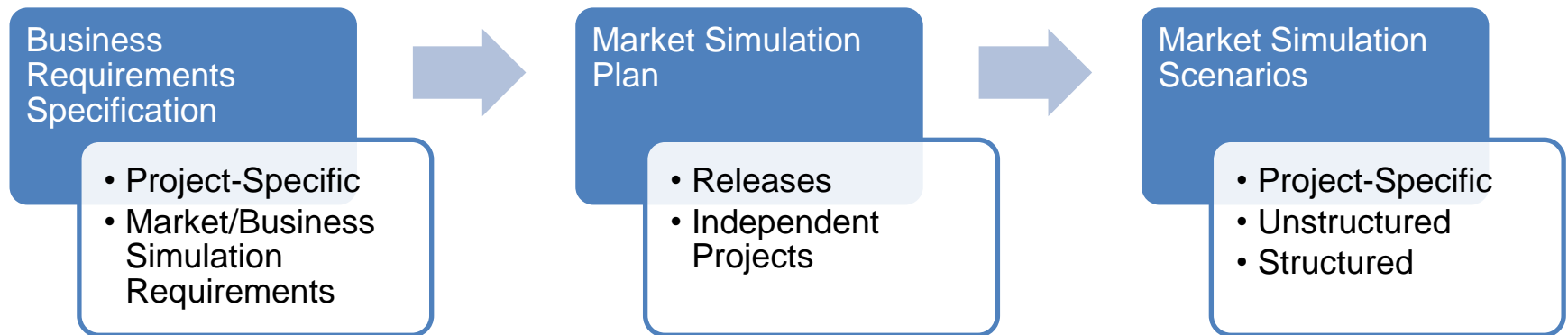
# Market Simulation Overview

- Covers activities in the MAP Stage environment
- MAP Stage is an integrated Production-like environment that is available to customers with provisioned access
- Allows customers to experience ISO release/project implementations prior to Production implementation
- Market Simulation will allow customers and the CAISO to conduct specific market scenarios in a test environment prior to the Production activation to ensure that all system interfaces are functioning as expected and to produce simulated market results
- Customers may also use MAP Stage to validate the interaction of customer-driven changes with the ISO systems

# Reasons for Market Simulation

- **Rule impacts:** Generalized changes in market rules, bidding rules, settlements rules, market design changes, or other business rules.
- **Interface changes:** Changes that impact templates (RA Supply Plan, Master File RDT, etc.), User Interfaces (UI), Application Programming Interface (API) / Web Service.
- **New/modified application/report:** Changes that cause addition/modification of ISO systems or reports, especially when data input is required by the customer
- **New/modified system process:** Modification of data flow in systems, especially if the new/modified process requires the customer to demonstrate proficiency prior to Production
- **New/modified model data:** Addition or substantial modification of model data as a market solution or export provided by the ISO
- **New/modified user role:** The addition or modification of access permissions for a user role

# Market Simulation for ISO Implementation of Releases & Projects - Deliverables



# Market Simulation Forums

*Scheduled for 2-3PM PT*

|       | Monday | Tuesday | Wednesday | Thursday | Friday |
|-------|--------|---------|-----------|----------|--------|
| April |        | 1       | 2         | 3        | 4      |
|       | 7      | 8       | 9         | 10       | 11     |
|       | 14     | 15      | 16        | 17       | 18     |
|       | 21     | 22      | 23        | 24       | 25     |
|       | 28     | 29      | 30        |          |        |
| May   |        |         |           | 1        | 2      |
|       | 5      | 6       | 7         | 8        | 9      |
|       | 12     | 13      | 14        | 15       | 16     |
|       | 19     | 20      | 21        | 22       | 23     |
|       | 26     | 27      | 28        | 29       | 30     |

**Market  
Simulation  
Forum**

**ISO Closure**

**Cancelled**

# Market Simulation MAP Stage Availability

- MAP Stage weekly maintenance window is Friday\*

| System      | UI            | API           | Comments                      |
|-------------|---------------|---------------|-------------------------------|
| ADS         |               |               |                               |
| ALFS        | Not Available |               |                               |
| BAAOP       |               |               |                               |
| BSAP        |               |               |                               |
| CIRA        |               |               |                               |
| CMRI        |               |               |                               |
| CRR (old)   |               | Not Available |                               |
| CRR (new)   |               |               |                               |
| DRRS        |               |               |                               |
| ECIC        | Not Available |               |                               |
| FDR         | Not Available |               |                               |
| MF          |               |               |                               |
| OASIS       |               |               |                               |
| OMS         |               |               |                               |
| PLC         |               | Not Available |                               |
| RCBSAP      |               |               |                               |
| RIMS        |               | Not Available |                               |
| SIBR        |               |               | MAPSTAGE fix ETA week of 5/19 |
| MRIS        |               |               |                               |
| TR          |               | Not Available |                               |
| webWheel    |               | Not Available |                               |
| webLineR    | 12/31/24      | From 4/14     |                               |
| AVAILABLE   |               |               |                               |
| MAINTENANCE |               |               |                               |

\*Maintenance may also occur after 1600 PT on other days and may deviate from the weekly maintenance window as necessary



# Market Simulation MAP Stage Code

| System | MAP-STAGE  | PRODUCTION      | Comments |
|--------|------------|-----------------|----------|
| Market | Release 23 | Release 23      |          |
| FNM    | DB134      | DB134 from 4/14 |          |
| ADS    |            |                 |          |
| ALFS   |            |                 |          |
| BAAOP  |            |                 |          |
| BSAP   |            |                 |          |
| CIRA   |            |                 |          |
| CMRI   |            | From 4/9        |          |
| DRRS   |            |                 |          |
| ECIC   |            |                 |          |
| FDR    |            |                 |          |
| MF     |            |                 |          |
| OASIS  |            | From 4/1        |          |
| RCBSAP |            |                 |          |
| SIBR   |            |                 |          |
| TR     |            |                 |          |

|                        |
|------------------------|
| AHEAD OF PRODUCTION    |
| SYNCED WITH PRODUCTION |
| BEHIND PRODUCTION      |

# Market Simulation Activities

| Initiative   | Market Simulation   | Comments               | Activation   |
|--|---|------------------------|--|
| <a href="#">Congestion Revenue Rights (CRR) System Upgrade</a> | <b>Connectivity Testing:</b> <ul style="list-style-type: none"> <li>MUI: 02/03/25 – 02/14/25</li> <li>B2B API (First): 02/03/25 – 02/14/25</li> <li>B2B API (Second): 02/07/25 – 02/14/25</li> </ul> <b>Market Simulation:</b> <ul style="list-style-type: none"> <li>Structured: 02/18/25 – 03/05/25</li> <li>Unstructured: 03/18/25 – 03/27/25</li> </ul> | N/A                    | 06/04/25   |
| <a href="#">FERC881 Track 2</a>                                | <b>Connectivity Testing:</b> <ul style="list-style-type: none"> <li>UI: 12/31/24 – 04/14/25</li> <li>API: 04/14/25 – 06/30/25</li> </ul> <b>Market Simulation:</b> <ul style="list-style-type: none"> <li>Unstructured: 04/14/25 – 06/30/25</li> </ul>  | N/A                    | Track 2: 07/12/25  |
| <a href="#">Hybrid Resources Phase 2C (HR2C) - RIMS</a>        | No Market Simulation. ISO to provide live walk-through of functionality on meeting.   | No settlements impacts | 05/15/25   |
| <a href="#">Transmission Exchange Agreement (TEA)</a>          | <b>Unstructured MSIM (WAPA):</b> 3/17/25 – 4/4/25 (new Aggregate Tie)<br><b>Unstructured MSIM (WAPA, TEA BRS):</b> Jan. 2026  | N/A                    | <b>Aggregate Tie:</b> 05/01/25<br><b>Full Activation:</b> March 2026 |
| <a href="#">DAME / EDAM / Western EIM</a>                      | See project slide 19.   | BPM posting 7/1/25     | See project slide 19.  |
| <a href="#">Subscriber PTO</a>                                 | See project slide 21.   | Training: Jun - Sept   | 10/01/25   |

# Map-Stage Environment Issues

| Initiative   | Defects  |
|--|--|
| <a href="#">Congestion Revenue Rights (CRR) System Upgrade</a> | N/A  |
| <a href="#">FERC881 Track 2</a>                                | N/A  |
| <a href="#">Hybrid Resources Phase 2C (HR2C) - RIMS</a>        | N/A  |
| <a href="#">Transmission Exchange Agreement (TEA)</a>          | N/A  |
| <a href="#">DAME / EDAM / WEIM</a>                             | N/A  |
| Other projects and issues                                      | ISO doing additional testing prior to releasing SIBR MAPSTAGE patch week of 5/19 |

# CRR System Upgrade

- ✓ **Registration:** by 9/30/24
- **Multiple Training Sessions:** From 10/28
- **Access Provisioning:** Ready for **MAPSTAGE** provisioning
  - CRR: EXTERNAL CRR HOLDER READ-ONLY ACCESS
  - CRR: EXTERNAL CRR HOLDER READ/WRITE ACCESS
  - CRR: EXTERNAL CRR NDA REPORTS READ-ACCESS
  - CRR: EXTERNAL UTILITY DISTRIBUTION COMPANY (UDC) READ/WRITE ACCESS
  - CRR: EXTERNAL TRANSMISSION OWNERSHIP RIGHT (TOR) OWNER READ/WRITE ACCESS
  - CRR: EXTERNAL CALIFORNIA ENERGY COMMISSION (CEC) READ/WRITE ACCESS
- **Reminder:** OASIS Tech Specs include the new & modified reports (<https://developer.caiso.com>)

# CRR System Upgrade – Market Simulation Timeline

## Connectivity Testing: (completed)

- CRR Market Interface UI (MUI): 02/03/24 – 02/14/25
- B2B API (First): 02/03/25 – 02/14/25
- B2B API (Second): 02/07/25 – 02/14/25

## Structured Market Simulation: (completed)

- Week 1: 02/18/25 – 02/20/25
- Week 2: 02/25/25 – 02/27/25
- Week 3: 03/04/25 – 03/06/25

## Unstructured Market Simulation: (completed)

- Week 4: 03/18/25 – 03/20/25
- Week 5: 03/25/25 – 03/27/25

## Activation & New Application Cutover: 06/04/25

### UI reporting issues:

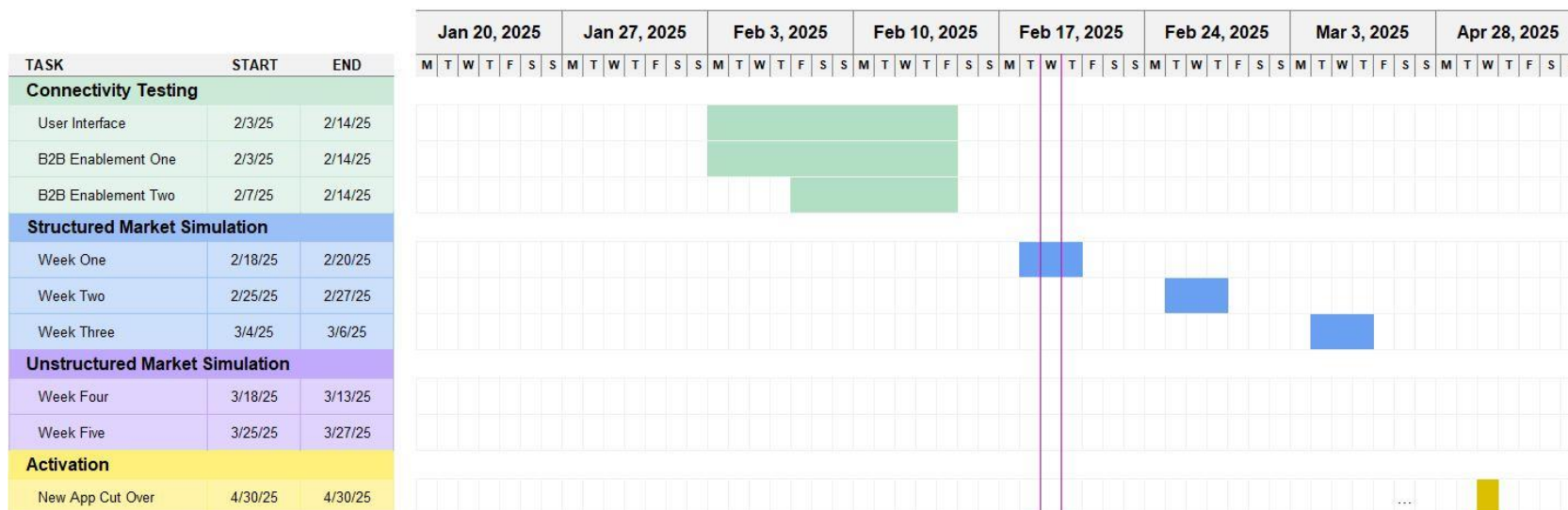
1. Cert Name
2. Time period
3. Screenshots

### B2B reporting issues:

1. Cert Name
2. Time period
3. Request Header UUID (for restAPIs only)
4. Endpoint used
5. Request submitted to CRR app (SCID/entityID used)
6. Response from CRR app
7. Screenshots

Note: Refer to CRR [Market Simulation Plan](#) for Market Simulation Scenarios and detailed Market Simulation Calendar.

Market Participant Portal URL for [CRR UI](#) updated for Connectivity Testing. See [Mock APIs](#) and request Parameters and responses.



# CRR System Upgrade – Market Simulation Timeline

## Training:

- **4/23/25 at 9am:** Refresher Training for Congestion Revenue Rights (CRR) System Upgrade Project for CRR Holders
- **4/23/25 at 1pm:** Refresher Training for Congestion Revenue Rights (CRR) System Upgrade Project for Allocations and Load Migration for LSEs
- **4/24/25 at 9am:** Refresher Training for Congestion Revenue Rights (CRR) System Upgrade Project for Utility Distribution Company (UDC)

Note: please email [CustomerTraining@caiso.com](mailto:CustomerTraining@caiso.com) for training material.

## Postings:

- **05/23/25** – July Post CRR FNM by SP
- **06/10/25** – July Post MEQ
- **06/03/25** – July List of Outages Post by SP
- **06/10/25** – July Tier 1 (T1) opens 1A (tentative)

Note: Updates to [Web Posting](#) posted. This document is being provided for visibility only, no action required from participants.

# CRR User Support for Cutover



## Access Issues

If you are experiencing trouble or are unable to log into the new CRR system you should....

Submit a CIDI inquiry ticket for the Production environment with the subject line **"New CRR System Access."**



## Content/Functionality Issues

If you experience issues within the new system related to its functionality, content, or have technical questions you should...

Submit a CIDI inquiry ticket for the Production environment with the subject line **"New CRR System Issue."**



## Live Assistance

On May 22, 2025, and May 23, 2025, the ISO will have a bridge open from 1:00 PM to 3:00 PM for questions.

Please submit a CIDI inquiry ticket beforehand for reference during the call.

# FERC Order 881 Track 2 – Market Simulation Timeline

## Connectivity Testing (webLineR Only):

- Provisioning & UI: 12/31/24 – 04/14/25
- API: 04/14/25 – 06/30/25

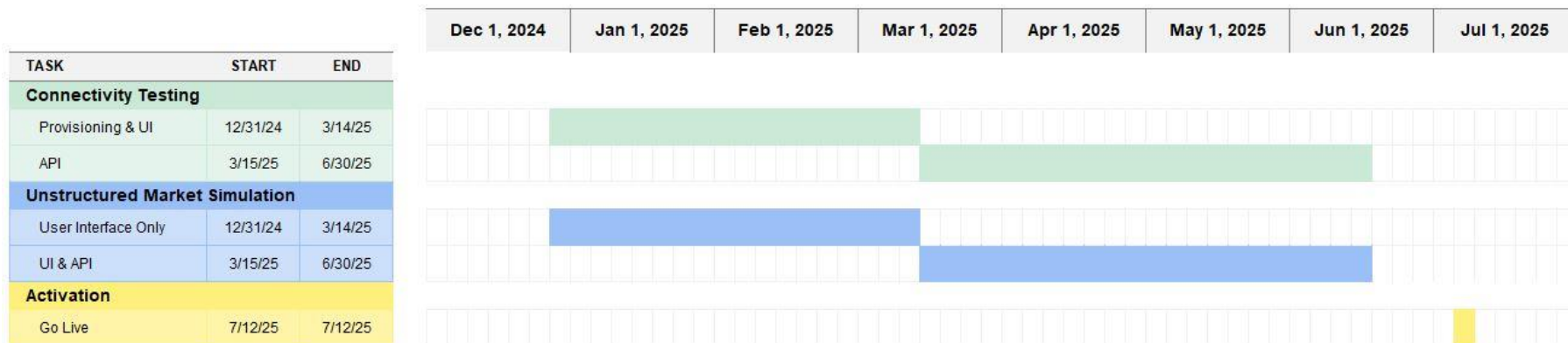
## Market Simulation (webLineR Only):

- Unstructured (UI Only): 12/31/24 - 04/14/25
- Unstructured (UI & API): 04/14/25 – 06/30/25

## Activation (webLineR Only):

- Go-live: 07/12/25

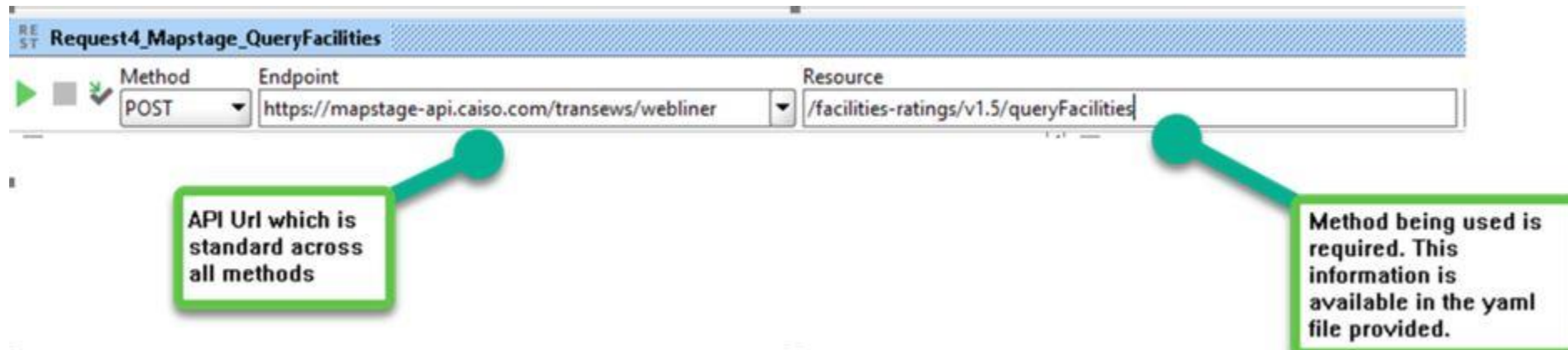
Note: refer to [webLineR MAPSTAGE](#) to test connectivity. If did not attend the training and would like a copy, please email [CustomerTraining@caiso.com](mailto:CustomerTraining@caiso.com) for training material. Note: Extension being provided for Track 3 does not impact Track 1 and Track 2 FNM and/or ICCP functionality.





## FERC881 Track 2 – webLineR Question

The API URL is <https://mapstage-api.caiso.com/transews/webliner/> and is reflected on the ISO Developer site. As this is not a webpage participants will need to use a tool like SOAPUI or Postman to submit API requests and provide the method utilized. For example:



Note: webLineR UI, <https://mapstage-webliner.caiso.com> is a webpage and can be accessed via a valid certificate.

# HR2C RIMS

- **Register by December 31, 2024**
- No Market Simulation. ISO walkthrough provided on Tuesday, May 6<sup>th</sup>.
- Activation: 5/15/2025

| ID#       | Guidance on Market Participant Impacts  | Source System | Sink System | Reason for Potential Scenario                 |
|-----------|---|---------------|-------------|---|
| MKT-004   | <b>Unstructured Market Simulation</b><br><br>Market Participants must have the capability to input Site information data into web form submission.<br><br>Note: BU requested that Market Participants have the opportunity to practice filling out and submitting the form prior to production. | N/A           | RIMS        | <i>Unstructured Market Sim, New Data type</i> |
| MKT – 005 | <b>Unstructured Market Simulation</b><br><br><i>Market Participant must have the capability to upload Topo Map, Sharing Agreement, Shapefile, and provide Site Info via web form.</i>   | N/A           | RIMS        | <i>Unstructured Market Sim, New Data type</i> |
| MKT – 006 | <b>Unstructured Market Simulation</b><br><br><i>Market Participant must have the capability to see on UI uploaded Topo Map, Sharing Agreement, Shapefile, and provide Site Info via web form.</i>   | N/A           | RIMS        | <i>Unstructured Market Sim, New Data type</i> |
| MKT – 007 | <b>Unstructured Market Simulation</b><br><br><i>Market Participants must have the capability to add Topo Map, Site Info, Shapefile, and Sharing Agreement (applicable only to Fuel Type of Solar) to Bucket 1 for any hybrid resource project created with a fuel type of Solar or Wind.</i>    | N/A           | RIMS        | <i>Unstructured Market Sim, New Data type</i> |
| MKT – 008 | <b>Unstructured Market Simulation</b><br><br><i>In the event Market Participant's upload fails validation, Market Participant must receive notification of the error.</i>   | N/A           | RIMS        | <i>Unstructured Market Sim, New Data type</i> |

# Transmission Exchange Agreement (TEA)

- **Register by December 31, 2024**
- MF, SIBR, ETCC, ITS, Settlements, CMRI, OASIS
- Unstructured MSIM (WAPA Only): 03/17/25 - 04/4/25
- Full Scope Unstructured MSIM (WAPA Only, TEA BRS): Jan. 2026
- First Activation: Week of 05/1/25 (new Aggregate Tie)
- Full Activation: March 2026

Note: Refer to [TEA External BRS](#) for overview of functionality for October Activation.

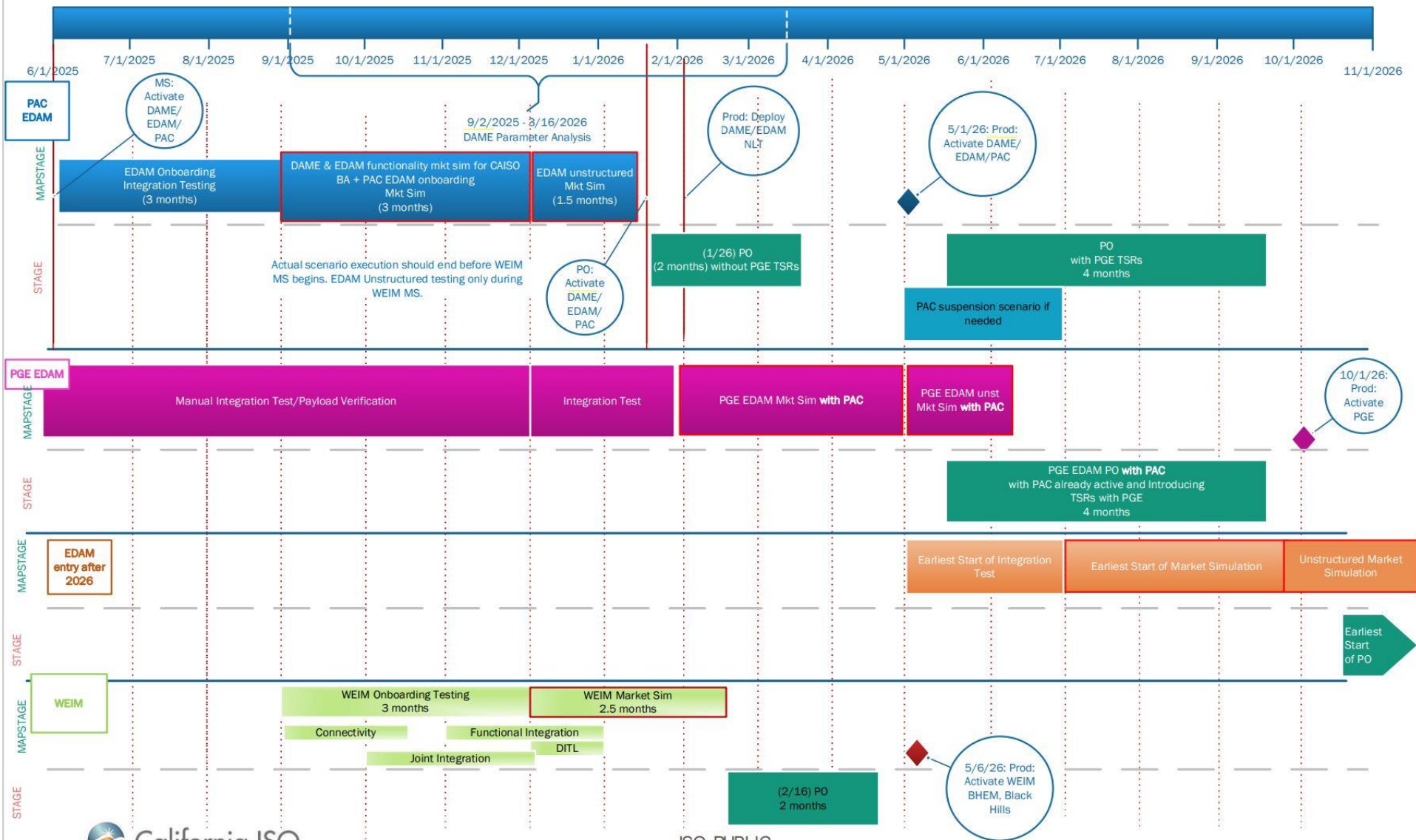
|                                |         |         | Feb 17, 2025 |   |   |   |   |   |   | Feb 24, 2025 |   |   |   |   |   |   | Mar 3, 2025 |   |   |   |   |   |   | Mar 10, 2025 |   |   |   |   |   |   | Mar 17, 2025 |   |   |   |   |   |   | Mar 24, 2025 |   |   |   |   |   |   |  |
|--------------------------------|---------|---------|--------------|---|---|---|---|---|---|--------------|---|---|---|---|---|---|-------------|---|---|---|---|---|---|--------------|---|---|---|---|---|---|--------------|---|---|---|---|---|---|--------------|---|---|---|---|---|---|--|
| TASK                           | START   | END     | M            | T | W | T | F | S | S | M            | T | W | T | F | S | S | M           | T | W | T | F | S | S | M            | T | W | T | F | S | S | M            | T | W | T | F | S | S | M            | T | W | T | F | S | S |  |
| Unstructured Market Simulation |         |         |              |   |   |   |   |   |   |              |   |   |   |   |   |   |             |   |   |   |   |   |   |              |   |   |   |   |   |   |              |   |   |   |   |   |   |              |   |   |   |   |   |   |  |
| WAPA Only                      | 2/24/25 | 3/14/25 |              |   |   |   |   |   |   |              |   |   |   |   |   |   |             |   |   |   |   |   |   |              |   |   |   |   |   |   |              |   |   |   |   |   |   |              |   |   |   |   |   |   |  |
| Activation                     |         |         |              |   |   |   |   |   |   |              |   |   |   |   |   |   |             |   |   |   |   |   |   |              |   |   |   |   |   |   |              |   |   |   |   |   |   |              |   |   |   |   |   |   |  |
| Go-Live                        | 3/24/25 | 3/24/25 |              |   |   |   |   |   |   |              |   |   |   |   |   |   |             |   |   |   |   |   |   |              |   |   |   |   |   |   |              |   |   |   |   |   |   |              |   |   |   |   |   |   |  |

# DAME / EDAM / WEIM – Market Simulation Timeline

| Initiative  | Connectivity Testing | Integration Testing | Structured Market Sim | Unstructured Market Sim | Parallel Operations           | Activation |
|---|----------------------|---------------------|-----------------------|-------------------------|-------------------------------|------------|
| <a href="#"><u>Day-Ahead Market Enhancements</u></a>                      | 06/01/25 – 09/01/25  | 06/01/25 – 09/01/25 | 09/01/25 – 12/01/25   | 12/01/25 – 01/15/26     | 01/26/26 – 03/26/26 (EDAM OB) | 05/01/26   |
| <a href="#"><u>Extended Day-Ahead Market</u></a>                          | 06/01/25 – 09/01/25  | 06/01/25 – 09/01/25 | 09/01/25 – 12/01/25   | 12/01/25 – 01/15/26     | 01/26/26 – 03/26/26 (EDAM OB) | 05/01/26   |
| <a href="#"><u>EDAM ISO BAA Participation Rules Track A</u></a>           | 06/01/25 – 09/01/25  | 06/01/25 – 09/01/25 | 09/01/25 – 12/01/25   | 12/01/25 – 01/15/26     | 01/26/26 – 03/26/26 (EDAM OB) | 05/01/26   |
| <a href="#"><u>Extended Day-Ahead Market On-Boarding - Pacificorp</u></a> | 05/01/25 – 05/31/25  | 06/01/25 – 09/01/25 | 09/01/25 – 12/01/25   | 12/01/25 – 01/15/26     | 01/26/26 – 03/26/26           | 05/01/26   |
| <a href="#"><u>Extended Day-Ahead Market - PGE</u></a>                    | 11/01/25 – 11/30/25  | 12/01/25 – 01/31/26 | 02/01/26 – 04/30/26   | 05/01/26 – 06/12/26     | 05/18/26 – 09/04/26           | 10/01/26   |
| <a href="#"><u>WEIM - Berkshire Hathaway Energy Montana</u></a>           | 09/01/25 – 10/17/25  | 10/01/26 – 11/30/26 | 12/01/25 – 02/13/26   | NA                      | 02/16/26 – 04/17/26           | 05/06/26   |
| <a href="#"><u>WEIM – Black Hills</u></a>                                 | 09/01/25 – 10/17/25  | 10/01/26 – 11/30/26 | 12/01/25 – 02/13/26   | NA                      | 02/16/26 – 04/17/26           | 05/06/26   |

Note: [Spring 2026 Release Market Sim Plan](#) posted on Release Planning page. Developer related documentation available for [CMRI](#) and [OASIS](#) for DAME and EDAM. [EDAM Market Simulation Scenarios v1.1](#) and [From/To](#) document.

# DAME / EDAM / WEIM – Market Simulation Timeline



# Subscriber Participating Transmission Ownership Model (Subscriber PTO)

## Connectivity/Integration Testing:

- 08/11/25 – 08/15/25 (Phase 1)
- TBD - Phase 2

## Unstructured Market Simulation:

- 08/18/25 - 08/29/25 (Phase 1)
- TBD - Phase 2

## Activation:

- 10/01/25 (Phase 1)
- TBD – Phase 2

Note: Refer to Subscriber PTO BRS for overview of functionality. Phase 1 to include all functionality except for Settlements and CMRI, Phase 2 includes Settlements and CMRI only.



## Next Steps

- Work with your UAA to provision your organization's access to MAP Stage for access to the systems to execute Market Simulation
- Review BRS Market Simulation requirements, Market Simulation Plans, Market Simulation Scenarios and provide any feedback
- Register for participation in Market Simulation
- Attend the Release User Group Forums, every other week, for implementation updates, including active and upcoming Market Simulation activities
- During active Market Simulations, attend the weekly Market Simulation Forums

# Market Simulation Registration

- **Please register for your participation in Market Simulation activities for each Market Simulation initiative as appropriate**
  - If you have intent to actively engage in MAP Stage testing of access, systems, functionality, processes, and/or review of results/data
- **This informs CAISO Market Simulation to provide more specific support for your efforts, including**
  - Data setup for your testing
  - More immediate communication and coordination impacting your testing/review
  - More detailed information for the applicable initiatives
- **How to register**
  - Submit CIDI with ‘Functional Environment’ = “Market Simulation”
    - Identify the Market Simulation initiative(s) you will participate in
    - Identify any specific resources as applicable
    - List the contacts and e-mail addresses that you would like to include
  - CIDI is preferred and if you don’t have CIDI, you can e-mail [marketsim@caiso.com](mailto:marketsim@caiso.com) with the same information



# Upcoming Meetings

- [Market Simulation Forum:](#)
  - Tuesday, June 19, 2025 @ 2:00 PM PT
- [Release User Group \(RUG\):](#)
  - Tuesday, May 27, 2025 @ 10:00 AM PT
- [CRR Customer Partnership Group \(CPG\):](#)
  - Thursday, June 19, 2025 @ 10:00 AM PT
- [Technical User Group \(TUG\):](#)
  - Tuesday, June 3, 2025 @ 10:00AM PT
- DAME, EDAM, EDAM CAISO BAA PR:
  - Thursdays 1PM PT (registered participants only)

# Market Simulation Support

- Email general questions to [marketsim@caiso.com](mailto:marketsim@caiso.com)
- Submit market simulation specific issues and questions in CIDI with subject: **“Project Name: System Name – Issue Title” with Functional Environment set to Market Simulation.**
  - If not related to a Project submit subject as “NA: System Name – Issue Title”
- Service Desk: (916) 351-2309