



California ISO Release User Group

December 19, 2024

10:00 a.m.–11:00 a.m. (Pacific Time)

Web Conference Information	Conference Call Information
<p>Web Address: https://caiso.webex.com/caiso/j.php?MTID=m8f4dee2c7059898b3609c46be3cd2c20</p> <p>Audio connection instructions will be available after connecting to the web conference. When prompted, select "Call me" and enter the phone number you will use during the call. You will be called by the conference shortly.</p>	<p><i>1-844-621-3956 United States Toll Free</i> <i>+1-650-479-3208 United States Toll</i> <i>Meeting number (access code): 2491 042 7352</i></p>
<p>Calls and webinars are recorded for stakeholder convenience, allowing those who are unable to attend to listen to the recordings after the meetings. The recordings will be publicly available on the ISO web page for a limited time following the meetings. The recordings, and any related transcriptions, should not be reprinted without the ISO's permission.</p>	
<p>https://www.caiso.com/meetings-events/topics/release-users-group-rug</p>	
<p>http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx</p>	

Release Plan Summary

Independent 2024 Releases

- ✓ Modification of Maximum Import Bid Price Hourly Energy Shaping Factor* effective TD 11/16/24
- ✓ Transmission Service & Market Scheduling Priorities Phase 2 – Resale Scope* effective 12/16/24

Independent 2025 Releases

- Highest Emergency Rating – January
- Hybrid Resources Phase 2C: RIMS* – February
- Congestion Revenue Rights System Upgrade – March
- CPM Enhancements Track 1* – April
- Transmission Exchange Agreement – May
- FERC 881 – Managing Transmission Line Ratings Track 2 – Operational/EMS Model Data & Applications* – June
- Enable Non-Generating Resources to Participate in Inter-SC Trade
- WEIM FAB Enhancements

Spring 2026 Release

- Day-Ahead Market Enhancements Activation* – May
- Extended Day-Ahead Market Activation* – May
- EDAM ISO BAA Participation Rules* – May
- EDAM Onboarding – May & October
- WEIM Onboarding – May

Future Release

- Subscriber Participating Transmission Owner Model*
- Settlement Upgrade Project – Next RUG/SUG quarterly update January 2025

**Policy*

New: BRS Stakeholder Comments & Review Sessions

- **Stakeholders can now submit comments on Business Requirements Specifications**

- BRS Comments open for:

Closed	Open	Upcoming
<ul style="list-style-type: none">• EDAM ISO BAA PR v1.2 – thru 10/9/24• TSMSP2 v1.1 – thru 10/16/24• EDAM v1.3 thru 10/31/24• DAME v1.3 thru 9/30/24• Subscriber PTO thru 8/15/24• FERC Order 2222 thru 8/9/24• EDAM ISO BAA Participation Rules v1.0-1.1 thru 8/2/24		<ul style="list-style-type: none">• EDAM ISO BAA PR v1.3• DAME v1.4

- Access from Release Planning at <http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx> or access from [Policy](#) page

- **ISO will schedule BRS reviews as appropriate**

- **Learn how to use the commenting tool:**

- [View presentation](#)
- [View video](#)



Independent 2025 Releases

2025 – Highest Emergency Rating

Project Information		Details/Date	
High Level Business Problem or Need		The project aims to primarily improve market robustness, performance, and the technology foundation for system grid reliability by updating functionality and interfaces to reduce workarounds, automating manual processes and addressing minor defects or functionality enhancements identified in by the business units.	
High Level Project Scope		<p>This enhancement focuses specifically on internal ISO users and RC Customers having the capability to adjust the HER and ER duration in OMS.</p> <p>Step 1 – HER data cleanup</p> <ul style="list-style-type: none"> • Load HER in EMMS in one of the existing slots • Transfer HER to RTCA during the network model build process <p>Step 2 – Use RTCA to update HER</p> <ul style="list-style-type: none"> • For interim changes to HER in between models, change the data directly in RTCA • Make the ER and HER duration and value fields editable • Include validation to make sure HER is not less than the emergency rating <p>Step 3 – WebOMS changes</p> <ul style="list-style-type: none"> • Work with OATI to include a new field for HER • HER can be updated in WebOMS in between model promotions • Updates to HER will be sent to downstream systems 	
BPM Changes		Not Impacted	
Tariff Changes		Not Impacted	
Impacted Systems		webOMS, HANA, Market	
Milestone Type	Milestone Name	Dates	Status
Board	Board	NA	
BRS	BRS	Feb 15, 2024	✓
	BRS 1.1	Apr 10, 2024	✓
Tech Spec	Present OMS in TUG	Feb 27, 2024	✓
	OMS	Aug 19, 2024	✓
Training	Training	Oct 28, 2024	✓
Market Simulation	HER OMS UI/API available	Nov 12, 2024	✓
	Market Simulation	Jan 06 – 20, 2025	
Production	Production	Jan 21, 2025	

2025 – Hybrid Resources 2C RIMS

Project Information	Details/Date
High Level Business Problem or Need	<p>The ISO launched this stakeholder initiative to identify new or enhanced market rules and business processes needed to accommodate hybrid resources, resources that consist of two sets of market rule changes that will facilitate mixed-fuel type (hybrid and co-located resources) project participation in the ISO markets.</p> <p>Prior to this initiative, Phase 1 identified a first set of modifications generally concerned with setting up and operating co-located resources.</p> <p>Building on phase 1, Phase 2 focuses on modifications that will explore how hybrid generation resources can be registered and configured to operate within the ISO market. The initiative will further develop solutions allowing developers to maximize the benefits of their resource's configuration. Additionally, hybrid resource configurations also raise new operational and forecasting challenges that the ISO plans to address during this initiative.</p>
High Level Project Scope	<p>With this initiative, there's an opportunity to increase storage and the number of hybrid resources that can connect to the ISO grid. Currently the interconnection queue includes more than 24,000 MW of mixed fuel projects and nearly 20,000 MW of storage which represents roughly half of all generation in the current interconnection queue.</p>
BPM Changes	Settlements & Billing
Impacted Systems	<p>Summer 2023: Settlements</p> <p>Fall 2023: Metered Quantities for Hybrids</p> <p>Independent 2025: RIMS</p> <p>Completed: Today's Outlook, ISO Today Mobile Application, Reports</p>
Requirements	http://www.caiso.com/Documents/BusinessRequirementsSpecifications-HybridResourcesPhase2.pdf

2025 – Hybrid Resources 2C RIMS

Milestone Type	Milestone Name	Dates	Status
External BRS	Publish External BRS	Jan 31, 2023	✓
	Revision – Add 4 Market Simulation Business Requirements	Jan 04, 2024	✓
Settlements Config Guides	NA for RIMS	NA	
Tech Spec	Create and Publish ISO Interface Spec (Tech Specs)	NA	
Shapefile	Shapefile requirements and samples will be presented in future RUG & TUG forums	Early 2025	
Production Activation	Hybrid Resources 2C – RIMS	Feb 11, 2025	

2025 - Congestion Revenue Rights (CRR) Upgrade

Project Information	Details/Date
High Level Project Scope	<p>The Congestion Revenue Rights (CRR) system was implemented by CAISO in 2008 as part of the Market Redesign and Technology Upgrade (MRTU) implementation. The current CRR system is at its end of life, does not have the flexibility to accommodate future policy changes and requires the ISO to calculate data and run processes manually outside the current system to produce a successful CRR Auction.</p> <p>The CAISO has decided on a significant upgrade of the existing CRR system and adopt the latest technology stack aligned with CAISO's technology standards, consolidate all CRR related functions, minimize human errors, reduce processing time, eliminate manual workarounds, and positions the system to accommodate policy changes down the road.</p> <p>Congestion Revenue Rights (CRR) system replacement project scope is the roll-out of a:</p> <ul style="list-style-type: none"> • Brand new user-interface (UI) system with an updated new look -and-feel, to replace the existing legacy system implemented during the MRTU 2008 go-live and brought up to current ISO technology standards • Set of application-programming interfaces (APIs) to enable integration between ISO and market participant systems <p>Overall, to support the following in one consolidated CRR external-facing system:</p> <ul style="list-style-type: none"> • Annual/Monthly Auction and Allocation market participant bid submission and results retrieval • Load data submission by CRR LSEs, CEC • Load migration data submission by CRR UDCs • Secured "Congestion Revenue Rights Full Network Model" information access • Private and public access of CRR market input and output information
BPM Changes	<p>Congestion Revenue Rights</p> <ul style="list-style-type: none"> • Enhancements made to the new CRR product. • Automatic publishing of CRR market results. • Automatic CRR notification. • New CRR schedule calendar. • New CRR FNM access. • New CRR data submission and download interface UI/API. • New CRR market results interface. • Load Migration
Tariff Change	No
Impacted Systems	CRR, AIM, CMRI, OASIS, CTS, Market Clearing, EMMS, IFM/RTN, MQS, Master File, MPP, Settlements, WebOMS, ETCC.

2025 - Congestion Revenue Rights (CRR) Upgrade

System	High Level Changes
CRR	Significant system upgrade including: <ul style="list-style-type: none">• Enhancements made to the new CRR application.• Automatic publishing of CRR market results.• Automatic CRR notification.• New CRR schedule calendar.• New CRR FNM access.• New CRR data submission and download interface UI/API.• Other TBDs identified through BRS development.
AIM	<ul style="list-style-type: none">• New users and roles to support new CRR functionality
OASIS	<ul style="list-style-type: none">• Publish CRR Calendar, and all available CRR market names, and credit margin information, 3 year historical expected value..• Allow authorized users to publish CRR inventory payloads• Broadcast the following: set aside values, the results of all CRR markets, retired node/anode mapping, binding constraints, initial and updated CRR source and sink list for each CRR market,
CTS	<ul style="list-style-type: none">• Broadcast
EMMS	<ul style="list-style-type: none">• CRR will consume data from EMMS
IFM/RTN	<ul style="list-style-type: none">• CRR will consume data from IFM/RTN
MQS	<ul style="list-style-type: none">• MQS will consume and process SCID in a new format• MQS will consume ownership payload in bulk
Master File	<ul style="list-style-type: none">• Master File will be modified as needed to support the new CRR functionality
MPP	<ul style="list-style-type: none">• CRR will provide pre-configured external reports
Settlement	<ul style="list-style-type: none">• Settlements will be modified as needed to support the new CRR functionality
WebOMS	<ul style="list-style-type: none">• CRR will consume data from WebOMS
ETCC	<ul style="list-style-type: none">• CRR will consume data from ETCC

2025 - Congestion Revenue Rights (CRR) Upgrade

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	NA	
External BRS	Publish External BRS BRS Revision v1.7	Nov 16, 2022 Oct 28, 2024	✓ ✓
Tech Spec	Publish Technical Specification	Feb 24, 2023	✓
Training	Training	Nov 06 – Nov 08, 2024	✓
Customer Partnership Group	Last CPG	Dec 19, 2024	✓
	Next CPG	Jan 16, 2025 (Tentative)	
Market Simulation	Connectivity Testing: <ul style="list-style-type: none"> • CRR Market User Interface (MUI) • B2B API Testing (First Enablement) • B2B API Testing (Second Enablement) 	01/21/24 to 01/23/25 01/21/25 to 01/23/25 01/23/25 to 01/31/25	
	Market Simulation Activities: <ul style="list-style-type: none"> • Structured Market Sim: • Week 1 (Note: OASIS is only during structured) • Week 2 • Week 3 	02/04/25 to 02/06/25 02/11/25 to 02/13/25 02/18/25 to 02/20/25	
	<ul style="list-style-type: none"> • Unstructured Market Sim: • Week 4 • Week 5 	02/25/25 to 02/27/25 03/04/25 to 03/06/25	
Production	Cutover	Mar 24 – Mar 27, 2025	

2025 – Transmission Exchange Agreement

Project Information	Details/Date
High Level Business Problem or Need	<p>The ISO is committed to develop a process or system that allows Western Area Power Administration – Sierra Nevada Region (“WAPA”) to resell some or all of their 400 MW ownership rights on the PAC#1 line to other SCIDs and retain the perfect hedge and scheduling priority to further contract negotiations to extend the term of the Transmission Exchange Agreement.</p> <p>The Transmission Exchange Agreement (“TEA”) with WAPA-SNR, PG&E and ISO is scheduled to expire 9/30/2024. A term of the original agreement executed in 2004, was that the ISO would develop a system that allowed WAPA to sell their unused capacity on their line. This project provides solution to the scheduling issue which needs to be in place by June 2024 to ensure that the ISO has solved the problem and support filing an amendment and extension of the TEA at FERC.</p>
High Level Project Scope	<ul style="list-style-type: none"> • WAPA needs functionality to sell their TOR to other parties on their OASIS. • If the TOR rights are sold then WAPA will notify the CAISO to provide the purchaser the hedging and scheduling priority opportunity provided all ETCs/TORs. • The market and settlement systems need to be able to “move” the Contract Reference Number (“CRN”) from the WAPA CRN to the purchaser SCIDs so that the settlement to the purchaser SCID reverses the costs of the transmission access charge and congestion (aka the perfect hedge) and provides a high scheduling priority in the IFM and RTM. • WAPA will not take on the obligation to settle with their purchaser. • WAPA can sell any increments of MWs up to their 400 MW ownership rights. Therefore, the solution needs to be flexible enough to allow the “existing” TORs to vary the MWs capabilities. [Note: The MW increments to be sold can be no less than 5 MW.] • WAPA’s functionality allows them to schedule between Malin and Round Mountain, Malin and PG&E DLAP, and Malin and Tracy. This would be the source and sink that that functionality needs to provide. • If there are outages on the line, the curtailment should be consistent with current practice.
BPM Changes	Settlements Configuration Guides
Tariff Changes	N/A
Impacted Systems	AIM, MF, CMRI

2025 – Transmission Exchange Agreement

Milestone Type	Milestone Name	Dates	Status
External BRS	Post External BRS	Sep 03, 2024	✓
BRS	Provide to WAPA	Jan 23, 2024	✓
Settlements Config Guides	Tech Doc	Feb 12, 2024	✓
	1st Draft Config File & Release Component Summary	Mar 04, 2024	✓
Tech Spec	Create ISO Interface Specifications – CMRI	Mar 26, 2024	✓
	UI: The current CMRI CRN report is not being changed. WAPA will be able to see Sub CRNs mapped to its own Parent CRN		
Tariff	NA	NA	
BPMs	Draft BPM changes – Settlements & Billing PRR 1559	Mar 20, 2024	✓
Market Simulation	Market Simulation – WAPA	April 2025 (Tentative)	
Production Activation	Transmission Exchange Agreement Renegotiation	May 2025 (Tentative)	

2024 – FERC 881 – Managing Transmission Line Ratings

Project Information	Details/Date		
High Level Project Scope	<p>This initiative will address the California ISO's compliance with FERC Order No. 881 in establishing new transmission line rating requirements</p> <p>Order No. 881 establishes new transmission line rating requirements for public utility transmission providers</p> <ul style="list-style-type: none"> Establish and use ambient-adjusted ratings and seasonal ratings for all transmission lines unless excepted <ul style="list-style-type: none"> Use AARs for near-term transmission service requests Use seasonal rating for long-term transmission service requests RTOs/ISOs must implement systems and procedures to allow transmission owners to electronically update transmission line ratings at least hourly Use uniquely determined emergency ratings for contingency analysis in the operations horizon and in post-contingency simulations of constraints Implement transparency reform 		
Milestone Type	Milestone Name	Dates	Status
Tariff	FERC Acceptance ER22-2362	Apr 20, 2023	✓
	FERC Acceptance Tariff Revisions	Dec 13, 2023	✓
	Draft Tariff Language Posted	Dec 6, 2024	✓
	Draft Tariff Language Stakeholder discussion	Dec 16, 2024	✓
	Draft Tariff Filing	Jan 17, 2025	
	FERC Acceptance Tariff Revisions	TBD	
BRS	Publish BRS – Track 1 (Updates & Added FAC-011)	Jun 11, 2024	✓
	Publish BRS – Track 2	Nov 22, 2024	✓
	Publish BRS – Track 2 (Updates)	Mid-Jan 2025	
Market Simulation	Market Simulation webLineR	Jan – Jun 2025	
Production	Track 1 Real-Time Reliability Applications	Apr 1, 2024/Dec 10, 2024	✓
	Track 2 Operational/EMS Model Data & Applications	Jun 2025	
	Track 3 Market Application and Look Ahead Applications	Jan – Jul 2026 Phased Implementation	

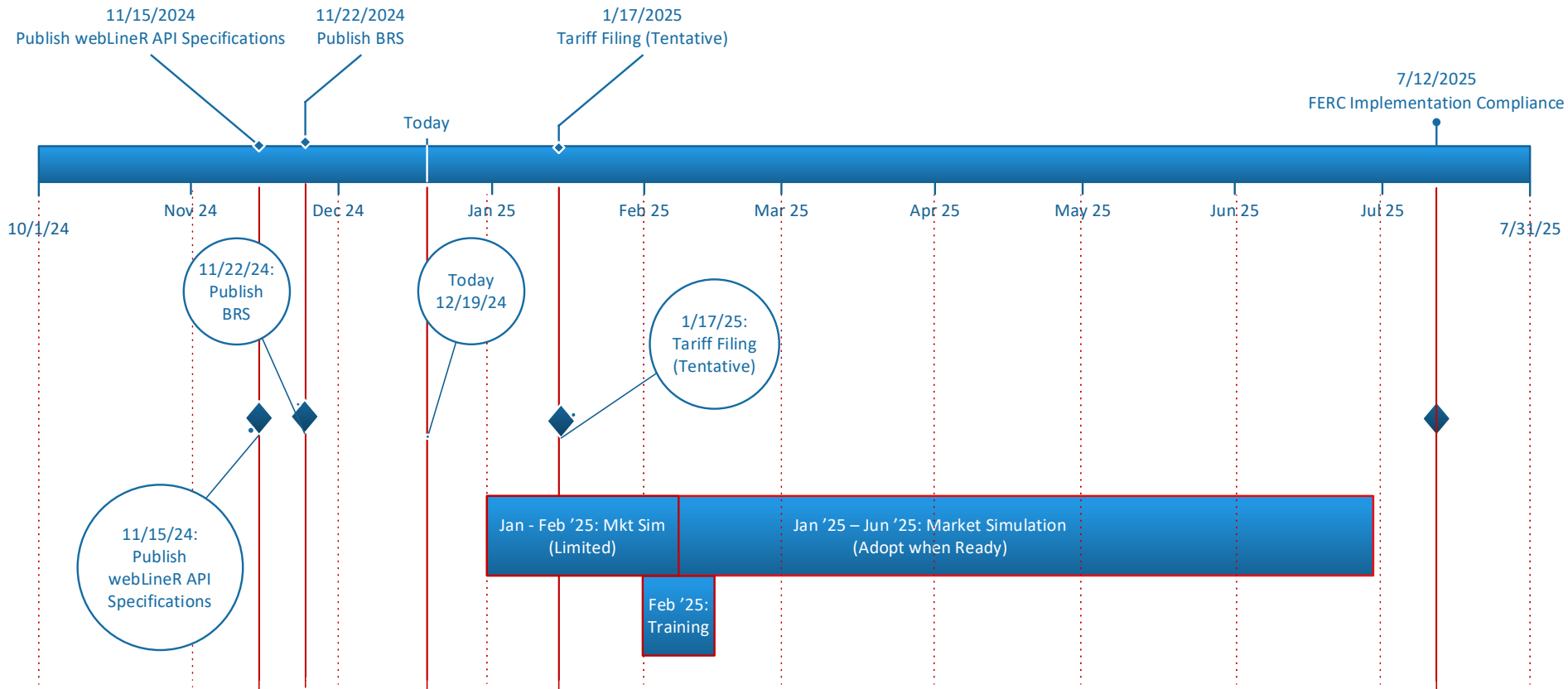
CAISO/RCWEST FERC 881 Implementation:

- Track 1 and Track 2 are in flight to be completed by June 2025.
 - **Track 1 – Real Time Reliability Applications**
 - Target Capability to be ready by end of December 2024.
 - Final changes will remain inactive until webLineR is ready for production
 - **Track 2 – Operational/EMS Model Data and Applications**
 - webLineR product will be utilized for receiving Look ahead ratings.
 - Target Capability to be ready June 2025
 - External user training targeting Mid-Feb
 - Phased Market Simulation planned for Jan –Jun 2025
 - Jan 2025: Limited Market Simulation will consist of:
 - » Connectivity
 - » User Access / Provisioning
 - » User Interface (UI)
 - » Manual data upload
 - » B2B API mock service available
 - Mid-Feb 2025: Full Market Simulation
 - » B2B API submissions and validation
 - » Unstructured Scenarios
 - **Track 3 – Market Application and Look Ahead Applications**
 - Proposing a delayed phased in implementation.
 - Stakeholder discussion over changes held on 12/16.
 - Comment period open. We would like to hear feedback from stakeholders.
 - CAISO/RCWEST plans to go to FERC and seek an extension in Mid-January 2025.

webLineR Milestone Timeline

FERC 881 webLineR

12/18/2024



CAISO RCWEST Compliance Phased In Implementation

December 2024

CAISO/RCWEST EMS/EMNA/HANA applications can receive real time AAR ratings through ICCP. Only reliability apps and no markets usage. TOP can send AAR ratings

June 2025

New webLineR tool will be ready to receive 240 hrs of AAR.

TR and webLineR will be ready to receive 4 seasonal ratings

TOP can send Seasonal and AAR ratings .

Monitor and evaluate ratings

January 2026

FERC 881 code changes for real time markets into production.

Enable usage of AAR in EIM market for WEIM entities.

Entities can choose to enable usage of AAR in real time markets

April 2026

FERC 881 code changes for Day ahead markets into production.

Entities that participate in both markets can choose to enable usage of AAR.

Enable Usage of AAR in DACA/LACA / LTCA and IOOC. Look ahead reliability applications.

July 2026

Complete remaining compliance work. Nomograms and usage of AAR in RAS.

Usage of AAR in ETCC/Webwheel and TTC calculations and post hourly ATC. Seasonal COI and other Path Limits calculations.

CAISO RCWEST Phased In Implementation

- FERC 881 code for real time and day ahead markets will be included in EDAM code delivery and market simulation activities.
- Enable usage of AAR in real time markets for WEIM entities in January 2026.
- Enable usage of AAR in day ahead markets in April 2026.
- Enable usage of AAR in look ahead reliability applications in April 2026.
- Enable usage of AAR in ETCC/Web wheel for hourly TTC calculations by July 2026.

2025 - Enable Non-Generating Resources to Participate in Inter-SC

Information	Details
Source	2024 Annual Policy Initiatives Roadmap Process
Category	Storage
Submission	Enable non-generating resources to participate in inter-SC trade
Summary	Allow non-generating resources to participate in inter-SC trade and offer physical energy product in order to continue effective integration of higher capacities of energy storage and meet RA and GHG compliance goals.
Description	In the current market design, standalone battery storage projects are not available to be selected in the "location" dropdown list for transactive physicals in IST. To continue effective integration of higher capacities of energy storage and meet RA and GHG compliance goals, the ISO should allow NGRs to participate in inter-SC trade and offer physical energy product. Enabling battery storage to participate in physical IST would increase market efficiency and reduce uncertainty in the preschedule window, and would allow battery storage to offer supplemental capacity or replacement energy through IST.
Presentation	May 15, 2024
System Impacts	Scheduling Infrastructure & Business Rules (SIBR)

Milestone Type	Milestone Name	Dates	Status
BPM	Publish PRR: Market Instruments		
SIBR Release Notes	Publish SIBR Release Notes		
SIBR Rules	Publish Inter-SC Trades Rules		
SIBR SC User Guide	Update to allow NGR for Physical Trades		
SIBR Inter-SC Trades (IST) Tutorial	Update to allow NGR for Physical Trades		
Market Simulation	Market Simulation		
Production	Activation		

**This effort is separate from the "Inter-SC Trades in Regional Markets" policy initiative*

2025 – WEIM Fab Enhancements

Business Opportunity/Problem Statement:

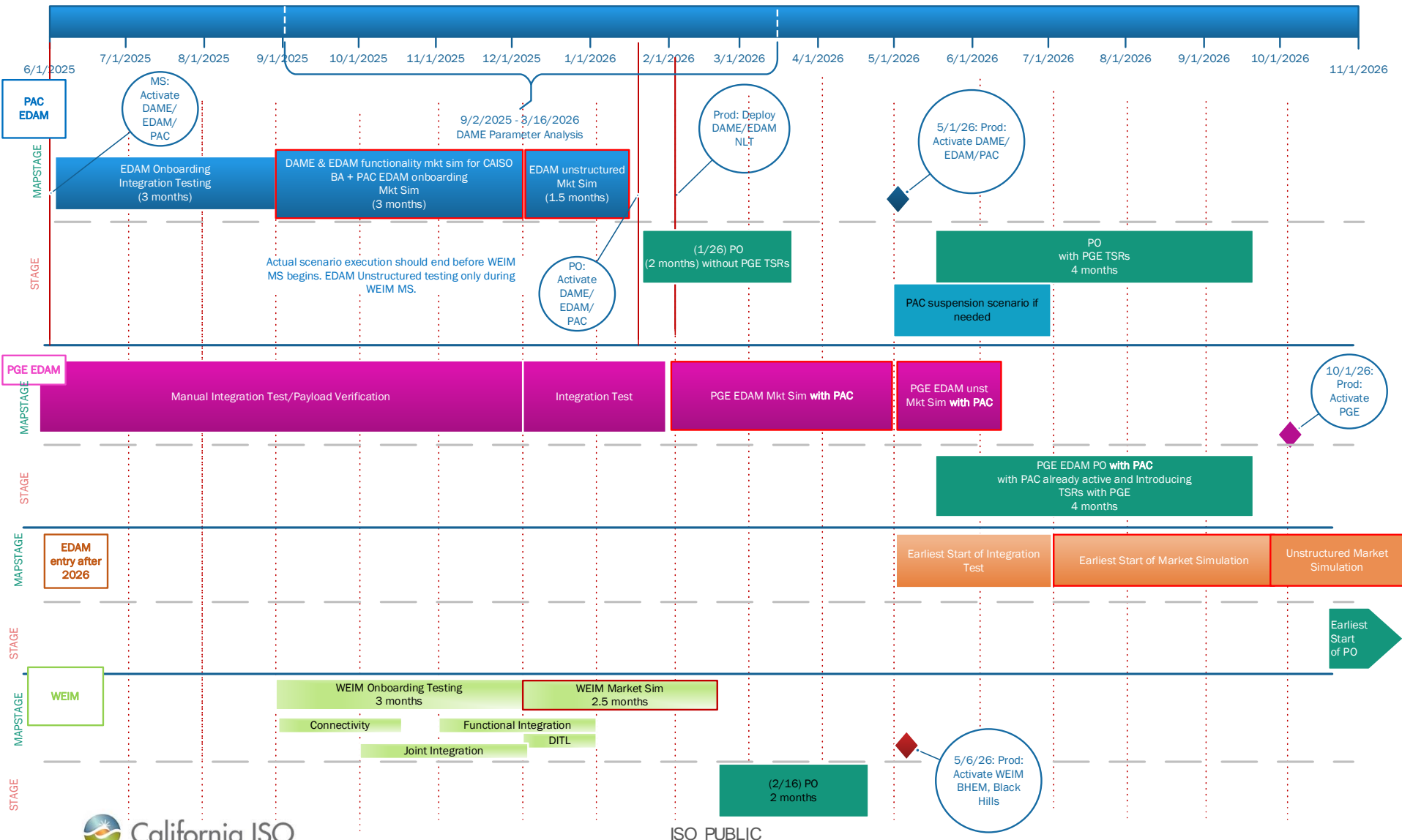
What:	<p>WEIM FAB Enhancements consist of three enhancements and one improvement. This project aims to improve RTM robustness, minimize Market Isolations, modernize tools for Support Control Center, provide accurate, accessible, and clear information to ensure customer preparedness and to deepen understanding about the reliability needs of the grid.”</p> <p>WEIM Fab-Enhancements:</p> <ul style="list-style-type: none">✓ 1) Congestion Management Full Transparency – Implemented June 20242) Hourly Base ETSR Schedule Redundancy (project, RTM payload). Note: This item is being pursued as its own stand alone project.✓ 3) External WEIM Commitment Override (BAAOP UI) – Implemented December 20244) Dynamic ETSR Limits – Safety Net✓ 5) System Net ITC Definitions – Implemented November 2024
Who does this opportunity/problem impact:	<p>WEIM entities, WEIM BA Operators (CAISO included), RTMO</p>

2025 – WEIM Fab Enhancements: Dynamic ETSR Limits Safety Net

Project Information	Details
High Level Business Problem or Need	<ul style="list-style-type: none">• The Dynamic ETSR Limits Safety Net seeks to resolve a known reliability issue for numerous WEIMs.• This enhancement is currently slated for 2024. Timeline updates to be provided in future meetings.
High Level Project Scope	<ul style="list-style-type: none">• This enhancement seeks to define and introduce a safety net in the event the Dynamic Limits Interface (DLI) has an issue with send/receive payload or null values in RTM.• CAISO is actively scoping this enhancement to ensure WEIM alignment prior to proposing an agreed upon solution. This item shall be more thoroughly disclosed in future WEIM meetings.
BPM Changes	TBD
Tariff Changes	N/A
Impacted Systems	RTM - BAAOP

Spring 2026 Release

2026 Timeline



Spring 2026 – ISO Led Training Schedule for EDAM and DAME Projects

Date	Activity	Audience
April 2025	EDAM Onboarding: Train-the-Trainer Sessions <ul style="list-style-type: none"> Week 1: Tues April 8, 2025 – Thurs April 10, 2025 Week 2: Tues April 15, 2025 – Thurs April 17, 2025 Week 3: Tues April 22, 2025 – Thurs April 24, 2025 	EDAM entity designated trainers (closed sessions for onboarding entities only)
August 18, 2025 (tentative date – target is 1-2 weeks before market sim)	DAME Overview: Pre-Market Sim Training	ISO BA customers that participate in Day-Ahead Market
August 19, 2025 (tentative date – target is 1-2 weeks before market sim)	DAME Settlements: Pre-Market Sim Training	ISO BA customers that participate in Day-Ahead Market
August 20, 2025 (tentative date – target is 1-2 weeks before market sim)	EDAM CAISO BAA Participation Rules: Pre-Market Sim Training	ISO BA customers that participate in Day-Ahead Market
[Market Simulation Activity]		
April 2026 (date TBD – target is 1-2 weeks before go-live)	DAME: Pre Go-Live Refresher Training <ul style="list-style-type: none"> Overview session Settlements session 	ISO BA customers that participate in Day-Ahead Market
April 2026 (date TBD – target is 1-2 weeks before go-live)	EDAM CAISO BAA Participation Rules: Pre Go-Live Refresher Training	ISO BA customers that participate in Day-Ahead Market
May 1, 2026: DAME & EDAM Production Activation		

Rev. 11/19/2024

Spring 2026 – Day Ahead Market Enhancements

Project Information	Details/Date
High Level Business Problem or Need	<p>In recent years, Variable Energy Resource (VER) have gained significant traction in the energy grid, playing a crucial role in achieving renewable energy targets and reducing greenhouse gas emissions. However, their increasing presence has introduced a new challenge energy imbalances between the Day Ahead and Real Time markets.</p> <p>Another reason for the energy imbalance is the day-ahead market operates on hourly time increments, whereas real-time market schedules energy in 15 and 5-minute intervals. This discrepancy in granularity results imbalances since the rea-l-time market schedules fluctuate within the hour while day-ahead market schedules remain fixed for the entire hour.</p> <p>These imbalances necessitates out-of-market interventions by operators, such as forecast biasing and dispatches, to uphold grid reliability. However, this situation presents an opportunity to improve our market software, enabling us to achieve a more efficient and economical solution while addressing the variability and reliability concerns within the market.</p>
High Level Project Scope	<p>Enhance the California ISO's (CAISO's) day-ahead market by:</p> <ul style="list-style-type: none"> • Introducing an imbalance reserve (IRU/IRD) product to provide flexible capacity to account for real-time ramping needs • Enhancing the residual unit commitment process to also ensure there is sufficient downward dispatch capability (RCU/RCD) • Enhancing the day-ahead market to maximize benefits of greater West-wide diversity in the day-ahead optimization for Western Energy Imbalance Market participants
BPM Changes	Settlements and Billing, Market Instruments & Market Operations
Tariff Changes	Sections 27, 31, 34, 39
Impacted Systems	MF, SIBR, DAM, OASIS, CMRI, Settlements & Internal Systems

Spring 2026 – Day Ahead Market Enhancements

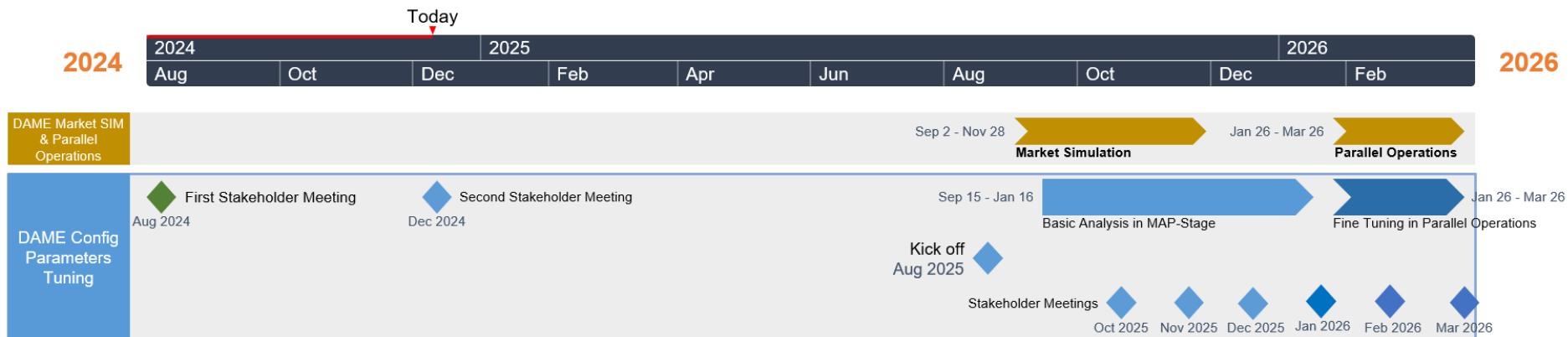
System	High Level Changes
MF	<ul style="list-style-type: none">• Define IRU, IRD, RCU, RCD eligibility for the resource ID in MF.
SIBR	<ul style="list-style-type: none">• IRU,IRD,RCU,RCD bid rules
DAM	<ul style="list-style-type: none">• Calculate IRU/IRD requirements• MPM: Market Power Mitigation for IRU/IRD• IFM: procure IRU/IRD• IRU/IRD deployment scenarios• IRU/IRD requirement distribution• IRU/IRD in NA-AC power flow• Include IRU/IRD in constraints• RCU/RCD procurement• RUC-MPM pass• Impact on RUC performance with additional MPM pass• LMP for EN, IRU/IRD, RCU/RCD
OASIS	<ul style="list-style-type: none">• IRU, IRC, RCU,RCD related public reports
CMRI	<ul style="list-style-type: none">• IRU, IRC, RCU,RCD related private reports
Settlements	<ul style="list-style-type: none">• IRU, IRC, RCU,RCD Settlements

Spring 2026 – Day Ahead Market Enhancements

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board briefing/approval	May 17, 2023	✓
External BRS	Publish External BRS v1.0	Jul 25, 2023	✓
	Publish External BRS v1.1	Dec 22, 2023	✓
	Publish External BRS v1.2	Apr 24, 2024	✓
	Publish External BRS v1.3	Aug 02, 2024	✓
	Publish External BRS v1.4	Dec 23, 2024	
Settlements Config Guides	Post Draft Config Guides - First set of charge codes	Jan 16, 2024	✓
	Post Draft Config Guides - Second set of charge codes	Mar 26, 2024	✓
	Post Draft Config Guides - Third set of charge codes & updates to First & Second sets	Aug 26, 2024	✓
Tech Spec	Publish Technical Specifications – OASIS	Nov 09, 2023	✓
	Publish Technical Specifications – MF	Nov 21, 2023	✓
	Publish MF GRDT v19.0 DRAFT		
	Publish Technical Specifications – SIBR	Nov 28, 2023	✓
	SIBR/BSAP/RCBSAP Rules Release Notes	Mar 05, 2024	✓
	SIBR SC User Guide	Mar 05, 2024	✓
	Publish Technical Specifications – CMRI	Dec 15, 2023	✓
Tariff	First Draft Tariff Posting	Jun 02, 2023	✓
	Second Draft Tariff Posting	Jul 11, 2023	✓
	FERC Filing	Aug 22, 2023	✓
	Receive FERC order – Acceptance in part	Dec 20, 2023	✓
	Draft Compliance Filing Posting	Feb 05, 2024	✓
	Compliance Filing	Feb 16, 2024	✓
BPMs	Business Practice Summary (New)	Apr 25, 2024	✓
	Post Draft BPM – Market Instruments	Apr 25, 2025	
	Post Draft BPM – Market Operations	Apr 25, 2025	
	Post Draft BPM – Settlements and Billing	TBD	
	Post Draft BPM – Definitions and Acronyms	Apr 25, 2025	
Configurable Parameters	Implementation Working Group Meeting	Aug 07, 2024	✓
	Implementation Working Group Meeting	Dec 11, 2024	✓
External Training	External User Training	Aug 2025	
Market Sim	Fall 2025 Release Market Simulation Plan	Jan 24, 2024	✓
	Market Sim Scenarios	Aug 04, 2023	✓
	Market Sim Window	Sept 02, 2025 - Nov 21, 2025	
Production Deployment	Day Ahead Market Enhancements (Inactive)	NLT Feb 01, 2026	
Production Activation	Day Ahead Market Enhancements (Financially Binding)	May 01, 2026	

DAME Configurable Parameters Working Group: Timeline

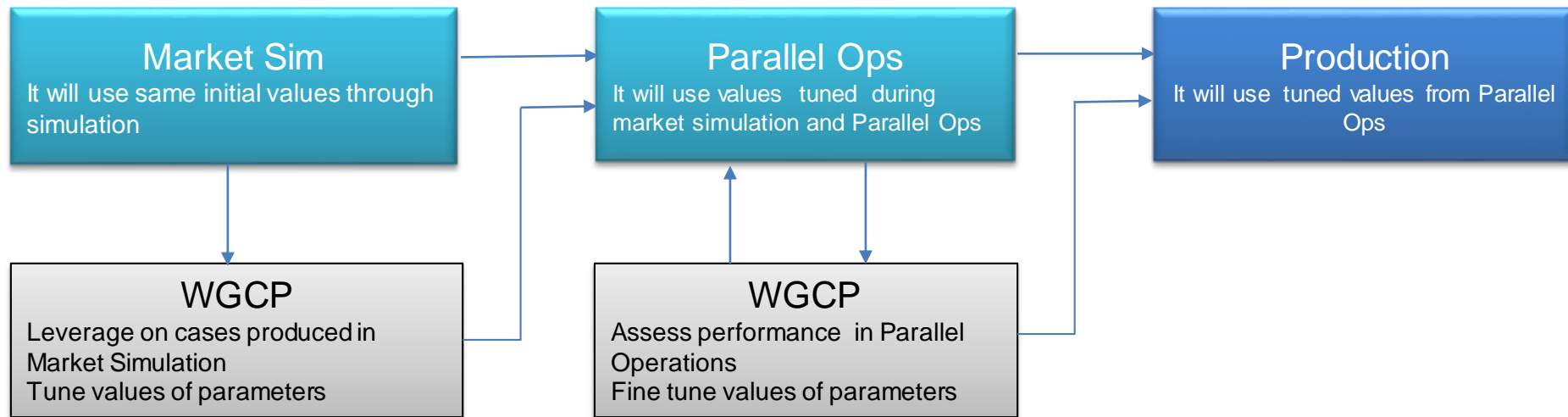
- The CAISO is accommodating requests to extend the timeline of the working group effort and adjusting the timeline to facilitate additional working group sessions
 - ◆ additional working group sessions
 - Start session earlier than originally proposed
 - Kick-off session in August 2025
 - Monthly working sessions starting in October



Proposed time schedule for WGCP based on part of the overall DAME/EDAM schedule

- Overall schedule includes formal stages of
 - Market Simulation
 - Parallel Operations
- Analysis of configurable parameters can start only after market application is functional and readily available
- Although effort for WGCP will happen concurrent to Market Simulation and Parallel Operations, it is an independent effort
- The WGCP will leverage on Market Simulation and Parallel Operations efforts to perform analysis on the parameters

Although the WGCP effort will happen concurrent to Market Simulation and Parallel Operations, it is a separate effort



Useful links for Market Sim and Parallel Operations

<https://www.caiso.com/documents/draftmarketsimulationplan-fall2025release.pdf>

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

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

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

Spring 2026 – Extended Day Ahead Market (EDAM) Implementation

Project Information	Details/Date
High Level Business Problem or Need	The purpose of this initiative is to create a comprehensive extended day-ahead market that extends over multiple balancing authority areas (BAAs) participating in the Western Energy Imbalance Market (WEIM). EDAM is a voluntary day-ahead electricity market with the potential to deliver significant economic, environmental, and reliability benefits for participants across the West. EDAM will more efficiently and effectively integrate renewable resources and address the significant operational challenges presented by a rapidly changing resource mix, emerging technologies, and the impacts of climate change. EDAM will enable procurement of robust supply and flexible capacity that will position EDAM participants to effectively address changes in conditions from day-ahead to real-time, improving their response to potential reliability challenges. EDAM builds upon the proven ability of the WEIM to increase regional coordination, support state policy goals, and cost effectively meet demand.
High Level Project Scope	The EDAM design leverages existing features of the ISO day-ahead market that are common in other day-ahead markets across the country. The design also considers enhancements proposed in contemporaneous stakeholder initiatives that will harness flexibility across the larger footprint by incorporating an imbalance reserve product that will enhance price formation. EDAM introduces new products, imbalance reserve and reliability capacity, as well as new penalties, and a Resource Sufficiency Evaluation (RSE) surcharge.
BPM Changes	Definitions and Acronyms Energy Imbalance Market (EIM) Market Instruments Market Operations Settlements and Billing EDAM
Impacted Systems	MF, ALFS, ALFS-SOA, SIBR, RTSI, RTBS, BSAP, DAM (IFM and RUC), DA-RSE (new), RTM (RTPD and RTD), STUC, MPM, ITS, BARC, GHG Pass (new), Settlements, CMRI, OASIS, ADS, WebOMS, Internal ISO Systems

Spring 2026 – Extended Day Ahead Market (EDAM)

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board approval	Feb 01, 2023	✓
External BRS	Publish External BRS v1.0	Aug 02, 2023	✓
	Publish External BRS v1.1	Dec 22, 2023	✓
	Publish External BRS v1.2	Apr 25, 2024	✓
	Publish External BRS v1.3	Aug 05, 2024	✓
Tariff	Draft Tariff Language	Mar 30, 2023	✓
	Revised Draft Tariff Language	Jun 08, 2023	✓
	Updated Revised Draft Tariff Language	Jul 25, 2023	✓
	FERC Filing	Aug 22, 2023	✓
	Receive FERC order– Acceptance in part	Dec 20, 2023	✓
	Requested effective date for tariff changesfor EDAM agreementsand onboarding provisions	Dec 21, 2023	✓
	Draft Compliance FilingPosting	Feb 05, 2024	✓
	Compliance Filing; accepted Apr 30, 2024	Feb 16, 2024	✓
	Filing for EDAM accesscharge	Apr 12, 2024	✓
	Receive FERC order accepting EDAM AccessCharge Design (EDAM Tariff fully approved)	Jun 11, 2024	✓
Settlements Config Guides	Post Draft Config Guides- First set of charge codes	Jan 16, 2024	✓
	Post Draft Config Guides- Second set of charge codes	Mar 26, 2024	✓
	Post Draft Config Guides- Third set of charge codes & updates to First & Second sets	Aug 26, 2024	✓
Tech Spec	Publish Technical Specifications– RTSI	Dec 5, 2023	✓
	Publish Technical Specifications– MF	Jan 4, 2024	✓
	Publish Technical Specifications– SIBR	Mar 21, 2024	✓
	Publish Technical Specifications– OASIS	Apr 12, 2024	✓
	Publish Technical Specifications– CMRI	Apr 12, 2024	✓
	Publish Technical Specifications– PLC	Jul 19, 2024	✓
	Publish Technical Specifications– ALFS	NA	
	Publish Technical Specifications– OMS	NA	
BPMs	Business Practice Summary	Jul 10, 2024	✓
	Post Draft BPM – Energy Imbalance Market (EIM)		
	Post Draft BPM – Market Instruments		
	Post Draft BPM – Market Operations	TBD	
	Post Draft BPM – Settlements and Billing		
	Post Draft BPM – EDAM		
Market Sim	Post Draft BPM – Definitions and Acronyms		
	Fall 2025 Release Market Simulation Plan	Jan 24, 2024	✓
	Market Sim Scenarios	Jan 29, 2024	✓
	Market Sim Scenarios v1.1	Feb 15, 2024	✓
Parallel Operations	EDAM Onboarding Market Sim	Sep 02, 2025 – Jan 16, 2026	
	Draft Parallel Operations Plan	Apr 15, 2024	✓
Production		Oct 01, 2025	
	EDAM Onboarding (Financially Binding) & Activation (PacifiCorp)	May 01, 2026	
	EDAM Onboarding– PGE	Oct 01, 2026	
	EDAM Onboarding– BANC	2027	

Spring 2026 – EDAM ISO BAA Participation Rules

Project Information	Details/Date
Policy Scope	<p>The purpose of this initiative was to define the unique aspects of how the ISO Balancing Authority Area (BAA) will participate in the Extended Day-Ahead Market (EDAM). The policy addressed how to settle Transfer Resources and Transfer Revenue, the criteria to set ISO BAA's net EDAM Export Transfer constraint, how to allocate ISO BAA resource sufficiency evaluation (RSE) failure surcharges and revenues, and the process for calculating historical revenue recovery amounts.</p> <p>Previously labeled EDAM ISO BAA participation Rules Track A1, or Track A. Going forward label to be simply <i>EDAM ISO BAA Participation Rules</i></p>
Tariff Changes	<p>FERC Filing ER24-379 – Sections 11, 26, and 27</p> <p>Approved Tariff Changes:</p> <ul style="list-style-type: none"> ➤ To allow for the settlement of all Transfer System Resources in the CAISO BA. ➤ To allow for the settlement of EDAM Transfer revenue allocated to the CAISO BA, inclusive of EDAM Transfer revenue and EIM Transfer revenue ➤ To allow the CAISO BA to enable the Net EDAM Export Transfer Constraint, a voluntary, and optional, mechanism that each EDAM Balancing Authority may enable to preserve sufficient supply to meet its projected needs, while managing reliability based on conditions and circumstances anticipated within its balancing area. ➤ To allow an interim solution for the CAISO to distribute all CAISO BA revenues and surcharges for the EDAM RSE Failure Surcharge. <p>Unapproved Tariff Changes (filed 11/14, pending FERC Order):</p> <ul style="list-style-type: none"> ➤ To set forth the calculations for the EDAM Historical Revenue Recovery amounts for transmission owners in the CAISO BA – referenced as “EDAM Access Charge for CAISO BAA”
High Level Project Scope	Based on current approved Tariff changes
Impacted Systems	Internal ISO Systems, Settlement configuration changes

Spring 2026 – EDAM ISO BAA Participation Rules

Milestone Type	Milestone Name	Dates	Status
Policy	Track A1 Final Proposal	Aug 31, 2023	✓
Board Approval	Board approval	Sep 21, 2023	✓
Tariff	FERC Filing (CAISO BAA Participation in EDAM ER24-379)	Nov 13, 2023	✓
	FERC Order (DAME/EDAM in ER23-2686): <i>didn't accept EDAM Access Charge</i>	Dec 20, 2023	✓
	FERC Order (CAISO BA Participation in EDAM ER24-379): <i>acceptance in part, mooted</i> EDAM Access Charge for CAISO BAA	Mar 7, 2024	✓
	FERC Filing (EDAM Access Charge ER24-1746)	Apr 12, 2024	✓
	FERC Order (EDAM Access Charge ER24-1746): <i>acceptance</i>	Jun 11, 2024	✓
	<u>EDAM Access Charge for CAISO BAA</u>		
	Initial Draft Tariff Language	Sep 30, 2024	✓
	Draft Tariff Language Stakeholder Meeting	Oct 7, 2024	✓
	Final Draft Tariff Language: <i>non-substantive, clarifying edits</i>	Nov 7, 2024	✓
	FERC Filing	Nov 14, 2024	✓
External BRS	Publish External BRS	Jun 18, 2024	✓
	Publish External BRS v1.2: <i>Clarifications, corrections, adding market sim requirements</i>	Sep 17, 2024	✓
	Publish External BRS v1.3: <i>EDAM Access Charge for CAISO BAA rules</i>	Dec 23, 2024	
Settlement Config Guides	Post Draft Config Guides - second set	Mar 26, 2024	✓
	Post Draft Config Guides - third set: <i>includes anticipated EDAM Access Charge for CAISO BAA logic</i>	Aug 23, 2024	✓
	Post Draft Config Guides - <i>updates to EDAM Access Charge for CAISO BAA tariff and BRS</i>	TBD	
Tech Spec	Part of EDAM framework (if applicable)		
BPMs	Post Draft BPMs: Energy Imbalance Market (EIM), EDAM, Market Instruments, Market Operations, Settlements and Billing, Transmission Planning Process	Aligned with EDAM schedule	
External Training	Pre-Market Sim training	Aug 20, 2025	
	Pre-Go Live training	Apr 22, 2026	
Market Sim	Fall 2025 Release Market Simulation Plan v1.1	Dec 2025	
	Market Sim Scenarios	Dec 27, 2025	
	EDAM Onboarding Market Sim	Sep 01, 2025 – Jan 16, 2026	
Production	EDAM Production Deployment - Inactive	Oct 01, 2025	
	EDAM Onboarding (Financially Binding) & Activation	May 01, 2026	

Spring 2026 – WEIM BHE Montana & WEIM Black Hills

Project Info	Details/Date
Application Software Changes	System modifications as needed to accommodate any unique Berkshire Hathaway Energy Montana needs to support their WEIM onboarding.
BPM Changes	WEIM BPM will be updated if needed to reflect changes identified during the onboarding and as required to reflect the unique processes of Berkshire Hathaway Energy Montana.
Market Simulation	December 2025 thru January 2026
Parallel Operations	February 2026 thru March 2026

Milestone Type	Milestone Name	Dates
Market Sim	Market Sim Window	Dec 2025 thru Jan 2026
Parallel Operations	Parallel Operations	Feb 2026 thru Mar 2026
Tariff	File Implementation Agreement FERC acceptance of Implementation Agreement File Readiness Certification	✓ Mar 27, 2024 ✓ May 17, 2024 Mar 2026
Production	Activation	May 2026

Future Releases

Subscriber Participating Transmission Ownership Model

Project Information	Details/Date
High Level Business Problem or Need	<p>The Subscriber Participating Transmission Owner (Subscriber PTO) model is a new transmission development option available for transmission projects with generation development opportunities outside the CAISO balancing area to bring generation to meet California's policy initiatives. The model specifically supports CPUC generation portfolios required by the memorandum of understanding with the California State agencies and the CAISO. Accordingly, the Subscriber PTO model allows for additional transmission to be developed to connect the CAISO BAA with out-of-state generation that currently lack the necessary transmission to provide electricity to the CAISO BAA. The Subscriber PTO model thereby provides an option for projects not chosen in the transmission planning process to solicit Subscribers who then pay for the project (generation and transmission) and join the CAISO balancing area.</p> <p>The new Subscriber PTO Model enables a subscriber PTO to develop its project without recovering the costs for its project through a transmission revenue requirement. At the same time, those who have paid for the project, <i>i.e.</i>, the subscribers, are exempt from congestion and other related costs on the subscriber PTO line because the subscribers will receive similar treatment and priority to existing contract rights holders (ETCs). Additionally, the Subscriber PTO model provides a mechanism for subscribers that financed the project and associated network upgrades the ability to receive reimbursement for those costs from non-subscribers that use the Subscriber PTO transmission facilities.</p>
High Level Project Scope	<ul style="list-style-type: none"> • Develop Subscriber PTO Model: account for a new PTO model that does not increase the Transmission Revenue Requirement (TRR) of the Transmission Access Charge / Wheeling Access Charge (TAC/WAC)) and provides those who funded the project ("subscribers") with Existing Transmission Contract (ETC) designation to account for their rights on the CAISO controlled grid • Revise the TAC allocation process to fund the non-Subscriber usage payment amount ahead of allocation to the non-load serving PTOs • Charge non-subscribers for use of the Subscriber PTO line the applicable non-subscriber usage rate (\$/MWh) • Create a mechanism that allows for the payment to the Subscriber PTO for non-subscriber usage of the Subscriber PTO transmission facility: <ul style="list-style-type: none"> ○ Compare the Non-Subscriber Usage rate(s) (\$/MWh rate approved by FERC) to the TAC rate and pay the Subscriber PTO the lower of the two values ○ Create a flag to denote when the Non-Subscriber Usage Rate is higher than the TAC rate and publish results in the ISO bill determinant file <ul style="list-style-type: none"> ▪ Indicate monthly gross exports and imports for Non-Subscriber usage of the Subscriber PTO transmission line ○ Indicate the TAC rate and the Non-Subscriber Usage Rate(s) as part of the Settlements TAC reports • Develop methodology to address economic BAA to BAA transfers at new scheduling points created by Subscriber PTO transmission lines

Subscriber Participating Transmission Ownership Model

System	High Level Changes
BPM Changes	<ul style="list-style-type: none"> • Definitions and Acronyms • Generator Interconnection and Deliverability Allocation Procedures • Market Instruments • Market Operations • Reliability Requirements • Settlements & Billing • Transmission Planning Process
Tariff Changes	<ul style="list-style-type: none"> • Section 4: Roles and Responsibilities • Section 16: Existing Contracts • Section 24: Comprehensive Transmission Planning Process • Section 25: Interconnection of Generating Units and Facilities • Section 26: Transmission Rates and Charges • Appendix A: Master Definition Supplement • Appendix F: Rate Schedules • Appendix DD: Generator Interconnection Deliverability Allocation Procedures
Impacted Systems	
MF	<ul style="list-style-type: none"> • Develop Subscriber PTO model: including new participant type, new TAC area, new UDC, new WAC rules, and mapping
CIRA	<ul style="list-style-type: none"> • Identify resources subject to MIC and establish MIC at Sub PTO scheduling points/interties • Define RA obligation
SIBR	<ul style="list-style-type: none"> • Receive ETC designation and support bidding rules for subscriber generating resources (existing functionality)
ITS	<ul style="list-style-type: none"> • Consume new tie points and/or ITCs • Add Subscriber PTO loss resource IDs to loss table
IFM/RTM	<ul style="list-style-type: none"> • Calculate ASRS • Consume all hourly MSSC values
Settlements/ DReAMS	<ul style="list-style-type: none"> • Develop new bill determinants • Calculate financial loss return • Apply existing ETC rules • Update TAC/WAC revenue allocation process to include non-subscriber usage rate • Update configuration guides and bill determinants • Exclude Subscriber PTO UDC areas from UFE

Subscriber Participating Transmission Ownership Model

Milestone Type	Milestone Name	Dates	Status
Policy	Straw Proposal	Feb 13, 2023	✓
	Draft Final Proposal	Apr 10, 2023	✓
	Revised Draft Final Proposal	May 15, 2023	✓
	Final Proposal	Jun 22, 2023	✓
Tariff	First Draft Tariff Posting	Jun 22, 2023	✓
	Second Draft Tariff Posting	August 08, 2023	✓
Board Approval	Board approval	July 20, 2023	✓
BRS	Publish BRS v1.0	Jul 26, 2024	✓
Settlements Config Guides	Post Draft Configuration Guide	Yes	
Tech Spec	Publish Technical Specifications	Yes	
BPMs	Post Draft BPM – Definitions and Acronyms	Yes	
	Post Draft BPM – Generator Interconnection and Deliverability Allocation Procedures		
	Post Draft BPM – Market Instruments		
	Post Draft BPM – Market Operations		
	Post Draft BPM – Reliability Requirements		
	Post Draft BPM – Settlements and Billing		
	Post Draft BPM – Transmission Planning Process		
Training	Training	Yes	
Market Sim	Market Sim Scenarios	Yes	
	Market Sim Window	Yes	
Deployment	Production Deployment	TBD	
Activation	Production Activation	TBD	



California ISO

Settlement Upgrade Project

Oct 15, 2024

Settlement Upgrade Project – Overview

- The current settlement system, implemented in 2008 as part of the Market Redesign and Technology Upgrade (MRTU) implementation, is nearing its end of life. The CAISO is upgrading existing settlement applications to approved architectural and information security standards.
- Benefits for our customers include:
 - Improved business efficiency
 - Better gathering and analysis for data and front-end improvements for customers interacting with CAISO Settlement Systems
 - Increased transparency for some calculations
 - Accommodating data processing increases resulting from new market products and an increase in market participants
 - Ability to perform complex settlement calculations

Settlement Upgrade Project – Targeted Goals

- The ISO will work closely with our market participants to ensure seamless transition from e-terra 2.5 to 3.0 configuration output file.
- The ISO will leverage the Settlement User Group and Technical User Group for participants to ask more technical questions.
- The ISO will provide an environment with production-like data allowing customers to validate changes.
- The system will provide settlement outputs in various file formats, allowing all customers to access and use the data in day-to-day operations.
- The ISO will strive to make formulas and inputs transparent to enable market participants to monitor and/or validate settlement results.
- The ISO will provide market participants with an extended market simulation and timely support to the market participants and their vendors during the testing phase.

Settlement Upgrade Project – Targeted Goals (continued)

- From a vendor perspective:
- ISO will provide third party vendors with support during the transition period.
- ISO will provide an extended market simulation and/or parallel statements and invoices during the transition period so vendors can resolve defects on their systems.
- ISO will provide open communications to resolve settlement differences through a customer forum.

Settlement Upgrade Project – Status

- The ISO continues reviewing the overall schedule for implementation.
- In order to allow customers to have the time to focus on the Settlement Upgrade Project, as well as EDAM and DAME, a new schedule will be developed.
- The implementation will be after EDAM and DAME implementation.
- ISO will provide quarterly updates for the implementation for now and will ultimately increase the frequency of updates and the depth of information provided accordingly as we proceed
- The updates will be provided in the Release User Group and Settlement User Group
- To help ensure alignment of our communications between these two (2) forums, this same update was provided in the next Settlement User Group call
- The next Settlement Upgrade Project update will be in January 2025
- For comments or questions, please submit CIDI cases

Stay Informed

Ways to participate in releases

- **Next Release User Group Forum is January 7, 2025**
- Visit the Release Planning page
 - <http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx>
- Attend meetings
 - Release Users Group (RUG) bi-weekly meetings
 - Initiative status updates
 - System change updates on releases
 - Market Simulation calls
 - Visit the ISO calendar at www.caiso.com for meeting dates and times and add events to your calendar
 - Typically held on Mondays and Thursdays
 - Market Performance and Planning Forum
 - Quarterly review of market performance topics
 - High level discussion of release planning, implementation and new market enhancements

Contact

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- CIDI
 - Functional Environment (Area)
 - “Release”