



California ISO Release User Group

July 23, 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

- Advisory Shutdown Flag Data
- Price Formation Enhancements – Rules for Bidding Above Soft Offer Cap (FERC831)*
- Application Delivery Resiliency – URL & IP Changes (& AUP Changes)
- Highest Emergency Rating
- Transmission Service & Market Scheduling Priorities Phase 2 – Resale Scope*
- Transmission Exchange Agreement
- FERC 2222 – Distributed Curtailment Resources
- Congestion Revenue Rights System Upgrade
- Hybrid Resources Phase 2C – RIMS*
- FERC 881 – Managing Transmission Line Ratings Track 2 – Operational/EMS Model Data & Applications*

Spring 2026 Release

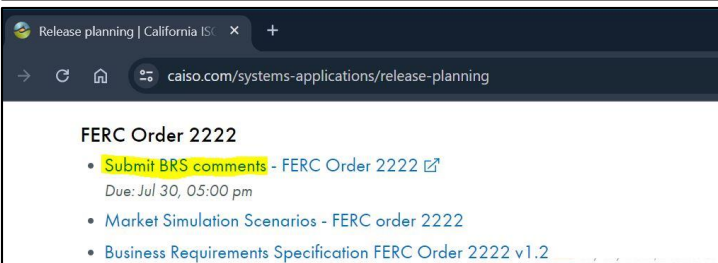
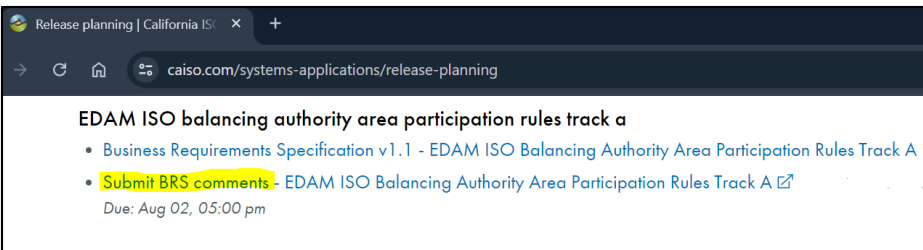
- Day-Ahead Market Enhancements Activation*
- Extended Day-Ahead Market Activation*
- EDAM ISO BAA Participation Rules Track A*
- EDAM Onboarding Pacificorp, BANC, PGE
- WEIM BHE Montana*

Future Release

- Subscriber Participating Transmission Owner Model*
- Settlement Upgrade Project – Next RUG/SUG quarterly update late July 2024

New: BRS Stakeholder Comments & Review Sessions

- **Stakeholders can now submit comments on Business Requirements Specifications**
 - BRS Comments open for:
 - FERC Order 2222 thru Jul 30, 2024 5PM PT
 - EDAM ISO BAA Participation Rules thru Aug 02, 2024 5PM PT
 - Upcoming for Subscriber PTO
 - Access from Release Planning at <http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx>
- **ISO will schedule BRS reviews as appropriate**
 - Upcoming BRS reviews
 - FERC Order 2222 on Jul 31, 2024 11AM-12PM PT
 - EDAM ISO BAA PR TBD
 - Subscriber PTO TBD



Independent 2024 Releases

2024 – Advisory Shutdown Flag Data

Project Information	Details/Date
High Level Business Problem or Need	<p>Problem: Missing input data value for existing BD, BA_5M_RSRC_ADVISORY_SHUTDOWN_FLAG, prevents CAISO from qualifying Minimum Load Cost consistent with Tariff 11.17.2.1, even if Settlements formulations currently exist.</p> <p>Solution: Work with upstream units to ensure advisory shutdown instruction data is broadcasted so that advisory shutdown flag BD can be created Use the input and reflect Minimum Load Costs qualification in Settlements</p>
BPM Changes	Settlements & Billing, Market Instruments
Impacted Systems	Settlements, CMRI

Milestone Type	Milestone Name	Dates	Status
Board	Board	NA	
BRS	BRS BRS 1.1: BRQs 045 + 046: Add Instruction Cost field to CMRI BRS 1.2 & 1.3: BRQs 001, 017, 045 + 046	May 09, 2024 May 30, 2024 Jul 05, 2024	✓ ✓ ✓
BPM	Settlements & Billing PRR 1571 - Updating SUC MLC PC BPM documentation for Advisory shutdown flag for MLC qualification Market Instruments PRR 1574 - Addition of new Real Time Advisory Shutdown Instructions Customer Market Results Interface report	Apr 26, 2024 May 21, 2024	✓ ✓
Tech Spec	CMRI Tech Spec	May 13, 2024	✓
Training	Training	Jun 11, 2024	✓
Market Simulation Scenarios	Market Simulation Scenarios	Jun 10, 2024	✓
Market Simulation	Market Simulation	Jun 28 – Jul 17, 2024	✓
Production	Deployment Activation	Jul 24, 2024 Effective Trade Date Aug 1, 2024	

Additional slides were covered in the Apr 24, 2024 Settlement User Group (SUG), presentation and recording available here: www.caiso.com > Stay Informed > Meetings & Events > User groups and recurring meetings > Settlement User Group

2024 - Price Formation Enhancements – Rules for Bidding Above Soft Offer Cap (FERC 831)

➤ Project Information	➤ Details/Date
➤ High Level Project Scope	➤ This initiative will explore several topics related to price formation in the California ISO markets focused on real-time market pricing. Scarcity prices are important to attract supply and incent resources to be available and perform. They are also important to provide appropriate price signals to reduce demand. Recent energy shortages and associated prices in the ISO real-time market have emphasized the need for the ISO to review and enhance its scarcity pricing provisions. Consequently, the ISO plans to consider the following topics in this initiative: (1) enhance real-time market scarcity pricing to better reflect tight supply conditions, (2) consider fast-start pricing, and (3) enhance how the real-time market uses advisory prices to dispatch resources.

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board approval	May 22, 2024	✓
Tariff	Draft Tariff Language	May 13, 2024	✓
	Revised Draft Tariff Language	May 20, 2024	✓
	File with FERC	May 31, 2024	✓
Policy	Final Proposal	May 17, 2024	✓
Workshop	Maximum Import Bid Price Workshop – Analysis on MIBP Shaping Factor	May 28, 2024	✓
BRS	BRS	Jun 25, 2024	✓
SIBR	Rules 11.8.3 Release Notes	Jun 28, 2024	✓
Training	Training	Jul 11, 2024	✓
Market Simulation	Market Simulation	Jul 23 – Jul 26, 2024	
Production	Production	Aug 01, 2024	

2024 - Application Delivery Resiliency UI & API URL & IP Changes

- UI **COMPLETE**
 - ✓ All new UIs available now
 - ✓ Old UI URLs decommissioned 2/6/24 except BAAOP/BSAP UIs
 - ✓ **Old UI URLs for BAAOP/BSAP decommissioned July 17, 2024**
 - ✓ **Portal and PortalEIM cutovers July 17, 2024**
- API:
 - ✓ All new API URLs available now
 - > **Please transition to new API URLs by July 31, 2024**
 - > **Old API URLs to be cutover after July 31, 2024**

System	UI - New	UI - Old	API - New	API - Old
BAAOP	https://baaop.caiso.com	Cutover Complete	https://ws.prod.caiso.com/sst/baaop	https://ws.caiso.com/sst/baaop
BSAP	https://bsap.caiso.com	Cutover Complete	https://ws.prod.caiso.com/sst/bsap	https://ws.caiso.com/sst/bsap
CIRA	https://cira.caiso.com	NA - Cutover	https://ws.prod.caiso.com/sst/cira	https://ws.caiso.com/sst/cira
CMRI	https://cmri.caiso.com	Cutover Complete	https://ws.prod.caiso.com/sst/cmri	https://ws.caiso.com/sst/cmri
DRRS	https://drrs.caiso.com	NA - Cutover	https://ws.prod.caiso.com/sst/drrs	https://ws.caiso.com/sst/drrs
EIDE	NA	NA	https://ws.prod.caiso.com/sst/eide	https://ws.caiso.com/sst/eide
ALFS (& FDR)	NA	NA	https://ws.prod.caiso.com/sst/runtime.asvc	https://ws.caiso.com/sst/runtime.asvc
MF	https://mf.caiso.com	Cutover Complete	https://ws.prod.caiso.com/sst/runtime.asvc	https://ws.caiso.com/sst/runtime.asvc
PISOA	NA	NA	https://ws.prod.caiso.com/sst/runtime.asvc	https://ws.caiso.com/sst/runtime.asvc
RCBSAP	https://rcbsap.caiso.com	Cutover Complete	https://ws.prod.caiso.com/sst/rcbsap	https://ws.caiso.com/sst/rcbsap
RCSERVICES (RCEIDE)	NA	NA	https://ws.prod.caiso.com/sst/rcservices	https://ws.caiso.com/sst/rcservices
SIBR	https://sibr.caiso.com	Cutover Complete	https://ws.prod.caiso.com/sst/sibr	https://ws.caiso.com/sst/sibr
STLMT	https://stlmt.caiso.com	NA - Cutover	https://ws.prod.caiso.com/sst/stlmt	https://ws.caiso.com/sst/stlmt
OMS	https://weboms.caiso.com	NA - Cutover	https://ws.prod.caiso.com/sst/weboms	https://ws.caiso.com/sst/weboms
ECIC	NA	NA	https://ws.prod.caiso.com/sst/ecic	https://ws.caiso.com/sst/ecic
CRR	https://crr.caiso.com	Cutover Complete	NA	NA
PLC	https://plc.caiso.com/	Cutover Complete	NA	NA
TR	https://tr.caiso.com	Cutover Complete	NA	NA
ADS	https://ads.caiso.com	NA - Cutover	https://adsws.prod.caiso.com/	NA - Cutover
OASIS	http://oasis.caiso.com	NA - Cutover	http://oasis.caiso.com	NA - Cutover

Key
NA - Interface doesn't exist or already cutover
Available for Transition - Users should be using now, cut over to these now
Will be cutover - Users should move off these right away
Cutover complete

2024 – 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 BRS 1.1	Feb 15, 2024 Apr 10, 2024	✓ ✓
Tech Spec	Present OMS in TUG OMS	Feb 27, 2024 Yes	✓
Market Simulation	Market Simulation	Aug 2024	
Production	Production	Q4 2024	

2024 - Highest Emergency Rating - OMS

- Three new fields will be added on the current OMS Derate User Interface and user will have capability to adjust the values through UI and API:
 - “Emergency Rating Duration” as integer, set in minutes.
 - “Highest Emergency Rating” as a numeric input.
 - “Highest Emergency Rating Duration” as integer, set in minutes.

The screenshot shows the 'Equipment Picker' interface with tabs for 'Notes' and 'RIMS'. On the left, there are dropdown menus for 'Station', 'Voltage Level', 'Equipment Type', and 'Equipment:'. The main area contains three tables:

- Equipment Table:** Columns include Station, Name, Voltage, Type, Switch Modeling Complete, Use Facility Model, and ID.
- Switches Table:** Columns include Station, Name, Voltage, Type, Status, Start Date/Time, End Date/Time, ID, and Is Trumped.
- Equipment Rating Changes Table:** Columns include Name, Voltage, Normal Rating (MVA), Seasonal Normal Rating, Emergency Rating (MVA), Seasonal Emergency Rating, Start Date/Time, and End Date/Time.

Red arrows point from labels below the table to specific columns: 'Emergency Rating Duration' points to the 'Emergency Rating (MVA)' column, 'HER' points to the 'Seasonal Emergency Rating' column, and 'HER Duration' points to the 'End Date/Time' column.

WebOMS will give validation error if below conditions are not satisfied:

Rating Limits and Durations are not defined for ERC.

Highest Emergency Rating is less than active Emergency Rating.

Highest Emergency Duration is greater than Emergency Rating Duration.

If HER Limit and Duration values are partially complete.

If user want to enter ER greater than the current HER then would first have to adjust HER then update ER.

- If neither HER Limit and Duration values are defined, system should auto-fill the HER Limit and Duration values to match their associated Emergency Rating Limit and Duration values.
- Emergency Rating (ERC) flows to Market, RTCA, and EMS; and HER only flows to RTCA, and EMS. WebOMS will display a pop-up notification on submitting the ERC or HER through UI, API akin to SUCCESS message
- There will be XSD update on below services :
 - SubmitTransmissionOutage_v3-Regular and DocAttach
 - SubmitTransmissionOutageChangeRequest_v3-Regular and DocAttach
 - RetrieveTransmissionOutage_v3 - Regular and DocAttach
 - RetrieveTransmissionOutageChangeRequest_v3 - Regular and DocAttach.

Summer 2024 – Transmission Service & Market Scheduling Priorities

Phase 2

Project Information	Details
High Level Business Need	<p>Presents a long-term, durable framework to establish wheeling through scheduling priorities in the ISO markets that can further evolve with operational experience. It does not focus on, nor does it change, the processes for wheeling out or exporting from the ISO BAA.</p> <p>This project introduces a design to identify Available Transfer Capability (ATC) that can be allocated to Priority-Wheeling-Through (PWT) across the ISO system. This project also provides opportunity for external entities to drive transmission upgrades across the ISO system to support a wheeling-through. Will result in updates to the Wheel Export Quantity PC. The Original Wheeling Priority SC should be charged WAC for the Maximum of Wheeling Priority Quantity and scheduled export. If a resale should occur the purchaser of the resale Wheeling Priority Quantity should be assessed WAC on the maximum of schedule export less purchased Wheeling priority MW and zero.</p>
High Level Project Scope	<p>The following are the key design elements for Priority-Wheeling-Through (PWT) :</p> <ul style="list-style-type: none"> • Calculating PWT Available Transfer Capability (ATC) • Awarding PWT ATC to PWT Requests • Using PWT Awards in Market Operations • Settling PWT Awards and Schedules • Transmission Planning for PWT Capacity
BPM Changes	<ul style="list-style-type: none"> • Market Instruments – MF & SIBR Changes • Market Operations – ITS, DAM, RTM Changes • Reliability Requirements – Internal System Changes • Settlements and Billing – Settlements Changes • Transmission Planning Process – Impact for long term ATC • Generator Interconnection and Deliverability Allocation Procedures – Impact for long term ATC
Tariff Changes	<ul style="list-style-type: none"> • §23.1, §23.2, §23.3, §23.4, §23.5, §23.6, §23.7 • §26.1.4.5 • §30.5.1 • §34.12.3 • §Appendix A • §Appendix L • §Appendix DD • § New Appendix GG Long-Term Transmission Service & Market Scheduling Priorities
Impacted Systems	<ul style="list-style-type: none"> • AIM • CIRA • MF • New system for ATC calculation, access, and reservation • SIBR • RTM • Settlements • OASIS • RIMS

Summer 2024 – Transmission Service & Market Scheduling Priorities Phase 2

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Feb 01, 2023	✓
External BRS	Post External BRS Post External BRS – Resale Scope	Jan 31, 2024 Aug 2024	✓
Settlements	Tech Doc	Feb 12, 2024	✓
Config Guides	1 st Draft Config File & Release Component Summary	March 4, 2024	✓
Tech Spec	Create ISO Interface Specifications– OASIS	Jan 12, 2024	✓
Tariff	Filed ER23-2510 for Wheeling Through	Jul 28, 2023	✓
	FERC Acceptance of ER 23-2510 (calculation of available transfer capability (ATC) and the process for establishing market scheduling priority for wheeling through the ISO transmission system)	Oct 30, 2023	✓
	Compliance Filing	Nov 29, 2023	✓
	Petition for Limited Waiver for resale or assignment of monthly Wheeling Through Priority	Apr 12, 2024	✓
	Order Granting Petition for Limited Waiver ER 23-2510 NLT Dec 17, 2024	Jul 08, 2024	✓
	Track 2 DTL	Jul 14, 2023	✓
	Track 2 Revised DTL	Oct 05, 2023	✓
BPMs	Track 2 Final DTL	Dec 19, 2023	✓
	Draft BPM changes– Market Instruments (PRR1558)	Mar 20, 2024	✓
	Draft BPM changes– Market Operations (PRR1548)	Jan 16, 2024	✓
	Draft BPM changes– Market Operations (Automation) (PRR 1570)	Apr 19, 2024	✓
	Draft BPM changes– Reliability Requirements		
	Draft BPM changes– Settlements and Billing (PRR1560)	Mar 20, 2024	✓
Market Sim	Draft BPM changes– Transmission Planning Process		
	Draft BPM changes– Generator Interconnection and Deliverability Allocation Procedures		
	Market Simulation – Resale Scope	Sep 2024	
Production Activation	Implementation of wheeling through priority process supports load service planning for Summer 2024		
	ISO begin implementation thru manual processes		
	- Publication of Monthly ATC values for June 2024 to January 2025 (13-month horizon)	Jan 16, 2024	✓
	- Request window opened (Submit via CIDI)	Jan 18 – Jan 31, 2024	✓
	- Results communicated	Feb 5, 2024	✓
	Monthly Scope: New automation functionality available to support reservation of Monthly and Daily ATC in June 2024 and beyond	Apr 19, 2024	✓
	Daily Scope: Transmission Service & Market Scheduling Priorities Phase 2 – Activate daily and long-term increment calculations	May 24 for Jun 01, 2024	✓
	Resale Scope: Resale or Assignment of Monthly Wheeling Through Priority	Oct 2024	
	OASIS ETC Data	2024	
	2024 Monthly Wheeling Through Priority Request Due Dates		

2024 – 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

2024 – Transmission Exchange Agreement

Milestone Type	Milestone Name	Dates	Status
External BRS	Post External BRS	NA	
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	Oct 2024	
Production Activation	Transmission Exchange Agreement Renegotiation	TBD	

2024 – FERC 2222 – Distributed Curtailment Resources

Project Information

FERC Order 2222 seeks to remove barriers for DCR (Distributed Curtailment Resources) participation in RTO/ISO markets. Through its prior initiatives, CAISO already supports DER (Distributed Energy Resource) market participation. In this implementation, the CAISO will amend its existing DER policy to accommodate FERC Order 2222, which will include reducing the maximum capacity requirement and introducing a new DERA resource type with underlying DCR. In total, FERC Order 2222 requires RTOs/ISOs to revise the Tariff to establish a DERA participation model, which will:

- 1) Allow DERAs to participate in markets and establish DERAs as a type of market participant,
- 2) allow aggregators to register operational characteristics of a DERA,
- 3) establish maximum capacity requirements for DERAs,
- 4) address locational requirements,
- 5) address distribution and bidding,
- 6) address data and information,
- 7) allow for coordination between necessary entities,
- 8) address metering and telemetry,
- 9) address modifications to the list of resources in DERA, and
- 10) address market participation agreements.

The CAISO and its participating transmission owners have already gone to great lengths to ensure that DERs can easily access the wholesale markets for energy and ancillary services. These include ensuring that the CAISO does not prohibit any particular DER from participating in DERAs. This implementation now builds on this work by adding the DCR as an underlying resource type for the Distributed Energy Resource Aggregate (DERA). DERAs with any underlying DCR will be considered HDERA (given its capability to support both DER and DCR types) as opposed to the existing DERA (which only allows underlying DER). Demand response is considered a type of DCR in this context. Similarly, as with demand response, the metering performance of DCRs will be reflected as supply (or metering channel 4).

The existing CAISO Tariff already complies with most of FERC Order 2222; however, a few changes will be needed to align the tariff with the order by including a new resource classification, reducing the minimum allowable DER energy nameplate capacity limit (i.e. Pmax), and the creation of DCRs. Some of these changes will include:

- 1) Adapt small utility opt-in provision in its pro forma Demand Response Provider agreement for the CAISO's pro forma DERP Agreement, replacing Demand Response references with DER references.
- 2) Change definition of DER to align with the Commission's definition as found in section III B of the Order No. 2222 DERAs Compliance Filing.
- 3) CAISO proposes to implement a heterogeneous DERA model such that:
 - "Heterogeneous" DERAs must consist of at least one curtailment resource, and may comprise of the aggregate's underlying capacity in part or total.
 - Heterogeneous DERAs will provide a net response of energy, demand curtailment or both at its PNode(s). Settlements for heterogeneous DERAs will be based on the net service provided to the CAISO. This will be a sum of the net energy and the demand curtailment provided by the aggregate.
- 4) Define "Distributed Curtailment Resource" as a DER providing demand curtailment in a heterogeneous DERA.
- 5) Settle heterogeneous DERAs as a single supply resource, as a sum of net energy provided by DERs and the demand curtailed from DCRs.
- 6) The CAISO will apply a net benefits test to determine a threshold Market Clearing Price for Demand Response Providers and the new HDERA resource type.
- 7) Provision against double counting for any possible future scenarios, prevents a DER from participating in a DERA where the DER already participates in a retail net energy metering program that does not expressly permit wholesale market participation, requiring the distribution company to confer regarding any double-counting concerns.
- 8) Reduce the minimum aggregate capacity limit of DERs from 500kW to 100kW for a DERA.
- 9) Revise Tariff to require DERP to notify the CAISO whenever DERA information changes due to the removal, addition or modification of a DER within a DERA.

2024 – FERC 2222 – Distributed Curtailment Resources

Project Information	Details/Date
Description	<p>The proposed changes amend the CAISO's Tariff to comply with FERC Order 2222. FERC Order 2222 requires that all RTOs/ISOs allow for Distributed Curtailment Resources (DCRs) that can provide a minimum qualified aggregate Pmax value of at least 100kW to participate in all markets. The CAISO already allows for DER participation but will have to make some adjustments to ensure compliance with FERC 2222.</p> <p>Key Notes:</p> <ul style="list-style-type: none"> • Reduces DERA and HDERA minimum participation capacity to 100kW • Introduction of HDERA Resource, aggregate with underlying DCR • Settlements for HDERAs • Same Net Benefit testing as PDR for HDERAs
Scope	<ul style="list-style-type: none"> ➢ RIMS add new Interconnection Customer display to process HDERA/DERA resource project details during NRI; change Pmax limit from 500 kW to 100 kW ➢ Master File GRDT, API Web Service update to accommodate HDERA_YN flag, + HDERA/DERA attributes receive (read-only, may only submit HDERA MF data through Concurrence Letter Attachment A submission and successful NRI process) ➢ SIBR enhancements to recognize HDERA resources, apply them to NBT with PDR prices, update rules to allow hourly GDF submission with bids ➢ IFM/RTM markets will model HDERA as generic NGR with NREM ➢ MRI-S extension of meter submission support for HDERA resources ➢ Settlements will configure HDERA charges and payments to settle as generic NGR with NREM (no new charge codes) ➢ Process Only (no system impact): Internal ISO process will track HDERA SQMD and monitoring data submission to ensure compliance; ISO will contact SCs with delinquent submissions
BPM	<ul style="list-style-type: none"> ➢ Definitions and Acronyms: Include HDERA, DCR terms ➢ Demand Response: Elaboration of net benefit testing ➢ Distributed Generation for Deliverability: Addition of the HDERA resource type. ➢ Generator Management: Inclusion of DCR in DERPAs, Schedule 1, and Concurrence Letter A template (add HDERA language) ➢ Market Instruments: Revision to minimum allowed Pmax limit; and HDERA (aggregate includes both DER and DCR child units, models as an aggregate generic NGR, bidshave NBT applied, may submit GDFs with bids else default used) ➢ Market Operations: Revision to minimum allowed Pmax limit; and HDERA (aggregate includes both DER and DCR child units, models as an aggregate generic NGR, bidshave NBT applied, may submit GDFs with bids else default used) ➢ Metering: New HDERA resource type includes net energy meter submission for DERA, as well as monitoring requirement data from DCR and underlying consumption/energy data used with metering basis for baseline determination); HDERA monitoring ➢ Settlements and Billing: Impacts on settlements for HDERAs
Tariff Changes	<p>§ 4.17.7 § 11.6.5.1 § 30.5.2.6 § 4.6.3.2 (existing)</p> <p>Appdx K: A 1.1 B 1.1 C 1.1 (existing)</p>
Impacted Systems	RIMS, Master File, SIBR, MRI-S, Settlements

2024 – FERC 2222 – Distributed Curtailment Resources

Milestone Type	Milestone Name	Dates	Status
Tariff	FERC Filing ER21-2455	Jul 19, 2021	✓
	FERC Filing ER21-2455 Amend Effective Date NLT Nov 01, 2024	Aug 15, 2022	✓
	FERC Order Accepting ER 21-2455	May 18, 2023	✓
BRS	Publish BRS 1.2 BRS comment period open thru Jul 30, 2024 05:00 pm (PT) BRS review meeting	Jul 01, 2024 Open Jul 31, 2024	✓
Tech Spec	MF Generator RDT v6: Add HDERA flag and baseline methodology attributes (read-only): Validation: values must be read-only; cannot be submitted via: Generator RDT excel template or SubmitGeneratorRDT_MFRD SubmitGeneratorRDT_MFRD_DocAttach	Yes	
BPM	Definitions and Acronyms Demand Response Distributed Generation for Deliverability Generator Management Market Instruments Market Operations Metering Settlements and Billing	Aug 26, 2024	
Operating Procedures	5330 – Resource Testing Guidelines	Yes	
Market Simulation	Market Simulation Scenarios Market Simulation – Unstructured	Jul 22, 2024 Sep 30 – Oct 18, 2024	✓
Production	FERC 2222 – Distributed Curtailment Resources	Nov 01, 2024	

2024 - 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.

2024 - Congestion Revenue Rights (CRR) Upgrade

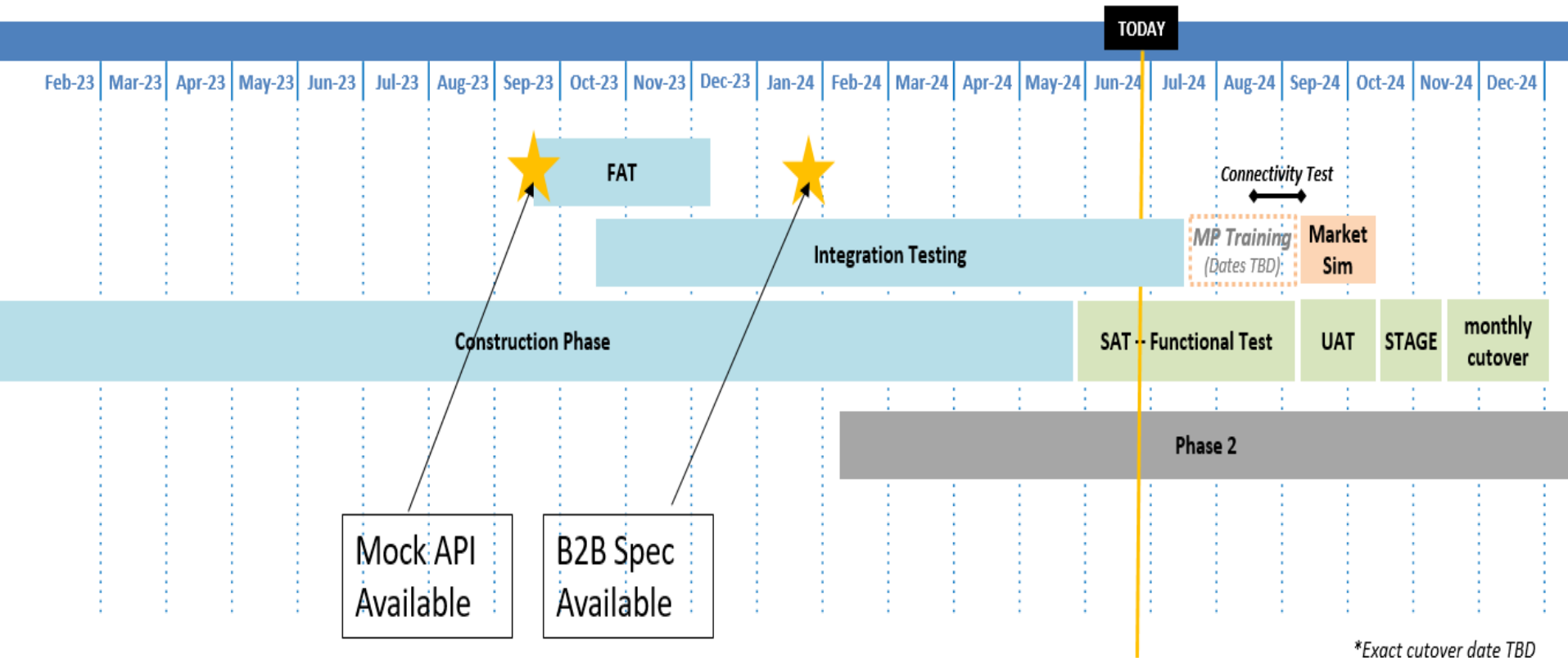
System	High Level Changes
CRR	Significant system upgrade including: <ul style="list-style-type: none"> • Enhancements made to the new CRR application. • Automatic publishing of CRR market results. • Automatic CRR notification. • New CRR schedule calendar. • New CRR FNM access. • New CRR data submission 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
CMRI	<ul style="list-style-type: none"> • Full and incremental Payload publishing • Publish CRR Awards payload on event-driven, ad-hoc or scheduled basis • Publish CRR Awards payload on event-driven, ad-hoc or scheduled basis
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 pnode/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

2024 - 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 v1.3	Nov 16, 2022 Mar 29, 2023	✓ ✓
Config Guides	Post Draft Config Guides	Yes	
Tech Spec	Publish Technical Specification	Feb 24, 2023	✓
Deployment Plan	Draft Deployment Plan	Yes	
Training	Training	Yes	
Customer Partnership Group	Last CPG	May 30, 2024	✓
	Next CPG	Jul 25, 2024	

2024 - Congestion Revenue Rights (CRR) Upgrade

- Construction Phase is complete and Functional System Acceptance Testing (SAT) started
- Connectivity Testing starts in August
- Market Sim starts in September
- Annual Cycle Cutoff will be on current CRR System
- Monthly Cycle Cutoff will still be for Jan 1st 2025 on new CRR System



2024 - CRR System Upgrade – Get Connected

- CRR meetings:
 - **Bi-weekly Technical User Group (TUG)** Tue 10 AM, alternates with RUG.
 - Meetings available on the CAISO calendar on www.caiso.com
 - Meeting details and presentation materials are available on the CAISO Developer site at www.developer.caiso.com , which requires an account to be setup for access
 - **CRR Customer Partnership Group**
 - **Last CPG May 30, 2024; [recording available](#)**
 - **Next CPG meeting is Thursday, Jul 25, 2024**
 - Monthly
 - Meetings available on the CAISO calendar on www.caiso.com
 - Meeting details and presentation materials are available on www.caiso.com > Stay Informed > Meetings & Events > Customer Partnership Groups

2024 – 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 2024: RIMS</p> <p>Completed: Today's Outlook, ISO Today Mobile Application, Reports</p>
Requirements	http://www.caiso.com/Documents/BusinessRequirementsSpecifications-HybridResourcesPhase2.pdf

2024 – Hybrid Resources 2C RIMS

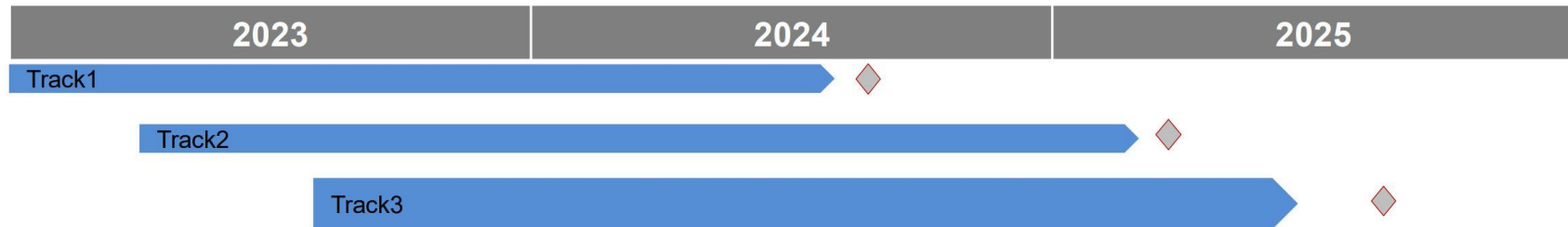
Milestone Type	Milestone Name	Dates	Status
External BRS	Publish External BRS	Jan 31, 2023	✓
	Revision – Add 4 Market Simulation Business Requirements	Jan 04, 2024	✓
Settlements Config Guides	NA for RIMS	NA	
Tech Spec	Create and Publish ISO Interface Spec (Tech Specs)	NA	
Market Sim	Market Sim Window – RIMS	Q3 2024	
Production Activation	Hybrid Resources 2C – RIMS	Oct 1, 2024	

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	Draft Tariff Language	May 20, 2022	✓
	Revised Draft Tariff Language	Jun 23, 2022	✓
	FERC Filing ER22-2362	Jun 16, 2022	✓
	FERC Acceptance ER22-2362	Apr 20, 2023	✓
	FERC Acceptance Tariff Revisions	Dec 13, 2023	✓
BRS	Publish BRS – Track 1	Jan 30, 2024	✓
	Publish BRS – Track 1 (Updates & Added FAC-011)	Jun 11, 2024	✓
Market Simulation	Market Simulation	NA	
Production	Track 1 Real-Time Reliability Applications	Apr 1, 2024	✓
	Track 2 Operational/EMS Model Data & Applications	2024/early 2025	

FERC 881 Project Timelines by Tracks



- **Track 1 – Real Time Reliability Applications**
 - Delays in application deliver timeline with FAC-11 additions to the project.
 - Utilization of AAR in real time reliability applications.
 - Estimated - Target Capability to be ready by Q3 2024 . Originally Q2.
- **Track 2 – Operational/EMS Model Data and Applications**
 - OATI WeblineR product will be utilized for receiving Look ahead ratings.
 - Finalizing OATI functional specification document.
 - Estimated - Target Capability to be ready early 2025
- **Track 3 – Market Application and Look Ahead Applications**
 - Requirements phase started and should be complete by September 2024.
 - Based on requirements gathering and vendor/internal resources constraints potential for delay in some aspects of implementation.
 - Estimated - Target Capability to be ready in Q2 2025.

Spring 2026 Release

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 real-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

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

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	Jul, 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	✓
Tariff	SIBR/BSAP/RCBSAP Rules Release Notes	Mar 05, 2024	✓
	SIBR SC User Guide	Mar 05, 2024	✓
	Publish Technical Specifications - CMRI	Dec 15, 2023	✓
	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	✓
	Business Practice Summary (New)	Apr 25, 2024	✓
BPMs	Post Draft BPM – Market Instruments	TBD	
	Post Draft BPM – Market Operations	TBD	
	Post Draft BPM – Settlements and Billing	TBD	
	Post Draft BPM – Definitions and Acronyms	TBD	
Implementation meeting	Implementation meeting	Aug 07, 2024	
External Training	External User Training	May 08, 2025	
Market Sim	Fall 2025 Release Market Simulation Plan	Jan 24, 2024	✓
	Market Sim Scenarios	Aug 04, 2023	✓
	Market Sim Window	Jun 02, 2025 - Aug 22, 2025	
Production Deployment	Day Ahead Market Enhancements (Inactive)	Oct 01, 2025	
Production Activation	Day Ahead Market Enhancements (Financially Binding)	May 01, 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	<ul style="list-style-type: none"> 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

Extended Day Ahead Market (EDAM) Implementation

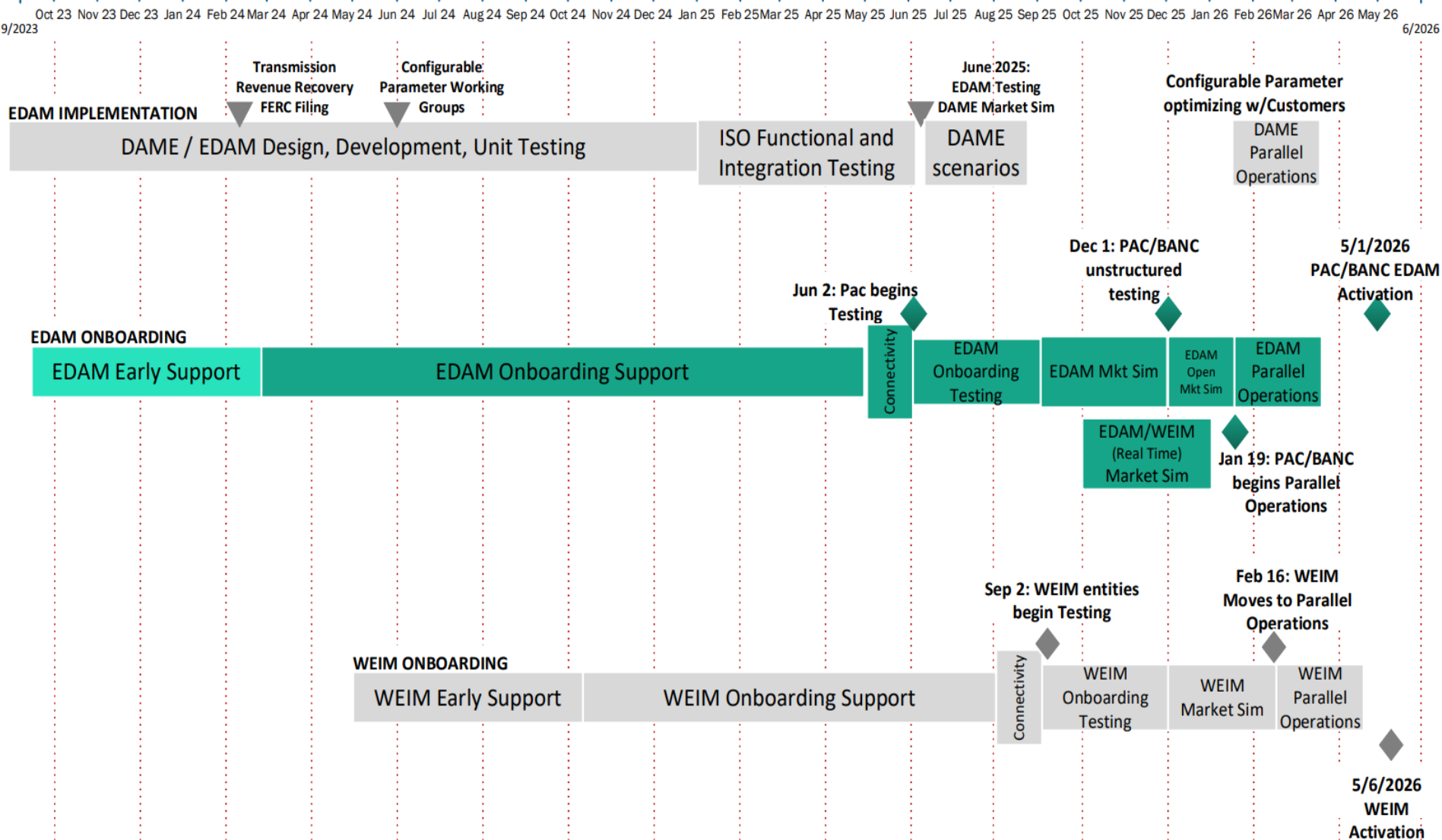
Milestone Type	Milestone Name	Dates	Status
Board Approval	Board approval	Feb 01, 2023	✓
External BRS	Publish External BRS v1.0	Aug 02, 2023	✓
	Publish External BRS v1.1	Dec 22, 2023	✓
	Publish External BRS v1.2	Apr 25, 2024	✓
	Publish External BRS v1.3	TBD	
Tariff	Draft Tariff Language	Mar 30, 2023	✓
	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 changes for EDAM agreements and onboarding provisions	Dec 21, 2023	✓
	Draft Compliance Filing Posting	Feb 05, 2024	✓
	Compliance Filing; accepted Apr 30, 2024	Feb 16, 2024	✓
Settlements Config Guides	Filing for EDAM access charge	Apr 12, 2024	✓
	Receive FERC order accepting EDAM Access Charge Design (EDAM Tariff fully approved)	Jun 11, 2024	✓
	Post Draft Config Guides - First set of charge codes	Jan 16, 2024	✓
	Post Draft Config Guides - Second set of charge codes	Mar 26, 2024	✓
Tech Spec	Post Draft Config Guides - Third set of charge codes & updates to First & Second sets	Aug 26, 2024	
	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	
BPMs	Publish Technical Specifications – OMS	NA	
	Business Practice Summary	Jul 10, 2024	✓
	Post Draft BPM – Energy Imbalance Market (EIM)	TBD	
	Post Draft BPM – Market Instruments		
	Post Draft BPM – Market Operations		
	Post Draft BPM – Settlements and Billing		
	Post Draft BPM – EDAM		
Market Sim	Post Draft BPM – Definitions and Acronyms	Jan 24, 2024 Jan 29, 2024 Feb 15, 2024 Sep 01, 2025 – Jan 16, 2026	✓ ✓ ✓ ✓
	Fall 2025 Release Market Simulation Plan		
	Market Sim Scenarios		
	Market Sim Scenarios v1.1		
Parallel Operations	EDAM Onboarding Market Sim	Apr 15, 2024	✓
Production	Draft Parallel Operations Plan	Oct 01, 2025	
	EDAM Production Deployment - Inactive	May 01, 2026	
	EDAM Onboarding (Financially Binding) & Activation (PacifiCorp & BANC)	Fall 2026	
	EDAM Onboarding – PGE		

EDAM & DAME Activation May 1, 2026

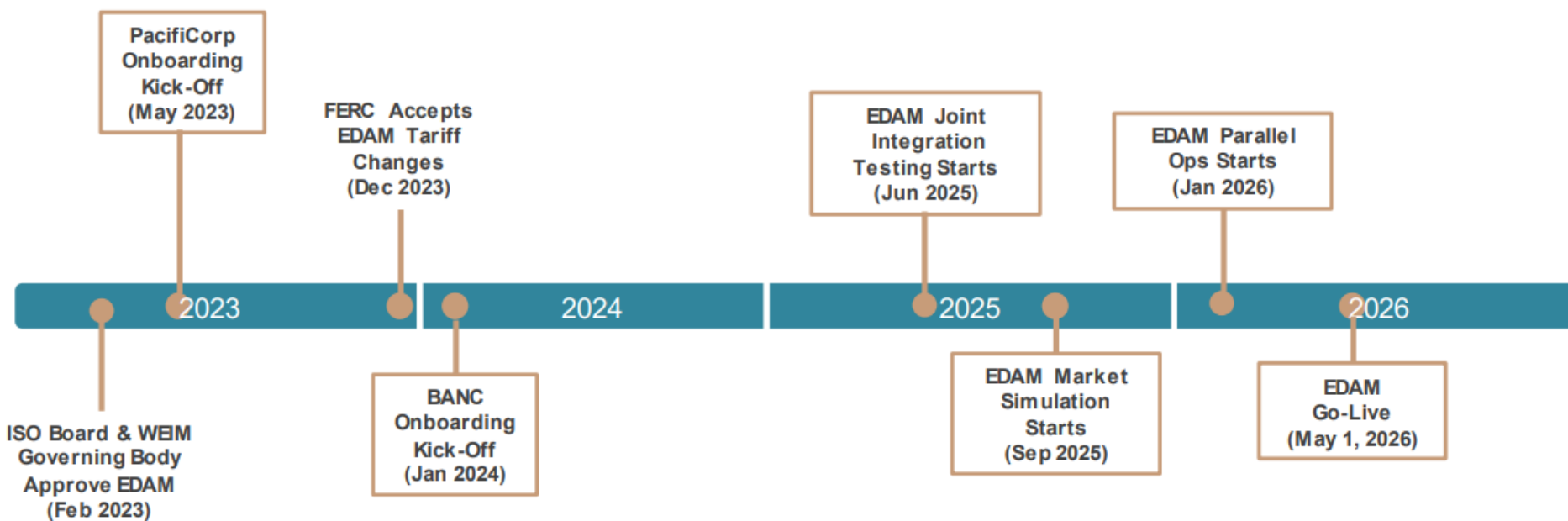
1/24/2023

EDAM Onboarding Timeline (w/implementation and WEIM) - *proposed*

9/2/2023 - 6/1/2026



Key EDAM Onboarding Milestones to Date



Spring 2026 – EDAM ISO BAA Participation Rules Track A

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 calculated historical revenue recovery amounts.</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 (requires refiling):</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
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 Track A

Milestone Type	Milestone Name	Dates	Status
Policy Development	Track A1 Final Proposal Historical Recovery Revenue policy confirmation	Aug 31, 2023 <i>Part of tariff work</i>	✓
Board Approval	Board approval	Sep 21, 2023	✓
Tariff	Draft Tariff Language	Aug 25, 2023	✓
	Revised Tariff Language	Oct 11, 2023	✓
	FERC Filing (CAISO BA Participation in EDAM ER24-379)	Nov 13, 2023	✓
	FERC Order (DAME/EDAM in ER23-2686): <i>didn't accept EDAM Access Charge</i> FERC Order (CAISO BA Participation in EDAM ER24-379): <i>acceptance in part, mooted</i> <i>Historical Recovery Revenue</i>	Dec 20, 2023 Mar 7, 2024	✓ ✓
	FERC Filing (EDAM Access Charge ER24-1746) FERC Order (EDAM Access Charge ER24-1746): <i>acceptance</i>	Apr 12, 2024 Jun 11, 2024	✓ ✓
	FERC Filing (Historical Recovery Revenue for ISO BAA)	TBD	
BRS	Publish BRS BRS comment period open thru Aug 02, 2024 05:00 pm (PT) BRS review meeting Publish External BRS v1.n: <i>Historical Recovery Revenue tariff dependency</i>	Jun 18, 2024 Open TBD TBD	✓
Settlement Config Guides	Post Draft Config Guides - second set of charge codes Post Draft Config Guides - Third set of charge codes & updates to First & Second sets Charge codes impacted by Historical Recovery Revenue	Mar 26, 2026 Aug 26, 2024 TBD	✓
Tech Spec	Part of EDAM framework (if applicable)		
BPMs	Post Draft BPM – Congestion Revenue Rights Post Draft BPM – Definitions and Acronyms Post Draft BPM – Energy Imbalance Market (EIM) Post Draft BPM – EDAM Post Draft BPM – Market Instruments Post Draft BPM – Market Operations Post Draft BPM – Settlements and Billing Post Draft BPM – Transmission Planning Process	TBD	
External Training	Training	TBD	
Market Sim	Coordinated with EDAM market sim	TBD	
Production	EDAM Production Deployment - Inactive EDAM Onboarding (Financially Binding) & Activation	Oct 01, 2025 May 01, 2026	

Spring 2026 – WEIM BHE Montana

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 29, 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

Jul 23, 2024

ISO PUBLIC

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 is reviewing the overall schedule for implementation. The current schedule is colliding with EDAM and DAME 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.
- 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 October 2024
- For comments or questions, please submit CIDI cases

Stay Informed

Ways to participate in releases

- 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

RUG Calendar 2024

January						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February						
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March						
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31						

April						
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May						
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July						
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August						
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September						
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October						
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November						
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December						
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

 CAISO Holiday

 RUG Forum

Contact

- tvo@caiso.com
- release@caiso.com
- CIDI
 - Functional Environment (Area)
 - “Release”
 - “Market Simulation”



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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