



California ISO

Release User Group Agenda

June 28, 2022

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=m78549e02a160a63df2c4004fa6c4a282</p> <p>Meeting Number: 978 929 42</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>1-844-517-1271 US Toll Free</i> <i>+1-682-268-6591 US Toll</i> <i>Access code: 978 929 42</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>	

Release User Group Agenda

June 28, 2022

10:00 a.m. – 11:00 a.m. (Pacific Time)

Time	Topic	Facilitator
10:00 – 10:05	Agenda & ISO Roll call	Trang Vo
10:05 – 10:45	Release Plan	Adrian Chiosea Jami Herguth Janet Morris

ISO Training Schedule

Training Course	Date and time
FRP Improvements Deliverability Webinar (tentative)	August 16, 2022 11am – 12:30pm
RDRR Enhancements Track 2 Webinar (tentative)	August 17, 2022 1:30pm – 2:30pm
Hybrid Resources Phase 2B Webinar (tentative)	August 18, 2022 10am – 11:30am

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<http://www.caiso.com/participate/Pages/LearningCenter/default.aspx>



CustomerReadiness@caiso.com

Release Plan Summary 2022

Fall 2022 Release

Flexible Ramping Product Refinements – Deliverability

Hybrid Resources Phase 2B

Reliability Demand Response Resource Bidding Enhancements 2

Central Procurement Entity Implementation

2022 Independent

Interconnection Process Enhancements Phase 1

Operations Systems Improvements Enhancements

WEIM Enhancements: Shared Ramping Constraint – Q3

WEIM Enhancements: ETSR UI – Q4

Release Plan Summary WEIM Spring 2023

WEIM Spring 2023 Release

WEIM 2023 – Avangrid

WEIM 2023 – El Paso Electric

WEIM 2023 – WAPA Desert Southwest Region

2022 Fall Release

Fall 2022 Release Overview

	BRS	Config Guide	Tech Spec	Draft Tariff*	BPMs	External Training	Market Sim	Production Activation
Fall 2022 Release	04/01/22	07/5/22	06/30/22	07/21/22	08/15/22	08/15/22 – 08/19/22	08/22/22 – 09/30/22	11/1/22
<u>Hybrid Resources Phase 2B</u>	8/3/21 V1.3 3/10/22 V 1.4 July 2022 to annotate Phase 2B and Phase 2C (RIMS)	01/25/22	09/10/21 ALFS MF July 2022 – OASIS, CMRI	09/17/21	02/14/22	8/18/22	08/22/22 – 09/30/22	11/01/22
<u>FRP Improvements - Deliverability</u>	<u>V1.0: 01/28/21</u> Reqmts Enh V1.0: 03/11/22	07/05/22	07/15/22	08/31/20 Filing target 7/27/22	7/15/22	8/16/22	08/22/22 – 09/30/22	11/01/22
<u>RDRR Phase 2</u>	<u>6/21/22</u>	N/A	N/A	TBD	TBD	8/17/22	08/22/22 – 09/30/22	11/01/22
<u>Central Procurement Entity Implementation</u>	3/10/22 <u>v 1.1 4/7/22</u>	07/05/22	N/A	<u>4/8/22</u>	TBD	9/14/22	08/22/22 – 09/30/22	MF/CIRA by 10/15/22 Effective Date 1/1/23 for 2023 RA Year

Fall 2022 – Hybrid Resources Phases 2-B - Overview

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 project participation (hybrid and co-located resources) in the ISO markets.</p>
High Level Project Scope	<p>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> <p>The Phase 2 project has been split into two separate implementations, phases 2-A and 2-B, to support strategic delivery timing. Phase 2-B information is available under the Spring 2022 release section.</p> <p>Phase 2-A was implemented on December 15, 2021. This phase focuses on implementing Ancillary Services (AS) and High Sustainable Limit (HSL) functionality with a focus on the EMS and IFM/RTM systems.</p> <p>Phase 2-B is scheduled to implement Fall 2022. This project phase focuses on implementing the Hybrid Dynamic Limit functionality, Multiple ACC, along with all remaining project scope to include changes to systems RIMS, Master File, EMS, SIBR, IFM/RTM, OASIS, ALFS, Settlements, MRI-S Metering, CMRI, MPP, Today's Outlook, ISO Today Mobile Application, Monthly Renewables Performance Report, Wind and Solar Real-Time Dispatch Curtailment Report', and the Over Supply Page.</p> <p>External BRS Posting: V1.3 posted on 3/10.</p>
BPM Changes	<p>Direct Telemetry, Market Instruments, Market Operations, Metering, Settlements and Billing</p>
Tariff Changes	<p>Proposed sections 4.18, 34.1.6.3, 30.5.6.1 Sections 27.13, 8.4.1.1(g), 8.4.3, Appendix K, Parts A, B and C, 8.2.3, 8.4.5, 34.7, 11.6.6, 4.8.2, 40.9.2 (b) (D)</p>
Impacted Systems	<p>ALFS, CMRI, Reporting, IFM/RTM, Master File, OASIS, RIMS, Settlements, MRI-S Metering, SIBR, MPP, Today's Outlook, ISO Today Mobile Application, Monthly Renewables Performance Report, Wind and Solar Real-Time Dispatch Curtailment Report, Over Supply Page.</p>

Fall 2022 – Hybrid Resources Phase 2-B (Cont'd)

System	High Level Changes
Automated Load Forecast System (ALFS)	<ul style="list-style-type: none"> • Identification of variable energy resources (VER) • New forecast type for hybrid resources • Forecast for hybrid resources that elect for ISO forecast
CAISO Market Results Interface (CMRI)	<ul style="list-style-type: none"> • Updates to include resource specific forecast data for hybrid resources (VER components).
Reporting	<ul style="list-style-type: none"> • Update report(s) for resource tagging changes: Solar Total tag, Wind Total Tag, Battery Total Tag (Renewable watch, Curtailment Report, ISO Today), and new Hybrid Total Tag
Integrated Forward Market (IFM)/Real-Time Market (RTM)	<ul style="list-style-type: none"> • When any resource behind an ACC constraint has an AS award, all resources behind that ACC constraint must follow their DOT and receive the must follow flag • Create a new user interface to display the hybrid summary (dynamic limits) • Modify 'Must Follow DOT' flag for AS cleared or AS dispatched award <ul style="list-style-type: none"> ◦ Must Follow DOT Flag must turn to 'Y' for Ancillary Service Cleared by resource ID • Software that takes the submitted limit and haircuts the energy bid used in each interval of the market time horizon • Limit the economic dispatch of a hybrid resource in the real-time market based on dynamic limits submitted to SIBR • For resources and hybrids, add new user interfaces • Dynamic Limit functionality: • Display a hybrid resources upper limit and lower limit
OMS	<ul style="list-style-type: none"> • System shall consume the new "HYBD" fuel type value and display the value for hybrid resource outages

Fall 2022 – Hybrid Resources Phase 2-B (Cont'd)

System	High Level Changes
Master File (MF)	<ul style="list-style-type: none"> • Enhance MF to identify Hybrid resources • Create a new categorization in MF to identify hybrid resources to handle dynamic limits • Add the ability to store the state-or-charge minimum and maximum limit • Identification of variable energy resources (VER) • Enhance MF to map hybrid resource to individual VER component(s) • Note: Renewable registration for VER components is currently mapped to Resource ID; will need further automation to map to individual VER component • New unit type to identify a hybrid resource under the existing NGR model • New identification of individual renewable components that make up a hybrid resource • Ability to elect for ISO forecast or SC submitted forecast to be at the renewable component level • Make the new categorization of hybrid resources along with associated attributes available for downstream applications • Add a MF rule to make sure the 'MOO Qualified Flag' is set to "N" for hybrid resources • Modifications to support the need for a few MF resource attributes (for example, fuel type, technology type, QF Flag, VER NGR flag, etc.) that need to be associated to the VER components that make up the hybrid resources • Map PI Tags (VER actual and meteorological tags) to each Resource ID or VER component. Note: System to be determined per Architecture Definition
Open Access Same Time Information (OASIS)	<ul style="list-style-type: none"> • Updates to create a new category for hybrid resources to be included in the forecast data reports.
Settlements	<ul style="list-style-type: none"> • Consume new VER Component ID for forecasting fee • Updates to forecast fee calculation based on meter data submitted for the VER components that elect ISO forecast
Metering (MRI-S)	<ul style="list-style-type: none"> • Ability to receive meter data at the VER Component ID level for hybrid resources • Updates for Western Renewable Energy Generation Information System (WREGIS) reporting of meter data on the Hybrid components
Scheduling Infrastructure and Business Rules (SIBR)	<ul style="list-style-type: none"> • Treat all hybrid resources as non REM NGRs • Flagging must be configured to ensure bid insertion does not occur • SIBR rules and new rule flow needs to be created to receive and validate the dynamic operating limits • Allows market participant to submit their dynamic limit • Allow submission of upper and lower economic limits for each 5-minute interval in a three hour window for hybrid resources • Validation of upper and lower economic limits • Validate the dynamic operating limits

Fall 2022 – Hybrid Resources Phase 2-B

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Nov 18, 2020	✓
External BRS	Post External BRS (Includes Phase 2-A and 2-B)	Aug 3, 2021	✓
	Post BRS v1.3	Mar 10, 2022	✓
	BRS v 1.4 (annotate Phase 2B and Phase 2C (RIMS))	July, 2022	
Config Guides	Post Draft Config Guides	Jan 25, 2022	✓
Tech Spec	Create ISO Interface Spec (Tech spec)	Sep 10, 2021	✓
Tariff	File Tariff	Sep 17, 2021	✓
Market Sim Scenarios	Post proposed scenarios (Unstructured)	Feb 8, 2022	✓
BPMs	Publish Final Business Practice Manuals for mkt sim	Feb 14, 2022	✓
External Training	Deliver External Training	Aug 18, 2022	
Market Sim	Market Sim Window	Aug 22, 2022 – Sep 30, 2022	
Production Activation	Hybrid Resources Phase 2-B	Nov 1, 2022	

Fall 2022 – Flexible Ramping Product Improvements Deliverability

Project Information	Details/Date
High Level Project Scope	<p>The scope of the project FRP Deliverability is:</p> <ol style="list-style-type: none"> 1. Procurement of FRP for BAA's that fails the flex test is separate for each BAA. 2. Procurement of FRP for BAA's that pass the flex test for the entire group of BAA. 3. Transmission constraints and transfer limits are enforced in FRP deployment scenarios 4. Distributing the uncertainty requirement in each BAA load and VER locations versus just load 5. Distributing the demand curve surplus variable as a decision variable at load aggregation points (LAP) versus Balancing Authority Areas (BAA) 6. To establish the Locational Marginal Capacity Prices (LMCP) for FRP <p>The scope of the FRP Requirements Enhancements is:</p> <ol style="list-style-type: none"> 1. To enhance the current approach by adopting a quantile regression method to adjust the current flexible ramping product up and down requirement. 2. Calculation of the demand curve.
BPM Changes	Market Instruments, Market Operations
Tariff Change	Yes
Impacted Systems	RTM, Settlements, CMRI/OASIS
System	High Level Changes
Real Time Markets (RTM)	<ul style="list-style-type: none"> • RTM to be impacted based on the change in the FRP procurement systems. • Input data needed for forecasted advisory in the binding interval for RTPD for approx. 40 work days or weekends. • New demand curve calculation is needed.
Settlements	<ul style="list-style-type: none"> • Prices are nodal therefore mechanics for cost allocation pricing to be changed • Nodal FRP prices
CAISO Market Results Interface (CMRI)/ Open Access Same time Information (OASIS)	<ul style="list-style-type: none"> • Publish Resource Nodal prices for the FRP awards (CMRI) • Publish requirements for FRP per BAA and BAA group (OASIS) • Publish surplus by LAP (OASIS) • Publish the nodal FRP prices (OASIS)

Fall 2022 – Flexible Ramping Product Improvements Deliverability

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Sept 30, 2020	✓
External BRS	Flexible Ramp Product: Deliverability	Jan 28, 2021	✓
	Flexible Ramp Product: Requirements Enhancements	Mar 11, 2022	✓
Tariff	File Tariff	July 27, 2022	
BPMs	Publish Draft BPM updates	July 15, 2022	
Config Guides	Post Draft Config Guides	July 05, 2022	
Tech Spec	Publish Technical Specification - OASIS	July 15, 2022	
External Training	Deliver External Training	August 16, 2022	
Market Sim	Market Sim Window	Aug 22, 2022 – Sep 30, 2022	
Production Activation	FRP Deliverability	Nov 1, 2022	

Fall 2022 – Reliability Demand Response Resource Phase 2

Project Information	Details
High Level Project Scope	<p>The purpose of this initiative is to better reflect Reliability Demand Response Resources' (RDRR) operational capabilities in the market via select enhancements to real-time bidding for discrete RDRRs.</p> <ul style="list-style-type: none"> • Infeasible Discrete RDRR RT Dispatch via Pmin Re-Rate • Discrete RDRR Cap Increase
BPM Changes	<ul style="list-style-type: none"> • Demand Response: Document process of submission and approval of discrete RDRR 100 MW exception. • Market Instruments: Document MF Changes • Market Operations: Document RTM Changes • Settlements and Billing: Documentation-Only Impact
Tariff Change	Yes
Impacted Systems	MF, RTM

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	July 20-21, 2022	
External BRS	RDRR Phase 2	Jan 21, 2021	✓
Tariff	File Tariff	TBD	
BPMs	Publish Draft BPM updates	TBD	
Config Guides & Tech Specs	Post Draft Config Guides and Publish Technical Specifications	N/A	
External Training	Deliver External Training	Aug 17, 2022	
Market Sim	Market Sim Window	Aug 22, 2022 – Sep 30, 2022	
Production Activation	RDRR Ph2	Nov 1, 2022	

Fall 2022 – Central Procurement Entity Implementation

Project Information	Details
High Level Project Scope	<p>The CAISO tariff currently allows LSEs to aggregate responsibilities to procure Local Capacity Area Resources. However, given the unique nature of the CPE as outlined in CPUC D. 20-06-002, relying solely on this existing tariff provision is not sufficient to facilitate implementation of the CPE construct. The CAISO has identified additional needed tariff, software, and business process enhancements. Although the CPUC's CPE order is the impetus for this stakeholder initiative, the CAISO does not propose to limit a CPE to CPUC-jurisdiction LSEs. The CAISO instead proposes to allow all Local Regulatory Authorities (LRAs) to designate a CPE to procure local resources on behalf of its LSEs and that LRAs may designate the same CPE to procure local resources on behalf of the LSEs under the jurisdiction of those multiple LRAs.</p> <p>Scope:</p> <ol style="list-style-type: none"> 1. Recognizing a Central Procurement Entity (CPE) 2. System and Local Obligation for CPE and LSEs with Load in Multiple Transmission Access Charge (TAC) Areas 3. Allocation of System and Flexible Attributes of Local Resource Adequacy (RA) Resources 4. Clarification of Capacity Procurement Mechanism (CPM) Process and Cost Allocations in regards to CPE changes
BPM Changes	<ul style="list-style-type: none"> - Reliability Requirements - Settlements and Billing
Tariff Change	Yes
Impacted Systems	MF, CIRA, Settlements

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	N/A	
External BRS	Central Procurement Entity BRS	Apr 8, 2022	✓
Tariff	File Tariff	Apr 8, 2022	✓
BPMs	Publish Draft BPM updates	TBD	
Config Guides	Post Draft Config Guides	Jul 5, 2022	
Tech Specs	Publish Technical Specifications	N/A	
External Training	Deliver External Training	Sept 14, 2022	
Market Sim	Market Sim Window	Aug 22, 2022 – Sep 30, 2022	
Production Activation	MF and CIRA availability for registrations	Oct 15, 2022	
	Full project activation	Jan 1, 2023	

Independent 2022 Release

Independent 2022 – Interconnection Process Enhancements (IPE) 2021 – Phase 1

Project Information	Details
High Level Business Problem or Need	The proposal is focused on four main areas including how to manage the “currently overheated” interconnection queue and encourage resource developer discipline to submit only viable projects; removing barriers for timely development of needed resources; better alignment of resource procurement by LSEs with the ISO process and state policy direction; and addressing residual issues that have emerged since the process was last reviewed in 2018. Those residual issues include how to allocate costs for generator driven network upgrades, and reimbursement for reliability network upgrades for generators outside the ISO system.
High Level Project Scope	The project will focus on the following: <ul style="list-style-type: none">•Continuous improvement of the generator interconnection process•Provide greater visibility and transparency to the stakeholders•Eliminate manual workarounds•Provide single source of data
System Changes	N/A

Independent 2022 – Interconnection Process Enhancements (IPE) 2021 – Phase 1 (cont'd)

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board of Governors	May 11, 2022	✓
External BRS	Post External BRS	N/A	
Config Guides	Post Draft Config Guides	N/A	
Tech Spec	Create ISO Interface Spec (Tech spec)	N/A	
Tariff	File Tariff ER22-2018	Jun 2, 2022	✓
BPMs	Post Draft BPM changes	TBD	
External Training	Deliver External Training	N/A	
Market Sim	Market Sim Window	N/A	
Production Activation	Production	Sep 1, 2022	

Operations Systems Improvements 2021/2022 Enhancements

Project Information	Description								
High Level Business Problem or Need	<ul style="list-style-type: none"> The goal of this project is to deliver timely systems improvements that support efficient day-to-day work and operations. The project aims to 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 functionality enhancements. A list of specific high priority improvements will be the scope for the project. A number of these improvements may have an impact on the way in which customers interact with CAISO systems. 								
Affected Systems	<ul style="list-style-type: none"> A preliminary list of enhancements is included on the next slide. <p>PLEASE NOTE: This list may change as the project progresses and priority are factored. The goal is to provide advanced notification of changes whenever possible</p>								
Schedule	<table border="0"> <tr> <td>• External BRS</td> <td>2022 External BRS v1.0 Published 5/3</td> </tr> <tr> <td>• MAP Stage Availability</td> <td>Multiple*</td> </tr> <tr> <td>• Customer Training</td> <td>Multiple*</td> </tr> <tr> <td>• PROD</td> <td>Multiple*</td> </tr> </table> <p>* The plans for testing and deployment will vary between improvement items as these may be released individually or in groups. More information on specific improvements will be made available as planning and schedules are solidified.</p>	• External BRS	2022 External BRS v1.0 Published 5/3	• MAP Stage Availability	Multiple*	• Customer Training	Multiple*	• PROD	Multiple*
• External BRS	2022 External BRS v1.0 Published 5/3								
• MAP Stage Availability	Multiple*								
• Customer Training	Multiple*								
• PROD	Multiple*								

Operations Systems Improvements Projects

List of Proposed Improvements*

*PLEASE NOTE: This list may change as the project progresses and priorities are factored. The goal is to provide advanced notification of changes whenever possible

2021

System	Summary Description	
ADS	Add advance filter, additional color scheme, change grid color	Training – August. 2022 Unstructured Mkt Sim- Sept. 2022 PROD – Sept. 2022

2022

System	Summary Description	
ADS	System must have the capability to "update existing configuration" across profiles & "have shared displays synchronized."	Training – August 2022 Unstructured Mkt Sim- Sept. 2022 PROD – Sept. 2022
Market	Modify Unit Details UI	Outreach/Release Note – Sept. 2022 PROD - October 2022

WEIM Enhancements

Project Information	Details/Date
High Level Business Problem or Need	To collectively address important issues identified by WEIM market participants through Customer Inquiry, Dispute and Information system (CIDI) requests to improve the visibility, functions and features in Energy Imbalance Market (WEIM).
High Level Project Scope	<ul style="list-style-type: none"> • BAAOP: WEIM shared ramping constraint IS NOT editable through UI. • BAAOP: ETSR detail screen will be available to BOTH RTMO and WEIMs. (First drop for testing will only be available to RTMO).
BPM Changes	WEIM, Market Instruments
Tariff Change	Section 29.4
Impacted Systems	RTM/BAAOP, RTM/Integration

System	High Level Changes
Real-Time Market (RTM)	<p>BAAOP: WEIM shared ramping constraint IS NOT editable through UI.</p> <ul style="list-style-type: none"> • Shared ramping capability constraint • UI for WEIM entity input parameters for ramp sharing • Use in the optimization for each resource based on BAA ramp share parameters
Real-Time Market (RTM)	<p>BAAOP: ETSR detail screen will be available to BOTH RTMO and WEIMs. (First drop for testing will only be available to RTMO).</p> <ul style="list-style-type: none"> • New ETSR detail screens

2023 CRR System Upgrade

2023 – 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>
BPM Changes	Yes, details TBD
Tariff Change	No
Impacted Systems	CRR, AIM, CMRI, OASIS, CTS, Market Clearing, EMMS, IFM/RTN, MQS, Master File, MPP, Settlements, WebOMS, ETCC.

2023 – Congestion Revenue Rights (CRR) Upgrade

System	High Level Changes
CRR	<p>Significant system upgrade including:</p> <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

2023 – Congestion Revenue Rights (CRR) Upgrade

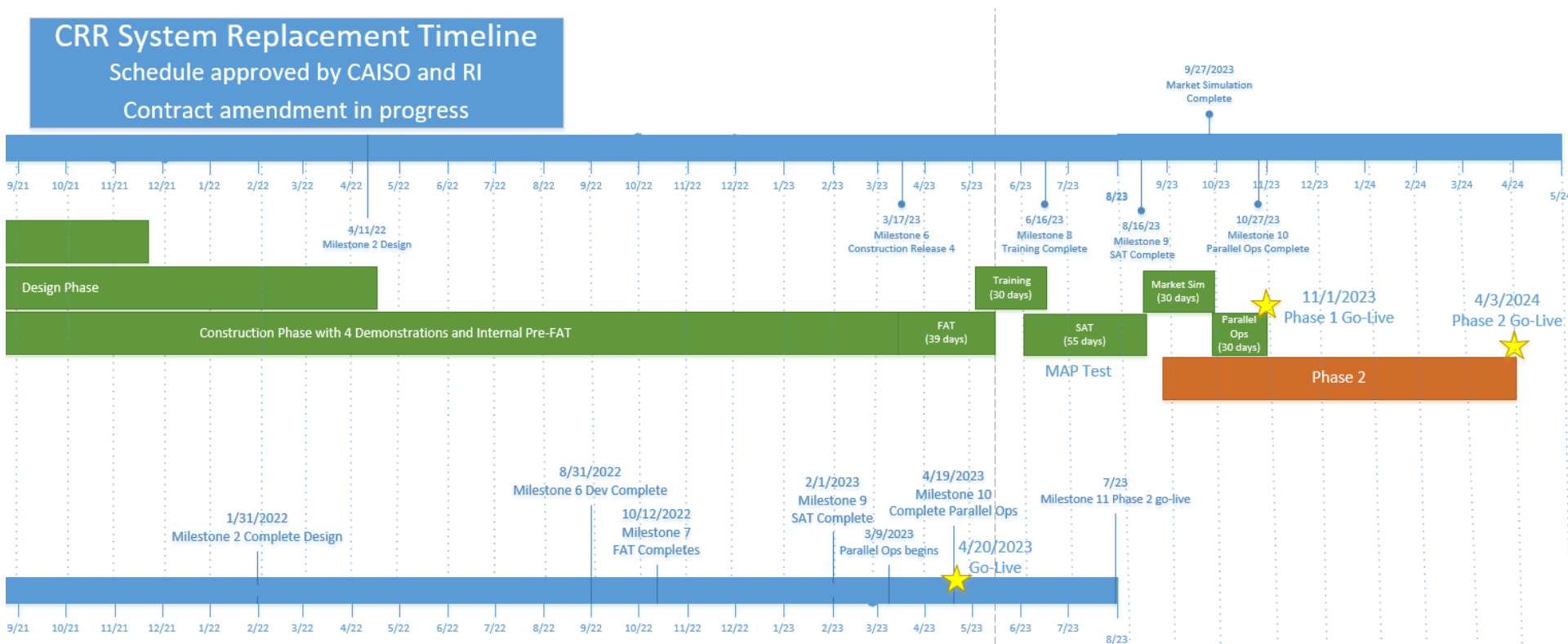
Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	N/A	
External BRS	Publish External BRS	N/A	
Config Guides	Post Draft Config Guides	N/A	
Tech Spec	Publish Technical Specification	Draft 11/5/21	✓
Tariff	File Tariff	N/A	
BPMs	Publish Draft BPM updates	Mar 1, 2023	
External Training	Deliver External Training	May 8, 2023 – Jun 16, 2023	
Market Sim	Market Sim Window	Aug 17, 23 - Sep 27, 2023	
Production Activation	CRR Upgrade	Nov 1, 2023	
Effective Date	First Trade Date for Monthly Auction results on new system	Jan 1, 2024	
Phase 2 Production Activation	Phase 2 Go-Live	Apr 3, 2024	

2023 CRR System Upgrade – Milestone Schedule

CRR System Replacement Timeline

Schedule approved by CAISO and RI

Contract amendment in progress



2023 CRR System Upgrade – Get Connected

- CRR External 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
 - **B2B Improvements – Webinar Series** (invitation only)
 - Technical details with respect to the new integration pattern
 - Interested folks should send email to inambiar@caiso.com
 - Review CRR new API specifications.
 - **CRR Customer Partnership Group**
 - Introduction and Overview scheduled for Wed 5/18/22 @ 10 AM

2024 Settlement Upgrade

2024 - Settlement Upgrade - 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

2024 - Settlement Upgrade – Get Connected

- Vendors and Market Participants plan to attend:
 - **Settlement User Group (SUG)** 10 AM on Wednesdays, alternating with RUG. (Next meeting 3/2)
 - Schedule updates, request for enhancements, Configuration change details, examples, calendar format differences etc.
- Settlement technical users plan to attend:
 - **Bi-weekly Technical User Group (TUG)** 10 AM on Tuesdays, alternating with RUG. (Next meeting 3/1)
 - B2B Improvements and New API specifications will be presented and discussed in this meeting
 - meeting details and presentation materials are available on the CAISO Developer site at www.developer.caiso.com , requires an account setup for access

Note: Meetings are available on the CAISO calendar on www.caiso.com

2024 - Settlement Upgrade – 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 provide a forum 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
- The ISO will give timely support to the market participants and their vendors during the testing phase.

2024 - Settlement Upgrade – Targeted Goals Cont.

- 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.

2024 - Settlement Upgrade – We would like to hear from you

- Decomposition of the settlement files
 - Migrating to OpenAPI specifications
 - Upgrading to a new output config file format
 - Any other enhancement requests?
-
- Next steps
 - Use the CIDI process to submit comments and enhancement requests. Your submittal will be reviewed and added to a master list that will be presented at the Settlement User Group (SUG)
 - The CIDI ticket will be closed once added to the SUG master list.

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 independent 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
 - Bi-monthly review of market performance issues
 - High level discussion of release planning, implementation and new market enhancements

What to look for on the calendar...

Calendar of Meetings, Training and Events

Month: February Year: 2018 Calendar View List View Print View

February 2018						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	5	6	7	8	9	10
	<p>Market Sim →</p> <p>WebCONF: Market Simulation 2:00pm - 3:00pm</p>	<p>Training: Get to Know the ISO - Day 1 9:00am - 4:00pm</p> <p>WebCONF: Imbalance Conformance Enhancements 10:00am - 12:00pm</p> <p>WebCONF: Technical User Group 10:00am - 11:00am</p>	<p>Deadline: Comments - Interconnection Process Enhancements 2018 - Issue Paper and Meeting Discussion 9:00am - 4:00pm</p> <p>Training: Get to Know the ISO - Day 2 9:00am - 4:00pm</p> <p>Meeting: Flexible Resource Adequacy Criteria Must Offer Obligation Phase 2 - Revised Draft Flexible Capacity Framework 10:00am - 4:00pm</p> <p>WebCONF: Market Settlement User Group 10:00am - 11:00am</p>	<p>Meeting: Audit Committee Teleconference (Executive) 3:30pm - 6:30pm</p> <p>Training: Settlements 101 9:00am - 4:00pm</p> <p>Meeting: 2017-2018 Transmission Planning Process 10:00am - 4:00pm</p> <p>Market Sim ←</p> <p>WebCONF: Market Simulation 2:00pm - 3:00pm</p>	<p>Training: Settlements 201 9:00am - 4:00pm</p>	
11	12	13	14	15	16	17
<p>WebCONF: Participating Transmission Owner Per Unit Cost Guides 10:30am - 12:00pm</p> <p>WebCONF: Market Simulation 2:00pm - 3:00pm</p> <p>Release Users Group (RUG) →</p>	<p>Meeting: Congestion Revenue Rights Auction Efficiency 10:00am - 4:00pm</p> <p>WebCONF: Release User Group 10:00am - 11:00am</p> <p>Call: Energy Imbalance Market Governing Body Teleconference (Executive) 11:30am - 12:30pm</p>	<p>Deadline: Submissions - April 2018 Monthly Resource Adequacy and Supply Plans 11:00am - 11:30am</p> <p>Call: Congestion Revenue Rights 11:00am - 11:30am</p> <p>WebCONF: Outage Management System Customer Partnership Group 2:00pm - 3:00pm</p>	<p>Deadline: Comments - Review Transmission Access Charge Structure Straw Proposal and Meeting Discussion 11:00am - 11:30am</p> <p>Call: Board of Governors Teleconference (General) 3:15pm - 6:00pm</p> <p>Call: Board of Governors Teleconference (Executive) 9:00am - 10:00am</p> <p>Call: Market Update 10:15am - 11:00am</p> <p>WebCONF: Market Simulation</p>			