



# California ISO

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## **Independent 2022 (Pre-Summer) Release Functional Overview**

 <b>California ISO</b>	<b>Technology</b>	<b>Template Version:</b>	<b>1</b>
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## REVISION HISTORY

<b>VERSION NO.</b> <small>(Must match header)</small>	<b>DATE</b>	<b>DESCRIPTION</b>
0.1	1/26/2022	Draft created
0.2	02/16/2022	Populated draft with Independent (pre-summer) 2022 Release initiatives with impacts
0.3	03/02/2022	Document updated
1.0	03/10/2022	Finalized document for posting
1.1	04/18/2022	Updated document to reflect scope changes to Short-Long Start Definitions. Added links to market simulation documentation.
1.2	04/27/2022	Added link to market simulation documentation for WEIM RSEE initiative

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## **Introduction**

This document provides a functional overview of the Independent 2022 (pre-summer) release on a project-by-project basis. It should be used to provide a quick view into relevant high-level documentation and new functionalities that are required to be implemented for summer 2022. Links to each project’s External Business Requirements Specification (BRS) documentation are provided, if applicable.

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## List of Acronyms

ALFS	Automated Load Forecast System
AS	Ancillary Services
AWE	Alert, Warning or Emergency Notice
BAOOP	Balancing Authority Area Operations Portal
BRS	Business Requirements Specification
CAISO	California Independent Systems Operator
CMRI	CAISO Market Results Interface
CPUC	California Public Utilities Commission
DA	Day-Ahead
DAM	Day-Ahead Market
DR	Demand Response
EEA	Energy Emergency Alert
FERC	Federal Energy Regulatory Commission
FIT	Fully Integrated Tracking
FODD	FERC Ongoing Data Delivery
HASP	Hour-Ahead Scheduling Process
IFM	Integrated Forward Market
MF	Master File
MW	Mega Watt
MWh	Mega Watt hour
OASIS	Open Access Same Time Information System
PT	Price Taker
RAAIM	Resource Adequacy Availability Incentive Mechanism
RDRR	Reliability Demand Response Resource
RDS	Report Data Services
RSE	Resource Sufficiency Evaluation
RT	Real-Time
RTBS	Real-Time Base Schedule
RTD	Real-Time Dispatch
RTM	Real-Time Market
RTPD	Real-Time Pre-Dispatch
RUC	Residual Unit Commitment
SC	Scheduling Coordinator
SIBR	Scheduling Infrastructure and Business Rules

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SOA	Service Oriented Architecture
STUC	Short-Term Unit Commitment
TBD	To Be Determined
VER	Variable Energy Resource
WEIM	Western Energy Imbalance Market

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# 1 Short-Long Start Definitions

## 1.1 Functional Overview

- Update current CAISO tariff definitions and business practice manuals.
- The Medium Start definition will be removed and rolled into the Short Start definition.
- Clarify operational and settlement communication and outcomes for WEIM and CAISO participants.

### Implementation Efforts Include:

- Update bid insertion rules to account for changes to Short Start and Long Start definitions under tariff revisions; account for the DA/RT unit commitment 255 minute cycle time for Short Start units (was previously 270 minutes). As previously implemented, Long Start units will not have bid-insertion performed in real-time markets if not committed in the Day-Ahead Market.
- Update IFM, RTM market systems to have the DA binding commitment cycle time (startup time + minimum up time) changed from 270 to 255 minutes
- Settlement systems shall account for newtariff start definitions when applying DA/RT Bid Cost Recovery, AS Non-Spin/Spin No Pay, RAAIM Pre-Calc calculations
- Auxiliary Processes shall consider a resource to be eligible for real-time commitment if the sum of startup time and minimum up time is 255 minutes or less

## 1.2 Business Requirements Specification (BRS) Document

The BRS can be found [HERE](#).

## 1.3 Impacted Systems

IFM  
RTM  
Settlements  
SIBR

## 1.4 Market Simulation Impact

N/A

## 1.5 Business Practice Manuals

Definitions and Acronyms  
Market Instruments  
Market Operations  
Reliability Requirements  
Settlements and Billing

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## **1.6 Summary of Charge Code Impacts**

N/A

## **1.7 Drafts Settlements Technical Documentation Link(s)**

N/A

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## 2 Transmission Service and Market Scheduling Priorities Phase 1

### 2.1 Functional Overview

The purpose of this initiative is to explore development of a long-term, holistic, and durable, framework for establishing scheduling priorities in the CAISO market. The scope of this initiative includes:

1. Extension of the current, interim, wheeling through scheduling priorities framework for summer 2022 and summer 2023, until May 1, 2024
2. Enhancements to provide additional visibility of the non-RA capacity for a supporting resource as well as notifications when a high priority export (PT export) schedule exceeds the non-RA capacity of the supporting resource
3. Clarification to tariff language regarding PT exports from Variable Energy Resources (VER)
4. Publication of additional requested data and information:
  - a. Aggregate high priority wheel (Priority Wheeling Through) registration data
  - b. Aggregate Resource Adequacy (RA) import data
  - c. Residual Unit Commitment (RUC), HASP, RTPD. RTD load forecast adjustments
  - d. Curtailment data for RUC and HASP

#### **Implementation Efforts Include:**

##### Transparency enhancements:

- Publish Aggregate PT Wheel Registration Data
  - Publish at CAISO website the Master File registered PT (high priority) wheeling aggregated schedule at different import/export points by month
- Publish of Aggregate RA Import Data showing
  - Publish CAISO website for the aggregate MW of RA imports shown at each tie point based on monthly RA plans for the last eighteen (18) months showing
- Publish load forecast adjustments utilized in RUC
  - Publish RUC hourly load forecast adjustments on OASIS
  - Publish all market load forecast adjustments
- Publish schedule reduction data on wheeling through transactions, exports and load on OASIS, promptly after those instructions have been issued

##### Market scheduling priorities processes Clarification:

- Extension of wheeling through scheduling priorities for May 1, 2024
  - Provides certainty for external parties wheeling across the CAISO as to the rules for summer 2022 and summer 2023

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- VERs attest to support PT export schedules based on the most recent forecast for each of the applicable four (4) fifteen (15) minute intervals for which a bid has been submitted for Generation that is equal to or greater than the Self-Schedule PT export quantity.
- High Priority Export Enhancements-Provide awareness for SC regarding the instantaneous non-RA capacity for supporting resource, and notification if sum of PT export schedules exceeds non-RA capacity.
  - SC for supporting resource will be able to view in SIBR instantaneous non-RA capacity of resource
  - SC(s) submitting PT export schedules and supporting resource will receive a notification warning in SIBR when the sum of PT schedules exceeds non-RA capacity of supporting resource prior to the market close.

## 2.2 Business Requirements Specification (BRS) Document

The BRS can be found [HERE](#).

## 2.3 Impacted Systems

HASP  
 OASIS  
 RTD  
 RTPD  
 RUC  
 SIBR

## 2.4 Market Simulation Impact

Yes, see [Market Simulation Structured Scenarios—Transmission Service and Market Scheduling Priorities-Phase 1](#) for more details.

## 2.5 Business Practice Manuals

Market Instruments  
 Market Operations

## 2.6 Summary of Charge Code Impacts

N/A

## 2.7 Drafts Settlements Technical Documentation Link(s)

N/A

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### 3 WEIM Resource Sufficiency Evaluation Enhancements (RSEE) Phase 1

#### 3.1 Functional Overview

The purpose of this initiative is to implement enhancements to the EIM Resource Sufficiency Evaluation (RSE). The CAISO and stakeholders reviewed several potential changes in the recent Market Enhancements for summer 2021 Readiness initiative, where net-load uncertainty to the RSE's capacity test was implemented. This initiative's goal is to implement potential enhancements to ensure the RSE is administered accurately and applied equitably.

**Implementation Efforts Include:**

- RSEE-1010: Consideration of Intertemporal Constraints in the Capacity Test
- RSEE-1020: Flexible Ramping Test Modifications – PBC
- RSEE-1030: Consider a Resource's Transition through FOR in the Flexible Ramping Sufficiency Test.
- RSEE-1040: RSE Modifications – Storage Resources Treatment
- RSEE-1050: Balancing Test Modifications
- RSEE-1060: DR Inclusion with RSE
- RSEE-1070: Reliability of CAISO Interchange Schedules
- RSEE-1090: Increased RSE Data on RSE Results and Additional Data Transparency and Reporting
- RSEE-1100: Increased EIM Entities Situational Awareness Regarding Test Performance
- RSEE-1110: Net-Load Uncertainty Calculation Removal from Capacity Test
- RSEE-1120: Intertie Uncertainty Calculation Removal from Capacity Test

#### 3.2 Business Requirements Specification (BRS) Document

The BRS can be found [HERE](#).

#### 3.3 Impacted Systems

ALFS	RTM
BAAOP	RTD
CMRI	RTPD
MF	Settlements
OASIS	STUC
RTBS	

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### 3.4 Market Simulation Impact

Yes, see [Market Simulation Structured Scenarios—WEIM Resource Sufficiency Evaluation Enhancements Phase 1A](#) for more details

### 3.5 Business Practice Manuals

Energy Imbalance Market (EIM)  
Market Instruments  
Market Operations  
Settlements and Billing

### 3.6 Summary of Charge Code Impacts

Charge Code – 6046: Over and Under Scheduling EIM Allocation 5.4

### 3.7 Drafts Settlements Technical Documentation Link(s)

[CG CC 6046 – Over and Under Scheduling EIM Allocation v5.4](#)

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## 4 Reliability Demand Response Resource (RDRR) Bidding Enhancements Track 1

### 4.1 Functional Overview

This project enhances real-time bidding for the Reliability Demand Response Resource (RDRR) model by aligning RDRR bidding rules with real-time price conditions consistent with FERC Order No. 831 by requiring that RDRRs must bid at least 95% of the hard energy bid cap (\$1,900/MWh) when the conditions are satisfied to raise the soft energy bid cap to \$2,000/MWh without requiring additional cost-justification support to substantiate their bids.

Additionally, this project maintains the positioning of RDRRs in the market consistent with the terms of the CPUC settlement. Further, the CAISO will preserve the existing bidding structure for RDRRs when the \$1,000/MWh soft energy bid cap is in place.

It maintains that in the real-time market, RDRRs are treated as emergency response resources with limited availability and are only released for dispatch when an EEA 2 notice is issued.

#### Implementation Efforts Include:

The CAISO will automatically adjust the submitted RDRR bids based on the change in energy bid cap by maintaining the percentage of the bid cap originally submitted by the Scheduling Coordinator. This automatic adjustment will occur after the market close and will only apply if no action is taken by the close of each hour's real-time market by the Scheduling Coordinator.

### 4.2 Business Requirements Specification (BRS) Document

The BRS can be found [HERE](#).

### 4.3 Impacted Systems

SIBR

### 4.4 Market Simulation Impact

Yes, see [Market Simulation Structure Scenarios—Reliability Demand Response Resource Bidding Enhancements – Track-1](#) for more details

### 4.5 Business Practice Manuals

Market Instruments  
Market Operations

### 4.6 Summary of Charge Code Impacts

N/A

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#### **4.7 Drafts Settlements Technical Documentation Link(s)**

N/A

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## 5 Updates to Alert Warning Emergency (AWE) Tool

### 5.1 Functional Overview

To ensure operators have the proper message types for summer 2022, this initiative focuses on Updates to the AWE Tool by transitioning from specific AWE declarations (Alert, Warning, Stage 1, 2, 3) to EEA declarations (EEA Watch, EEA 1, EEA 2, EEA 3).

#### Implementation Efforts Include:

- Addition of four new AWE templates and removal of six AWE templates
  - Addition/Updates to EEA Watch, EEA1, EEA2, EEA3 AWE templates
- Updating names of messages
- Replacement tool
- Specific training environment for this tool (ability to practice sending this message out)
- Process Map Update

### 5.2 Business Requirements Specification (BRS) Document

The BRS can be found [HERE](#).

### 5.3 Impacted Systems

AWE

### 5.4 Market Simulation Impact

N/A

### 5.5 Business Practice Manuals

Market Operations

### 5.6 Summary of Charge Code Impacts

N/A

### 5.7 Drafts Settlements Technical Documentation Link(s)

N/A