Release User Group Agenda

September 22, 2020 *10:00 a.m.–11:00 a.m.* *(Pacific Time)*

Web Conference Information	Conference Call Information
Web Address: https://caiso.webex.com/meet/RUG Meeting Number: 960 941 245 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.	Dial-in Number: 866-528-2256 International Dial-in: 216-706-7052 Access Code: 291 426 5
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.	

Release User Group Agenda

September 22, 2020 *10:00 a.m. – 11:00 a.m. (Pacific Time)*

Time	Topic	Facilitator
10:00 – 10:05	Agenda & ISO Roll call	Adrian Chiosea
10:05 – 10:45	Release Plan	Janet Morris Trang Vo Jeremy Malekos Rashele Wiltzius

The ISO offers innovative training programs

Date	Training courses and workshops
October 15, 2020	Welcome to the ISO Webinar
November 2-3, 2020 (9am – 12pm)	Intro to ISO Markets
November 9-10, 2020 (9am – 12pm)	Market Transactions
November 16-17, 2020 (9am – 12pm)	ISO Settlements
	Email us at CustomerReadiness@caiso.com for any training or readiness related questions

CustomerReadiness@caiso.com

New Modules (recorded webinar and slides)	
You can now find the following new initiatives training courses on the learning center web page:	
• ADS Training Part 1 & 2	• ESDER 3B
• DOT Tariff Clarification	• FERC 841
• Excess Behind the Meter Production	• Market Settlements Timeline Transformation

Computer Based Training

There are more than 20 computer based training modules on the ISO website covering: Markets and Operations, Settlements and Metering, Reference Materials, Western Energy Imbalance Market and more!

Visit our **Learning Center** web page to access our training calendar, register for courses and find other informational resources:
http://www.caiso.com/participate/Pages/LearningCenter/default.aspx

Release Plan Summary: 2020

Independent 2020

Activation – Nov 4

- Aliso Canyon Phase 5
- FRP Improvements - Buffer and Min
- Slow Demand Response
- Energy Imbalance Market (EIM) Enhancements 2020

Activation - Dec 1

- Hybrid Resources - Phase 1
- Commitment Costs and Default Energy Bid Enhancements Phase 1

Activation– Jan 1, 2021

- Nodal Pricing Model – Advisory Service for PacifiCorp - Settlements Effective Date
- Intertie Deviation Settlement

Fall 2020

Activation on Jul 1 (retroactive)

- Commitment Cost Enhancement Tariff Clarifications

Activation on Oct 1

- Energy Storage and Distributed Energy Resources Phase 3B
- FERC Order 841 – Requested Adjustments
- Automated Dispatch System (ADS) User Interface (UI) Replacement
- Dispatch Operating Target Tariff Clarifications

Activation on Jan 1, 2021

- Excess Behind the Meter Production
- Market Settlement Timeline Transformation

Release Plan Summary: 2021 - 2022

Independent 2021

- System Market Power Mitigation (BOG Nov 2020 and implementation prior to Q3, 2021)
- Variable operations and maintenance cost review (BOG Nov 2020)
- Real-Time Settlement Review (BOG Nov 2020)

Spring 2021

- Energy Imbalance Market (EIM) 2021 - BANC Ph 2/WAPA
- Energy Imbalance Market (EIM) 2021 - Turlock Irrigation District
- Energy Imbalance Market (EIM) 2021 - Public Service Company of New Mexico
- Energy Imbalance Market (EIM) 2021 - North-Western Energy
- Energy Imbalance Market (EIM) 2021 - Los Angeles Dept. of Water and Power

Fall 2021 – tentative, subject to impact assessment

- Resource Adequacy (RA) Enhancements (BOG Q1 2021)
- Energy Storage and Distributed Energy Resources Phase 4 (BOG Sept 2020)
- FERC Order 831 - Import Bidding and Market Parameters – (BOG Sept 2020)
- Flexible Ramping Product Refinements (BOG Sept 2020)
- Hybrid Resources Phase 2 (BOG Nov 2020)

Spring 2022

- Energy Imbalance Market (EIM) 2022 - Avista
- Energy Imbalance Market (EIM) 2022 - Tucson Electric Power
- Energy Imbalance Market (EIM) 2022 – Tacoma Power
- Energy Imbalance Market (EIM) 2022 – Bonneville Power Administration
- Energy Imbalance Market (EIM) 2022 – Xcel Energy - Colorado

TBD

- Day Ahead Market Enhancements (BOG 2021)
- Extend DA Market (BOG 2021)

Release Schedule 2020

Date of Data Refresh: 9/16/2020

California ISO

Legend			
Market Simulation		CA ISO Holiday	
External Testing		Deployment Week	

	9/21/20 - 9/27/20	9/28/20 - 10/4/20	10/5/20 - 10/11/20	10/12/20 - 10/18/20	10/19/20 - 10/25/20	10/26/20 - 11/1/20	11/2/20 - 11/8/20	11/9/20 - 11/15/20	11/16/20 - 11/22/20	11/23/20 - 11/29/20	11/30/20 - 12/06/20	12/7/20 - 12/13/20	12/14/20 - 12/20/20	12/21/20 - 12/27/20	12/28/20 - 1/3/21	1/4/20 - 1/10/21	1/11/20 - 1/17/21	1/1/20 - 1/17/21
MAP Stage Environment Window																		
EIM Enhancements 2020 - Market Sim	EIM Enhancements 2020 - Market Sim (09/21-10/14)																	
Aliso Canyon 5 - Market Sim		Aliso Canyon 5 - Market Sim (09/29-10/14)																
FRP Improvements - Buffer and Min - Market Sim		FRP Improvements - Buffer and Min - Market Sim (09/29-10/14)																
CCDEBE Phase 1 - Market Sim	CCDEBE Phase 1 - Market Sim (07/27-11/13)																	
Nodal Pricing Model - Market Sim		Nodal Pricing Model - Market Sim (10/06-11/13)																
Intertie Deviation Settlement - Market Sim		Intertie Deviation Settlement - Market Sim (10/06-11/13)																
Hybrid Resources Phase 1 - Market Sim						Hybrid Resources Phase 1 - Market Sim (10/26-11/13)													
EIM - BANC Phase 2 / WAPA - Market Sim						EIM - BANC Phase 2 / WAPA - Market Sim (11/03-01/31)													
EIM - Public Service Company of New Mexico - Market Sim						EIM - Public Service Company of New Mexico - Market Sim (11/03-01/31)													
EIM - Los Angeles Dept. of Water & Power - Market Sim						EIM - Los Angeles Dept. of Water & Power - Market Sim (11/03-01/31)													
EIM - North-Western Energy - Market Sim									EIM - North-Western Energy - Market Sim (12/01-01/31)									
EIM - Turlock Irrigation District - Market Sim									EIM - Turlock Irrigation District - Market Sim (12/01-01/31)									
Production Environment Window																		
ESDER Phase 3b - Load Shift Product	ESDER Phase 3b - Load Shift Product (10/01)																	
FERC841 Requested Adjustments	FERC841 Adjustments (10/01)																	
ADS UI Replacement	ADS UI Replacement (10/01)																	
Dispatch Operating Target Tariff Clarification	Dispatch Operating Target Tariff Clarification (10/01)																	
Excess Behind the Meter Production Deployment	Excess Behind the Meter Production Deployment (10/01)																	
Market Settlement Timeline Transformation Deployment	Market Settlement Timeline Transformation Deployment (10/01)																	
Aliso Canyon 5						Aliso Canyon 5 (11/04)												
FRP Improvements - Buffer and Min						FRP Improvements - Buffer and Min (11/04)												
EIM Enhancements 2020						EIM Enhancements 2020 (11/04)												
Slow Demand Response						Slow Demand Response (11/04)												
CCDEBE Phase 1 Activation									CCDEBE Phase 1 Activation (12/01)									
Hybrid Resources Phase 1									Hybrid Resources Phase 1 (12/01)									
Excess Behind the Meter Production Activation Effective Trade Date														Excess Behind the Meter Production Activation Effective Trade Date				
Market Settlement Timeline Transformation Activation Effective Trade Date														Market Settlement Timeline Transformation Activation Effective Trade Date (01/01)				
Intertie Deviation Settlement														Intertie Deviation Settlement (01/01)				
Nodal Pricing Model Settlements Effective Date														Nodal Pricing Model Settlements Effective Date (01/01)				
Nodal Pricing Model Activation															Nodal Pricing Model Activation (01/15)			

http://www.caiso.com/Documents/ReleaseSchedule.pdf

2020 Independent

2020 – Aliso Canyon Ph5

Project Info	Details/Date
Application Software Changes	**Scope**: This project will consider enhancements to the existing Dynamic Competitive Path Assessment (DCPA) and Gas Nomogram capabilities currently in production. **IFM/RTN**: Formulate and solve the linear programming problem for maximizing the Residual Supplier Index (RSI) for each binding constraint that DCPA is applied. **SMDM:** Enhance the User Interface to include "All Markets" when the user is defining "Market" within the Curtailment to Process section. **SMDM:** Creation of error message if the RT curtail type "incremental" or "absolute" are used and total curtailment is left null.
BPM Changes	• Managing Full Network Model • Market Operations
Tariff Changes	• N/A

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval - NO BOG Needed	N/A	
External BRS	Post External BRS	May 05, 2020	✓
Config Guides	Post Draft Config Guides	N/A	
Tech Spec	Publish Technical Specifications	N/A	
Tariff	File Tariff	N/A	
BPMs	Post Draft BPM changes	Jul 17, 2020	✓
External Training	Deliver External Training	N/A	
Market Sim	Market Sim Window	Sep 29, 2020 - Oct 14, 2020	
Production Activation	Aliso Canyon Phase 5	Nov 04, 2020	

2020 – FRP Improvements – Buffer and Min

Project Info

Improvements are needed for addressing the flexible ramping product (FRP) issues identified in the CAISO Energy Markets Price Performance report. The flexible ramping product secures additional ramping capability that can be dispatched in subsequent market runs to cover a range in the forecasted net load.

The scope behind this policy and project include:

- Scope 1 (2020) - To maintain up to 100% (configurable) of FRP awards in the buffer interval that were procured in the prior Fifteen Minute Market (FMM) to preserve ramping capability for the Real Time Dispatch (RTD).
- Scope 2 (2021) - Changing Proxy Demand Response (PDR) dispatch capability default from five minute to hourly.
- Scope 3 (2020) - To enforce a minimum FRP requirement in the Balancing Authority Area (BAA) that will ensure a minimum amount of FRP to be procured from resources within the BAA.

Project Info	Details/Date
Application Software Changes	• RTPD, RTD, STUC
BPM Changes	• Market Instruments • Market Operations
Tariff Changes	• N/A

2020 – FRP Improvements – Buffer and Min

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	N/A	
External BRS	Milestone: Post External BRS	May 15, 2020	✓
Config Guides	Post Draft Config Guides	N/A	
Tech Spec	Create ISO Interface Spec (Tech spec)	N/A	
Tariff	File Tariff	N/A	
BPMs	Market Operations Market Instruments Demand Response	Jul 20, 2020	✓
External Training	Deliver External Training	Sep 28, 2020	
Market Sim	Market Sim Window	Sep 29, 2020 - Oct 14, 2020	
Production Activation	FRP Improvements - Buffer and Min	Nov 4, 2020	

2020 – Slow Demand Response

Overview

Following up on Proxy demand resource - resource adequacy clarifications policy initiative

The Master File GRDT (Generator Resource Data Template) will be updated with a new field called "SLOW DR" (GRDT v14).

- Field will be populated with Y, N or NULL
  - YES means the PDR or Curtailment LSR resource has been designated "slow"
  - NO means the PDR or Curtailment LSR resource has NOT been designated "slow" and
  - NULL means the resource is neither a PDR nor a Curtailment LSR

A resource is designated "slow" when it meets one or both of the following criteria:

- Startup + ramp is greater than 20 minutes to reach PMAX, or
- A bid dispatchable option of Hourly or 15 minute has been elected by the resource (this is done through a GRDT request)

"SLOW DR" will be a read-only field for Market Participants, indicating the resource met one or both of these criteria.
The Market Instruments BPM Attachment B will be updated to add the definition of the slow demand response resource designation.

For PDR or PDR_LSR where BID_DISP_OPT >= 15 or startup time plus ramp time to Pmax >= 20

Project Info	Details/Date
Application Software Changes	• Master File
BPM Changes	• Market Instruments Attachment B: Slow Demand Response resource definition
Tariff Changes	• No

See Frequently Asked Questions – Slow Demand Response

At www.caiso.com\Stay Informed\Release Planning\Independent 2020\Slow Demand Response

Activation anticipated in November 2020. ISO will communicate in advance the actual activation date.

2020 – EIM Enhancements 2020

Project Info	Details/Date

Application Software Changes	**Scope:**
	Energy Imbalance Market Enhancements (EIM) 2020 is a collection of important issues identified by EIM market participants through Customer Inquiry, Dispute and Information system (CIDI) requests to improve the visibility, functions and features in the Energy Imbalance Market.
	
	Technology team and customer services review the 66 EIM enhancement requests by EIM entities and 4 internal request by ISO market operator. Combine each EIM entities submitted the priority list of 10 enhancements, ISO determine to include total 14 requests in EIM enhancement 2020 project.
	
	Impacted Systems:
	BAAOP
	• Allow EIM entity override activation for the contingencies up to 15 in NA contingency list
	• Add visibility of other adjacent BAA's ETSR locks and reasons
	• Add Static ETSR transfer data to RTD Dispatch Control Display (ETSR tab). Add Static ETSR transfer data to BAAOP ETSR Detail Display (in RTD)
	• Fix/Improve SVG One Lines. Request to be able to view SE and telemetry values for all substation flows and elements. – available after Market Sim
	• In RTD/RTPD Dispatch Control display, in Dispatch Instruction Review table, add columns for UP and DN remaining ramp capacity (5/15 minute respectively). In addition, include the sum of these columns at bottom of table. Example Calculation: RTD UP Ramp = MIN(5MinRampRate, [UpperLim-CurrentDispatch].
	• Add Supplemental DOT to VER resources to Dispatch Control displays; Detail: In BAAOP RTD/RTPD Dispatch Control, add SUPP DOT column
	• Fix the functionality for Manual Dispatches - users should be able to utilize MSG functions, such as designating a specific configuration, and users should be able to do commitment override
	• EIM Entities have a notification status of market inputs, showing if BAAOP received the latest payload of critical market inputs. Example Critical data submissions: (not all inclusive)
	  • BAAOP Dynamic Limits
	  • BAAOP RTIS
	  • ALFS (load forecast and/or VER forecast)
	  • ICCP link

2020 – EIM Enhancements 2020 (cont.)

Project Info	Details/Date
Application Software Changes (cont.)	**Impacted Systems:** **BSAP** • Add Manual Dispatch information to BSAP Resource Bal Viewer. Add any applicable deviations that used in the test to BSAP BAA Bal Viewer. • For the Bid Range Capacity Test Results report, Requirement Amount Column needs to publish the true requirement, not just the INCREMENTAL/DECREMENTAL requirement **RTM** • Publish the data of the MW infeasibility data and ABC Up and Down Dispatches of RTPD/RTD • Publish the effective load bias for the market run for RTPD and RTD • Publish the effective ETSR import and export limits for the market run for RTPD and RTD • Support Pump Storage for EIM BAAs **CMRI** • Display and publish, download the data of the MW infeasibility data and ABC Up and Down Dispatches of RTPD/RTD • Display and publish, download the data of the effective load conforming for the market run for RTPD and RTD • For the Bid Range Capacity Test Results report, Requirement Amount Column needs to display and publish, download the true requirement, not just the INCREMENTAL/DECREMENTAL requirement. Only upstream has changes with regards to the data that is sends to CMRI. **Settlements**
BPM Changes	Market Instruments
Tariff Change	N/A

2020 – EIM Enhancements 2020 (cont.)

Deploy to Map-Stage target 10/5/20

BAAOP

- Allow EIM entity override activation for the contingencies up to 15 in NA contingency list
- Add visibility of other adjacent BAA's ETSR locks and reasons
- Add Static ETSR transfer data to RTD Dispatch Control Display (ETSR tab). Add Static ETSR transfer data to BAAOP ETSR Detail Display (in RTD)
- In RTD/RTPD Dispatch Control display, in Dispatch Instruction Review table, add columns for UP and DN remaining ramp capacity (5/15 minute respectively). In addition, include the sum of these columns at bottom of table. Example Calculation: RTD UP Ramp = MIN(5MinRampRate, [UpperLim-CurrentDispatch].
- Add Supplemental DOT to VER resources to Dispatch Control displays; Detail: In BAAOP RTD/RTPD Dispatch Control, add SUPP DOT column
- Fix the functionality for Manual Dispatches - users should be able to utilize MSG functions, such as designating a specific configuration, and users should be able to do commitment override
- EIM Entities have a notification status of market inputs, showing if BAAOP received the latest payload of critical market inputs. Example Critical data submissions: (not all inclusive
- Fix/Improve SVG One Lines. Request to be able to view SE and telemetry values for all substation flows and elements

BSAP

- Add Manual Dispatch information to BSAP Resource Bal Viewer. Add any applicable deviations that used in the test to BSAP BAA Bal Viewer.
- For the Bid Range Capacity Test Results report, Requirement Amount Column needs to publish the true requirement, not just the INCREMENTAL/DECREMENTAL requirement

RTM

- Publish the effective ETSR import and export limits for the market run for RTPD and RTD
- Support Pump Storage for EIM BAAs
- Publish the effective load conforming for the market run for RTPD and RTD for Binding and Advisory
- Publish the data of the MW infeasibility data and ABC Up and Down Dispatches of RTPD/RTD

CMRI

- Display and publish, download the data of the MW infeasibility data and ABC Up and Down Dispatches of RTPD/RTD
- For the Bid Range Capacity Test Results report, Requirement Amount Column needs to display and publish, download the true requirement, not just the INCREMENTAL/DECREMENTAL requirement. Only upstream has changes with regards to the data that is sends to CMRI.
- Display and publish, download the data of the effective load conforming for the market run for RTPD and RTD for
    1. CMRI Load Conforming Binding rpt
    2. CMRI Load Conforming Advisory rpt

2020 - EIM Enhancements 2020 (cont.)

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	N/A	
External BRS	Milestone: Post External BRS	Mar 24, 2020	✓
Tech Spec	Create ISO Interface Spec (Tech spec) CMRI tech spec 1. MW Infeasibility Report 2. Load Conforming Report 3. Available Balance Capacity (ABC) Up and Down Dispatch Report by Resource 4. Advisory Load Conforming Report	 May 29, 2020 May 29, 2020 Jul 1, 2020 Aug 5, 2020	 ✓ ✓ ✓ ✓
Tariff	File Tariff	N/A	
BPMs	Draft BPM changes - Market Instruments – PRR 1281	Aug 31, 2020	✓
External Training	Deliver External Training – coordinate via customer readiness EIM ops mtg	Aug 31, 2020 – Oct 14, 2020	
Market Sim	Market Sim Window - unstructured	Oct 5, 2020 – Oct 21, 2020	
Production Activation	EIM Enhancements 2020	Nov 4, 2020	

2020 – Hybrid Resources Phase 1

Project Info	Details/Date
Application Software Changes	**Scope:** Phase 1 of the Hybrid Resource Initiative will introduce co-located resources which are two or more resources sharing the same point-of-interconnection to the grid. In cases where the interconnection capacity is below the maximum aggregate output of the co-located resources, an aggregate capability constraint (ACC) will be modeled to ensure the total dispatch of the ACC's associated resources are within its maximum and minimum limits. The markets will support co-located resources for ISO and EIM (participating and non-participating) resources. Hybrid Resources will be introduced at a later time in Phase 2 of the initiative. **MasterFile:** Enhance to include Co-Located Status, Aggregate Capability Constraint Limits **IFM, RTM:** Enhance market model to optimize energy dispatch for co-located resources behind a generation capability nomogram constraint. Add ISO and EIM Operator display for ACC limit override (allowing reduction of ACC limits for a fixed time). Add energy congestion management logic to create and enforce POI limit constraints. **Price Corrections Tool** (internal to ISO)**:** Price correction logic will reflect the Point-of-Interconnection (POI) pnode LMP as the price for co-located resources. **ALFS:** Time periods where co-located VER are operating with negative supplemental DOT will be excluded from data forecast model training by ISO-provided FSP.
BPM Changes	Definitions and Acronyms, Energy Imbalance Market, Generator Management, Market Instruments, Market Operations, Metering, Reliability Requirement
Tariff Changes	Tariff amendments will define Aggregate Capability Constraint, Co-Located Resources, Point of Interconnection. Phase 1 interim will not support Ancillary Services for co-located resources (will be supported in future).

2020 – Hybrid Resources Phase 1

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Jul 22, 2020	✓
External BRS	Milestone: Post External BRS	Jul 17, 2020	✓
Config Guides	Post Draft Config. Guides	N/A	
Tech Spec	Create ISO Interface Spec (Tech spec)	N/A	
Tariff	Draft Tariff	Jun 18, 2020	✓
BPMs	Post Draft BPM changes for review	Sep 30, 2020	
External Training	Deliver External Training	Oct 20, 2020	
Market Sim	Market Sim Window	Oct 26 – Nov 13, 2020	
Production Activation	Hybrid Resources Phase 1	Dec 1, 2020	

2020 – Commitment Cost and Default Energy Bid Enhancements Ph1

Project Info	Details/Date
Application Software Changes	**Scope:** Enhances the ability to submit market-based commitment cost bids in order to reflect unique costs and volatility: • Ex-ante cost adjustment requests • Reference Level Adjustments to default commitment cost bids (start-up and minimum load costs) and default energy bids • Make Day Ahead Market process permanent • Make D+2 Process permanent • Use of indices clarification, and Monday Only in DAM and RTM, per LMPME • Conditionally Available Resources (CAR) **Impacted Systems:** • SIBR: Allow the submittal of Ex Ante cost adjustments. • CMRI: Provide additional source information for default bids. Submit requests through CIDI for manual consultation and ex-post default bid adjustments.
BPM Changes	• Market Instruments • Market Operations
Business Process Changes	• Maintain Major Maintenance Adders (MMG LIII) • Maintain Negotiated Default Energy Bids (MMG LIII) • Maintain Negotiated O_Ms (MMG LIII) • Manage Day Ahead Market (MMG LII) • Manage Market Billing Settlements (MOS LII) • Manage Real Time Hourly Market (RTPD) (MMG LII) • Manage Real Time Operations – Maintain Balance Area (MMG LII)

2020 – Commitment Cost and Default Energy Bid Enhancements Ph1

Milestone Type	Milestone Name	Dates	Status
Draft Policy	Publish Draft Business Rules externally	Jan 31, 2018	✓
Board Approval	Obtain Board of Governors Approval	Mar 22, 2018	✓
External BRS	Publish External BRS v1.5: implementation notes & clarifications (BRQ046, BRQ035/335), Generic Hub GPI update	Sep 03, 2019	✓
	Revised BRS v1.6: added clarifications and notes	Sept 14, 2020	✓
Config Guides	Config Guide	N/A	
Tech Spec	Publish Technical Specifications	May 17, 2019	✓
	Publish Technical Specification updates for CARs and Electric Pricing Hub weighting	Jun 28, 2019	✓
Tariff	Collect stakeholder comments	Feb 21, 2020	✓
	Draft tariff conference call with stakeholders	Feb 27, 2020	✓
	Stakeholder call to review CCDEBE draft tariff re-filing	May 20, 2020	✓
	Publish updated draft tariff (reflecting 20-May feedback)	Jun 05, 2020	✓
	Refile CCDEBE tariff	Jul 09, 2020	✓
BPMs	Publish draft Market Instruments: Attachment O on CCDEBE Stakeholder Processes page	Oct 04, 2019	✓
	PRR 1203 published: CCDEBE updates to Market Instruments BPM, incl. Attachment O	Oct 18, 2019	✓
External Training	Deliver External Training	Oct 08, 2019	✓
	Finalize external training material	Oct 04, 2019	✓
Market Sim	Market Sim Window	Oct 14, 2019 - Dec 03, 2019	✓
	Market Sim Window – 2020	Jul 27, 2020 – Nov 24, 2020	
Production Activation	CCDEBE Phase 1	Dec 1, 2020	

2020 – Nodal Pricing Model – Advisory Service for PacifiCorp

Project Info	Details/Date
Reference	Reference – ISO market notice from Dec 18, 2019 – see: Stay Informed\Meetings and Events\Miscellaneous stakeholder meetings\Previous Meetings\2019 meetings\PacifiCorp nodal pricing model service informational call - Dec 18,2019 or http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=E8304346-54B9-4473-9E45-9C282AAD1340 Reference - NPM FERC filing http://www.caiso.com/Documents/Dec20-2019_NodalPricingModelAgmt_CAISO-PacifiCorp_ER20-664.pdf#search=NPM
Excerpt from the market notice:	"The California ISO is hosting an informational stakeholder call on Dec. 18, 2019, to discuss an agreement that it intends to file with Federal Energy Regulatory Commission (FERC) that will provide PacifiCorp with an advisory nodal pricing model (NPM) service. Information related to this effort available on the ISO website at http://www.caiso.com/informed/Pages/MeetingsEvents/MiscellaneousStakeholderMeetings/Default.aspx. This service will produce separate advisory day-ahead nodal pricing results for locations within PacifiCorp's balancing authority areas, without a financial settlement or impact to the ISO's day-ahead market. PacifiCorp will pay the ISO's estimated cost to provide the service. PacifiCorp plans to use the NPM solution results as the basis for its power cost allocation among the states within which it provides retail electric service, consistent with the recently filed inter-jurisdictional cost allocation agreement."

Milestone Type	Milestone Name	Dates	Status
Tariff	FERC Approval	Feb 28, 2020	✓
Config Guides	Publish Config Guide	Aug 10, 2020	✓
Market Sim	Market Sim Window	Oct 06, 2020 - Nov 13, 2020	
Production Activation	Day Ahead Nodal Pricing Model	Jan 15, 2021	

2020 – Intertie Deviation Settlement

Project Info	Details/Date
Application Software Changes	**Scope:** Implement a new Under/Over Delivery Charge for intertie deviations from Market Schedule and After-The-Fact (ATF) E-Tag, to replace Decline charge **Impacted Systems:** **Settlements** • Calculate FMM binding intertie award, exclude Curtailment, calculate under/over delivery quantity as deviation of schedule and ATF E-Tag, Charge under/over delivery Charge at 50% of RTD LMP. • Remove the decline charge calculation and Decline Threshold • Allocate Over/Under delivery charge to measured demand **ADS** - display the HASP schedule, the scheduling coordinator accepted value, and the difference between the two **RTM** - determine the 15-minute binding award for hourly intertie resources based on the E-Tag at T-40.
BPM Changes	Settlements and Billing
Tariff Change	Section 11.32

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Feb 07, 2019	✓
External BRS	Post External BRS	Mar 02, 2020	✓
Config Guides	Post Revised Config Guides	Aug 10, 2020	✓
Tech Spec	Publish Technical Specifications	N/A	
Tariff	Tariff Activities	May 22, 2020	✓
BPMs	Settlements and Billing Market Operations	Aug 10, 2020	✓
External Training	Deliver External Training	Sep 29, 2020	
Market Sim	Market Sim Window	Oct 6, 2020 – Nov 13, 2020	
Production Activation	Intertie Deviation Settlement	Jan 1, 2021	

OMS Roadmap for 2020

Release	Major Changes	Participant	MAPStage	Stage	Production
2.2.208.1	Remove defaulting discovery date - For retro-active outages submit discovery date. - Handle no discovery date if not previously submitted.	All	09/18/2020	10/19/2020	10/21/2020
	Aggregate Resource Outage retrieve results changes - Handle receiving only parent and impacted children.	All			
	Transmission Retrieve Changes - If moving to new version (= 10012020), consume new XSD and handle receipt of multiple change requests.	All			
	Retrieve Resource/Transmission outage change request - Limiting to 50 - Disable querying with participant ID & Date Range. - Query by Outage ID, Change request ID and Equipment ID/Resource ID	All			

OMS Roadmap for 2020

Release	Major Changes	Participant	MAPStage	Stage	Production
2.2.209	TOP Calculations for shared equipment - Based on participant ID TOP attribute will be comma separated TOPs.	RC	10/30/2020	11/30/2020	12/2/2020
	Communication and RAS changes - Handle Providing these flags for Nature of Work for communication and Relay work. - RAS flags – UI Only change (RAS/SPS Out of Service, RAS/SPS Reduced Redundancy, Protection Zone, EMS/ICCP Outage) will be changed from Y/N to Y/N/NA(Undefined or Null)	RC			
	Significant Outage flag determination. - Flag will be displayed in the version history of the outage - Please see May 2020 - CPG slide deck for more details.	All			

2020 - System Interface Changes

OMS					
Project	**Service**	**Summary**	**Tech Spec**	**MAP Stage**	**Production**

N/A	RetrieveResourceOutageChangeRequest_OMSv2_AP & DocAttach
	RetrieveResourceOutageChangeRequest_OMSv2_DocAttach_AP
	RetrieveResourceOutageChangeRequest_OMSv3_AP
	RetrieveResourceOutageChangeRequest_OMSv3_DocAttach_AP
	
	RetrieveTransmissionOutageChangeRequest_OMSv2_AP
	RetrieveTransmissionOutageChangeRequest_OMSv2_DocAttach_AP
	RetrieveTransmissionOutageChangeRequest_OMSv3_AP
	RetrieveTransmissionOutageChangeRequest_OMSv3_DocAttach_AP
		• Performance Improvements:
		  • Retrieve up to 50 outages by querying on outage ID)
		  • Retrieve based on Change Request ID
		  • Retrieve based on Equipment ID
		  • Removed capability of querying by participant ID
		  • Recommended use to sync data
			✓ **8/11/20, v2.1**	Mid-September 2020	Mid-October 2020

N/A		• WebOMS system will not default the discovery date	✓ **8/11/20, v2.1**	Mid-September 2020	Mid-October 2020

N/A	SubmitResourceOutage_OMSv2_AP
	SubmitResourceOutage_OMSv2_DocAttach_AP
	SubmitResourceOutage_OMSv3_AP
	SubmitResourceOutage_OMSv3_DocAttach_AP
		• Changes to aggregate resource outage submission for performance improvement
		  • Submit de-rate for parent resource (required) and only the impacted child resources
		  • Retrieve results will not be include (for both v2 and v3 services) child resources that have no curtailment
		  • Parent resource availability points need not match with child resources' but will remain within the overall outage start and end date span
		  • Child resource outages can be added to existing outage if the outage has not commenced
		  • UI display and retrieve results for historical outages will be modified to support this model
		  • Changes are being done to enhance webOMS performance
			✓ **8/11/20, v2.1**	Mid-September 2020	Mid-October 2020

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2020 - System Interface Changes

OMS					
Project	**Service**	**Summary**	**Tech Spec**	**MAP Stage**	**Production**
N/A	RetrieveTransmissionOutage_OMSv3_AP RetrieveTransmissionOutage_OMSv3_DocAttach_AP	• If Version Tag =v20201001, return all outage requests • If Version Tag <>v20201001, return a single request	✓ **8/11/20, v2.1**	Mid-October 2020	Mid-November 2020
N/A		• Auto-acceptance of non-significant changes	✓ **8/11/20, v2.1**	Mid-October 2020	Mid-November 2020

N/A		• Handling shared equipment
		  • Lists all valid TOPs
		  • Allow retrieval by all TOPs
			✓ **8/11/20, v2.1**	Mid-October 2020	Mid-November 2020

N/A	RetrieveResourceOutage_OMSv3_AP
	RetrieveResourceOutage_OMSv3_DocAttach_AP
	RetrieveTransmissionOutage_OMSv3_AP
	RetrieveTransmissionOutage_OMSv3_DocAttach_AP
	SubmitResourceOutage_OMSv3_AP
	SubmitResourceOutage_OMSv3_DocAttach_AP
	SubmitTransmissionOutage_OMSv3_AP
	SubmitTransmissionOutage_OMSv3_DocAttach_AP
		• Remedial Action Scheme (RAS) Changes
		  • Modeling for 4 RAS Flags will be modified: RAS/SPS Out of Service, RAS/SPS Reduced Redundancy, Protection Zone, EMS/ICCP Outage
		  • API validation changes are to require the submission of these flags for Nature of Work 'COMMUNICATION' or 'RELAY WORK'.
		  • API submission will continue to take in a 'Y' or 'N' for these flags.
		  • Changes will be made to validate to only v3 services (submit and retrieves)
		  • No changes to v2 services
		  • No Changes to historical outages
			✓ **8/11/20, v2.1**	Mid-October 2020	Mid-November 2020

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2020 - System Interface Changes - CCDEBE1

SIBR					
Project	**Change Type**	**API Service Name & Major Version, Artifacts**	**MAP Stage**	**Production**	**Technical Specifications**
CCDEBE1	Modify	RetrieveCleanBidSet_SIBRv5_AP RetrieveCleanBidSet_SIBRv5_DocAttach_AP	✓ 10/16/19	✓ Deploy 3/26/20 Activation 12/1/20	13.2
CCDEBE1	Modify	RetrieveCurrentBidResults_SIBRv5_AP RetrieveCurrentBidResults_SIBRv5_DocAttach_AP	✓ 10/16/19	✓ Deploy 3/26/20 Activation 12/1/20	13.2
CCDEBE1	Modify	SubmitRawBidSet_SIBRv5_AP SubmitRawBidSet_SIBRv5_DocAttach_AP	✓ 10/16/19	✓ Deploy 3/26/20 Activation 12/1/20	13.2

CMRI						
Project	**Change Type**	**UI**	**API Service Name & Major Version, Artifacts**	**MAP Stage**	**Production**	**Technical Specifications**
LMPME CCDEBE1	Modify	Tab: Default Bids Existing Report: Default Energy Bid Curves	RetrieveDefaultBidCurves_CMRIv2_AP RetrieveDefaultBidCurves_CMRIv2_DocAttach_AP	LMPME ✓ 9/12/19 CCDEBE1 ✓ 11/6/19	LMPME ✓ 11/13/19 CCDEBE1 ✓ Deploy 3/26/20 Activation 12/1/20	3.9.4 Release Notes 1.2
CCDEBE1	Modify	Tab: Default Bids Existing Report: Default Commitment Costs	RetrieveExternalDefaultCommitmentCost_CMRIv1_AP RetrieveExternalDefaultCommitmentCost_CMRIv1_DocAttach_AP	✓ 11/11/19	✓ Deploy 3/26/20 Activation 12/1/20	3.9.4 Release Notes 1.2

2020 - System Interface Changes

CMRI					
Project	**Change Type**	**Summary**	**Technical Specifications**	**MAP Stage**	**Production**
N/A	Decom	Decommission of deprecated versions	✓ **8/5/20, v3.9.7**	10/5/20	10/1/20
EIM2020	New	RetrieveEIMInfeasibility_CMRIv1_AP RetrieveEIMInfeasibility_CMRIv1_DocAttach_AP	✓ **8/5/20, v3.9.7**	10/5/20	11/4/20
EIM2020	New	Available Balance Capacity	✓ **8/5/20, v3.9.7**	10/5/20	11/4/20
EIM2020	New	RetrieveLoadConforming_CMRIv1_AP RetrieveLoadConforming_CMRIv1_DocAttach_AP	✓ **8/5/20, v3.9.7**	10/5/20	11/4/20
EIM2020	New	Advisory Load Conforming	✓ **8/5/20, v3.9.7**	10/5/20	11/4/20

BSAP					
Project	**Change Type**	**Summary**	**Technical Specifications**	**MAP Stage**	**Production**
N/A	Modify - XSD minor version only	RetrieveBalancingTestResults_BSAPv2 RetrieveBalancingTestResults_BSAPv2_DocAttach Add minor version 20201001 (currently 20191001)	✓ **8/19/20, v1.7.4**	Mid-Late September	TBD

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2020 Fall Release

Fall 2020 Release – Overview

	BOG	BRS	Config Guide	Tech Spec	Mkt Sim Scenarios	Draft Tariff**	Draft BPMs	Training	Market Sim	Production Activation
Fall 2020 Release		**04/01/20**	**05/29/20**	**05/29/20**	**05/29/20**	**06/26/20**	**07/20/20**	**07/20/20**	**Jul 27, 2020 - Sep 4, 2020**	**10/01/20**
CCE Tariff Clarification	03/25/20	06/04/20	6/26/20 - *Documentation Only*	05/28/20	*N/A*	04/17/20	06/16/20 06/30/20	*N/A*	Jul 27, 2020 - Sep 04, 2020	07/01/20 (Retroactive)
CCDEBE1	03/22/18	09/04/19	*N/A*	05/17/19		07/09/20 - Re-file	10/04/19	10/08/19	Jul 27, 2020 – Nov 24, 2020	12/1/20
ESDER Phase 3b - Load Shift Product	09/05/18	07/18/19 02/14/20 03/12/20 04/14/20	05/28/20	05/01/20 - DRRS 05/28/20 - MF	05/29/20	05/20/20	05/01/20	06/22/20	Jul 27, 2020 - Sep 04, 2020	09/15/20 - DRRS 10/01/20
FERC 841 – Requested Adjustments	*N/A*	04/01/20	6/26/20	05/28/20	06/12/20	1/21/20	07/20/20	07/15/20	Jul 27, 2020 - Sep 04, 2020	10/01/20
ADS UI Replacement	*N/A*	08/06/18	*N/A*	05/22/20	05/29/20	*N/A*	07/23/20	06/01/20 06/11/20 07/16/20	Jul 27, 2020 - Sep 04, 2020	10/01/20
Dispatch Operating Target Tariff Clarification	07/26/18	12/26/18 04/30/20	*N/A*	05/22/20	05/29/20	09/04/18	07/23/20	07/16/20	Jul 27, 2020 - Sep 04, 2020	10/01/20
Excess Behind the Meter Production	11/17/18	02/27/20 04/16/20	05/28/20	05/29/20	06/12/20	11/04/19	07/20/20	07/21/20	Jul 27, 2020 - Sep 18, 2020	01/01/21 (TD)
Market Settlement Timeline Transformation	11/14/19	02/06/20	6/26/20 - *Documentation Only*	05/29/20	06/12/20	5/19/20	07/20/20	07/20/20	Jul 27, 2020 - Sep 18, 2020	01/01/21 (TD)

Fall 2020 Release - System Interface Changes

ADS						
Project	**Change Type**	**Summary**	**Technical Specifications**	**MAP Stage**	**Stage**	**Production**
N/A	Decom	Decommission of deprecated versions	✓ **7/29/20, v8.2.0**	7/27/20	9/1/20	10/1/20
ADS Replacement DOTTC	Modify	APIWebService v8 APIResponseWebService v8	✓ **7/29/20, v8.2.0**	7/27/20	9/1/20	10/1/20

Even for use of existing ADS API URL and version (v7), you may need to whitelist the new ADS API IPs as access to the v7 will redirect to the new IPs.

	MAP-STAGE	STAGE	PRODUCTION
API Existing URL	https://adsmap.caiso.com:447/	https://adsstage.caiso.com:447	https://ads.caiso.com:447/
API Existing IPs	12.200.60.164	12.200.60.237 12.200.60.238	12.200.60.98 12.200.60.99 12.231.58.98 12.231.58.99
API New Additional IPs	**45.42.17.165** **45.42.23.165**	**45.42.17.51 - correction** **45.42.23.51 - correction**	**45.42.16.51** **45.42.22.51**
UI Existing URL	https://adsmap.caiso.com:447/	https://adsstage.caiso.com:447	https://ads.caiso.com:447/
UI Existing IP	12.200.60.164	12.200.60.237 12.200.60.238	12.200.60.98 12.200.60.99 12,231.58.98 12.231.58.99
UI New Additional URL	https://ads.map.caiso.com/	https://ads.stage.caiso.com/	https://ads.prod.caiso.com/
UI New Additional IP	**45.42.17.130** **45.42.23.130**	**45.42.17.16** **45.42.23.16**	**45.42.16.16** **45.42.22.16**

Fall 2020 Release - System Interface Changes

Master File						
Project	**Change**	**Change Type**	**Summary**	**Technical Specifications**	**MAP Stage**	**Production**
ESDER3B	Add enumeration to GRDT: DR_TYPE of PDR_LSR	Modify	RetrieveGeneratorRDT_MFRDv5 RetrieveGeneratorRDT_MFRDv5_DocAttach SubmitGeneratorRDT_MFRDv5 SubmitGeneratorRDT_MFRDv5_DocAttach GRDT 14.0	✓ **6/22/20, v6.2**	8/4/20	9/22/20
FERC841 RA	New GRDT attribute: Apply Wholesale Charge					
EIM2020	New GRDT attribute: Meter Data Interval					
Other	Remove from GRDT: MIN_DISP_LEVEL					
CCE Tariff	New GRDT attribute: Run of River					
Slow DR	New GRDT attribute: Slow DR					

OASIS					
Project	**Change Type**	**Summary**	**Technical Specifications**	**MAP Stage**	**Production**
N/A	Decom	Decommission of deprecated versions	✓ **6/22/20, v5.1.14**	7/28/20	9/1/20
EBTMP	New	ENE_EBTMP_PERF_DATA	✓ **6/22/20, v5.1.14**	7/28/20	Activation 1/1/21

Fall 2020 Release - System Interface Changes

DRRS					
Project	**Change Type**	**Summary**	**Technical Specifications**	**MAP Stage**	**Production**
ESDER3B	Modify	SubmitDRLocations_DRRSv2_AP SubmitDRLocations_DRRSv2_DocAttach_AP	✓ **8/20/20, v3.2 clarifications** ✓ **8/3/20, v3.2 clarifications & updated examples**	7/27/20	✓ Deploy 9/15/20 Activation 10/1/20
		SubmitDRRegistrations_DRRSv2_AP* ***examples doc updated 7/30 for "FALSE" should be "false"*** SubmitDRRegistrations_DRRSv2_DocAttach_AP**** examples doc updated 7/30 for "FALSE" should be "false"***			
		RetrieveDRLocations_DRRSv2_AP RetrieveDRLocations_DRRSv2_DocAttach_AP			
		RetrieveDRRegistrations_DRRSv2_AP RetrieveDRRegistrations_DRRSv2_DocAttach_AP			

MRI-S					
Project	**Change Type**	**Summary**	**Technical Specifications**	**MAP Stage**	**Production**
EBTMP	Modify	For: - MRIS Meter: Submit Meter & - MRIS Meter: Retrieve Meter additionally include EBtMP measurement type values (as negative load) both Gross Load and EBtMP meter data would associate with same Load Resource ID	✓ **5/28/20, v2.5**	7/28/20	Activation 1/1/21

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Fall 2020 – CCE Tariff Clarification

Project Info

Commitment Cost Enhancements Tariff clarifications project is focused on use of limited, conditionally available resources and run-of-river resources and to clearly reflect these clarifications in the CAISO tariff. This policy covers bidding obligations, notification of outage requirements to the ISO and Resource Adequacy Availability Incentive Mechanism (RAAIM) obligation to the resource type discussed in this initiative. The principle driver in the Commitment Costs Enhancements Tariff Clarifications policy is to allow for expanded market participation from all use-limited resources including the hydro fleet.

- Clarify tariff language that resources can be both use-limited and conditionally available and permitted to submit outage cards available to both designations
- Clarify tariff language that conditionally available resources should submit outage cards when unavailable while limiting outage card use for certain Nature of Work (NOW) classifications
- Provide definition for Run of river (hydro) resources and specify that they have similar treatment to Variable energy resources (VER)(wind/solar)
- Provide RAAIM exemption for run of river hydro resources

Project Info	Details/Date
Application Software Changes	• Master File • Settlements
BPM Changes	• Market Instruments • Market Operations • Settlements & Billing • Outage Management • Reliability Requirement
Tariff Changes	• Yes

Fall 2020 – CCE Tariff Clarification

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	March 25, 2020	✓
External BRS	Milestone: Post External BRS	Jun 04, 2020	✓
Config Guides	Post Draft Config Guides - *Documentation Only*	Jun 26, 2020	✓
Tech Spec	Create ISO Interface Spec (Tech spec)	May 28, 2020	✓
Tariff	File Tariff - Tariff Amendment to Clarify Resource Adequacy Obligations from the Commitment Costs Enhancements Phase 3 Initiative and Other Related Matters	April 17, 2020	✓
	FERC approval	June 30, 2020	✓
BPMs	Post Draft BPM changes – Market Operations	June 16, 2020	✓
	PRR 1257 Market Operations BPM, Emergency PRR, Run-of-river registration process	June 30, 2020	✓
External Training	Deliver External Training	N/A	
Market Sim	Market Sim Window	Jul 27, 2020 - Sep 04, 2020	✓
Production Activation	Implementation date	Oct 1, 2020	
	Effective Date	Jul 1, 2020	

Fall 2020 – ESDER Phase 3b – Load Shift Product

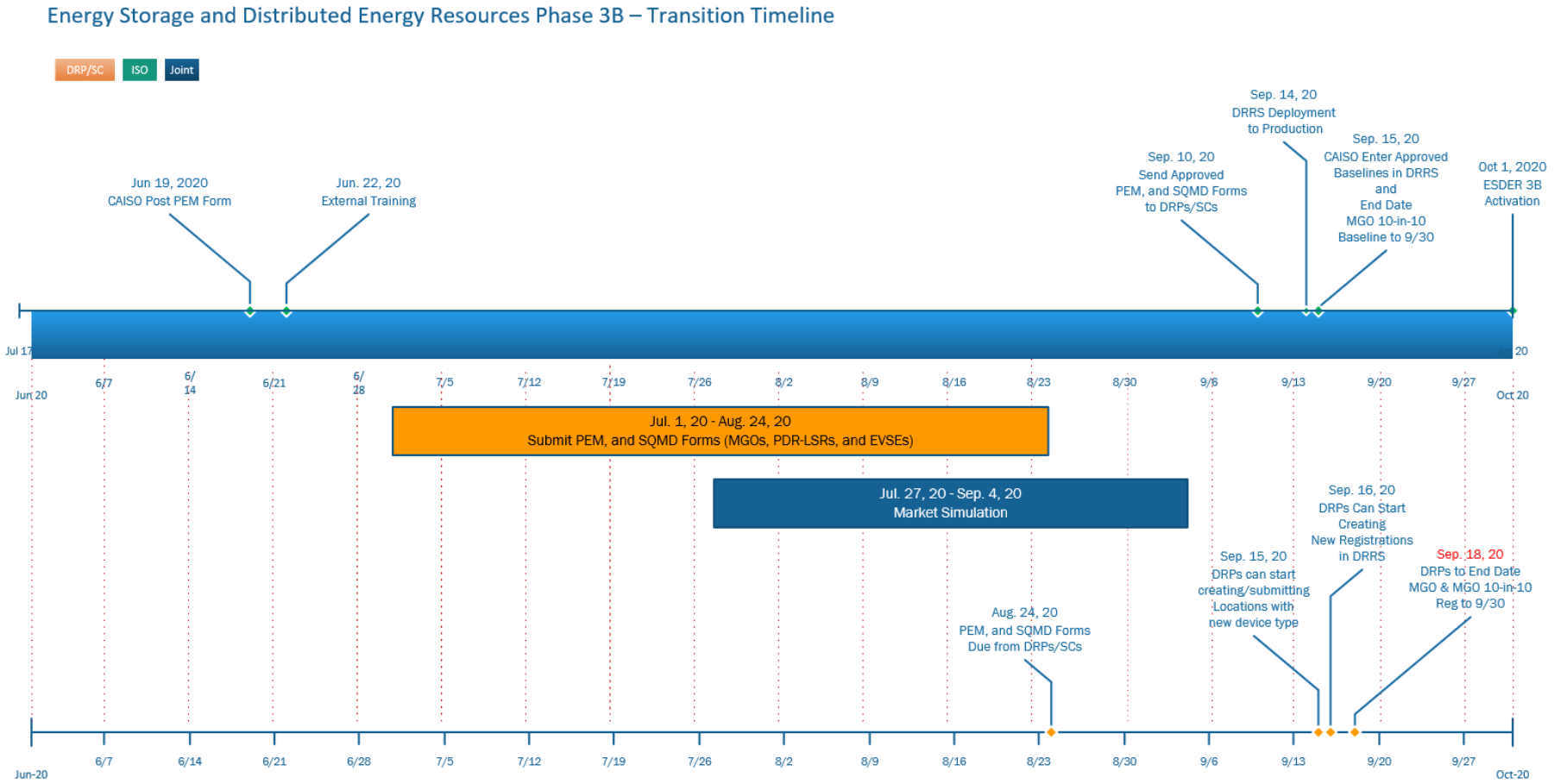
Project Info	Details/Date
Application Software Changes	**Scope:** The ESDER 3b initiative will include two (2) demand response enhancements: • Addition of a Load Shift Product wherein demand response resources with behind the meter (BTM) storage devices can participate in both load consumption and load curtailment. • Enable sub-metered electric vehicles supply equipment (EVSE) to participate in load curtailment. **Impacted Systems (Overview):** **Master File:** • Registration of new PDR Resource Types and business rules for PDRs with BTM storage devices and wanting to participate in both Load Curtailment and Consumption. • Two (2) Resource IDs will be assigned to the same Resource to allow Consumption versus Curtailment participation (PDR-LSR). **DRRS:** • New baseline methods for PDR-LSRs and EVSEs. • New attribute for locations to indicate an energy storage (ES) device or Electric Vehicle Supply Equipment (EVSE). • DRRS URL Change: Changing from- (existing) https://portalmap.caiso.com/drrs ➔ URL for mkt sim https://portal.caiso.com/drrs ➔ URL for prod To- (new) https://drrs.map.caiso.com ➔ URL for mkt sim https://drrs.prod.caiso.com ➔ URL for prod **CIRA:** • Will prevent the request of NQC for PDR-LSR Consumption resources **Settlements**

Fall 2020 – ESDER Phase 3b – Load Shift Product (cont.)

Project Info	Details/Date
BPM Changes	• Market Instruments, Market Operations, Outage Management, Reliability Requirement, Metering and Demand Response
Tariff Change	Sections 4.13, 6.4, 6.5, 11.6, 11.8, 31.3, 34.1,34.4, 34.5, 30.7 and 34.8

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Sep 05, 2018	✓
External BRS	Post External BRS v1.4	Jul 18, 2019	✓
	Post External BRS v1.6	Mar 12, 2020	✓
	Post External BRS v1.6	Apr 14, 2020	✓
	Post External BRS v1.5	Feb 14, 2020	✓
Config Guides	Post Draft Config Guides	May 28, 2020	✓
Tech Spec	Publish Technical Specifications - DRRS	May 01, 2020	✓
	Publish Technical Specifications - MF	May 28, 2020	✓
Tariff	File Tariff	Jul 16, 2020	✓
BPMs	Post Draft BPM changes	May 01, 2020	✓
External Training	External training	Jun 22, 2020	✓
Market Sim	MARKET SIMULATION	Jul 27, 2020 - Sep 04, 2020	✓
Production Activation	ESDER Phase 3B - DRRS	Sep 15, 2020	✓
	ESDER Phase 3B	Oct 01, 2020	

Fall 2020 – ESDER Phase 3b – Load Shift Product (cont.)



Note: SC shall follow the normal Master File process. Master File may take up to 10 business days for processing.

Fall 2020 – FERC Order 841 – Requested Adjustments

Project Info

In November, 2019 FERC responded to ISO compliance filing for FERC Order No. 841. FERC generally accepted CAISO compliance filing, finding that the NGR model and pumped storage model account for the physical and operating characteristics of storage, and that the CAISO appropriately does not assess TAC to energy storage.

FERC took some exceptions with CAISO compliance filing, as follows:

- While accepting that the NGR and Pumped Storage model accommodate the physical and operating characteristics of storage, FERC directs the CAISO to capture the corresponding Master File parameters for storage that are currently in the BPM in the tariff
- FERC disagrees that ancillary service qualification requirements were outside the scope of the order, directing the CAISO to lower its minimum capacity requirements for ancillary services from 500 kW to 100 kW for storage resources
- Finding it unclear whether the CAISO's metering and accounting practices allow for simultaneous participation in both retail and wholesale markets, FERC directs the CAISO to clarify metering and accounting practices for storage in the tariff
- FERC disagrees that the demand response MGO methodology complies with its requirement to avoid duplicative billing where a UDC is unwilling or unable to exempt a storage resource from retail charges. FERC directs the CAISO to create or modify a participation model that will exempt a storage resource from wholesale charges where it already pays retail charges.

CAISO responded to FERC with a subsequent compliance filing Jan 21. We requested a target implementation of these adjustments by Oct 1, 2020 (Fall Release)

Fall 2020 – FERC Order 841 – FERC requested adjustments

Project Info	Details/Date
Application Software Changes	• Master File • Settlements
BPM Changes	• Market Instruments • Metering • Settlements and Billing
Tariff Changes	• New Tariff Section 10.1.3.4 • Updates to 4.6.11, 27.9, Appendix K

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	N/A	
External BRS	Milestone: Post External BRS	Apr 01, 2020	✓
Config Guides	Post Draft Config Guides	Jun 26, 2020	✓
Tech Spec	Create ISO Interface Spec (Tech spec)	May 29, 2020	✓
Tariff	File Tariff	Jan 21, 2020	✓
BPMs	Post Draft BPM changes	Jul 20, 2020	✓
External Training	Deliver External Training	Jul 15, 2020	✓
Market Sim	Market Sim Window	Jul 27, 2020 - Sep 04, 2020	✓
Production Activation	FERC 841 - Requested Adjustments	Oct 01, 2020	

Fall 2020 – ADS Replacement

Project Info	Details/Date
Application Software Changes	• Transition to web-based user interface to eliminate the need to install thick client • Transition ADS provisioning to the Access and Identity Management (AIM) application including Resource Level Access Controls (RACL) access • The query tool will provide 30 days of historical data • Various user interface enhancements adding content per Operation's request • ADS B2B services changes
BPM Changes	• Market Instruments • Market Operations

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	N/A	
External BRS	Post External BRS	Aug 06, 2018	✓
ADS Update	ADS Update Meeting	Aug 15, 2018	✓
ADS Demonstration	ADS WebEx Demonstration	Apr 16, 2020	✓
CPG Meeting	ADS CPG Meeting	Jul 09, 2020	✓
Config Guides	Design review - BPM and Tariff SMEs	N/A	
Tech Spec	Publish Technical Specifications	May 22, 2020	✓
Tariff	Tariff Activities	N/A	
BPMs	Post Draft BPM changes	Jul 27, 2020	✓
External Training	Provisioning ADS ACL Training	Jun 01, 2020	✓
	External Training Part 1 (Application Preview preparation)	Jun 11, 2020	✓
	Deliver External Training Part 2	Jul 16, 2020	✓
Market Sim	Market Sim Window	Jul 27, 2020 - Sep 04, 2020	✓
Parallel Operations	ADS Parallel Operations	Sep 1, 2020 – Oct 16, 2020	
Production Activation	ADS Replacement	Oct 01, 2020	
Decommission	Old ADS Decommission	Feb 01, 2021	

ADS Replacement Transition

- October 1st production deployment is pending ISO's quality review board decision
- Attend 9/29 TUG for details
- What to expect:
  - Backward compatible: Delphi client and V6 APIs
  - Target time is between 9-11 AM PDT
  - Planning for minimal downtime (10 min); the user interface will disconnect and automatically reconnect
  - Data will be retained as it is today
- Customers are asked to join a bridge during the deployment
- Parallel Operations will be extended to 10/16 in Stage

ADS Replacement Transition

- ISO Operations will start using the new client and will keep the Delphi client available if needed
- Enhancements that require different Operator actions under the new client will be disabled until everyone has transitioned to the new client. During this time, existing procedures will be utilized. These include:
  - DOTT
  - Unannounced AS TEST
  - RTCD Commitment
- These enhancements will continue to be tested in in MAPStage.

ADS Replacement – Cutover Activities At a Glance

Milestone Date	Activity	MAPStage	Stage	Production
7/27/2020	New Code Available	New ADS UI ADS API V8	-	-
7/27/2020	Hard Cut-Over	ADS API V6	-	-
09/01/2020	New Code Available	-	New ADS UI ADS API V8	-
09/01/2020	Hard Cut-Over	-	ADS API V6	-
09/04/2020	Milestone	End Market Sim	-	-
~~09/30/2020~~	~~Milestone~~	-	~~End Parallel Operations~~	-
10/1/2020	New Code Available	-	-	New ADS UI ADS API V8 Production Go-Live
~~10/1/2020~~	~~Hard Cut-Over~~	-	-	~~ADS API V6~~
10/16/2020	Milestone	-	End Parallel Operations	
11/04/2020	Hard Cut-Over	Current ADS Delphi Client	Current ADS Delphi Client	-
02/01/2021	Hard Cut-Over	-	-	Current ADS Delphi Client ADS API V6

Fall 2020 – Dispatch Operating Target Tariff Clarification

Project Info	Details/Date
Application Software Changes	**Scope:** Allow Energy Intermittent Resources (EIRs) to automate their response to operational instructions that require the resource not to exceed their Dispatch Operating Target. **Impacted Systems:** **RTM:** Operator can select EIR resources, system to send Operating instruction Flag to ADS **ADS:** Receive Operating instruction flag for EIRs. Broadcast message to EIRs operator.
BPM Changes	Market Instruments Market Operations
Tariff Change	Changes tariff language from “Operating Order” to “Operating Instruction” in multiple sections.

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Jul 26, 2018	✓
External BRS	Posted External BRS	Dec 26, 2018	✓
	Posted revised External BRS	Apr 30, 2020	✓
Config Guides	Design review - BPM and Tariff SMEs	N/A	
Tech Spec	Publish Technical Specifications	May 22, 2020	✓
Tariff	Draft Tariff	Sep 04, 2018	✓
	File Tariff	Oct 29, 2018	✓
BPMs	Post Draft BPM changes	Jul 27, 2020	✓
External Training	Deliver External Training	Jul 16, 2020	✓
Market Sim	Market Sim Window	Jul 27, 2020 - Sep 04, 2020	✓
Production Activation	Dispatch Operating Target Tariff Clarification	Oct 01, 2020	

Fall 2020 – Excess Behind the Meter Production

Project Info	Details/Date

Application Software Changes	**Scope:**
	• Clarify the Tariff definition of Gross Load per amended tariff definition
	• Establish how EBTMP will be submitted, reported, and settled
	• Provide option for entities with meter agreements existing prior to ISO to submit EBTMP interval meter data
	• Update definitions for Net Load and Unaccounted For Energy settlement calculations
	• Publish EBTMP performance to market participants
	
	Impacted Systems:
	MRI-S - Meter submission
	• Allow SC to submit Gross Load and EBTMP under the single Resource ID
	  • New EBTMP measurement type for interval meter data submission; existing Load measurement type interval meter data submission with represent new Gross Load tariff definition
	  • Meter submission UI and API will accept the new EBTMP measurement type
	
	OASIS
	• Publish hourly aggregated EBTMP by TAC area once meter data submission deadline passes for settlement date
	
	Settlements
	• Modify Net Load and UFE calculations to align with tariff amendments:
	  • NET LOAD = GROSS LOAD METER – EXCESS BTMPRODUCTION METER
	  • UFE QUANTITY = GENERATION METER + INTERTIE IMPORT METER – (NET LOAD METER + EXPORT INTERTIE METER + RTD LOSS MW)
	• New Excess Behind the Meter Production (EBTMP) metered value bill determinant will be provided (similar to metered Load today)
	• Modify follow charge codes to settle based on Gross Load (Reliability based charge codes, list may not be comprehensive – See updated Settlements Configuration Guides)
	  • 372 High Voltage Access Charge Allocation (UDC gross load)
	  • 382 High Voltage Wheeling Allocation (Non PTO load)
	  • 383 Low Voltage Wheeling Allocation (Non PTO load)
	  • 591 Emissions Cost Recovery (Measured Demand)
	  • 1101 Black Start Capability Allocation
	  …

Fall 2020 – Excess Behind the Meter Production (cont.)

Project Info	Details/Date

Application Software Changes (cont.)	**Impacted Systems:**
	Settlements (continued);
	• Modify follow charge codes to settle based on Gross Load (Reliability based charge codes, list may not be comprehensive – See updated Settlements Configuration Guides)
	  • 1302 Long Term Voltage Support Allocation
	  • 1303 Supplemental Reactive Energy Allocation
	  • 6090 Ancillary Service Upward Neutrality Allocation
	  • 6194 Spinning Reserve Obligation Settlement
	  • 6196 Spinning Reserve Neutrality Allocation
	  • 6294 Non-Spinning Reserve Obligation Settlement
	  • 6296 Non-Spinning Reserve Neutrality Allocation
	  • 6594 Regulation Up Obligation Settlement
	  • 6596 Regulation Up Neutrality Allocation
	  • 6694 Regulation Down Obligation Settlement
	  • 6696 Regulation Down Neutrality Allocation
	  • 7256 Regulation Up Mileage Allocation
	  • 7266 Regulation Down Mileage Allocation
	  • 7896 Monthly CPM Allocation

BPM Changes	• **Definitions & Acronyms:**
	  • Update definition of Gross Load
	  • Add Excess Behind the Meter Production
	• **Metering**
	  • Submission, retrieval of new measurement type (EBTMP)
	• **Settlements & Billing**
	  • See Settlements Configuration Guide for changes

Tariff Change	• **Appendix A:**
	  • Clarify Gross Load definition, Update Demand definitions,
	  • Add new term Excess Behind the Meter production
	• **Section 11:**
	  • Update reliability based tariff reference sections to be based upon gross load

Fall 2020 – Excess Behind the Meter Production (cont.)

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Nov 17, 2018	✓
External BRS	Publish Market Notice, External BRS to Release Planning	Feb 27, 2020	✓
	Publish External BRS update (v1.1), FAQ update	Apr 16, 2020	✓
Config Guides	Post Draft Config Guides	May 29, 2020	✓
Tech Spec	Publish Technical Specifications	May 29, 2020	✓
Tariff	File Tariff	Oct 01, 2020	
	Tariff Stakeholder Walkthrough	Dec 04, 2019	✓
	Draft Tariff published	Nov 04, 2019	✓
BPMs	Post Draft BPM changes	Jul 20, 2020 • Metering BPM - PRR 1266 • Market Instruments BPM - PRR 1263	✓
External Training	Deliver external training webinar	Jul 21, 2020	✓
Market Sim	Market Sim Window	Jul 27, 2020 - Sep 18, 2020	✓
Production Activation	Excess Behind the Meter Production Deployment	Oct 01, 2020	
	Excess Behind the Meter Production Effective Trade Date	Jan 01, 2021	

Fall 2020 – Market Settlement Timeline Transformation

Project Info	Details/Date
Application Software Changes	**Scope:** • The California ISO is proposing changes to its market settlement timeline to reduce market participant financial exposure by producing initial settlement statements that will more closely approximate the final settlement, and allow sufficient time for CAISO and market participants to resolve disputes. • The California ISO's current settlement timeline is compressed, which places potentially avoidable burdens on CAISO and market participants. The compressed timeline causes CAISO to publish initial statements of lower financial quality and to sometimes delay the publication of its settlement statements. These inefficiencies impact market participants as they must bear a financial burden of varying magnitude for many business days. • The California ISO and market participants also devote a large level of effort to correct data, re-calculate, process, and validate relatively small financial adjustments associated with optional re-calculations long after the settlement trade date has passed. • To resolve inefficiencies and issues, CAISO proposes to calculate and publish two settlement statements within seventy (70) business days after a trade date and re-align the due dates for settlement quality meter data. • Additionally, and under certain defined circumstances, CAISO proposes to re-calculate and publish three settlement statements between seventy (70) business days after a trade date and twenty-four (24) months after a trade date thus reducing the normal settlement life cycle from thirty-six to twenty-four months.
Application Software Changes (cont.)	**Impacted Systems:** **CIDI:** The disputable statements in the Statement Disputed drop-down list will be updated to include the new statements per the MSTT. CAISO will continue to accept disputes from the date of statement publication through the dispute deadline, as prescribed by the tariff, and continue to calculate the Adjustment Publication Date based on the Correction Statement, as selected by the dispute analyst, and the Trade Date disputed. **CMRI:** Data retention impact due to reducing from 39 months to 27 months. **MRI-S Metering:** • Impacts to the external data submission windows that currently exist, as well as the data transfers from MV-90 to MRI-S Metering and MRI-S Metering to Settlements. • Data submission/freeze timeline. **MRI-S Settlements:** • Update the Post Date calculation, as the payment calendar will change. • Auto scheduling for statement generation. • Statement posting.

Fall 2020 – Market Settlement Timeline Transformation (cont.)

Project Info	Details/Date	
Application Software Changes (cont.)	**Market Clearing:** Updates needed to the deviation Interest calculations and credit calculation functions. Updates needed for invoice clearing and interest calculations. Check PTB publication timeline for any updates. Will impact the Extrapolation Component (one of 16 EAL Components) for Daily & Monthly Extrapolation and credit calculation. **Recalculation Log:** Post update recalculation log. **Payment Calendar:** Post the payment calendar to reflect overlap between existing and new timeline. **OASIS:** • Data retention impact due to reducing from 39 months to 27 months. • FERC 841 related data availability needs to be vetted.	
BPM Changes	Credit Management and Market Clearing Definitions & Acronyms Energy Imbalance Market Market Instruments Metering Settlements and Billing	Rules of Conduct Administration Settlements and Billing • Section 2.3.2 – Schedule for Settlement Statement Publication • Section 2.3.5.1.1 – Dispute Timing • Section 2.3.6 – Billing & Payment • Section 2.4 – Payment Calendars
Tariff Change	Section 10: Metering Section 11: California ISO Settlements and Billing (Publication Contingency document) Section 12: Creditworthiness Section 13: Dispute Resolution	Section 26: Transmission Rates And Charges Section 27: California ISO Markets And Processes Section 29: Energy Imbalance Market Section 37: Rules Of Conduct

Fall 2020 – Market Settlement Timeline Transformation (cont.)

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Nov 14, 2019	✓
External BRS	Post External BRS	Feb 06, 2020	✓
Config Guides	Post Draft Configuration Guides - *Documentation Only*	Jun 26, 2020	✓
Tech Spec	Create ISO Interface Spec (Tech spec)	May 29, 2020	✓
Tariff	Draft Tariff	May 19, 2020	✓
BPMs	Post Draft BPM changes • Credit Management and Market Clearing • Definitions & Acronyms • Energy Imbalance Market • Market Instruments • Metering • Settlements and Billing	PRR #1264 Once per year PRR#1271 PRR#1276 PRR#1266 Draft BPM	✓ ✓ ✓ ✓ ✓
External Training	Deliver External Training	Jul 20, 2020	✓
Market Simulation	Market simulation window	Aug 27, 2020 - Sep 18, 2020	✓
Production Activation	Market Settlements Timeline Effective Trade Date	Jan 01, 2021	

2021 Spring Release

Spring 2021 – EIM integrations for BANC Phase 2, TID, PNM, LADWP, and NWE

Project Info	Details/Date
Application Software Changes	Implementation of BANC Phase 2, TID, PNM, LADWP, and NWE as EIM Entities
BPM Changes	EIM BPM will be updated if needed to reflect new modeling scenarios identified during implementation and feedback from BANC Phase 2, TID, PNM, LADWP, and NWE.
Market Simulation	December 2020 – January 2021
Parallel Operations	February 2021 – March 2021

Milestone Type	Milestone Name	Dates					Status
		BANC Phase 2	TID	PNM	LADWP	NWE	
Market Sim	Market Sim Window	11/3/20 - 1/31/21	12/1/20 - 1/31/21	11/3/20 - 1/31/21	11/3/20 - 1/31/21	12/1/20 - 1/31/21	
Parallel Operations	Parallel Operations	2/1/21 - 3/31/21					
Tariff	File Readiness Certification	Mar 2021					
Production	Activation	3/25/21	3/25/21	4/1/21	4/1/21	4/1/21	

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…

Market Sim

Release Users Group (RUG)

Market Sim

Calendar of Meetings, Training and Events

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

today | **February 2018** | month | day

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