Release User Group Agenda

January 12, 2021   *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.	*1-844-517-1271 US Toll Free* *+1-682-268-6591 US Toll* *Access code: 960 941 245*
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

January 12, 2021   *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	Trang Vo Janet Morris Jeremy Malekos

The ISO offers innovative training programs

Date	Training courses and workshops
January 14, 2021	Welcome to the ISO (Webinar)
March 2-3, 2021 (9am – 12pm)	Intro to ISO Markets *(Virtual Workshop)*
March 9-10, 2021 (9am – 12pm)	Market Transactions *(Virtual Workshop)*
March 16-17, 2021 (9am – 12pm)	ISO Settlements *(Virtual Workshop)*
	Email us at CustomerReadiness@caiso.com for any training or readiness related questions

CustomerReadiness@caiso.com

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!

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
- DOT Tariff Clarification
- Excess Behind the Meter Production
- Flexible Ramping Product Refinements

- ESDER 3B
- FERC 841
- Market Settlements Timeline Transformation
- Intertie Deviation Settlement

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

California ISO

Release Plan Summary: 2020 - 2021

Independent 2020

   Activation– Jan 2021

- Day Ahead Nodal Pricing - Jan 14
- Dispatch Operating Target Tariff Clarifications - Jan 21
- ADS new features: DOT - Jan 21
- Energy Imbalance Market (EIM) Enhancements 2020 - Jan 21
- Commitment Costs and Default Energy Bid Enhancements Phase 1 - Jan 28

   Activation– Feb 2021

- ADS Decommission of Delphi Client, API v6, and legacy URLs - Feb 1
- Intertie Deviation Settlement - Feb 1
- EIM Enhancements Symmetrical Wheeling - Feb 1
- Aliso Canyon Phase 5 - TBD
- ADS new features: Unannounced AS Test, RTCD Commitment - TBD

Independent 2021

- CIRA Enhancements
- EIM Enhancements 2021 Phase 1 - Spring
- EIM Base Schedule Submission Deadline Phase 1 - Spring
- Real-Time Settlement Review Phase 1 - Spring
- Market Enhancements for Summer 2021 Readiness - Pre-Summer
- FERC Order 831 - Import Bidding and Market Parameters
- System Market Power Mitigation Phase 1 (BOG Feb 2021)
- Variable operations and maintenance cost review
- Pseudo Ties for Shared Resources (JOU Modeling) - No system changes

California ISO

Release Plan Summary: 2021 - 2022

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
- Flexible Ramping Product Refinements
- Hybrid Resources Phase 2
- Western EIM Sub-Entity Scheduling Coordinator Role (BOG May 2021)
- EIM Enhancements 2021 Phase 2
- EIM Base Schedule Submission Deadline Phase 2
- Real-Time Settlement Review Phase 2

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

Fall 2023
- Day Ahead Market Enhancements (BOG 2021)
- Extend DA Market (BOG 2021)

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2020 Independent

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	✔
External Training	External training	Sep 03, 2020	✔
Market Sim	Market Sim Window	Oct 06, 2020 - Nov 13, 2020	✔
Production Activation	Day Ahead Nodal Pricing Model	Jan 14, 2021	

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	Jan 21, 2021	

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2020 – EIM Enhancements 2020

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 22, 2020	✓
Market Sim	Market Sim Window - unstructured CMRI	Dec 15, 2020 – Jan 15, 2021	✓
Production Activation	EIM Enhancements 2020	Jan 21, 2021	

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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 – New SIBR rules	Dec 3, 2020 – Dec 18, 2020	✓
Production Activation	CCDEBE Phase 1	Jan 28, 2021	

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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 not change in requesting 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 20, 2020 - Oct 21, 2020	✓
Add'l features	DOTT	Jan 21, 2021	
	AS Test, RTCD Commitment	TBD	
Decommission	Old ADS Decommission - Delphi Client, API v6, Legacy URLs	Feb 01, 2021	

ADS Decommission of Delphi Client, API v6 & Legacy URLs

- ✓ 10/20: ADS Phase 1: Network
- ✓ 10/20: ADS Phase 2: New ADS UI, API v8 available
- ✓ 10/30: Close Stage, End Parallel Operations
  - ▪ MAP-Stage remains available with active features from now on
- *1/11/21: ADS Decommission Dry Run*
- *1/21/21: Activation of New Feature: DOTT*
- *2/1/21: ADS Final Decommission of Old ADS client, API v6, legacy URLs*

- ➢ **Activation of New Features**
  - ▪ Only available on New ADS UI, API v8
    - *DOTT - 1/21/21*
    - AS Test - TBD
    - RTCD Commitment - TBD

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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	Dec 1, 2020 – Jan 15, 2021	
Production Activation	Intertie Deviation Settlement	Feb 1, 2021	

2020 – EIM Enhancements – Symmetrical Wheeling

Project Info	Details/Date
Application Software Changes	**Scope**: This project will allow EIM to settle Base ETSR attributes to support Base ETSR Imbalance Energy settlements between two EIM BAAs at a mutually agreed price. The enhancement is for base ETSR price setting to result in symmetrical settlement of wheeling through EIM BAAs enhancement. **RTM:** Update LMP price setting for Base ETSRs to be associated with From BAA of the Base ETSRs and retire split ratio price setting **MasterFile:** Retire the definition of the Base ETSR split ratio and From/To financial location. **Settlements**: Update formulation of Base ETSR export/import in Real Time Congestion Offset EIM and Real Time Marginal Losses
BPM Changes	• Energy Imbalance Market (EIM)
Tariff Changes	• N/A

Milestone Type	Milestone Name	Dates	Status
External BRS	Post External BRS	Oct 2, 2020	✓
Config Guides	Post Draft Config Guides	Sep 29, 2020	✓
Tariff	File Tariff	N/A	
BPMs	Post Draft BPM changes	N/A	
External Training	Deliver External Training (EIM Settlements webinar)	Dec 15, 2020	✓
Market Sim	Market Sim Window	Nov 17, 2020 – Jan 15, 2021	
Production Activation	EIM Enhancements Symmetrical Wheeling	Feb 1, 2021	

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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	N/A	
Production Activation	Aliso Canyon Phase 5	TBD	

California ISO

2021 Independent

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2021 - CIRA Enhancements

	CIRA Enhancements	MAP-Stage	Production
1	LSE IDs from Master File		
2	CIRA Flex RA-Upload Screen & Flex Capacity Survey layer changes		
3	CIRA Acquired Resource (Phase 1)		
4	CIRA – Add SC Contact Info	Jan 2021	
5	Publish NQC data to OASIS - this report will move from public website to a new report in OASIS (upcoming OASIS tech spec)		
6	Publish CPM to OASIS - this report will move from public website to a new report in OASIS (upcoming OASIS tech spec)		

- Customer training for these enhancements is scheduled for January 27, 2021
- The enhancements will be available in MAP-Stage prior to Production
- For item 1, CIRA will cease to use the LSEID list in CIRA and will use the list in Masterfile and **this will require provisioning changes to prevent loss of access to CIRA**
  - ISO will contact impacted organization's UAAs to reprovision to the new IDs to retain access to CIRA
  - ISO will validate that the organizations have been reprovisioned prior to go-live to prevent loss of access to CIRA
  - Please work with your UAA to Provision your LSEID for following roles:
    - EXTERNAL RA READ-ONLY
    - EXTERNAL RA READ-WRITE
  - The reprovisioning of the LSEID access to these roles are needed to retain access to see the data in several CIRA reports such as
    - RA Plan Upload/download
    - Generic Obligation Report
    - Flex Obligation Report

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2021 – EIM Base Schedule Submission Deadline Phase 1

Project Information	Details/Date
High Level Business Problem or Need	• Provide EIM Scheduling Coordinators with additional flexibility to submit more accurate base schedules closer to the operating hour. • Update tariff rules and market systems to allow EIM Entities to submit base schedules with energy below a resource's minimum load. • Allow CAISO and EIM Entities to more accurately capture the startup energy of large conventional resources within their Resource Sufficiency Evaluations (RSE), thus increasing their ability to pass the RSE while lowering their exposure to uninstructed imbalance energy settlement. *across Phase 1 & 2

High Level Project Scope	**Phase 1:**
	Inclusion of startup energy below a resource's minimum load:
	    •Include startup energy in an EIM base schedule
	        o Include startup energy in the resource sufficiency evaluation (RSE)
	        o Reduction of imbalance energy settlement
	
	Phase 2, Fall 2021:
	Updates to the base schedule submission timeline
	    •Move market closing for the final binding EIM base schedule submissions from T-40 to T-30 -
	        oAdding additional RSE at T-40

BPM Changes	EIM Market Instruments Market Operations Settlements *across Phase 1 & 2
Tariff Change	11.8.6.3 BCR Settlement 29.11 Startup Energy Settlement 29.34 Base Schedules below Pmin and Submission Timeline Adjustment *across Phase 1 & 2
Impacted Systems	**Phase 1**: RTM, Settlements, BSAP, RCBSAP, CMRI **Phase 2, Fall 2021**: RTM, BSAP, ITS, CMRI

System	High Level Changes
RTM	**Phase 1:** • Include startup energy in balancing test only for EIM entities • EIM RSE to include energy below minimum load (startup energy) would only be on the balancing test • Startup energy will not be included as part of CAISO's RSE **Phase 2, Fall 2021:** • Shorten the run time of the current T-37.5 RTPD interval • Move start time to after T-30 • Result publication remains at T-22.5 • Final RSE will begin following T-30 deadline • Add additional RSE test
Settlements	**Phase 1:** • Settlements will treat startup energy as part of a EIM base schedule (not paid/charged for energy) • Deviations from the base schedule to be settled as uninstructed imbalance energy (UIE) • The intervals where BASE Schedules reflect Start Up Energy, should be considered self-committed startups • Startup energy will not be included as part of CAISO's RSE • Update calculation for Bid Cost Recovery (BCR) transfer amounts (if this initiative precedes Real-Time Settlements initiative then requirements will be taken from Real-Time Settlement initiative for the BCR calculation)
BSAP	**Phase 1:** • Modify the logic of the BSAP to allow for startup energy to be submitted as part of an EIM entity's base schedule • EIM base schedules to include a resources entire energy output, including portions below minimum load **Phase 2, Fall 2021:** • Send base schedule to market at T-30
RCBSAP	**Phase 1:** Modify the logic of the RCBSAP to allow for startup energy to be submitted as part of an EIM entity's base schedule
ITS	**Phase 2, Fall 2021:** • ITS will need to adjust the timing of RTPD publication checks and adjustments to account for the RTPD change from T-37.5 RTPD to T-30 • RTPD 5 run will be decreased to around five and a half minutes • RTPD 5 run will be considered late at T-22.5 • RTPD 4 should start at T-21.5 • Payload times need to be adjusted
CMRI	**Phase 1:** • Leverage existing EIM Base Schedule report in CMRI Base schedule energy below Pmin reflected **Phase 2, Fall 2021:** • Additional payload consumed at T-30 for test results • Receive results from RTPD 5 run by T-22.5

2021 – Real-Time Settlement Review Phase 1

Project Information	Details/Date
High Level Business Problem or Need	The scope of this initiative is to identify and address any inappropriate cost shifting that may be occurring in ISO's real-time market between the Western Energy Imbalance Market (EIM) balancing authority areas. *across Phase 1 & 2
High Level Project Scope	**Phase 1:** • Eliminate the option for EIM entities to settle their base ETSR schedule deviations bilaterally. Deviations will be settled through the CAISO market at scheduling point intertie prices at a unique pricing location (LMP) • Calculation changes for real-time bid cost recovery (BCR) uplift costs for EIM transfers. Allocate real-time BCR uplift costs to load and exports. **Phase 2, Fall 2021:** • Allow EIM entities using a load derivation approach the option to not settle unaccounted for energy (UFE).
Impacted Systems	Master File, BSAP, Settlements *across Phase 1 & 2

System	High Level Changes *across Phase 1 & 2
Master File	• Establish base energy transfer system resources (ETSR) at a transfer location between EIM BAAs and default the Settlement Flag = Y
Base Schedule Aggregation Portal (BSAP)	• Set transmission loss percentage to zero for calculating the hourly load base schedule for EIM entities the elect not to settle UFE.
Settlements	• Configuration changes for unaccounted for energy (UFE) – CAISO to exclude EIM entities that elect to not settle UFE from calculation of UFE amount. • Configuration changes for Bid Cost Recovery (BCR) – CAISO to update EIM RT BCR Uplift formula to remove uninstructed imbalance energy (UIE) and unaccounted for energy (UFE) and replace with Load and Exports.

California ISO

2021 – FERC Order 831 - Import Bidding and Market Parameters

Project Information	Details/Date
High Level Business Problem or Need	• The CAISO submitted its proposed tariff changes to comply with FERC Order No. 831 in September 2019. In its proposed tariff changes, the CAISO did not submit a separate filing requesting authority to cost-verify or price screen import bids above $1,000/MWh. However, the CAISO decided to further address this topic in this initiative because of the CAISO balancing authority area's increasing dependence on imports. • In addition, a number of stakeholders objected to the CAISO's proposal in the compliance filing to continue to set the power balance constraint penalty price at the hard energy bid cap, which under Order No. 831 increases from $1,000/MWh to $2,000/MWh. This would result in market prices being set to $2,000/MWh if the market has to relax the power balance constraint. Consequently, this initiative also addresses this topic
High Level Project Scope	• The FERC 831 Import Bidding and Market Parameters project focuses on process and system modifications related to CAISO's Federal Energy Regulatory Commission (FERC) Order No. 831 compliance filing. In its compliance filing, CAISO revised the tariff to raise the energy bid cap from $1,000/MWh to $2,000/MWh. CAISO also revised the tariff to require suppliers within the CAISO balancing authority area (BAA), that submit energy bids above $1,000/MWh, to base bids on verifiable actual or expected costs. • The CAISO's associated policy initiative objective is to ensure all supply bids priced above $1,000/MWh represent verified costs, when supply is needed to meet the ISO's load responsibility. • The FERC 831 project addresses two topics related to the changes CAISO proposed: • The "penalty prices" at which CAISO markets will relax market constraints under the increased energy bid cap. • A methodology to establish market constraint relaxation penalty prices under a $2,000/MWh hard energy bid cap. • A price-screening methodology for import bids greater than $1,000/MWh.
BPM Changes	Market Instruments, Market Operations, Definitions & Acronyms
Tariff Change	Section 30, Section 27.4.3, 27.4.3.1 thru .5, Appendix C Part B
Impacted Systems	IFM/RTM, SIBR, Master File, OASIS

System	High Level Changes
Master File	• Store the Constraint Relaxation threshold values provided by the market validation team. Note: The threshold value is one value for the entire year per BAA • Make the threshold values available to the market system and OASIS
SIBR	• Receive the max import bid price for both DA and RT market • Rule change: For an import bid of non-resource specific RA resource, the System shall limit the resource to the higher of the soft bid cap or the max import bid price. • Rule change: When the maximum import bid price is greater than $1000/MWh, or a cost verified resource bid is greater than $1000/MWh, the System shall allow a non-resource specific non-RA import and virtual bids to bid up to the hard energy bid cap price.

2021 – System Market Power Mitigation – Phase 1

Project Information	Details/Date
High Level Business Problem or Need	Provide effective measures against the exercise of market power
High Level Project Scope	• Implementing system-level mitigation in the real-time market • Determining the circumstances in which the market power mitigation process will consider the CAISO balancing authority area to be import constrained or whether import constraints must be binding to apply mitigation • Considering the appropriate quantities of supply included in calculating the residual supply index used for system-level market power mitigation measures • Calculating the competitive LMP when the CAISO balancing authority area fails the system-level market power mitigation test • Considering whether system-level market power mitigation applies to energy offers for resources within the CAISO balancing authority area.
BPM Changes	Definitions & Acronyms, Market Instruments, Market Operations
Tariff Change	Section 30.5.7, Potentially Section 39.7
Impacted Systems	MRI-Settlements, RTM

System	High Level Changes

RTM	*HASP*
	
	• Receives input data and evaluates whether the system-level pivotal supplier test should be triggered for any of the HASP 15-minute binding intervals
	
	• Perform the three-pivotal supplier test if it is triggered, including:
	
	    • Calculate withheld capacity per EIM entity Scheduling Coordinator (SC) affiliate group
	    • Use withheld capacity to rank the top three potentially pivotal suppliers
	    • Calculate the Residual Supply Index (RSI) and respond accordingly
	
	RTPD/RTD/STUC
	
	• Receive the fixed mitigated bid sets from SMPM and use them appropriately, or identifying other bids to use if SMPM bid sets are not present
	
	RTM
	
	• Display the SMPM results in a similar fashion as the LMPM display within the Market UI

Settlements	• Calculate the rolling 3-month average load per LSE and publish to the market, after all T+9B statements on a given day are published

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2021 – Variable Operations & Maintenance Cost Review

Project Information	Details/Date
High Level Business Problem or Need	This project proposes to change the structure of how operations and maintenance (O&M) costs are estimated for use in the CAISO markets. This project is composed of three scope items
High Level Project Scope	**Scope 1:** Defining the O&M cost components, including how to differentiate between fixed and variable O&M costs **Scope 2:** Redefining the VOM adder as only a variable operations (VO) adder **Scope 3:** Allow market participants to bid in *all* of their variable maintenance costs through a new default maintenance adder in lieu of the current MMA.
BPM Changes	Market Instruments
Tariff Change	39.7.1.1.2
Impacted Systems	SIBR, Master File, Settlements

System	High Level Changes
Settlements	<u>Scope 1:</u> Potential charge code impacts due to RMR contracts. Policy is in the process of accessing these impacts and will have an update by the time of the Draft Final Proposal publication.
Scheduling Infrastructure Business Rules (SIBR)	<u>Scope 3:</u> SIBR will receive the Maintenance Adder (MA) from Master File. System must be enhanced to perform an automated calculation for a resource specific maintenance adder (*RSMA = Default MA * Resource's Pmax*), if the resource has elected for the default MA. If the resource has elected for a negotiated MA, the value can be used directly without the need to multiply with the Pmax. Potential performance impact due to the number of resources applying for default maintenance adder (10x as many hydro resources as today and 2x as many gas resources as today). SIBR rules will need to be updated to reflect the latest terminology: Major Maintenance Adder to new term "Default Maintenance Adder".
Master File	<u>Scope 2:</u> Default Variable Operations (VO) Adder and Maintenance Adder (MA) will be stored against the technology type. Two new data sets must be stored: -Default VO Adder to Technology Type Mapping – new - Default MA to Technology type mapping – new Two new flags will need to be added at the resource/configuration level: ○ Default or Negotiated VO Adder (naming change: VO adder replaces the O&M adder) ○ Default or Negotiated Maintenance adder (new) Two new columns to store the VO adder and MA adder at the resource/configuration level. Depending on whether the resource/configuration has selected default or negotiated, one of these values will be displaced in these new columns for both adders. The two new flags and the two new adder values must be visible within the Resource Data Template (RDT). The current database table that is based on technology type needs to be updated with the latest values outlined within the Revised Straw Proposal policy paper. Additional technology types may need to be added. <u>Scope 3:</u> Only the final calculated default Maintenance Adder (MA) will be stored against the technology type (can either be in $/run-hour or $/start-up).

2021 – Pseudo Ties for Shared Resources (JOU Modeling)

Project Information	Details/Date
High Level Business Problem or Need	This project enables pseudo-ties with resources located outside of the CAISO BAA (that are shared with entities in the host BAA) to serve load in its native BAA.

High Level Project Scope	• Proposes limited tariff change to enable the pseudo-ties to serve load in its native BAA
	• Anticipated requirements for pseudo-ties of shared resources:
	    • A Logical Metering SQMD Plan
	        • currently required by the CAISO tariff for SC Metered Entities.
	• A Shared Resource Allocation Protocol (SRAP)
	    • includes establishing the shared pseudo-tie's operating characteristics, commitment costs, BCR for associated SUC and MLC, outage coordination, and other aspects of coordination when there are multiple SCs bidding in the CAISO markets.

BPM Changes	Direct Telemetry, Energy Imbalance Market (EIM), Market Instruments, Market Operations, Metering, Outage Management, Settlements and Billing
Tariff Change	Appendix N - Pseudo-Tie Protocol
Impacted Systems	N/A

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	11/3/20 - 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	1/27/21 – 3/25/21	1/27/21 – 3/25/21	1/30/20 – 4/1/21	1/30/20 – 4/1/21	1/30/20 – 4/1/21	
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

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What to look for on the calendar…

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	6	7	8	9	10
	WebCONF: Market Simulation 2:00pm - 3:00pm	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	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	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	Training: Settlements 201 9:00am - 4:00pm	
11	12	13	14	15	16	17
	WebCONF: Participating Transmission Owner Per Unit Cost Guides 10:00am - 12:00pm; WebCONF: Market Simulation 2:00pm - 3:00pm	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	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	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		

Market Sim →

→ **Market Sim**

Release Users Group (RUG) →

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