



# Release User Group Agenda

November 19th, 2019

10:00 a.m.–11:00 a.m. (Pacific Time)

Web Conference Information	Conference Call Information
<p>Web Address: <a href="https://caiso.webex.com/meet/RUG">https://caiso.webex.com/meet/RUG</a> Meeting Number: 960 941 245</p> <p>Audio connection instructions will be available after connecting to the web conference. When prompted, select "Call me" and enter the phone number you will use during the call. You will be called by the conference shortly.</p>	<p>Dial-in Number: 866-528-2256 International Dial-in: 216-706-7052 Access Code: 291 426 5</p>
<p>Calls and webinars are recorded for stakeholder convenience, allowing those who are unable to attend to listen to the recordings after the meetings. The recordings will be publicly available on the ISO web page for a limited time following the meetings. The recordings, and any related transcriptions, should not be reprinted without the ISO's permission.</p>	

# Release User Group Agenda

November 19<sup>th</sup>, 2019

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

<b>Time</b>	<b>Topic</b>	<b>Facilitator</b>
10:00 – 10:05	Agenda & ISO Roll call	Adrian Chiosea
10:05 – 10:45	Release Plan	Trang Deluca Cynthia Hinman Christopher McIntosh Jeremy Malekos Janet Morris

# The ISO offers innovative training programs

Date	Training courses and workshops
December 2	Existing Day-Ahead Market Training (associated with EDAM initiative)
January 9	Welcome to the ISO Webinar
January 28	ISO Workshop - Introduction to ISO Markets (Folsom)
January 29	ISO Workshop - Market Transactions (Folsom)
January 30	ISO Workshop – ISO Settlements (Folsom)



CustomerTraining@caiso.com

## New Modules (recorded webinar and slides)

You can find new initiatives training courses on the learning center web page below. More resources will be added throughout 2019/2020 in accordance with project schedules.

## Computer Based Training

There are more than 20 computer based training modules on the ISO website covering:

- Markets and Operations
- Reference Materials
- Settlements and Metering
- Western Energy Imbalance Market

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: 2019

## Fall 2019

- Commitment Costs and Default Energy Bid Enhancements Phase 1
- Energy Storage and Distributed Energy Resources Phase 3A
- RMR and CPM Enhancements
- Local Market Power Mitigation Enhancements
- EIM 2019 Enhancements
- FERC Order 841 – Energy Storage Resources
- Real-Time Market Neutrality Settlement

## Spring 2020

- Energy Imbalance Market (EIM) - 2020 Salt River Project
- Energy Imbalance Market (EIM) - 2020 Seattle City Light

## Fall 2020

- Contingency Modeling Enhancements - Transmission
- Energy Storage and Distributed Energy Resources Phase 3B
- Dispatch Operating Target Tariff Clarifications
- Intertie Deviation Settlement
- Excess Behind the Meter Production
- Market Settlement Timeline Transformation (BOG Nov 2019)
- EIM Enhancements 2020
- Import Bidding and Market Parameters, (A.K.A. Import Bid Cost Verification and FERC Order 831) – June 2020 BOG
- Automated Dispatch System (ADS) User Interface (UI) Replacement

# Release Plan Summary: 2020 - 2022

## Spring 2021

- 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
- Energy Imbalance Market (EIM) 2021 - Turlock Irrigation District
- Energy Imbalance Market (EIM) 2021 – BANC Ph 2/WAPA

## Fall 2021 – tentative, subject to impact assessment

- Day Ahead Market Enhancements (BOG Q4 2020)
- RA Enhancements (BOG May/June 2020)
- Energy Storage and Distributed Energy Resources Phase 4 (BOG Q1 2020)
- Storage as a Transmission Facility (BOG TBD)
- TAC Structure Enhancements (Q4 - BOG)

## 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

## Fall 2022 – tentative, subject to impact assessment

- Commitment Costs and Default Energy Bid Enhancements Phase 2



# 2019 Fall Release

# Fall 2019 Release – Overview

	Board Approval	External BRS	Config. Guides	Technical Specifications	Mkt Sim Scenarios	Draft Tariff*	BPMs	External Training	Market Sim	Production Activation
<b>Fall 2019 Release - Overview</b>		<b>04/01/19</b>	<b>05/17/19</b>	<b>05/17/19</b>	<b>05/17/19</b>	<b>07/14/19</b>	<b>08/26/19</b>	<b>08/26/19</b>	<b>09/03/19 – 10/11/19</b>	<b>11/13/19</b>
<b>CCDEBE1</b>	03/22/18	09/03/19	N/A	05/17/19 CMRI 07/10/19 SIBR 10/24/19 CMRI	N/A	05/10/19	10/04/19	10/08/19	10/14/19 – 11/26/19	12/04/19
<b>ESDER3A</b>	09/05/18	07/18/19	05/17/19 07/08/19	05/16/19 MF, DRRS, MRI-S	06/19/19 v1.1	05/28/19	07/30/19	08/26/19	09/03/19 – 10/11/19	11/06/19 - DRRS 11/13/19
<b>RMR-CPME</b>	03/28/19	07/25/19	06/03/19 07/08/19	N/A	06/27/19 v1.0	04/03/19	08/26/19	08/30/19	09/03/19 – 10/11/19	11/13/19 Effective 01/01/20
<b>LMPME</b>	03/28/19	04/01/19	N/A	05/16/19 CMRI 06/28/19 MF	06/17/19 v1.1	04/16/19	09/05/19	08/29/19	09/03/19 – 10/11/19	11/13/19
<b>EIM2019</b>	N/A	08/12/19	05/17/19	05/17/19 CMRI 07/03/19 BSAP 07/19/19 OASIS	N/A	N/A	07/30/19	08/26/19 09/18/19	09/03/19 – 11/04/19	11/13/19
<b>FERC841</b>	N/A	06/20/19	06/03/19	N/A	N/A	N/A	8/30/09	N/A	09/03/19 – 10/11/19	11/13/19 Effective 12/1/2019
<b>RTM Neutrality Settlement</b>	07/25/19	10/01/19	07/31/19	N/A	N/A	07/30/19	08/26/19	08/27/19	09/25/19 – 10/11/19	11/13/19 Effective 08/01/19

**Notes:**

Items in **BLUE** are complete

Items in **RED** indicate a new date which is later than the target date listed on the overview line..

# Fall 2019 Release – System Interface Changes

## MF

Project	Change Type	API Service Name & Major Version, Artifacts	Minor Version	RDT	MAP Stage	Production Activation	Technical Specifications
ESDER3A LMPME CCDEBE1	Modify	<a href="#">RetrieveGeneratorRDT_MFRDv4</a> <a href="#">RetrieveGeneratorRDT_MFRDv4_DocAttach</a>	20191001		Sep 5, 2019	Oct 29, 2019	<a href="#">5.1</a>
ESDER3A LMPME	Modify	<a href="#">SubmitGeneratorRDT_MFRDv4</a> <a href="#">SubmitGeneratorRDT_MFRDv4_DocAttach</a>	20191001	<a href="#">GRDT v13.0</a>	Sep 5, 2019	Oct 29, 2019	<a href="#">5.1</a>

## SIBR/BSAP

System	Project	Change Type	API Service Name & Major Version, Artifacts	MAP Stage	Production Activation	Technical Specifications
SIBR	CCDEBE1	Modify	<a href="#">RetrieveCleanBidSet_SIBRv5</a> <a href="#">RetrieveCleanBidSet_SIBRv5_DocAttach</a>	Oct 16, 2019	Dec 4, 2019	<a href="#">13.1</a>
SIBR	CCDEBE1	Modify	<a href="#">RetrieveCurrentBidResults_SIBRv5</a> <a href="#">RetrieveCurrentBidResults_SIBRv5_DocAttach</a>	Oct 16, 2019	Dec 4, 2019	<a href="#">13.1</a>
SIBR	CCDEBE1	Modify	<a href="#">SubmitRawBidSet_SIBRv5</a> <a href="#">SubmitRawBidSet_SIBRv5_DocAttach</a>	Oct 16, 2019	Dec 4, 2019	<a href="#">13.1</a>
BSAP	EIM 2019	Modify	<a href="#">RetrieveBalancingTestResults_BSAPv2</a> <a href="#">RetrieveBalancingTestResults_BSAPv2_DocAttach</a>	Oct 16, 2019	Dec 4, 2019	<a href="#">1.7.1</a>

# Fall 2019 Release – System Interface Changes

## CMRI

Project	Change Type	UI Change	API Service Name & Major Version, Artifacts	MAP Stage	Production Activation	Technical Specifications
LMPME CCDEBE1	Modify	Tab: Default Bids Existing Report: Default Energy Bid Curves	<a href="#">RetrieveDefaultBidCurves_CMRIv2</a> <a href="#">RetrieveDefaultBidCurves_CMRIv2_DocAttach</a>	LMPME - Sep 12, 2019 CCDEBE Nov 6, 2019	Nov 13, 2019	<a href="#">3.9.2</a>
CCDEBE1	Modify	Tab: Default Bids Existing Report: Default Commitment Costs	<a href="#">RetrieveExternalDefaultCommitmentCost_CMRIv1</a> <a href="#">RetrieveExternalDefaultCommitmentCost_CMRIv1_DocAttach</a>	Nov 11, 2019	Dec 4, 2019	<a href="#">3.9.2</a>
EIM 2019	New	Tab: Energy Imbalance Market New Report: Resource Operating Limits	<a href="#">RetrieveEIMResourceOperatingLimit_CMRIv1</a> <a href="#">RetrieveEIMResourceOperatingLimit_CMRIv1_DocAttach</a>	Oct 3, 2019	Nov 13, 2019	<a href="#">3.9.2</a>
EIM 2019	New	Tab: Real-Time New Report: Resource Operating Limits	<a href="#">RetrieveResourceOperatingLimit_CMRIv1</a> <a href="#">RetrieveResourceOperatingLimit_CMRIv1_DocAttach</a>	Oct 3, 2019	Nov 13, 2019	<a href="#">3.9.2</a>

## OASIS

Project	Change Type	UI Change	API Service Name & Major Version, Artifacts	MAP Stage	Production Activation	Technical Specifications
EIM 2019	New	Tab: ENERGY New Report: Transmission Loss	<a href="#">ENE_TRANS_LOSS</a>	Oct 7, 2019	Nov 13, 2019	<a href="#">5.1.9</a>

# Fall 2019 – Commitment Cost and Default Energy Bid Enhancements Ph1

Project Info	Details/Date
Application Software Changes	<p><b><u>Scope:</u></b>            Enhances the ability to submit market-based commitment cost bids in order to reflect unique costs and volatility:</p> <ul style="list-style-type: none"> <li>• Ex-ante cost adjustment requests</li> <li>• Reference Level Adjustments to default commitment cost bids (start-up and minimum load costs) and default energy bids</li> <li>• Make Day Ahead Market process permanent</li> <li>• Make D+2 Process permanent</li> <li>• Use of indices clarification, and Monday Only in DAM and RTM, per LMPME</li> <li>• Conditionally Available Resources (CAR)</li> </ul> <p><b><u>Impacted Systems:</u></b></p> <ul style="list-style-type: none"> <li>• SIBR: Allow the submittal of Ex Ante cost adjustments.</li> <li>• CMRI: Provide additional source information for default bids.</li> </ul> <p>Submit requests through CIDI for manual consultation and ex-post default bid adjustments.</p>
BPM Changes	<ul style="list-style-type: none"> <li>• Market Instruments</li> <li>• Market Operations</li> </ul>
Business Process Changes	<ul style="list-style-type: none"> <li>• Maintain Major Maintenance Adders (MMG LIII)</li> <li>• Maintain Negotiated Default Energy Bids (MMG LIII)</li> <li>• Maintain Negotiated O_Ms (MMG LIII)</li> <li>• Manage Day Ahead Market (MMG LII)</li> <li>• Manage Market Billing Settlements (MOS LII)</li> <li>• Manage Real Time Hourly Market (RTPD) (MMG LII)</li> <li>• Manage Real Time Operations – Maintain Balance Area (MMG LII)</li> </ul>

# Fall 2019 – 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 revised external BRS v1.1	Jan 22, 2019	✓
	Publish External BRS v1.2: Phase 1/Phase 2, clarifications	Mar 29, 2019	✓
	Publish External BRS v1.3: Reference Level Adjustments	Apr 05, 2019	✓
	Publish External BRS v1.4 for CCDEBE tariff traceability	Jul 19, 2019	✓
	Publish External BRS v1.5: implementation notes & clarifications (BRQ046, BRQ035/335), Generic Hub GPI update	Sep 04, 2019	✓
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	File Tariff - CCDEBE Phase 1	Oct 11, 2019	✓
	Draft Tariff published	May 13, 2019	✓
	Tariff stakeholder walkthrough conference call	Jun 11, 2019	✓
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 - Nov 26, 2019	
Production Activation	CCDEBE Phase 1	Dec 04, 2019	

\* Project schedule shows risk in meeting current targets. Project team attempting to mitigate risk. Tariff filing requested a “no-later-than” Dec 11 effective date.

# Fall 2019 – ESDER Phase 3a – Bid Dispatchable Option

Project Info	Details/Date
<p>Application Software Changes</p>	<p><b><u>Scope:</u></b>            The ESDER 3a scope of the larger ESDER3 initiative will include two (2) demand response enhancements:</p> <ul style="list-style-type: none"> <li>• New bid dispatchable options for demand response resources</li> <li>• Removal of single LSE requirement for PDR registrations &amp; removal of default load adjustment (DLA)</li> </ul> <p>Additionally, for ESDER2 Tariff Compliance, following is being implemented as part of this project</p> <ul style="list-style-type: none"> <li>• Customer Load Baseline Submittal</li> </ul> <p><b><u>Impacted Systems (Overview):</u></b></p> <p><b>Master File:</b></p> <ul style="list-style-type: none"> <li>• RDTs for PDR registrations in MF will require selection of an effective Bid Dispatchable Option to be used for market optimization and dispatch</li> </ul> <p><b>DRRS:</b></p> <ul style="list-style-type: none"> <li>• PDR registrations will not require all service accounts to have the same LSE</li> </ul> <p><b>SIBR:</b></p> <ul style="list-style-type: none"> <li>• Will apply Net Benefit Test price criteria for PDR bids and reject those not meeting the applicable criteria</li> <li>• Will not allow Bid Dispatchable Options to be changed in SIBR</li> </ul> <p><b>HASP/RTM:</b></p> <ul style="list-style-type: none"> <li>• Will use effective Bid Dispatchable Option registered in MF (e.g., 5-min, 15-min or Hourly) for market optimization and dispatch instructions</li> <li>• Will broadcast new PDR energy schedules/awards and instructions to downstream applications</li> </ul> <p><b>Settlements:</b></p> <ul style="list-style-type: none"> <li>• Will remove the default load adjustment (DLA) application</li> <li>• Will provide Bid Cost Recovery for PDRs with 15-Minute Bids but not Hourly Bids</li> </ul> <p><b>CMRI:</b></p> <ul style="list-style-type: none"> <li>• Will include energy schedules and awards for PDRs with new Bid Dispatchable Options (Existing)</li> </ul> <p><b>MRI-Settlements (ESDER2 Tariff Compliance):</b></p> <ul style="list-style-type: none"> <li>• New BASE measurement type for monitoring calculated baseline data</li> </ul>

# Fall 2019 – ESDER Phase 3a – Bid Dispatchable Option (cont.)

Project Info	Details/Date
BPM Changes	<ul style="list-style-type: none"> <li>Market Instruments, Metering, and Demand Response (new BPM)</li> <li>Market Operations</li> </ul>
Tariff Change	4.13 and 11.6

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Sep 05, 2018	✓
External BRS	Post Revised External BRS v1.3	Jun 20, 2019	✓
	Post Revised External BRS v1.2	Mar 20, 2019	✓
	Post Revised External BRS v1.1	Feb 25, 2019	✓
	Post External BRS v1.0	Feb 11, 2019	✓
	Post Revised External BRS v1.4	Jul 18, 2019	✓
Config Guides	Post Draft Config Guides	May 17, 2019	✓
Tech Spec	Publish Technical Specifications	May 17, 2019	✓
Tariff	File Tariff	Sep 03, 2019	✓
	Post Draft Tariff	May 28, 2019	✓
BPMs	Post Draft BPM (DR, MI & Metering) changes	Jul 30, 2019	✓
	Post draft BPM changes - Market Operations	Aug 20, 2019	✓
External Training	External training	Aug 26, 2019	✓
Market Sim	ESDER 3a	Sep 03, 2019 - Oct 11, 2019	✓
Production Activation	ESDER 3a - DRRS	Nov 06, 2019	✓
	ESDER 3a - IFM/RTN, Settlements, SIBR	Nov 13, 2019	✓

## ESDER 3 Production Activation Notification

“Scheduling Coordinators **must** start submitting the “BASE” measurement type on the effective day (11/13) for trade dates 09/06/19 to 09/08/2019 for each house a Demand Response resource is bid into the Day-Ahead or Real-Time Market. This is for the hour granularity and applies to all baseline methodology types. More information on the meter data submittal timeline can be found on the California ISO Payments Calendar at <http://www.caiso.com/market/Pages/Settlements/Default.aspx>

In addition, below are the changes that were implemented during ESDER Phase 2 for 2019:

- New data submittal requirements for approved CAISO baselines
  - New measurement type, “BASE”.
  - Additional use of current measurement type, “TMNT”.

See redline Metering BPM – section 12.1.1 and

# Fall 2019 – RMR and CPM Enhancements

Project Info	Details/Date
Application Software Changes	<p><b><u>Scope:</u></b>  RMR and CPM Enhancements will address the following policy and tariff amendment scope:</p> <ul style="list-style-type: none"> <li>• Risk-of-Retirement tariff provisions will transition from CPM to RMR section</li> <li>• RMR units under the new tariff provisions shall: <ul style="list-style-type: none"> <li>Have reliability capacity allocated by TAC Area (for PTOs, not LSEs), Flex RA credit shall be applied</li> <li>Receive Must-Offer Obligation (MOO)</li> <li>Subject to RAAIM</li> <li>Streamline RMR invoicing, settlement process through inclusion in ISO Settlement process</li> </ul> </li> </ul> <p><b><u>Impacted Systems (Overview):</u></b></p> <p><b>Master File:</b></p> <ul style="list-style-type: none"> <li>• No impact. ISO will internally manage RMR resource status and vintage (e.g. RMR vs. RMRL).</li> </ul> <p><b>CIRA:</b></p> <ul style="list-style-type: none"> <li>• New features to both qualify (e.g. confirm EFC is defined) and allocate System/Local/Flex reliability capacity by TAC Area (for PTOs) for RMR units with new contract type: <ul style="list-style-type: none"> <li>• Apply Flex RA credit by TAC Area (for PTOs)</li> <li>• Perform RMR Substitution</li> <li>• Support RMR Risk-of-Retirement</li> </ul> </li> <li>• Like RA resources, RMR units under the new tariff will receive RAAIM status determination</li> </ul> <p><b>SIBR</b></p> <ul style="list-style-type: none"> <li>• Like RA resources, automatically generates cost-based energy bids for new contract type RMR units for un-submitted bid range below RMR contract capacity <ul style="list-style-type: none"> <li>• Bids will reflect applicable GHG Compliance costs, SC charges, Major Maintenance Adder (MMA), and (if applicable) Opportunity Costs (OC); Note: MMA and OC are recovered through fixed cost payments (not market rents) and will be clawed-back during the ISO settlement process.</li> </ul> </li> <li>• Removes self-schedule requirement for new contract type RMR units scheduled/dispatched in Day-Ahead Market</li> </ul> <p><b>IFM/RTM:</b></p> <ul style="list-style-type: none"> <li>• Unit Commitment, Economic Dispatch decisions will include applicable MMA and OC (no change from today)</li> <li>• Like RA resources, new contract type RMR units will have automatic RA Obligation (\$0/MWh bids in RUC)</li> </ul>

# Fall 2019 – RMR and CPM Enhancements (cont.)

Project Info	Details/Date
Application Software Changes	<p><b><u>Impacted Systems (Continued):</u></b></p> <p><b>IFM/RTM:</b></p> <ul style="list-style-type: none"> <li>• Unit Commitment, Economic Dispatch decisions will include applicable MMA and OC (no change from today)</li> <li>• Like RA resources, new contract type RMR units will have automatic RA Obligation (\$0/MWh bids in RUC)</li> </ul> <p><b>Settlements:</b></p> <ul style="list-style-type: none"> <li>• RMR units under new contract type will receive:               <ul style="list-style-type: none"> <li>• RMR under new tariff provisions will settle through the ISO Settlements calendar;</li> <li>• Legacy RMR (RMRL) will continue to receive payment through the RMR invoicing process</li> <li>• Monthly RMR capacity payment (by resource) and cost allocation (by PTO)</li> <li>• RAAIM settlement/allocation</li> <li>• Bid Cost Recovery (does not include MMA or OC)</li> <li>• Clawback of fixed MMA and OC costs (if applicable)</li> </ul> </li> </ul> <p>CPM tariff revisions will be addressed during the CPM Soft Offer Cap policy initiative.</p>
BPM Changes	Reliability Requirements, Generator Management, Market Operations, Market Instruments, Settlements and Billing
Tariff Change	11.13, 31.2.2, 34.1, 40.9, 41, 43, 43A, Appendix G

## Fall 2019 – RMR and CPM Enhancements (cont.)

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board of Governors Approval	Mar 28, 2019	✓
External BRS	Post External BRS	Apr 01, 2019	✓
	Post Updated External BRS v1.1	Jul 26, 2019	✓
Config Guides	Publish Config Guide	Jun 03, 2019	✓
Tech Spec	Publish Technical Specifications	N/A	
Tariff	Receive FERC order (Approval)	Sep 27, 2019	✓
	File Tariff w/ FERC	Apr 23, 2019	✓
	Receive FERC order (Deficiency Letter)	Jul 19, 2019	✓
	Refiled with FERC	Jul 26, 2019	✓
BPMs	Post Draft BPM changes	Oct 31, 2019	✓
External Training	Deliver External Training	Aug 30, 2019	✓
Market Sim	RMR/CPM	Sep 03, 2019 - Oct 11, 2019	✓
Production Activation	RMR/CPM Deployment	Nov 13, 2019	✓
	RMR/CPM Effective Date	Jan 01, 2020	

# Fall 2019 – Local Market Power Mitigation Enhancements

Project Info	Details/Date
Application Software Changes	<p><b>Scope</b> Prevent flow reversal, DEB for Hydro, Reference level adjustment process, Gas price Indices</p> <p><b>Impacted Systems</b></p> <p><b>RTM:</b> Prevent flow reversal Eliminate rule mitigate in FMM carry to RTD Eliminate rule mitigate for balance of hour for FMM, balance 15 minute for RTD Use current market competitive LMP for mitigation Add a nominal parameter to mitigated bids Mitigated bid = MAX (DEB, Competitive LMP + \$0.xx parameter)</p> <p><b>CMRI:</b> Display new Hydro DEB type</p> <p><b>Master File:</b> Manage Hydro DEB eligibility at resource level New field to select and rank hydro DEB option Store resource's maximum storage horizon Identify default trading hubs for hydro resources, requests changes to additional hubs Ability to view parameters and ranking of approved hydro DEBs</p>
BPM Changes	Market Operations, Market Instruments
Tariff Change	Section 29.39, 31.2.1, 39.7

## Fall 2019 – Local Market Power Mitigation Enhancements (cont.)

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board of Governors Approval	Mar 28, 2019	✓
External BRS	Post External BRS	Apr 01, 2019	✓
Config Guides	Post Draft Config Guides	N/A	
Tech Spec	Publish Technical Specifications: MF v5.0, CMRI v3.9.0	May 17, 2019	✓
	Publish Technical Specification update: CARs, Electric Pricing Hub weighting, MF v5.1	Jun 28, 2019	✓
Tariff	File Tariff	Jul 02, 2019	✓
BPMs	Post Draft BPM changes: PRRs 1190 (MI), 1191 (MO), 1192 (EIM)	Sep 05, 2019	✓
External Training	Deliver External Training	Aug 29, 2019	✓
Market Sim	Market Sim Window	Sep 03, 2019 - Oct 11, 2019	✓
Production Activation	LMPM - Enhancements	Nov 13, 2019	✓

# Fall 2019 – Energy Imbalance Market Enhancements 2019

Project Info	Details/Date
Application Software Changes	<p><b>Scope:</b> Implement 21 EIM enhancements requested by EIM entities through CIDI System</p> <p><b>Impacted Systems:</b>  <b>BAAOP:</b> Add displays for BAA overview, Unit deviations, Load Bias, transfer limits, contingency flag, timestamps, and other identified items. Enhance sorting and layouts ability. Enhance alarm ability for market thresholds.  <b>BSAP:</b> Enhance capability for Base schedule modification, Add aggregated BS deviation in API.  <b>OASIS or CMRI:</b> <del>Display ROC limits</del> Display 5-min market transmission Loss  <b>RTM:</b> prevent ETSR swing using explicit triggers.  <b>ADS:</b> Publish current DOP in the MSG transition period.  <b>Settlement:</b> Publish data for UFE shadow calculation; Settle EIM Resource Deviation within Regulation/ABC range as instructed regulation energy.  <b>CMRI:</b> Publish resource limit values</p>
BPM Changes	Market Instruments, Energy Imbalance Market

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	N/A	
External BRS	Milestone: Post External BRS Revisions 1.4	Aug 12, 2019	✓
Config Guides	Publish Config Guides	May 17, 2019	✓
Tech Spec	ISO Interface Spec (Tech spec) – BSAP v1.6, CMRI v3.9.0	May 17, 2019	✓
	Create ISO Interface Spec (Tech spec) – OASIS v5.1.9	Jul 19, 2019	✓
	Revised ISO Interface Spec (Tech spec) – BSAP v1.7	Jul 03, 2019	✓
Tariff	File Tariff	N/A	
BPMs	Post Draft BPM changes	Jul 30, 2019	✓
External Training	External Training Webinar	Aug 26, 2019	✓
	External Training Webinar/Refresh (During Bi-Weekly Ops Call)	Sep 18, 2019	✓
Market Sim	Market Sim Window	Sep 03, 2019 - Nov 04, 2019	✓
Production Activation	EIM Enhancements 2019	Nov 13, 2019	✓

# Fall 2019 – FERC 841 Energy Storage Resources

Project Info	Details/Date
Application Software Changes	<p><b>Scope:</b> FERC issued Order 841 to remove the barriers to the participation of electric storage resources in the capacity, energy and ancillary service markets operated by RTOs and ISOs.</p> <p>CAISO will achieve compliance with Order 841 through implementation of two (2) specific scope items:</p> <ul style="list-style-type: none"> <li>• Reduce the minimum capacity for participating Generators to 100kW for storage resources</li> <li>• Remove Transmission Access Charge (TAC) for Pumped-Storage Hydro Units</li> </ul>
BPM Changes	Market Operations, Settlements and Billing
Tariff Change	<p>4.6.3.2 – Exemption for Generating Units of Less Than One (1) MW</p> <p>26.1 – Transmission Rates and Charges</p> <p>Appendix A – Definition Change for Participating Generator</p>

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	N/A	
External BRS	Milestone: Post External BRS	Jun 20, 2019	✓
Config Guides	Milestone: Post Config Guide	Jun 03, 2019	✓
Tech Spec	N/A: Publish Technical Specifications	Aug 13, 2019	✓
Tariff	CAISO's Compliance Filing	Dec 8, 2018	✓
BPMs	Settlements & Billing – PRR #1177 released	Aug 26, 2019	✓
	Market Operations – PRR #1180 released	Aug 30, 2019	✓
	Generator Management – PRR align with Tariff effective date	Align with Tariff effective date	
External Training	External training	N/A	
Market Simulation	Market Sim Environment Window - Phase 1	Sep 03, 2019 - Oct 11, 2019	✓
Production Activation	FERC 841 - NGR Model - Deployment	Nov 13, 2019	✓
	<b>FERC 841 – Effective date (pending FERC decision expected 11/21)</b>	<b>Dec 1, 2019</b>	

# Fall 2019 – Real-Time Market Neutrality Settlement

Project Info	Details/Date
Application Software Changes	Settlement: modify CC6477, CC64770 <ul style="list-style-type: none"> <li>Remove EIM transfer adjustment amount</li> <li>Credit the GHG cost for non-CA transfers in EIM transfer financial value calculation</li> <li>Use 5-minute ETSR After-The-Fact tags submitted by EIM BAA</li> </ul>
BPM Changes	Settlements & Billing
Tariff Change	11.5.4.1 Real Time Imbalance Energy Offset

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Jul 25, 2019	✓
External BRS	Post External BRS	Jul 08, 2019	✓
	Post External BRS (Updated)	Aug 07, 2019	✓
Config Guides	Publish Config Guide	Jul 31, 2019	✓
Tech Spec	Publish Technical Specifications	N/A	
Tariff	File Tariff w/FERC	Jul 30, 2019	✓
BPMs	Post Draft BPM changes	Aug 26, 2019	✓
External Training	Deliver External Training	Aug 27, 2019	✓
Market Sim	Market Sim Window	Sep 03, 2019 - Oct 11, 2019	✓
Production Activation	RT Market Neutrality Settlement	Nov 13, 2019	✓

# 2020 Spring Release

# Spring 2020 – EIM integrations for SCL and SRP

Project Info	Details/Date
Application Software Changes	Implementation of SCL and SRP as EIM Entities
BPM Changes	EIM BPM will be updated if needed to reflect new modeling scenarios identified during implementation and feedback from SCL and SRP.
Market Simulation	December 2019 – January 2020
Parallel Operations	February 2020 – March 2020

Milestone Type	Milestone Name	Dates	Status
Market Sim	Market Sim Window	December 2019 – January 2020	
Parallel Operations	Parallel Operations	February 2020 – March 2020	
Tariff	File Readiness Certification	March 2020	
Production Activation	EIM – SCL and SRP	April 2020	

# 2020 Fall Release

# Fall 2020 Release – Overview

	External BRS	Config Guide	Tech Spec	Mkt Sim Scenarios	Draft Tariff*	BPMs	External Training	Market Sim	Production Activation
<b>Fall 2020 Release</b>	<b>04/01/20</b>	<b>05/29/20</b>	<b>05/29/20</b>	<b>05/29/20</b>	<b>06/26/20</b>	<b>07/20/20</b>	<b>07/20/20</b>	<b>Jul 27, 2020 – Sep 4, 2020</b>	<b>10/01/20</b>
Contingency Modeling Enhancements - Transmission								Jul 27, 2020 – Sep 4, 2020	10/01/20
ESDER Phase 3b - Load Shift Product	07/18/19	03/26/20	03/31/20		3/30/20	05/27/20	06/22/20	Jul 27, 2020 – Sep 4, 2020	10/01/20
Dispatch Operating Target Tariff Clarification	12/26/18							Jul 27, 2020 – Sep 4, 2020	10/01/20
Intertie Deviation Settlement								Jul 27, 2020 – Sep 4, 2020	10/01/20
Excess Behind the Meter Production								Jul 27, 2020 – Sep 4, 2020	10/01/20
Market Settlement Timeline Transformation								Jul 27, 2020 – Sep 4, 2020	10/01/20
EIM Enhancements 2020								Jul 27, 2020 – Sep 4, 2020	10/01/20
Import Bidding and Market Parameters								Jul 27, 2020 – Sep 4, 2020	10/01/20
ADS UI Replacement	8/6/18							Jul 27, 2020 – Sep 4, 2020	10/01/20

# Fall 2020 Release – System Impacts

Fall 2020 Release	ADS	CMRI	IFM / RTM	OASIS	OMS	Settlements	FODD	MF	DRRS	CIRA	MRI-S Metering	MRI-S Settlements	CIDI	Monthly Report @ <a href="http://www.caiso.com">www.caiso.com</a>	BAAOP	BSAP
CME-T	Y	Y	Y	Y	Y	Y	Y									
ESDER3B	Y							Y	Y	Y						
DOTTC	Y		RTM													
IDS	Y					Y										
EBtMP						Y	Y				Y			Y		
Market Settlement Timeline Transformation		Y		Y						Y	Y	Y	Y			
EIM2020		Y	RTM	Y											Y	Y
Import Bidding and Market Parameters (TBD)																
ADS UI Replacement	Y															

# Fall 2020 Release – BPM Impacts

	Market Instruments	Market Operations	Settlements & Billing	Definitions & Acronyms	Outage Management	Reliability Requirement	Metering	Credit Management & Market Clearing	Energy Imbalance Market	Rules of Conduct Administration
<b>Fall 2020 Release</b>										
Contingency Modeling Enhancements – Transmission	Y	Y	Y	Y	Potential	Potential				
ESDER Phase 3b - Load Shift Product	Y	Y			Y	Y	Y			
Dispatch Operating Target Tariff Clarification	Y	Y								
Intertie Deviation Settlement			Y							
Excess Behind the Meter Production			Y	Y			Y			
Market Settlement Timeline Transformation	Y		Y				Y	Y	Y	Y
EIM Enhancements 2020	Y									
Import Bidding and Market Parameters (TBD)										
ADS UI Replacement	Y	Y								

# Fall 2020 – Contingency Modeling Enhancements - Transmission

Project Info	Details/Date
Application Software Changes	<p><b>Scope:</b></p> <ul style="list-style-type: none"><li>• Resolve temporal transmission system reliability constraints in the market:<ul style="list-style-type: none"><li>• Improve economic dispatch</li><li>• Reduce reliance on ED and MOC constraints</li><li>• Appropriately value capacity needed to resolve actual transmission system reliability constraints</li><li>• Introduces the preventive-corrective constraint for use in the market</li><li>• Positions available resources so that the ISO has sufficient capability to respond to contingency events and return facilities to normal ratings within the emergency rating time frame</li><li>• Enhances the LMP formulation to provide market price signal related to this reliability constraint</li><li>• Creates a Locational Marginal Capacity Price (LMCP) which reflects:<ul style="list-style-type: none"><li>• A resource's opportunity costs</li><li>• Marginal congestion cost savings, and/or</li><li>• The marginal capacity value to follow dispatch</li></ul></li><li>• Pays resource for reserving the capacity at the LMCP</li></ul></li><li>• Resource paid for Out-Of-Merit (OOM) dispatch to reserve corrective capacity</li></ul> <p><b>Impacted Systems:</b></p> <p><b>ADS:</b> Modified to display corrective capacity awards similar to AS.</p> <p><b>CMRI:</b> New or modified reports to display LMCP prices and awards</p> <p><b>IFM/RTM:</b></p> <ul style="list-style-type: none"><li>• Model preventive-corrective constraint for use in the market, and new</li><li>• Model new capacity awards and Locational Marginal Capacity Price (LMCP).</li><li>• Market App implement validation and exceptions to support Market Validation Tools</li><li>• Update IFM/RTM MPM rules for new corrective capacity commodity market.</li></ul> <p><b>OASIS:</b> New or modified reports to display LMCP prices and awards</p> <p><b>OMS:</b> Potential Impact</p> <p><b>Settlements:</b></p> <ul style="list-style-type: none"><li>• New or modified DA and RT charge code(s)/pre-calcs to pay for awarded corrective capacity at LMCP.</li><li>• Modify DA and RT BCR charge code(s)/pre-calcs to include revenue received from corrective capacity awards at LMCP.</li><li>• Potential No-Pay changes and charge code(s)/pre-calcs.</li><li>• Potential; changes to Neutrality charge code(s).</li><li>• Potential inclusion of performance metrics to support Settlements application.</li><li>• Change CRR settlements charge code(s)/pre-calcs.</li></ul> <p><b>FODD:</b> Report new prices and awards to FERC.</p>

## Fall 2020 – Contingency Modeling Enhancements – Transmission (cont)

Project Info	Details/Date
BPM Changes	<b>Market Instruments</b> (Include CMRI & OASIS changes) <b>Market Operations</b> <b>Settlements &amp; Billing</b> <b>Definitions &amp; Acronyms</b> (New commodity for Corrective Capacity) <b>Outage</b> (Potential) <b>Reliability Requirement</b> (Potential)
Tariff Change	<b>Section 27.1</b> CAISO Markets And Processes

# Fall 2020 – ESDER Phase 3b – Load Shift Product

Project Info	Details/Date
Application Software Changes	<p><b><u>Scope:</u></b></p> <p>The ESDER 3b initiative will include two (2) demand response enhancements:</p> <ul style="list-style-type: none"><li>• 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.</li><li>• Enable sub-metered electric vehicles supply equipment (EVSE) to participate in load curtailment</li></ul> <p><b><u>Impacted Systems (Overview):</u></b></p> <p><b>Master File:</b></p> <ul style="list-style-type: none"><li>• 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</li><li>• Two (2) Resource IDs will be assigned to the same Resource to allow Consumption versus Curtailment participation (PDR-LSR)</li></ul> <p><b>DRRS:</b></p> <ul style="list-style-type: none"><li>• Allow two resource IDs to be selected for registrations with LSR baseline methods</li><li>• New baseline methods for PDR-LSRs and EVSEs</li><li>• New attribute for locations to indicate BTM device</li></ul> <p><b>CIRA:</b></p> <ul style="list-style-type: none"><li>• Will prevent the request of NQC for PDR-LSR Consumption resources</li></ul>

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

Project Info	Details/Date
BPM Changes	<ul style="list-style-type: none"> <li>Market Instruments, Market Operations, Outage Management, Reliability Requirement and Metering</li> </ul>
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	✓
Config Guides	Post Draft Config Guides	Mar 26, 2020	
Tech Spec	Publish Technical Specifications	Mar 31, 2020	
Tariff	Post Draft Tariff	Mar 30, 2020	
	File Tariff	Jun 11, 2020	
BPMs	Post Draft BPM changes	May 27, 2020	
External Training	External training	Jun 22, 2020	
Market Sim	Market Sim Window	Jul 27, 2020 - Sep 04, 2020	
Production Activation	ESDER Phase 3b - Load Shift Product	Oct 01, 2020	

# Fall 2020 – Dispatch Operating Target Tariff Clarification

Project Info	Details/Date
Application Software Changes	<p><b>Scope:</b> Allow Energy Intermittent Resources (EIRs) to automate their response to operational instructions that require the resource not to exceed their Dispatch Operating Target.</p> <p><b>Impacted Systems:</b>  <b>RTM:</b> Operator can select EIR resources, system to send Operating instruction Flag to ADS  <b>ADS:</b> Receive Operating instruction flag for EIRs. Broadcast message to EIRs operator.</p>
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	Milestone: Post External BRS	Dec 26, 2018	✓
Config Guides	Config Guides	N/A	
Tech Spec	Create ISO Interface Spec (Tech spec)	TBD	
Tariff	Draft Tariff	Sep 04, 2018	✓
	File Tariff	Oct 29, 2018	✓
BPMs	Post Draft BPM changes	Jul 20, 2020	
External Training	Deliver External Training	Jul 20, 2020	
Market Sim	Market Sim Window	Jul 27, 2020 - Sep 04, 2020	
Production Activation	Dispatch Operating Target Tariff Clarification	Oct 01, 2020	

# Fall 2020 – Intertie Deviation Settlement

Project Info	Details/Date
Application Software Changes	<p><b>Scope:</b> Implement a new Under/Over Delivery Charge for intertie deviations from Market Schedule and After-The-Fact (ATF) E-Tag, to replace Decline charge</p> <p><b>Impacted Systems:</b> <b>Settlements</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Remove the decline charge calculation and Decline Threshold</li> <li>• Allocate Over/Under delivery charge to measured demand</li> </ul> <p><b>ADS</b></p>
BPM Changes	Settlements and Billing
Tariff Change	Section 11.31

# Fall 2020 – Excess Behind the Meter Production

Project Info	Details/Date
Application Software Changes	<p><b>Scope:</b></p> <ul style="list-style-type: none"> <li>• Clarify the Tariff definition of Gross Load:               <ul style="list-style-type: none"> <li>• Is the instantaneous amount of energy that is delivered to Loads and Scheduling Points by generation, transmission or distribution facilities, and</li> <li>• Should not be net of excess behind the meter production.</li> </ul> </li> <li>• Establish a new tariff definition for EBtMP:               <ul style="list-style-type: none"> <li>• Energy from an End-Use Customer in excess of its onsite Demand.</li> </ul> </li> <li>• Establish how EBtMP will be reported and settled:               <ul style="list-style-type: none"> <li>• EBtMP will be paid the locational price where it is reported.</li> <li>• EBtMP will not be 'grossed up' to include losses.</li> <li>• EBtMP will use the same resource ID as load.</li> </ul> </li> <li>• Determination for Unaccounted For Energy will also need to be updated:               <ul style="list-style-type: none"> <li>• <math>UFE\ QUANTITY = GENERATION\ METER + INTERTIE\ IMPORT\ METER - ((GROSS\ LOAD\ METER - EXCESS\ BTM\ PRODUCTION\ METER) + EXPORT\ INTERTIE\ METER + RTD\ LOSS\ MW)</math>.</li> </ul> </li> <li>• Applying both loss factors associated with the losses (Distribution Loss Factor DLF) from the transmission-distribution interface and the avoided losses from excess behind the meter production:               <ul style="list-style-type: none"> <li>• <math>Gross\ Load\ (with\ Gross\ Up) = (Gross\ Load * (1 + DLF)) - (EBtMP * DLF)</math>.</li> </ul> </li> <li>• Report Gross Load (with Gross Up) and EBtMP under same load resource ID for the DLAP or CLAP, using channel 1 for EBtMP, channel 4 for Gross Load.</li> <li>• Publish the EBtMP every other month.</li> </ul>

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

Project Info	Details/Date
<p>Application Software Changes (cont.)</p>	<p><b><u>Impacted Systems:</u></b></p> <p><b>Settlement - Recognize EBtMP as a measurement type</b></p> <ul style="list-style-type: none"> <li>• Associated resource ID, meter data for EBtMP, and Gross Load</li> <li>• Settle net of gross load and EBtMP as the measured demand</li> <li>• No change for MSS</li> <li>• Modify Calculation UFE:               <ul style="list-style-type: none"> <li>• NET LOAD = GROSS LOAD METER – EXCESS BTMPRODUCTION METER</li> <li>• UFE QUANTITY = GENERATION METER + INTERTIE IMPORT METER – (NET LOAD METER + EXPORT INTERTIE METER + RTD LOSS MW)</li> </ul> </li> <li>• Modify follow charge codes to settle based on Gross Load (Reliability based charge codes )               <ul style="list-style-type: none"> <li>• 372 High Voltage Access Charge Allocation (UDC gross load)</li> <li>• 382 High Voltage Wheeling Allocation (Non PTO load)</li> <li>• 383 Low Voltage Wheeling Allocation (Non PTO load)</li> <li>• 591 Emissions Cost Recovery (Measured Demand)</li> <li>• 1101 Black Start Capability Allocation</li> <li>• 1302 Long Term Voltage Support Allocation</li> <li>• 1303 Supplemental Reactive Energy Allocation</li> <li>• 6090 Ancillary Service Upward Neutrality Allocation</li> <li>• 6194 Spinning Reserve Obligation Settlement</li> <li>• 6196 Spinning Reserve Neutrality Allocation</li> <li>• 6294 Non-Spinning Reserve Obligation Settlement</li> <li>• 6296 Non-Spinning Reserve Neutrality Allocation</li> <li>• 6594 Regulation Up Obligation Settlement</li> <li>• 6596 Regulation Up Neutrality Allocation</li> <li>• 6694 Regulation Down Obligation Settlement</li> <li>• 6696 Regulation Down Neutrality Allocation</li> <li>• 7256 Regulation Up Mileage Allocation</li> <li>• 7266 Regulation Down Mileage Allocation</li> <li>• 7896 Monthly CPM Allocation</li> </ul> </li> </ul>

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

Project Info	Details/Date
Application Software Changes (cont.)	<p><b>Impacted Systems:</b></p> <p><b>MRI-S - Meter submission</b></p> <ul style="list-style-type: none"> <li>• Allow SC to submit Gross Load and EBtMP under the single Resource ID               <ul style="list-style-type: none"> <li>• Add new measurement type: EBtMP</li> <li>• New measurement type: EBtMP will be used for EBtMP</li> <li>• Measurement type:Load will be used for Gross Load (gross-up)</li> <li>• Meter submission UI and API will accept the new measurement type: EBtMP</li> <li>• Publish gross load data and EBtMP to ALFS</li> <li>• The SC will be submitting the data as two separate measurement type</li> <li>• Identify data volume handling for all Settlement systems, ALFS</li> </ul> </li> </ul> <p><b>Monthly report at <a href="http://www.caiso.com">www.caiso.com</a></b></p> <ul style="list-style-type: none"> <li>• Access gross load and EBtMP through settlement database</li> <li>• Publish aggregated EBtMP every other Month under Market Report</li> </ul> <p><b>FODD</b></p> <ul style="list-style-type: none"> <li>• Report to FERC data include Gross load and EBtMP</li> </ul>
BPM Changes	<p><b>Definitions &amp; Acronyms:</b></p> <ul style="list-style-type: none"> <li>• Update definition of Gross Load</li> <li>• Add Excess Behind the Meter Production</li> </ul> <p><b>Metering</b></p> <p><b>Settlements &amp; Billing</b></p>
Tariff Change	<p><b>Appendix A :</b></p> <ul style="list-style-type: none"> <li>• Clarify Gross Load definition, Update Demand definitions,</li> <li>• Add new term Excess Behind the Meter production</li> </ul> <p><b>Section 11:</b> Update reliability based tariff reference sections to be based upon gross load</p>

# Fall 2020 – Market Settlement Timeline Transformation

Project Info	Details/Date
Application Software Changes	<p><b>Scope:</b></p> <ul style="list-style-type: none"><li>• 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.</li><li>• 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.</li><li>• 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.</li><li>• 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.</li><li>• 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.</li></ul>

# Fall 2020 – Market Settlement Timeline Transformation (cont.)

Project Info	Details/Date
Application Software Changes (cont.)	<p><b>Impacted Systems:</b></p> <p><b>CIDI:</b> The settlements calendar will need to be modified and scripts modified to accommodate the changes.</p> <p><b>CIRA:</b> Data payload timing modification: RAAIM Outage curtailment – DA, RT, T+9 &amp; T+ 67 run</p> <p><b>CMRI:</b> Data retention impact do to reducing from 36 months to 24 months.</p> <p><b>MRI-S Metering:</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Data submission/freeze timeline.</li> </ul> <p><b>MRI-S Settlements:</b></p> <ul style="list-style-type: none"> <li>• Update the Post Date calculation, as the payment calendar will change.</li> <li>• Auto scheduling for statement generation.</li> <li>• Statement posting.</li> </ul> <p><b>OASIS:</b></p> <ul style="list-style-type: none"> <li>• Data retention impact do to reducing from 36 months to 24 months.</li> <li>• FERC 841 related data availability needs to be vetted.</li> </ul>
BPM Changes	<p><b>Credit Management and Market Clearing</b></p> <p><b>Energy Imbalance Market</b></p> <p><b>Market Instruments</b></p> <p><b>Metering</b></p> <p><b>Rules of Conduct Administration</b></p> <p><b>Settlements and Billing</b></p> <ul style="list-style-type: none"> <li>• <b>Section 2.3.2 – Schedule for Settlement Statement Publication</b></li> <li>• <b>Section 2.3.5.1.1 – Dispute Timing</b></li> <li>• <b>Section 2.3.6 – Billing &amp; Payment</b></li> <li>• <b>Section 2.4 – Payment Calendars</b></li> </ul>

## Fall 2020 – Market Settlement Timeline Transformation (cont.)

Project Info	Details/Date
Tariff Change	<ul style="list-style-type: none"><li>Section 10: Metering</li><li>Section 11: California ISO Settlements and Billing (Publication Contingency document)</li><li>Section 12: Creditworthiness</li><li>Section 13: Dispute Resolution</li><li>Section 26: Transmission Rates And Charges</li><li>Section 27: California ISO Markets And Processes</li><li>Section 29: Energy Imbalance Market</li><li>Section 37: Rules Of Conduct</li></ul>

# Fall 2020 – EIM Enhancements 2020

Project Info	Details/Date
Application Software Changes	<p><b>Scope:</b>            Energy Imbalance Market Enhancements 2020, is to collectively address important issues identified by EIM market participants through Customer Inquiry, Dispute and Information system (CIDI) requests to improve the visibility, functions and features in Energy Imbalance Market (EIM)</p> <p>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 15 requests in EIM enhancement 2020 project.</p> <p><b>Impacted Systems:</b>  <b>BAAOP</b></p> <ul style="list-style-type: none"> <li>• Allow EIM entity override activation for the contingencies up to 15 in NA contingency list</li> <li>• Add visibility of other adjacent BAA's ETSR locks and reasons</li> <li>• Add Static ETSR transfer data to RTD Dispatch Control Display (ETSR tab). Add Static ETSR transfer data to BAAOP ETSR Detail Display (in RTD)</li> <li>• Fix/Improve SVG One Lines. Request to be able to view SE and telemetry values for all substation flows and elements.</li> <li>• 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: <math>RTD\ UP\ Ramp = MIN(5MinRampRate, [UpperLim-CurrentDispatch])</math>.</li> <li>• Add Supplemental DOT to VER resources to Dispatch Control displays; Detail: In BAAOP RTD/RTPD Dispatch Control, add SUPP DOT column</li> <li>• 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</li> <li>• Utilize the "information" button in the market UI to connect to Knowledge Articles from CIDI for both ISO and EIM Operator</li> <li>• 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)               <ul style="list-style-type: none"> <li>• BAAOP Dynamic Limits</li> <li>• BAAOP RTIS</li> <li>• ALFS (load forecast and/or VER forecast)</li> <li>• ICCP link</li> </ul> </li> </ul>

# Fall 2020 – EIM Enhancements 2020 (cont.)

Project Info	Details/Date
Application Software Changes (cont.)	<p><b>Impacted Systems:</b></p> <p><b>BSAP</b></p> <ul style="list-style-type: none"> <li>• Add Manual Dispatch information to BSAP Resource Bal Viewer. Add any applicable deviations that used in the test to BSAP BAA Bal Viewer.</li> <li>• For the Bid Range Capacity Test Results report, Requirement Amount Column needs to publish the true requirement, not just the INCREMENTAL/DECREMENTAL requirement</li> </ul> <p><b>RTM</b></p> <ul style="list-style-type: none"> <li>• Publish the data of the MW infeasibility data and ABC Up and Down Dispatches of RTPD/RTD</li> <li>• Publish the effective load bias for the market run for RTPD and RTD</li> <li>• Publish the effective ETSR import and export limits for the market run for RTPD and RTD</li> </ul> <p><b>CMRI</b></p> <ul style="list-style-type: none"> <li>• Display and publish, download the data of the MW infeasibility data and ABC Up and Down Dispatches of RTPD/RTD</li> <li>• Display and publish, download the data of the effective load bias for the market run for RTPD and RTD</li> <li>• Display and publish, download the effective ETSR import and export limits for the market run for RTPD and RTD</li> <li>• 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</li> </ul> <p><b>OASIS</b></p> <ul style="list-style-type: none"> <li>• The Net EIM transfer limit report in OASIS shall be available for download via API.</li> </ul>
BPM Changes	Market Instruments
Tariff Change	N/A

# Fall 2020 – Import Bidding and Market Parameters

Project Info	Details/Date
Application Software Changes	<p><b><u>Scope:</u></b> TBD</p> <p><b><u>Impacted Systems:</u></b> TBD</p>
BPM Changes	TBD
Tariff Change	TBD

# Fall 2020 – ADS Replacement

Project Info	Details/Date
Application Software Changes	<ul style="list-style-type: none"> <li>• Transition to web-based user interface to eliminate the need to install thick client</li> <li>• Transition ADS provisioning to the Access and Identity Management (AIM) application including Resource Level Access Controls (RACL) access</li> <li>• The query tool will provide 30 days of historical data</li> <li>• Various user interface enhancements adding content per Operation's request</li> <li>• <a href="#">ADS B2B services changes - TBD.</a></li> </ul>
BPM Changes	<ul style="list-style-type: none"> <li>• Market Instruments</li> <li>• Market Operations</li> </ul>
Tariff Changes	<ul style="list-style-type: none"> <li>• N/A</li> </ul>

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	✓
Config Guides	Design review - BPM and Tariff SMEs	N/A	
Tech Spec	Publish Technical Specifications	N/A	
Tariff	File Tariff	N/A	
BPMs	Post Draft BPM changes	TBD	
Market Sim	Market Sim Window	Q4 2020	
Production Activation	ADS Replacement	Q4 2020	
Production	ADS Parallel Operations	Q4 2020	
Decommission	Old ADS Decommission	TBD	

# 2021 Spring Release

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

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

Milestone Type	Milestone Name	Dates	Status
Market Sim	Market Sim Window	December 2020 – January 2021	
Parallel Operations	Parallel Operations	February 2021 – March 2021	
Tariff	File Readiness Certification	March 2021	
Production Activation	EIM – PNM, LADWP, TID, NWE and BANC Phase 2	April 2021	

# 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](http://www.caiso.com) for meeting dates and times and add events to your calendar
    - Typically held on Mondays and Thursdays
  - Market Performance and Planning Forum
    - Bi-monthly review of market performance issues
    - High level discussion of release planning, implementation and new market enhancements

# What to look for on the calendar...

## Calendar of Meetings, Training and Events

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

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

Release Users Group (RUG)