Release User Group Agenda

May 21st, 2019 *10:00 a.m.–11:00 a.m. (Pacific Time)*

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

Release User Group Agenda

May 21st, 2019 *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 Deluca Cynthia Hinman Christopher McIntosh Jeremy Malekos Janet Morris

The ISO offers innovative training programs

Date	Training courses and workshops
July 18	Welcome to the ISO webinar
July 30	ISO Training Workshop - Introduction to ISO Markets (ISO Headquarters)
July 31	ISO Training Workshop – Market Transactions (ISO Headquarters)
August 1	ISO Training Workshop – ISO Settlements (ISO Headquarters)

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 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
- Settlements and Metering
- Reference Materials
- Western Imbalance Energy 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
- Import Bid Cost Verification (BOG July 2019)
- 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

Independent 2020

- Automated Dispatch System (ADS) User Interface (UI) Replacement

Fall 2020

- Commitment Costs and Default Energy Bid Enhancements Phase 2
- 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 (May 2019 BOG)

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

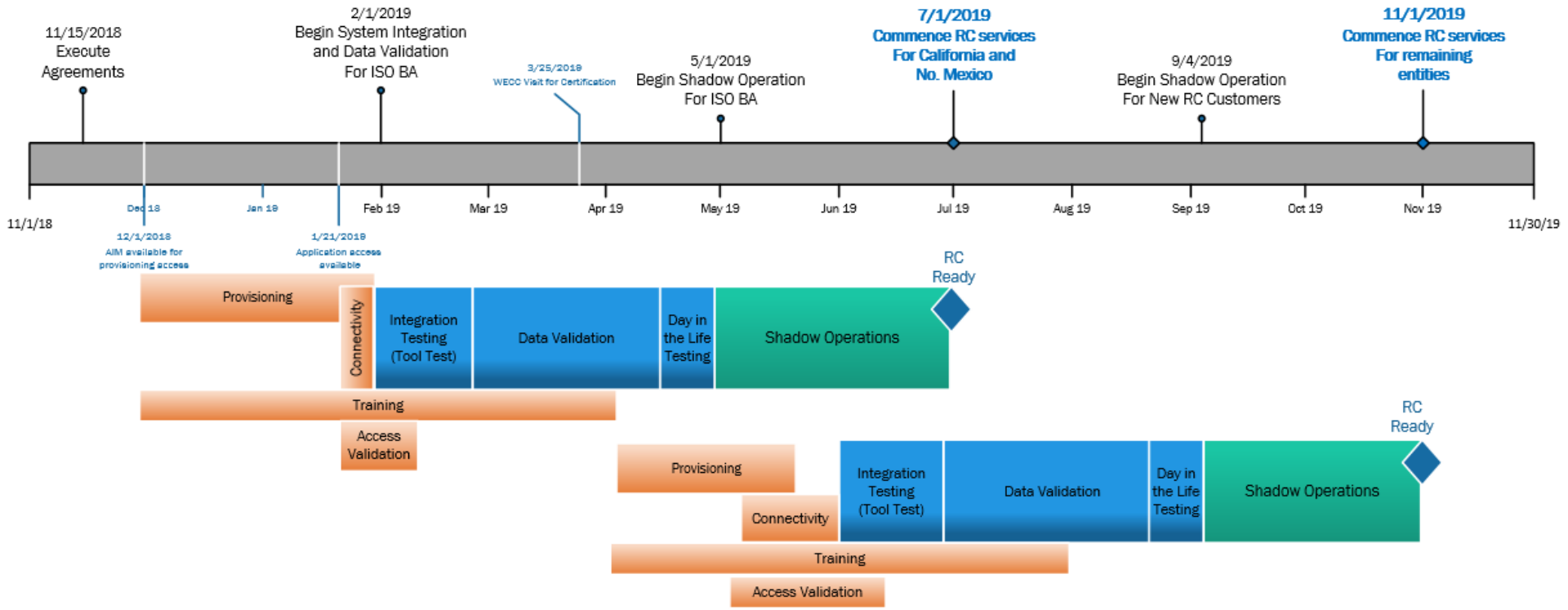
Fall 2021 – tentative, subject to impact assessment

- DAME - Flexible Ramping Product (Nov 2019 BOG)
- RA Enhancements Track 2 (Nov 2019 BOG)
- Energy Storage and Distributed Energy Resources Phase 4 (Nov 2019 BOG)
- Storage as a Transmission Facility (BOG TBD)
- TAC Structure Enhancements (BOG TBD)

Spring 2022

- Energy Imbalance Market (EIM) 2022 – Avista
- Energy Imbalance Market (EIM) 2022 – Tucson Electric Power

RC Participant Onboarding Timeline – please attend RC Onboarding webinars for more information.

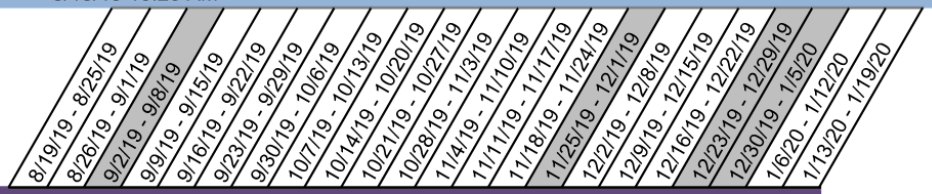


Release Schedule 2019

Date of Data Refresh: 5/15/19 10:26 AM

California ISO

Legend			
Market Simulation		CA ISO Holiday	
External Testing		Deployment Week	



MAP Stage Environment Window			
CCDEBE1	**9/3/19**	10/11/19	CCDEBE1 (09/03-10/11)
CCDEBE1 - Market Sim	**9/3/19**	10/11/19	CCDEBE1 - Market Sim (09/03-10/11)
Import Bid Cost Verification	**9/3/19**	10/11/19	Import Bid Cost Verification (09/03-10/11)
Import Bid Cost Verification - Market Sim	**9/3/19**	10/11/19	Import Bid Cost Verification - Market Sim (09/03-10/11)
ESDER 3a	**9/3/19**	10/11/19	ESDER 3a (09/03-10/11)
ESDER 3a - Market Sim	**9/3/19**	10/11/19	ESDER 3a - Market Sim (09/03-10/11)
RMR/CPM	**9/3/19**	10/11/19	RMR/CPM (09/03-10/11)
RMR/CPM - Market Sim	**9/3/19**	10/11/19	RMR/CPM - Market Sim (09/03-10/11)
LMPM - Enhancements	**9/3/19**	10/11/19	LMPM - Enhancements (09/03-10/11)
LMPM - Enhancements - Market Sim	**9/3/19**	10/11/19	LMPM - Enhancements - Market Sim (09/03-10/11)
EIM Enhancements 2019	**9/3/19**	10/11/19	EIM Enhancements 2019 (09/03-10/11)
EIM Enhancements 2019 - Market Sim	**9/3/19**	10/11/19	EIM Enhancements 2019 - Market Sim (09/03-10/11)
FERC Order 841 – Energy Storage Resources	**9/3/19**	10/11/19	FERC Order 841 – Energy Storage Resources (09/03-10/11)
FERC Order 841 – Energy Storage Resources - Market Sim	**9/3/19**	10/11/19	FERC Order 841 – Energy Storage Resources - Market Sim (09/03-10/11)
Real-Time Market Neutrality Settlement	**9/3/19**	10/11/19	Real-Time Market Neutrality Settlement (09/03-10/11)
Real-Time Market Neutrality Settlement - Market Sim	**9/3/19**	10/11/19	Real-Time Market Neutrality Settlement - Market Sim (09/03-10/11)
Production Environment Window			
ESDER 3a - DRRS	**11/6/19**	**11/6/19**	ESDER 3a - DRRS (11/6)
CCDEBE1	**11/13/19**	11/13/19	CCDEBE1 (11/13)
Import Bid Cost Verification	**11/13/19**	11/13/19	Import Bid Cost Verification (11/13)
ESDER 3a	**11/13/19**	**11/13/19**	ESDER 3a (11/13)
RMR/CPM Deployment	**11/13/19**	11/13/19	RMR/CPM Deployment (11/13)
LMPM - Enhancements	**11/13/19**	11/13/19	LMPM - Enhancements (11/13-11/13)
EIM Enhancements 2019	**11/13/19**	11/13/19	EIM Enhancements 2019 (11/13)
FERC Order 841 – Energy Storage Resources	**11/13/19**	11/13/19	FERC Order 841 – Energy Storage Resources (11/13)
Real-Time Market Neutrality Settlement	**11/13/19**	11/13/19	Real-Time Market Neutrality Settlement (11/13)
RMR/CPM Effective Date	**12/31/19**	1/1/20	RMR/CPM Effective Date (12/31-01/01)

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

2019 Fall Release

Fall 2019 Release – Overview

	Board Approval	External BRS	Config. Guide	Mkt Sim Scenarios	Draft Tariff*	BPMs	External Training	Market Sim	Production Activation
Fall 2019 Release - Overview		**04/01/19**	**05/17/19**	**05/17/19**	**07/14/19**	**08/26/19**	**08/26/19**	***09/03/19 – 10/11/19***	***11/13/19***
CCDEBE Phase 1	03/22/18	03/29/19	*N/A*	*N/A*	05/10/19	07/22/19	08/29/19	09/03/19 – 10/11/19	11/13/19
Import Bid Cost Verification	7/25/19	TBD	TBD	TBD	TBD	TBD	TBD	09/03/19 – 10/11/19	11/13/19
ESDER Phase 3A	09/05/18	03/20/19	05/17/19	05/16/19	06/17/19	06/20/19	08/26/19	09/03/19 – 10/11/19	11/13/19
RMR and CPM Enhancements	03/28/19	04/01/19	06/03/19	05/16/19	04/03/19	08/26/19	08/28/19	09/03/19 – 10/11/19	11/13/19
LMPM - Enhancements	03/28/19	04/01/19	*N/A*	05/15/19	04/16/19	07/23/19	08/29/19	09/03/19 – 10/11/19	11/13/19
EIM Enhancements 2019	*N/A*	02/05/19	05/17/19	*N/A*	*N/A*	07/26/19	07/09/19	09/03/19 – 10/11/19	11/13/19
FERC Order 841 – Energy Storage Resources	*N/A*	TBD	TBD	TBD	TBD	TBD	TBD	09/03/19 – 10/11/19	11/13/19
Real-Time Market Neutrality Settlement	7/24/19	TBD	TBD	TBD	TBD	TBD	TBD	09/03/19 – 10/11/19	11/13/19

Notes:

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

*Draft Tariff dates have been updated to show only the draft tariff posting. FERC Filing dates can be seen on individual project slides.

Fall 2019 Release – System Interface Changes

System	Project	Change Type	Description	Tech Specs*	MAP Stage	Production Activation
CMRI	CCDEBE1	New	participant to retrieve final default commitment cost	5/16/19	Sep 03, 2019	Nov 13, 2019
CMRI	CCDEBE1	Modify	participant to retrieve default bid curve at hourly level and include DEB source (cost type/ exante process)	5/16/19		
CMRI	LMPME	Modify	DefaultBidCurves_v1 XSD change to remove enumeration from XSD	5/16/19		
CMRI	EIM 2019	Modify	include base schedule deviation in the balancing test results XSD	5/16/19		
DRRS	ESDER3A	Tech Spec only, no XSD change	Update DLAP and LSE attributes and XML examples	5/16/19		
MRI-S	ESDER3A	Tech Spec only, no XSD change	New measurement type, AUP	5/16/19		
MF	ESDER3A	Modify	GeneratorRDT_v4 XSD for additional bid dispatchable option for PDR	5/16/19		
MF	LMPME	Modify	GeneratorRDT_v4 XSD change to add default/alternate bilateral hub, max horizon cap value, and new DEB type	5/16/19		
BSAP	EIM 2019	New	BalancingTestResults_v2	5/16/19		
SIBR	CCDEBE1	New	participant to submit exante bid and commitment	5/17/19		
SIBR	CCDEBE1	New	participant to retrieve submitted exante bid and commitment	5/17/19		
SIBR	CCDEBE1	New	participant to retrieve final exante bid and commitment	5/17/19		
OASIS	EIM2019	New	Transmission Loss for RTD	TBD		

* Artifacts posted to https://developer.caiso.com

CMRI Improvements

Project Info	Details/Date

CMRI UI Upgrade & Performance Improvements	CAISO is planning CMRI UI Upgrade & Performance Improvements
	• Performance Improvements
	  • Technology/Infrastructure Upgrade
	  • Data Model Normalization
	  • Due to data model normalization there will be data migration effort from old model to new model.
	  • Data migration process is being tested in Non-Production environment. Current Plan:
	  • Complete the data migration and cut over to new UI and performance improvements.
	  • After cutover, users will have access to all the data.
	  • ISO will communicate CMRI performance improvements patch deployment time line.
	• Market Participant Testing prior to Production deployment.
	• NO API interface changes and NO functionality changes.
	• CAISO requests to use the latest supported version as mentioned in the Tech Specs for application programming interfaces (API)

Technical Specification Enhancements

Project Info	Details/Date
CAISO Interface Specification template changes	CAISO Interface Specification template changes • Standardization • Efficient • Lean Proposed changes include: • Document release notes with service level change details • Links to sample XML • Simplified element table to remove redundant information • Section for service specific use model Please send suggestions to inambiar@caiso.com

Fall 2019 – 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: • Support integration of renewable resources through incentivizing flexible resources participation during tight fuel supply • Account for costs of flexible resources (gas and non-gas) to reduce risk of insufficient cost recovery • Encourage participation of non-RA and voluntary EIM resources; compliance with FERC Order 831 • Raises energy bid cap from $1,000/MWh to $2,000/MWh: • Requires supporting verified costs of energy bids above $1,000/MWh **Impacted Systems:** • SIBR: Allow the submittal of Ex Ante cost adjustments. Increase energy bid caps, incorporate soft energy bid cap. • IFM/RTM: Recalibrate the penalty price parameters in response to raising energy bid cap to $2,000/MWh. • CMRI: Provide additional source information for default bids. • CIDI: Submit requests 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)

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	Jan 22, 2019	✓
	Update External BRS: Reference Level Adjustments	Apr 05, 2019	✓
	Update External BRS: Phase 1/Phase 2, clarifications	Mar 29, 2019	✓
Config Guides	Config Guide	N/A	
Tech Spec	Publish Technical Specifications	May 17, 2019	✓
Tariff	File Tariff - CCDEBE Phase 1	Jun 14, 2019	
BPMs	Post Draft BPM changes	Jul 22, 2019	
External Training	Deliver External Training	Aug 29, 2019	
Market Simulation	Planned Market Sim Environment Window	Sep 03, 2019 - Oct 11, 2019	
Production Activation	CCDEBE	Nov 13, 2019	

Fall 2019 – Import Bid Cost Verification

Project Info	Details/Date
Market notice May 16, 2019	The objective of the Import Bid Cost Verification initiative is to ensure energy prices continue to reflect the marginal cost of supply when those prices exceed $1,000/MWh, and to ensure intertie offer rules are consistent with ISO's internal bidding rules by developing reasonable cost-verification measures for intertie offers above $1,000/MWh. In 2016, the Federal Energy Regulatory Commission (FERC) required Independent System Operators (ISO)/ Regional Transmission Organizations (RTOs) to raise energy bid-caps from $1,000/MWh to $2,000/MWh, and ensure internal supply offers above $1,000/MWh are cost-justified. FERC did not require the same treatment for suppliers that submit intertie offers, but it was open to individual ISO/RTOs developing and justifying their own requirements for intertie offers above $1,000/MWh. This initiative is therefore intended to develop reasonable cost-verification measures for intertie offers above $1,000/MWh

Fall 2019 – ESDER Phase 3a – Bid Dispatchable Option

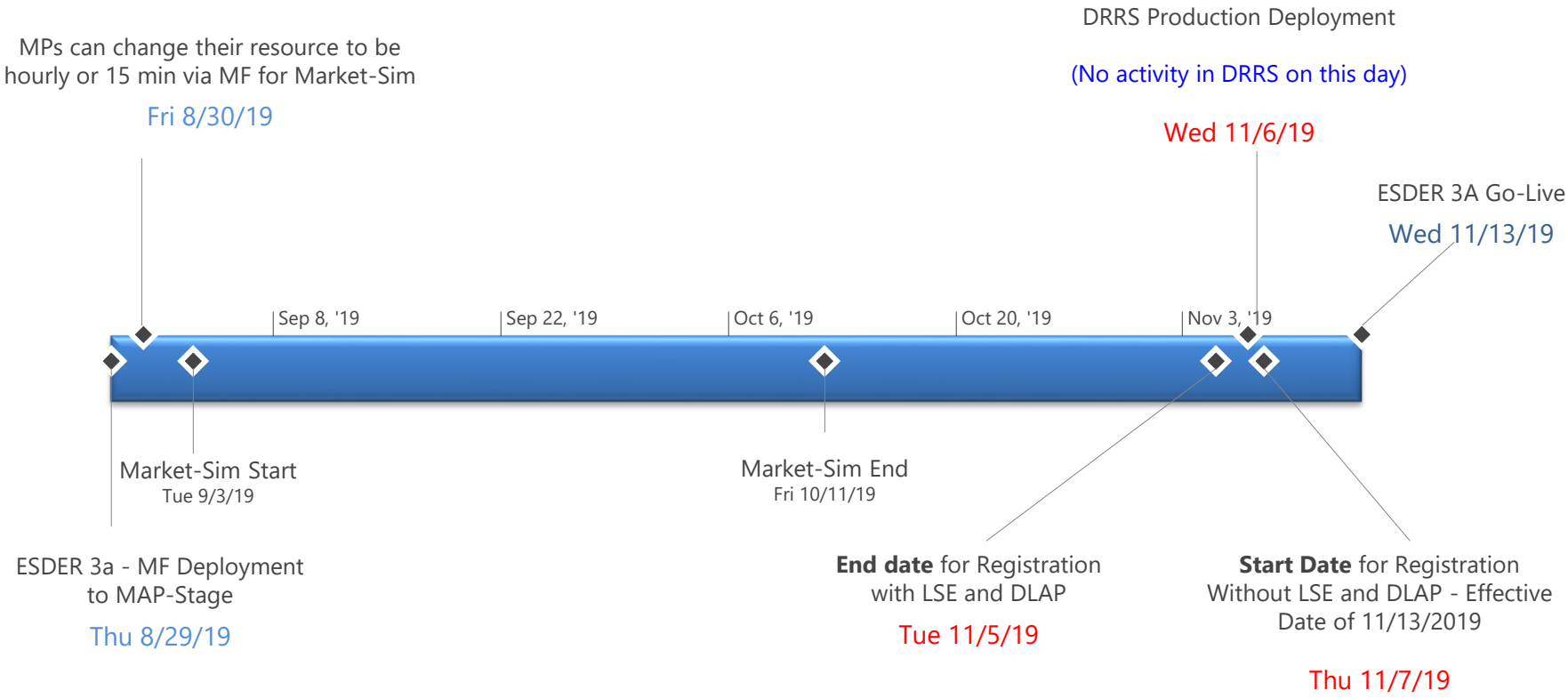
Project Info	Details/Date
Application Software Changes	**Scope:** The ESDER 3a scope of the larger ESDER3 initiative will include two (2) demand response enhancements: • New bid dispatchable options for demand response resources • Removal of single LSE requirement for PDR registrations & removal of default load adjustment (DLA) Additionally, for ESDER2 Tariff Compliance, following is being implemented as part of this project • Customer Load Baseline Submittal **Impacted Systems (Overview):** **Master File:** • RDTs for PDR registrations in MF will require selection of an effective Bid Dispatchable Option to be used for market optimization and dispatch **DRRS:** • PDR registrations will not require all service accounts to have the same LSE **SIBR:** • Will apply Net Benefit Test price criteria for PDR bids and reject those not meeting the applicable criteria • Will not allow Bid Dispatchable Options to be changed in SIBR **HASP/RTM:** • Will use effective Bid Dispatchable Option registered in MF (e.g., 5-min, 15-min or Hourly) for market optimization and dispatch instructions • Will broadcast new PDR energy schedules/awards and instructions to downstream applications **Settlements**: • Will remove the default load adjustment (DLA) application • Will provide Bid Cost Recovery for PDRs with 15-Minute Bids but not Hourly Bids **CMRI:** • Will include energy schedules and awards for PDRs with new Bid Dispatchable Options (Existing) **MRI-Settlements (ESDER2 Tariff Compliance)**: • New BASE measurement type for monitoring calculated baseline data

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

Milestone Type	Milestone Name	Dates	Status
Board Approval	Obtain Board of Governors Approval	Sep 05, 2018	✓
External BRS	Post External BRS	Feb 11, 2019	✓
	Post Revised External BRS	Feb 25, 2019	✓
	Post Revised External BRS as per scope change for Fall 2019	Mar 20, 2019	✓
Config Guides	Post Draft Config Guides	May 17, 2019	✓
Tech Spec	Publish Technical Specifications	May 17, 2019	✓
Tariff	Post Draft Tariff	Jun 17, 2019	
	File Tariff	Aug 01, 2019	
BPMs	Post Draft BPM changes	Jun 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	

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

Proposed DRRS Transition Timeline



Fall 2019 – RMR and CPM Enhancements

Project Info	Details/Date
Application Software Changes	**Scope:** RMR and CPM Enhancements will address the following policy and tariff amendment scope: • Risk-of-Retirement will transition from CPM to RMR Tariff section • RMR units with new contracts shall: Have reliability capacity allocated by TAC Area (for PTOs, not LSEs), Flex RA credit shall be applied Receive Must-Offer Obligation (MOO) Subject to RAAIM Streamline RMR invoicing, settlement process through inclusion in ISO Settlement process CPM units shall have pricing formulation for resources offering CPM above soft-offer cap **Impacted Systems (Overview):** **Master File:** • New resource RMR contract type flag to distinguish RMR units with contracts signed prior to ("pre-existing") vs. after ("new") the Interim RMR Agreement Tariff Amendment was enacted. **CIRA:** • 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: • Apply Flex RA credit by TAC Area (for PTOs) • Perform RMR Substitution • Support RMR Risk-of-Retirement • Like RA resources, new contract type RMR units will receive RAAIM status determination **SIBR** • Like RA resources, automatically generates cost-based energy bids for new contract type RMR units for un-submitted bid range below RMR contract capacity • Bids will reflect applicable GHG Compliance costs, SC charges, Major Maintenance Adder (MMA), or Opportunity Costs (OC); Note: MMA and OC will only be applied for Unit Commitment/Economic Dispatch decisions in market (will not be recovered in settlement) • Removes self-schedule requirement for new contract type RMR units scheduled/dispatched in Day-Ahead Market

Fall 2019 – RMR and CPM Enhancements (cont.)

Project Info	Details/Date

Application Software Changes	**Impacted Systems (Continued):**
	IFM/RTM:
	• Unit Commitment, Economic Dispatch decisions will include applicable MMA and OC
	• Like RA resources, new contract type RMR units will have automatic RA Obligation ($0/MWh bids in RUC)
	Settlements:
	• RMR units under new contract type will receive:
	  • Replacement of existing RMR invoice and settlement with standard ISO settlement process
	  • Monthly RMR capacity payment (by resource) and cost allocation (by PTO)
	  • RAAIM settlement/allocation
	  • Bid Cost Recovery (does not include MMA or OC)
	  • True-ups for RMR Condition 2 overpayment (does not include MMA or OC)
	• CPM units with offers above soft-offer cap may receive true-up based on CPM pricing formulation (formulation TBD)

BPM Changes	Reliability Requirements, Market Operations, Market Instruments, Settlements and Billing
Tariff Change	11.13, 31.2.2, 34.1, 40.9, 41, 43, 43A, Appendix G

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board of Govenors Approval	Mar 28, 2019	✓
External BRS	Post External BRS	Apr 01, 2019	✓
Config Guides	Publish Config Guide	Jun 03, 2019	
Tech Spec	Publish Technical Specifications	N/A	
Tariff	File Tariff w/ FERC	Apr 23, 2019	✓
BPMs	Post Draft BPM changes	Aug 26, 2019	
External Training	Deliver External Training	Aug 28, 2019	
Market Sim	RMR/CPM	Sep 03, 2019 - Oct 11, 2019	
Production Activation	RMR and CPM Enhancements	Jan 01, 2020	
	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	**Scope:** Prevent Flow reversal, Limits transfer, DEB for Hydro, Reference level adjustment process, Gas price Indices **Impacted Systems:** **RTM: 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) **RTM: Limit transfers to limit Economic Displacement** Optional rule for EIM BAA Limit transfers to the greater of exports in MPM and flexible ramping requirements Export Limit = MAX [ExportsBase, ExportsMPM, $\Sigma FRUMPMAward$] The exporting BAA will receive congestion rents created by this proposed rule **OASIS:** Publish EIM transfer limit **CMRI:** Display new Hydro DEB type **Master File:** Option to limit transfer per a defined rule 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
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	May 17, 2019	✓
Tariff	File Tariff	Jun 4, 2019	
BPMs	Post Draft BPM changes	Jul 23, 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	**Scope:** Implement 21 EIM enhancements requested by EIM entities through Customer Inquiry, Dispute and Information system (CIDI) **Impacted Systems:** **BAAOP:** 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. **BSAP**: Enhance capability for Base schedule modification, Add aggregated BS deviation in API. **OASIS or CMRI**: ~~Display ROC limits~~ Display 5-min market transmission Loss **RTM:** prevent ETSR swing using explicit triggers. **ADS**: Publish current DOP in the MSG transition period. **Settlement**: Publish data for UFE shadow calculation; Settle EIM Resource Deviation within Regulation/ABC range as instructed regulation energy. **CMRI**: Publish resource limit values
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	Feb 05, 2019	✓
Config Guides	Publish Config Guides	May 17, 2019	✓
Tech Spec	Create ISO Interface Spec (Tech spec)	May 17, 2019	✓
Tariff	File Tariff	N/A	
BPMs	Post Draft BPM changes	Jul 26, 2019	
External Training	External Training Webinar	Jul 09, 2019	
Market Sim	Market Sim Window	Sep 03, 2019 - Oct 11, 2019	
Production Activation	EIM Enhancements 2019	Nov 13, 2019	

Fall 2019 – FERC 841 Energy Storage Resources

Project Info	Details/Date
Application Software Changes	**Scope:** 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. CAISO will achieve compliance with Order 841 through implementation of two (2) specific scope items: • Reduce the minimum capacity for participating Generators to 100kW for storage resources • Remove Transmission Access Charge (TAC) for Pumped-Storage Hydro Units **Impacted Systems:** **RIMS**: No changes to system. Registration process change to allow minimum rated capacity of 100kW for storage resources **Settlements**: Revision to charge codes to remove TAC for Pumped-Storage Hydro Units
BPM Changes	Market Operations, Market Instruments, Settlements and Billing
Tariff Change	4.6.3.2 – Exemption for Generating Units of Less Than One (1) MW 26.1 – Transmission Rates and Charges Appendix A – Definition Change for Participating Generator

Fall 2019 – Real-Time Market Neutrality Settlement

Project Info	Details/Date
Application Software Changes	Settlement: modify CC6477, CC64770 • Remove EIM transfer adjustment amount • Credit the GHG cost for non-CA transfers in EIM transfer financial value calculation • *Use 5-minute ETSR After-The-Fact tags submitted by EIM BAA*
BPM Changes	Settlements & Billing
Tariff Change	*11.5.4.1 Real Time Imbalance Energy Offset*

Policy Milestone	Dates	Status
Post Issue Paper/Straw Proposal	Apr 24, 2019	✓
Stakeholder Conference Call	May 1, 2019	✓
Stakeholder Comments Due	May 13, 2019	✓
Post Draft Final Proposal & Tariff	May 21, 2019	
Stakeholder Conference Call	May 28, 2019	
Stakeholder Comments Due	Jun 6, 2019	
EIM Governing Body Decision	Jun 28, 2019	
Board of Governors Consent Agenda	Jul 24-25, 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
Tariff	File Readiness Certification	March 2020	
Market Sim	Market Sim Window	December 2019 – January 2020	
Parallel Operations	Parallel Operations	February 2020 – March 2020	
Production Activation	EIM – SCL and SRP	April 2020	

2020 Independent

2020 – ADS Replacement

Project Info	Details/Date
Application Software Changes	• Transition to web-based user interface to eliminate the need to install thick client • Transition ADS provisioning to the Access and Identity Management (AIM) application including Resource Level Access Controls (RACL) access • The query tool will provide 30 days of historical data • Various user interface enhancements adding content per Operation's request • ADS B2B services changes - TBD.
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	✓
Config Guides	Design review - BPM and Tariff SMEs	TBD	
Tech Spec	Publish Technical Specifications	TBD	
Tariff	File Tariff	TBD	
BPMs	Post Draft BPM changes	TBD	
Market Sim	Market Sim Window	Q3 2020	
Production Activation	ADS Replacement	Q3 2020	
Production	ADS Parallel Operations	Q3 2020	
Decommission	Old ADS Decommission	TBD	

2020 Fall Release

Fall 2020 – Commitment Cost and Default Energy Bid Enhancements Ph2

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: • Introduces market power mitigation (MPM) measures for commitment costs. **Impacted Systems:** • SIBR: Incorporate negotiated default commitment bids. Increase commitment cost caps. Allow for hourly submittal of minimum load bids into day-ahead market. • IFM/RTM: Add MPM tests for commitment costs. Mitigate commitment costs where tests indicate market power. Incorporate MPM (both energy and commitment) in short term unit commitment process. • CMRI: Provide resource-specific reporting on mitigation results for commitment costs. • MQS/PCA: Incorporate mitigation of commitment costs for specific exceptional dispatch (ED) types. Incorporate bid locking of commitment costs for ED instructions and for certain cases where resources are uneconomic to operating. • Master File: Allow submittal of resource-specific minimum load costs for costs that are independent of the Pmin level. Add the ability to indicate preference for new negotiated cost basis type. Provide a view of resource-specific scalars used for validating Ex-Ante cost adjustments. • CIDI: Incorporate templates for submitting requests 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)

Fall 2020 – Dispatch Operating Target Tariff Clarification

Project Info	Details/Date
Application Software Changes	**Scope:** Allow Energy Intermittent Resources (EIRs) to automate their response to operational instructions that require the resource not to exceed their ` **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.

Fall 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
BPM Changes	Settlements and Billing
Tariff Change	Section 11.31

Fall 2020 – ESDER Phase 3b – Load Shift Product

Project Info	Details/Date
Application Software Changes	**Scope:** The ESDER 3b initiative will include two (2) demand response enhancements: • Addition of a Load Shift Product wherein demand response resources with behind the meter (BTM) storage devices can participate in both load consumption and load curtailment. • Enable sub-metered electric vehicles supply equipment (EVSE) to participate in load curtailment **Impacted Systems (Overview):** **Master File:** • Registration of new PDR Resource Types and business rules for PDRs with BTM storage devices and wanting to participate in both Load Curtailment and Consumption • Two (2) Resource IDs will be assigned to the same Resource to allow Consumption versus Curtailment participation (PDR-LSR) **DRRS:** • Allow two resource IDs to be selected for registrations with LSR baseline methods • New baseline methods for PDR-LSRs and EVSEs • New attribute for locations to indicate BTM device **CIRA:** • Will prevent the request of NQC for PDR-LSR Consumption resources

2021 Spring Release

Spring 2021 – EIM integrations for PSC-NM, LADWP, TID and NWE

Project Info	Details/Date
Application Software Changes	Implementation of PSC-NM, LADWP, TID, 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 PSC-NM, LADWP, TID, and NWE.
Market Simulation	December 2020 – January 2021
Parallel Operations	February 2021 – March 2021

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

Stay Informed

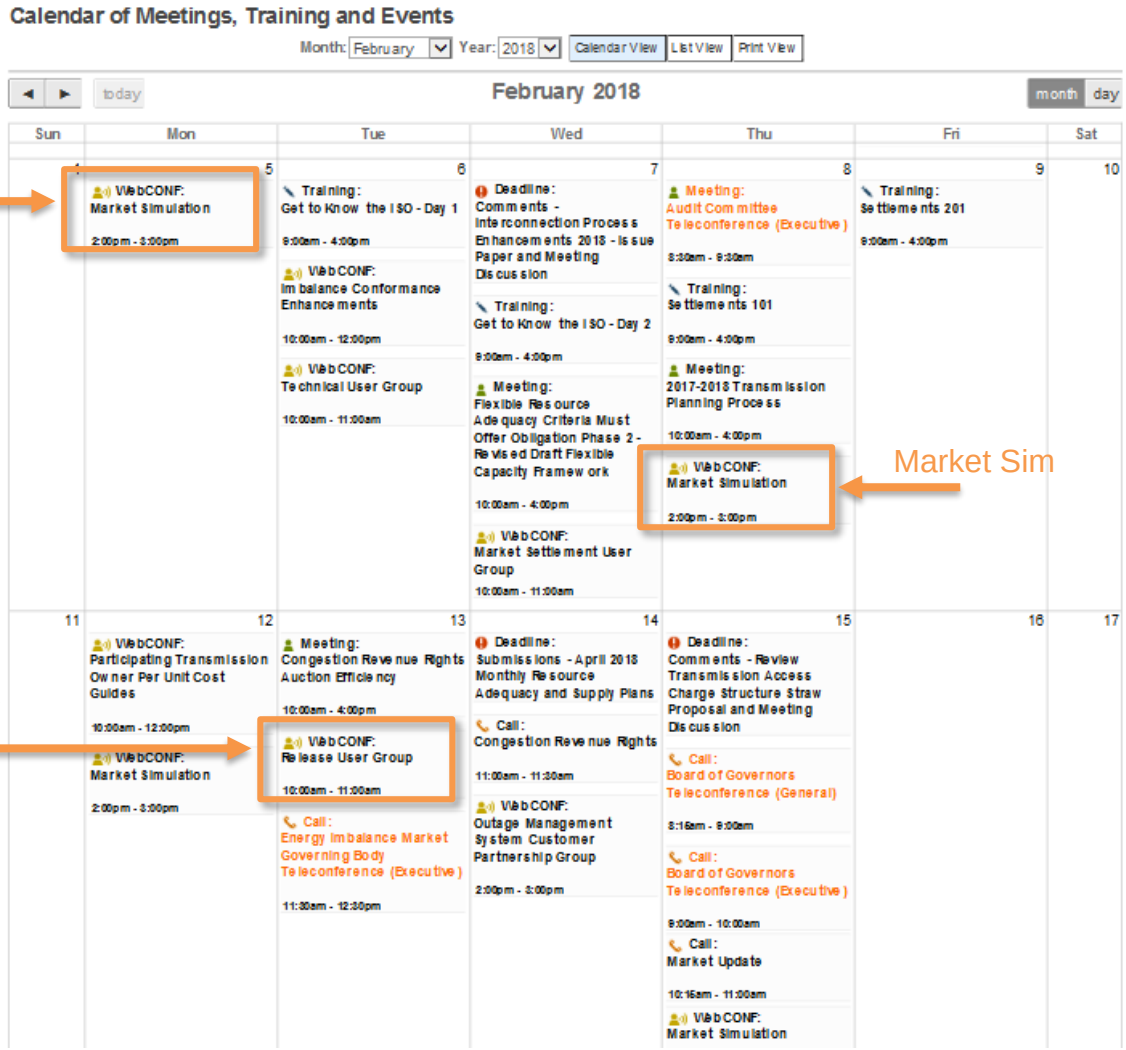
Ways to participate in releases

- 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 for meeting dates and times and add events to your calendar
    - Typically held on Mondays and Thursdays
    - Market sim calls for major releases will be market noticed
  - Market Performance and Planning Forum
    - Bi-monthly review of market performance issues
    - High level discussion of release planning, implementation and new market enhancements

What to look for on the calendar…

Market Sim

Release Users Group (RUG)

Market Sim