



California ISO

Market Simulation Plan Winter 2017 Release

Initiatives – EIM Enhancements Winter 2017, Reliability Services Initiative 2017, EIM Idaho Power Company and EIM Powerex

Version: 1.6

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Location of Document – [\(link\)](#)

Revision History

Date	Version	Description	Author
10/10/17	Draft	Initial draft	Christopher McIntosh
10/18/17	0.1	Internal Review Complete	Trang Deluca
10/19/17	1.0	Initial Publication	Christopher McIntosh
11/08/17	1.1	Updated Settlements Calendar	Christopher McIntosh
11/09/17	1.2	Added User Role Provisioning for RSI 2017 timeline, reduced MAP Stage Outage time	Christopher McIntosh
11/15/17	1.3	Identified specific focus areas for the scheduled simulation times	Christopher McIntosh
12/1/17	1.4	RSI Schedule Updates	Christopher McIntosh
12/11/17	1.5	High-Level Overview and focus area timeline updates	Trang Deluca
02/15/18	1.6	Added Updated Settlements Calendar	Christopher McIntosh

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1. Introduction

The objective of this document is to provide the information needed by market participants in order to engage in the Winter 2017 Release initiatives, thereby enabling them to smoothly transition and utilize the new features and functionality that will be available when they go into production.

1.1 Scope of Initiatives

ISO release planning sites for the Winter 2017 Release initiatives – ([link](#))

1. EIM Enhancements Winter 2017 – ([link](#))
2. EIM Idaho Power Company – ([link](#))
3. EIM Powerex
4. Reliability Services Initiatives 2017 ([link](#))

1.2 Market Simulation

The ISO conducts market simulations on a regular basis as part of its process of bringing new capabilities to its markets. This provides participants an opportunity to test their systems and procedures in advance of the market implementation. The market simulation process serves a number of purposes for both the ISO and market participants. It also facilitates an effective market operations dress rehearsal and helps expedite a smooth production launch. The benefits of market simulation may include but are not limited to:

- Allowing for system or procedural problem identification and mitigation before the market is operationally or financially binding.
- Enabling market participants to observe the behavior of ISO systems and markets in a simulated production environment, particularly in regards to new functions and features introduced through the addition of the modifications included in the Winter 2017 Release initiatives.
- Establishing confidence in the operational processes and systems associated with the new market functionality implementation.
- Providing a hands-on environment to allow participants to interact with new and unique features and functionality.
- Providing an environment where market participants can scrutinize and tailor their own tools, applications, and business practices to participate in new market functionality.
- Providing a means of capturing additional market participant input and feedback regarding the implementation of the new market features and functionality, beyond what might have been received in the stakeholder process.

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- Providing market participants the tools to help determine:
 - Proper exchange of market related data and validation of new timelines.
 - Common understanding of data submittal requirements and timelines.
 - Familiarity with market rules and timelines.

- An opportunity to verify the ISO Bid-to-bill process in a pre-production environment that includes simulated market and operational data inputs. Allowing the market participants to verify systems, process and procedures which may need modifying due to the functional changes tied to the release.

1.3 Schedule Summary

The EIM Winter Enhancements 2017, EIM Powerex and EIM Idaho Power Company market simulations will begin December 1, 2017 and end on trade date January 31, 2018. The Reliability Services Initiative simulation will begin December 5, 2017 and end on trade date January 26, 2017. ISO will continue to have MAP Stage available for market participants to support regression testing if necessary.

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2. Market Simulation Approach

2.1 High Level Overview

The timeline for the Winter 2017 Release initiatives market simulations is identified below. Critical pre-simulation activities are identified in section 2.2 of this document.

<u>Winter 2017 Release Initiatives</u>	<u>Start Date</u>	<u>Start Date (Trade Date)</u>	<u>End Date</u>	<u>Structured Simulation Start (Trade Date)</u>	<u>Expected Participation</u>
<u>Winter 2017 Release Market Simulation</u>					
EIM Idaho Power Company	12/01/17	12/01/17	01/31/18	12/6/17	EIM Entities
EIM Powerex	12/01/17	12/01/17	01/31/18	1/10/18	EIM Entities
EIM Enhancements Winter 2017	12/01/17	12/01/17	01/31/18	1/10/18	EIM Entities
Reliability Services Initiatives 2017	12/05/17	12/05/17	01/26/18	12/5/17	ISO Market Participants

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Detailed plan for week by week, areas of focus.

Week	Dates (Tuesday thru Friday, Monday is Maintenance)	Focus
1	12/5-12/8	<ul style="list-style-type: none"> EIM Idaho Scenarios RSI CIRA and OMS only - Structured
2	12/12-12/15	<ul style="list-style-type: none"> EIM Idaho Scenarios RSI CIRA and OMS only - Structured
3	12/19-12/22	<ul style="list-style-type: none"> EIM Idaho Scenarios RSI CIRA and OMS only - Unstructured
4	12/26-12/29 (ISO Holiday 12/25-Monday)	<ul style="list-style-type: none"> MAP-Stage available; unsupported RSI CIRA and OMS only - Unstructured
5	1/2-1/5 (ISO Holiday 1/1-Monday)	<ul style="list-style-type: none"> EIM Idaho Scenarios RSI CIRA and OMS only - Unstructured
6	1/9-1/12	<ul style="list-style-type: none"> EIM Winter 2017 Scenarios EIM Powerex Scenarios RSI CIRA and OMS only - Unstructured
7	1/16-1/19 (ISO Holiday 1/15-Monday)	<ul style="list-style-type: none"> EIM Powerex Scenarios RSI/RAAIM End to End - Structured
8	1/23-1/26	<ul style="list-style-type: none"> RSI/RAAIM End to End - Structured
9	1/30-1/31	<ul style="list-style-type: none"> Unstructured Bid to Market Output

2.2 Pre-Simulation Activities

The Winter 2017 Release initiatives market simulations will be conducted in the MAP Stage environment. Participants will need to obtain access to this environment if they do not already have access. The ISO envisions participants may wish to access Master File (MF), Market Participant Portal (MPP), Outage Management System (WebOMS), Scheduling Infrastructure and Business Rules (SIBR), CAISO Market Results Interface (CMRI), Automated Dispatch System (ADS), and Market Results Interface Settlements (MRIS). For those who do not already have access to the MAP Stage systems, access can be requested by completing an Application Access Request Form (AARF) or modifying existing certificates through the Access Identity Management (AIM) application. Information regarding the completion of AIM and AARF forms can be found on the ISO portal under application access request forms and application installation instructions heading.

Information pertaining to accessing the externally facing ISO environments is detailed in the System Access Information (SAI) for market participants document located on the ISO public site in the "Application access".

Systems Access Information Document – ([link](#))

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2.3 Pre-Simulation and Simulation Activities Calendar

Activity	Description	Timeframe
New CIRA Role Provisioning Available	New CIRA User Role available for provisioning in AIM "app_cira_supplier_write_ext" and "app_cira_supplier_read_ext"	11/13/17
MAP Stage Closure	MAP Stage closed for market simulation preparation.	11//2717 – 12/1/17
Winter 2017 Releases Market Simulation Kick-Off Teleconference	ISO to conduct a teleconference to provide MPs with an Winter 2017 Releases market simulation briefing	11/27/17
Transport Layer Security (TLS)	The California ISO will be deactivating Transport Layer Security (TLS) 1.0 and 1.1	TBD
Winter 2017 EIM Releases Simulation Begins	Winter 2017 Releases market simulation in the MAP Stage environment for EIM IPC, EIM Powerex and EIM Enhancements 2017	12/01/17
Winter 2017 RSI Releases Simulation Begins	Winter 2017 Releases market simulation in the MAP Stage environment for RIS Enhancements 2017	12/05/17

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3. General Information

3.1 Participant Observation and Inputs

During the Winter 2017 Release initiatives market simulations, participants will be able to observe market results in the same applications that are available in Production: OASIS, CMRI, ADS, etc.

ISO will seed bids and base schedules on your behalf in MAP Stage, participants are encouraged to input data into the ISO Bid-to-bill using all systems available in Production: MRI-S, SIBR/BSAP, ADS and OMS etc, for a more realistic simulation.

3.2 Release Web Service Changes

ISO has provided all the necessary technical specifications for the Web Service changes in scope for Winter 2017 Release -

CMRI Tech Specs – ([link](#))
 OASIS Tech Specs – ([link](#))
 Master File Tech Specs – ([link](#))

Resource Data Template (RDT) submission and or modifications for the Winter 2017 Release initiatives will take 10 business days to process. Prior to the start of simulation all modified RDT's for the Winter 2017 Release should be emailed to RDT@caiso.com please also Cc MarketSim@caiso.com. Once simulation begins RDT's should be submitted to the MAP Stage Master File with an expected turnaround time of 10 business day, similar to Production.

ISO will be settling unstructured scenario trade dates for the Winter 2017 Release simulations.

ISO will be offering Settlements statements during the Winter 2017 Release market simulation. Similar to Production the ISO will be using estimated Meter data with our initial statements and MP submitted meter data where applicable, for the Re-calc statements.

3.3 Known Issue List

ISO will create and publish a known issues list and post in on the release planning site.

3.4 Structured Scenarios

For initiatives not listed, there will be no structured scenarios executed –

1. EIM Enhancements Winter 2017 - (link TBD)
2. EIM Idaho Power Company - ([link](#))

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3. EIM Powerex - (link TBD)
4. RSI 2017 Enhancements - ([link](#))

3.5 ISO's Approach

Unstructured Simulation –

If a MP would like to see specific market conditions for their resource please contact ISO at MarketSim@caiso.com preferably TD-1 prior to the unstructured TD's DAM or RT market run.

Regression Simulation –

If a MP would like to see specific market conditions for their resource please contact ISO at MarketSim@caiso.com preferably TD-1 prior to the regression TD's DAM or RT market run.

3.6 Configuration Guides and Payment Calendars

ISO Settlements Calendar and Configuration guides Winter 2017 Release -

- Draft Settlements Configuration Guides – ([link](#))

3.7 Settlements Calendars –

Winter 2017 Calendar -

Calendar Day	CMRI T+1B	Publish Initial Statement T+4B	Submit Meter Data by T+4B 18:00 for Recalc	Publish Recalc Statement T+8B	Publish Market Invoice
04-Dec-17					
05-Dec-17					
06-Dec-17	5-Dec				
07-Dec-17	6-Dec				
08-Dec-17	7-Dec				
09-Dec-17					
10-Dec-17					
11-Dec-17		5-Dec	5-Dec		

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12-Dec-17		6-Dec	6-Dec		
13-Dec-17	12-Dec	7-Dec	7-Dec		
14-Dec-17	13-Dec	5-Dec - 7-Dec			5-Dec - 7-Dec - I
15-Dec-17	14-Dec			5-Dec	
16-Dec-17					
17-Dec-17					
18-Dec-17		12-Dec		6-Dec	
19-Dec-17		13-Dec		7-Dec	
20-Dec-17	19-Dec	14-Dec		5-Dec - 7-Dec	
21-Dec-17	20-Dec	12-Dec - 14-Dec			
22-Dec-17	21-Dec				12-Dec - 14-Dec - I 5-Dec - 7-Dec - R
23-Dec-17					
24-Dec-17					
25-Dec-17	ISO Holiday				
26-Dec-17		19-Dec			
27-Dec-17		20-Dec			
28-Dec-17		21-Dec			
29-Dec-17		19-Dec - 21-Dec			
30-Dec-17					
31-Dec-17					
01-Jan-18	ISO Holiday				
02-Jan-18					
03-Jan-18					
04-Jan-18	3-Jan				
05-Jan-18	4-Jan				
06-Jan-18					
07-Jan-18					
08-Jan-18					

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09-Jan-18		3-Jan	3-Jan		
10-Jan-18	9-Jan	4-Jan	4-Jan		
11-Jan-18	10-Jan	3-Jan - 4-Jan			
12-Jan-18	11-Jan				
13-Jan-18					
14-Jan-18					
15-Jan-18	ISO Holiday				
16-Jan-18		9-Jan	9-Jan	3-Jan	
17-Jan-18	16-Jan	10-Jan	10-Jan	4-Jan	
18-Jan-18	17-Jan	11-Jan	11-Jan	3-Jan - 4-Jan	
19-Jan-18	18-Jan	9-Jan - 11-Jan			
20-Jan-18					
21-Jan-18					
22-Jan-18		16-Jan	16-Jan	9-Jan	9-Jan - 11-Jan - I
23-Jan-18		17-Jan	17-Jan	10-Jan	
24-Jan-18	23-Jan	18-Jan	18-Jan	11-Jan	
25-Jan-18	24-Jan	16-Jan - 18-Jan		9-Jan - 11-Jan	
26-Jan-18	25-Jan			16-Jan	
27-Jan-18					
28-Jan-18					
29-Jan-18		23-Jan		17-Jan	16-Jan - 18-Jan - I 9-Jan - 11-Jan - R
30-Jan-18		24-Jan		18-Jan	
31-Jan-18		25-Jan		16-Jan - 18-Jan	
01-Feb-18		23-Jan - 25-Jan			

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Calendar Day	CMRI T+1B	Publish Initial Statement T+4B	Submit Meter Data by T+4B 18:00 for Recalc	Publish Recalc Statement T+8B	Publish Market Invoice
01-Feb-18		Jan 26 23-Jan - 26-Jan		16-Jan - 19-Jan	
02-Feb-18					
03-Feb-18					
04-Feb-18					
05-Feb-18				24-Jan	
06-Feb-18					
07-Feb-18					
08-Feb-18					
09-Feb-18					
10-Feb-18					
11-Feb-18					
12-Feb-18					
13-Feb-18					
14-Feb-18	13-Feb				
15-Feb-18	14-Feb				
16-Feb-18	15-Feb				
17-Feb-18					
18-Feb-18					
19-Feb-18	ISO Holiday				
20-Feb-18		13-Feb			
21-Feb-18		14-Feb			
22-Feb-18		15-Feb			
23-Feb-18		13-Feb - 15-Feb			13-Feb 14-Feb 15-Feb 13-Feb - 15-Feb
24-Feb-18					
25-Feb-18					

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4. Market Simulation Support

4.1 Routine Functions

All normal support processes should be followed for support functions that are not specific to the market simulation. These include system connectivity issues, system availability issues, user account and permissions issues, etc. The ISO Help Desk can be reached 24x7, 365 days a year @ (916) 351-2309.

4.2 Market Simulation-Specific Support

The ISO will operate a Market Simulation Support Center throughout the market simulation. This support center is focused on providing support for market simulation specific issues. Hours of operation of the Market Simulation Support Center are 09:00 – 18:00 PPT, Monday through Friday.

Issues will be tracked through the ISO’s Case Management System, CIDI. Simple questions that can be answered in a single call can be asked without opening a CIDI case, but if the issue cannot be resolved on the call, then participants will need to open a CIDI case. Using the “Functional Environment” field please identify the CIDI case as a “Market Simulation Winter 2017” simulation related question and not a “Production” question.

4.3 Market Simulation Communication

Dial in numbers and call schedules to be posted on the ISO Calendar – [\(link\)](#)

4.4 Market Simulation Environment Maintenance

Winter 2017 Release market simulation maintenance will take place Monday morning through Tuesday morning as the weekly maintenance window.

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5. Market Simulation Trainings

Please find information regarding Winter 2017 Release market simulation training offerings at the following locations -

- Training calendar – [\(link\)](#)
- ISO training contact - MarketTraining@caiso.com

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6. Market Simulation Execution and Exceptions

MAP Stage has been setup with specific application characteristics and data flows to foster successful simulation, please note these changes are made to facilitate a simulation and will not be implemented in Production –

The ISO will upload a previous day’s production based bid set for the Day Ahead Markets (DAM) run by 10:00 PPT daily.

Market participants can overwrite these bids between 10:00 PPT and 11:00 PPT when the DAM closes.

DAM will close @ 11:00 PPT and the results will be published by 14:00 PPT daily unless it is a Structured Scenario day, it may take ISO longer to publish DAM due to Scenario setup and verification.

Real Time (RT) template bids will be built from DAM awards as the standard process, ISO will seed RT bids and base schedules for EIM entities.

RT bid markets for a specific Trade Date (TD) open automatically @ 11:00 PPT TD-1.

Market participants are encouraged to bid and base schedule in the Real Time Markets (RTM) to foster a more realistic simulation, the only exceptions are during structured scenario executions were identified.

Market participants will need to register for a tagging test bed user identification if they would like to simulate E-Tagging, if no E-Tag is submitted ISO will “auto tag” on your behalf, limit one registration per SCID.

ISO has activated auto approval for all OMS submissions and changes in MAP Stage.

Please note the timeframes for each Settlements statement publication period are different. Settlements timelines are covered in section 3.5 above.

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7. Documentation Links

Winter 2017 Release Initiatives Release Planning Site – [\(link\)](#)

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8. ISO Market Simulation Contact

Please contact MarketSim@caiso.com if you have any questions or concerns regarding this plan and its content.