




California ISO

Market Simulation Unstructured Scenarios

Energy Imbalance Market Enhancements 2020 Project

Version 1.2

8/13/2020

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Location of Document

<http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx>

Revision History

Date	Version	Description	Author
06/09/2020	0.1	Initial Draft	Anshuman Vaidya
6/11/2020	0.2	Updates from 6/11 walkthrough	Michael Scholz
6/11/2020	1.0	Updated template for posting	Nancy Strouse
7/16/20	1.1	Removed Scenario #5 & #6; approved by Khaled	David Luk
8/13/2020	1.2	Updated document and scenarios to unstructured. Instructions for market sim edited to reflect unstructured actions.	Heidi Carder



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1. Introduction

The objective of this document is to provide information for ISO Energy Imbalance Market Participants to participate in the Unstructured Market Simulation activities for the Energy Imbalance Market Enhancements 2020 project. For the scope of this initiative and implementation, please refer to the project Business Requirements Specification (BRS) on the ISO [Release Planning](#) site.

2. Market Simulation Unstructured Scenarios

2.1 High Level Overview


The identified scenarios will be executed as unstructured activities during “Energy Imbalance Market 2020 Enhancements” market simulation. These unstructured scenarios will allow EIM participant to evaluate functional/display improvements, provide input and request information at their own pace, and as displays and functionalities are made available.

2.2 Unstructured Scenarios Conditions and Setup

The ISO is in the process of updating applications with displays necessary for the viewing and evaluating coming updates. Since the market simulation for this project is to be done over multiple phases, some of the scenario elements may not be readily available to test. This document is intended as a foundational guide, and as more information is released, more displays and functionality available and more scenarios developed, this guide will be updated and market participants notified.

Market Participant pre-Market Simulation Actions

1. Registration is not required to participate in EIM Enhancements 2020 market simulation phases as these are intended to be unstructured. EIM market participants may send inquiries to EIM Enhancements 2020 market simulation via the MarketSim@caiso.com mailbox for schedules and display/functionality updates.
2. Identify and model Multi-Stage Generators at interties.
2. Model Pump Storage hydro resources for EIM entities.
3. Identity BAA specific contingencies for entities to review and manage.
4. Ensure VER Forecasts are available for DA and RT for EIM entities
5. Ensure BSAP is setup to accept 3 part base schedule bids.
6. Ensure BSAP is setup to accept base schedules below minimum load.


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ISO pre-Market Simulation Activities

N/A


2.3 Unstructured Scenarios

Scenario Execution Trade Date(s): TBD	
Scenario #1	View BAAOP display enhancements.
Description	EIM Entity Operations shall view and interact with enhancements to existing and new BAAOP operator displays.
Expected System Outcome	EIM Market Participant completes simulation studies for new enhanced displays
Anticipated Settlement Outcome	N/A
Details:	
ISO Actions	N/A
ISO Market Participant Actions	Evaluate the new/enhanced user interfaces
Scenario #1 continued EIM Market Participant Actions	<p>EIM Participants shall access and review market conditions and results with the following BAAOP displays during Real-Time Market (FMM and RTD) as unstructured testing:</p> <ul style="list-style-type: none"> - Validate SVG One-Lines Display Patch (<i>not available until 9/21 code drop</i>) - View RTPD/RTD Remaining Ramp Capacity - Validate Bid Range Capacity Up/Down Req. Update by reviewing results in CMRI - Verify RTPD, RTD Static and ETSR Base Transfer availability in the RTD Dispatch Control Screen in BAAOP under the Coming Soon tab.

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Scenario Execution Trade Date(s): TBD	
	<ul style="list-style-type: none"> - Verify the Supplemental DOT to VER Resources column in RTPD and RTD Dispatch Control Displays in BAAOP under the Coming Soon tab - Validate Resource Congestion, Shift Factor Data; that biasing the load could create congestion <p>In addition:</p> <ul style="list-style-type: none"> - EIM Participants may perform up to 15 concurrent contingency activations for their BAA (inclusive of EMS activations) through the Contingency Editor display; active contingencies may be de-activated; view override reasons. - EIM Participants may activate/de-activate ETSR locks through the ETSR Locks display in BAAOP under the Coming Soon tab, and may now view existing locks on adjacent BAAs.

Scenario Execution Trade Date(s): TBD	
Scenario #2	Determine Base Schedule Deviation due to Manual Dispatch through BAA and Resource Bal Viewer Displays
Description	EIM Scheduling Coordinators shall review Base Schedule Deviation from Manual Dispatch in Both the BAA- and Resource-Level BSAP Bal Viewer Displays.
Expected System Outcome	BSAP correctly reflects manually dispatched unit MWs. Available Base Schedule correctly considers the algebraic sum of the original base schedule with the base deviation (includes base deviation due to both outage derates and manual dispatches)
Anticipated Settlement Outcome	N/A
Details:	
ISO Actions	N/A
ISO Market Participant Actions	N/A

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Scenario Execution Trade Date(s): TBD	
EIM Market Participant Actions	<p>EIM Participant’s operator user shall apply the following manual dispatches to cover some or all the scenarios defined in Appendix G of the EIM 2020 Enhancements BRS.</p> <p>Manual dispatches must span a minimum of 30-minutes of the evaluated trade hour no later than 40-minutes prior to the trade (sooner if T-70 and T-55 evaluations are to be considered), which may include the following manual instruction types and conditions:</p> <ul style="list-style-type: none"> - Resource MinGoto instruction is above resource base schedule - Resource MaxGoto instruction is below resource base schedule - Resource FixedGoto instruction is above/below base schedule <p>EIM Participant’s scheduling coordinator user shall access the BSAP BAA and Resource Bal Viewer display.</p>

Scenario Execution Trade Date(s): TBD	
Scenario #3	Available Balance Capacity (ABC) up/down dispatch, Infeasibility MW reporting during BAA infeasibility condition.
Description	CMRI market results display shall report Available Balance Capacity (ABC) Up and Down Dispatches executed due to an infeasibility condition.
Expected System Outcome	New reports are generated in CMRI to present ABC up/down dispatch (resource-level data) and infeasibility EIM for EIM entity reports, and data is retrievable through API.
Anticipated Settlement Outcome	N/A
Details:	
ISO Actions	N/A
ISO Market Participant Actions	N/A

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Scenario Execution Trade Date(s): TBD	
EIM Market Participant Actions	<p>EIM scheduling coordinator shall submit resource plan identifying specific resources for consideration as available balance capacity if infeasibility event should occur. This resource shall also have an energy bid curve submitted for the trade date when the infeasibility it to occur. To accomplish this:</p> <ul style="list-style-type: none"> - Submit ABC base schedules up/down paired with very inexpensive energy bids to ensure resources come online - Resources that carry the ABC base schedule must be online in RTD. - Lock the ETSR/ Isolate the BAA, then perform a load bias up and load bias down to deploy ABC in each direction. <p>Subsequent to the FMM (15-minute) and RTD (5-minute) market, the EIM Operator will review resulting ABC dispatches for its associated resource(s) which will be received in the existing CMRI FMM and RTD Schedule Report display and API.</p>

Scenario Execution Trade Date(s): TBD	
Scenario #4	Load Bias Reported in CMRI.
Description	Load Bias Reported in CMRI.
Expected System Outcome	<p>Load Bias for EIM entities is displayed on market user interface with reasons to bias.</p> <p>A new report is generated in CMRI, reporting Load Bias for EIM entities</p>
Anticipated Settlement Outcome	N/A
Details:	
ISO Actions	N/A

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Scenario Execution Trade Date(s): TBD	
ISO Market Participant Actions	N/A
EIM Market Participant Actions	<p>EIM operator submits Load Bias amount and reason through the BAAOP display.</p> <p>After STUC, FMM, and RTD market runs reflecting this bias, EIM entity views load bias results through the CMRI report, retrieves data through the API.</p> <p>View two new Load Conforming reports in CMRI – Binding and Advisory</p>

3. ISO Market Simulation Contact

Please contact MarketSim@caiso.com if you have any questions or concerns regarding these scenarios.

Please contact CustomerReadiness@caiso.com Attn: EIM Enhancements 2020 if you have any additional questions or comments.