



California ISO

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# **Market Simulation Structured Scenarios**

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## **Energy Storage Enhancements Track 2**

Version 1.1

**08/21/2023**


 <b>California ISO</b> <small>Shaping a Renewed Future</small>	<b>Market Simulation Templates</b> Program Office	Template Version:	1.1
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<b>ISO External Market Simulation Structured Scenarios</b>	Document Version:		1.0
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## Location of Document

[Release Planning](#)


## Revision History

Date	Version	Description	Author
03/27/2023	1.0	Document Created	Anshuman Vaidya
06/29/2023	1.0	Updated scenarios	Anshuman Vaidya
08/21/2023	1.1	Added Scenario 3	Anshuman Vaidya

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# 1. Introduction

The objective of this document is to provide the information needed to ISO Market Participants to participate in the Energy Storage Enhancements Track 2 simulation scenarios.

For the scope of this implementation and this initiative, please refer to the Energy Storage Enhancements Track 2 External Business Requirements Specification –

[Release Planning](#)

# 2. Structured Scenarios Approach

## 2.1 High Level Overview

The identified scenarios will be executed during the structured scenario portion of the Energy Storage Enhancements Track 2 Readiness market simulation.

## 2.2 Structured Scenarios Conditions and Setup


The following additional setup will be used by the ISO during the scenario execution.

### Market Participant pre-Market Simulation Actions

Market participants will need to register their request with the ISO to participate in the Energy Storage Enhancements Track 2 project simulation via the MarketSim@caiso.com mailbox.


Market participants, submit your request and any additional information requested in this document by Aug 15<sup>th</sup>, 2023.

***Please submit your request and any additional information identified above by Aug 15, 2023.***


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## 2.3 Structured Scenarios


Scenario Number	Structured scenario	
<b>1</b>	Description	Demonstrate proper settlement for energy storage resources for different ED types.
	ISO Actions	1) Operators will issue ED's for 2 storage resources to hold SOC. 2) Operators will then issue another ED for 1 storage resource with a "hold" ED to move SOC
	WEIM Market Participant Actions	N/A
	ISO Market Participant Actions	N/A
	Expected Outcome	Different ED types for storage resource are being settled properly.
	Anticipated Settlement Outcome	When an energy resource receives a Hold SOC ED, it is anticipated to have Real Time Excess Cost for Instructed Energy Settlement and Exceptional Dispatch Hold SOC Uplift Settlement.
	Expected Settlement Outcome	6482, 6485

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Scenario Number	Unstructured Guided scenario	
<b>2</b>	Description	Verify hourly do not charge from the grid bidding functionality for Standalone or Sub ACC constraints.
	ISO Actions	N/A
	WEIM Market Participant Actions	Submit hourly bid attribute type to not charge from the grid in RTM Submit economic bids for all the resources behind the standalone or sub ACC constraint; for LES resources, submit economic bids to charge/discharge.
	ISO Market Participant Actions	Submit hourly bid attribute to not charge from the grid in RTM and IFM Submit economic bids for all the resources behind the standalone or sub ACC constraint; for LES resources, submit economic bids to charge/discharge.
	Expected Outcome	Market shall enforce a withdrawal limit of 0 MW for the Standalone or Sub ACC constraint.
	Anticipated Settlement Outcome	N/A
	Expected Settlement Outcome	N/A

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Scenario Number	Unstructured Guided scenario	
<b>3</b>	Description	Off-grid charging (OMW withdrawal limit) interaction with regulation awards and manual/exceptional dispatch.
	ISO Actions	N/A
	WEIM Market Participant Actions	<p>RTM:</p> <ul style="list-style-type: none"> <li>-Submit economic energy bids for all resources behind the standalone ACC or sub-ACC constraint.</li> <li>-Submit ABC capacity up/dn base schedules for the LES resources behind the ACC or sub-ACC constraint.</li> <li>-Submit Off-grid charging bid for the hours of the scenario.</li> <li>-Submit a manual dispatch for any of the LES resources behind the ACC or sub-ACC constraint for the hour(s) where the Off-grid charging bid is active.</li> </ul>
	ISO Market Participant Actions	<p>IFM:</p> <ul style="list-style-type: none"> <li>-Submit economic energy bids for all resources behind the standalone ACC or sub-ACC constraint.</li> <li>-Submit regulation up/dn economic bids for the LES resources behind the ACC or sub-ACC constraint.</li> <li>-Submit Off-grid charging bid for the hours of the scenario.</li> </ul> <p>RTM:</p> <ul style="list-style-type: none"> <li>-Submit economic energy bids for all resources behind the standalone ACC or sub-ACC constraint.</li> <li>-Submit regulation up/dn economic bids for the LES resources behind the ACC or sub-ACC constraint where no ru/rd awards are present from DA.</li> <li>-Submit Off-grid charging bid for the hours of the scenario.</li> <li>-Submit an exceptional dispatch for any of the LES resources behind the ACC or sub-ACC constraint for the hour(s) where the Off-grid charging bid is active.</li> </ul>
	Expected Outcome	<p>WIEM RTM:</p> <ul style="list-style-type: none"> <li>-Off-grid charging bid (OMW withdrawal limit) shall be observed unless a manual dispatch for any of the LES resources behind the ACC</li> <li>-Off-grid charging bid (OMW withdrawal limit) shall be observed when ABC capacity base schedule is present for any of the LES resources behind the ACC</li> </ul> <p>ISO DAM:</p> <ul style="list-style-type: none"> <li>-Regulation up/down shall not be awarded for LES resources behind the standalone ACC or sub-ACC constraint for the hour where Off-grid charging bid (OMW withdrawal limit) is present and the Off-grid charging bid (OMW withdrawal limit) shall be observed.</li> </ul> <p>ISO RTM:</p>

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Scenario Number	Unstructured Guided scenario	
		-Off-grid charging bid (0MW withdrawal limit) shall be observed unless an exceptional dispatch for any of the LES resources behind the ACC -Off-grid charging bid (0MW withdrawal limit) shall not be observed when Regulation up/down from DA are present for any of the LES resources behind the ACC. -Where no Regulation up/down awards are present from DA, Regulation up/down shall not be awarded for LES resources behind the standalone ACC or sub-ACC constraint for the hour where Off-grid charging bid (0MW withdrawal limit) is present and the Off-grid charging bid (0MW withdrawal limit) shall be observed.
	Anticipated Settlement Outcome	In hours where LES Resources have an Off-grid charging bid present, no Settlement of Regulation in DA or RT is expected.
	Expected Settlement Outcome	CCs 6500, 6570, 6600, 6670 not expected in hours with Off-grid charging bid present

### 3. ISO Market Simulation Contact

Please contact [MarketSim@caiso.com](mailto:MarketSim@caiso.com) if you have any questions or concerns regarding these scenarios.