



California ISO

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# Market Simulation Scenarios

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## Hybrid Resources Phase 2

Version 1.5

10/06/2022


 <b>California ISO</b> <small>Shaping a Renewed Future</small>	<b>Market Simulation Templates</b> Program Office	Template Version:	1.1
		Template Date:	03/30/2011
<b>ISO External Market Simulation Structured Scenarios</b>		Document Version:	0.1
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## Location of Document

[Release Planning](#)


## Revision History

Date	Version	Description	Author
6/08/2021	1.0	Initial Draft	Stacia Thornton
02/23/2022	1.1	Updated Case	Anshuman Vaidya
07/05/2022	1.2	Added/Updated Case	Anshuman Vaidya
07/25/2022	1.3	Updated document for clarity	Anshuman Vaidya
10/05/2022	1.4	Added more information regarding CMRI reports in Scenario1	Anshuman Vaidya
10/06/2000	1.5	Adding missed update from previous version	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 Hybrid Resources Phase 2 simulation scenarios.

For the scope of this implementation and this initiative, please refer to the Hybrid Resources Phase 2 External Business Requirements Specification –

[Release Planning](#)

# 2. Guided Unstructured Scenarios Approach

## 2.1 High Level Overview

The identified scenarios will be executed during the scenario portion of the Hybrid Resources Phase 2 Readiness market simulation.

## 2.2 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 Hybrid Resources Phase 2 project simulation via the MarketSim@caiso.com mailbox.


Market participants, submit your request and any additional information requested in this document by Aug 12<sup>th</sup>, 2022.

***Please submit your request and any additional information identified above by Aug 12, 2022.***

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## 2.3 Guided Unstructured Scenarios

Scenario Number	Unstructured guided Scenario	
<b>1</b>	Description	Verify submitted hybrid resource data and component level data
	ISO Actions	ISO to dispatch Hybrid resources
	EIM Market Participant Actions	EIM SCs to submit dynamic limits and real-time (RT) forecasts for hybrid resources
	ISO Market Participant Actions	SCs to submit dynamic limits and real-time (RT) forecasts for hybrid resources
	Expected Outcome	<p>Verify Hybrid Resource data in Master File</p> <p>Verify submission of upper and lower resource limit in Market (Dynamic Limit Tool)</p> <p>Verify the following in CMRI:</p> <ul style="list-style-type: none"> <li>• Hybrid resource award is within the dynamic limit as submitted by Market Participant.               <ul style="list-style-type: none"> <li>○ When the LMP is higher than the hybrid resource bid and the resource has ramping capability, hybrid resource award is at the upper dynamic limit MW value, including cases when the upper dynamic limit MW value is greater than the original upper bid limit MW value.</li> <li>○ When the LMP is lower than the hybrid resource bid and the resource has ramping capability, hybrid resource award is at the lower dynamic limit MW value, including cases when the lower dynamic limit MW value is lower than the original lower bid limit MW value.</li> </ul> </li> <li>check : Reference &gt; Aggregate Capability Constraint Definitions (new) &amp; Aggregate Capability Constraint Limits (new)</li> <li>• Hybrid resource forecast data is published at the VER component level. Check: Forecast &gt; Variable Energy Resource Forecast (existing with added component ID for Hybrid resource; DA-Ahead, Locked Hour-Ahead, Rolling Hour-Ahead) and Interval Variable Energy Resource Forecast ((existing with added component ID for Hybrid resource; rolling 5 minute)</li> </ul>

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Scenario Number	Unstructured guided Scenario	
		Verify utilization of ISO forecast of Hybrid Resources in MRI-S Settlements Statement
	Anticipated Settlement Outcome	701
	Expected Settlement Outcome	EIM Participants: Verify Hybrid Resources are assessed a forecast fee.  ISO Market Participants Only: Verify Hybrid Resources are fully exempted from RAAIM in Settlements and assessed a forecast fee.

Scenario Number	Unstructured guided Scenario	
2	Description	Verify that VERs behind any given Sub-ACC have their “Follow DOT” flags set equal to ‘Y’ whenever one of their co-located resources has an AS award/AS base schedule.
	ISO Actions	ISO to normally enforce ACCs and dispatch their resources as per the regular EIM clearing process.
	EIM Market Participant Actions	EIM SCs to submit AS base schedules for non-VER resources behind Sub-ACCs with VERs.
	ISO Market Participant Actions	SCs to submit economical AS bids in the DAM and RTM for non-VER resources behind Sub-ACCs with VERs.
	Expected Outcome	<ul style="list-style-type: none"> <li>Verify non-VER resources behind Sub-ACCs with VERs have AS awards/AS base schedules going into RTD.</li> <li>Verify in Market and ADS that VERs behind a Sub-ACC whose co-located resources have an AS award/AS base schedule have their “Follow DOT” flags set equal to ‘Y’.</li> <li>Verify that the aforementioned logic only applies on a per “Sub-ACC” basis, i.e., if a collocated resource in Sub-ACC1 has an AS award/base</li> </ul>

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		schedule, then VERs in Sub-ACC2 do not necessarily have their "Follow DOT" flags set equal to 'Y'.
	Anticipated Settlement Outcome	N/A
	Expected Settlement Outcome	N/A

### 3. ISO Market Simulation Contact

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