



California ISO

Market Simulation

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Release Manager

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ISO PUBLIC

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 - Western Energy Imbalance (WEIM) Enhancements
 - Hybrid Resources Phase 2C (HR2C) RIMS*
- Next Steps

Market Simulation Support

- Submit questions to CIDI with 'Functional Environment' = "Market Simulation"
- marketsim@caiso.com
- Service Desk: (916) 351-2309

Market Simulation Registration

- **Please register for your participation in Market Simulation activities for each Market Simulation initiative as appropriate**
 - If you have intent to actively engage in MAP Stage testing of access, systems, functionality, processes, and/or review of results/data
- **This informs CAISO Market Simulation to provide more specific support for your efforts, including**
 - Data setup for your testing
 - More immediate communication and coordination impacting your testing/review
 - More detailed information for the applicable initiatives
- **How to register**
 - Submit CIDI with ‘Functional Environment’ = “Market Simulation”
 - Identify the Market Simulation initiative(s) you will participate in
 - Identify any specific resources as applicable
 - List the contacts and e-mail addresses that you would like to include
 - CIDI is preferred and if you don’t have CIDI, you can e-mail marketsim@caiso.com with the same information

Market Simulation Communication

	Monday	Tuesday	Wednesday	Thursday	Friday
September	2	3	4	5	6
	9	10	11	12	13
	16	17*	18	19*	20
	23	24*	25	26*	27
	30				
October		1*	2	3*	4
	7	8*	9	10*	11
	14	15	16	17	18
	21	22	23	24	25
	28	29	30	31	

ISO Closure

Market
Simulation
Forum

***Settlements
Trade Date**

Market Simulation MAP Stage Availability

- MAP Stage weekly maintenance window is Friday*

System	UI	API	Comments
ADS			
ALFS	NA		
BAAOP	New UI framework		
BSAP	New UI framework		
CIRA			
CMRI			
CRR			
DRRS			
MF			
OASIS			
OMS			
PLC		NA	
RCBSAP	New UI framework		
RIMS		NA	
SIBR	New UI framework		
MRIS			
TR		NA	
webWheel		NA	

AVAILABLE

MAINTENANCE

*Maintenance may also occur after 1600 PT on other days and may deviate from the weekly maintenance window as necessary

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Market Simulation Activities

Initiative	Market Simulation	Comments
Settlements Fall 2024 Release	9/16 – 10/14: Unstructured	Leverage settlements TDs
FERC 2222	9/16 – 10/11: Market Simulation Window 9/16 – 9/27: Connectivity 9/30 – 10/11: Unstructured Market Simulation	No settlements impacts
UI Framework Upgrades	Unstructured – BAAOP, SIBR, BSAP, RCBSAP available	No settlements impacts See UI known issues
TSMSP2T3 – Resale Scope	10/7 – 10/21	TSMSP2T1: Settlements fix will be in sample statements 9/16-10/14 (Production will be retroactive to 6/1/24) TSMSP2T3: Settlements will be included in the 10/7-10/14 statements
TEA	February 2025: Unstructured	
HER	November: Unstructured	No settlements impacts
CRR System Upgrade	10/28 – 11/1: Connectivity 11/4: Start Market Simulation - 2 weeks Structured - 3 weeks Unstructured	
WEIM Enhancements - WEIM Commitment Override – BAAOP UI	October: Unstructured	No settlements impacts
HR2C RIMS	November: Unstructured (Shapefiles)	No settlements impacts

Market Simulation Settlements Calendar

Calendar Day	Day	CMRI T+1B	Submit Meter Data by T+2B 10:00 for Initial	Publish Initial Statement T+5B	Submit Meter Data by T+5B 18:00 for Recalc	Publish Recalc Statement T+8B	Publish Market Invoice
			T+9B	T+9B	T+70B	T+70B	
17-Sep-24	Tuesday						
18-Sep-24	Wednesday	17-Sep					
19-Sep-24	Thursday		17-Sep				
20-Sep-24	Friday	19-Sep					
23-Sep-24	Monday		19-Sep				
24-Sep-24	Tuesday			17-Sep	17-Sep		
25-Sep-24	Wednesday	24-Sep					
26-Sep-24	Thursday		24-Sep	19-Sep	19-Sep		
27-Sep-24	Friday	26-Sep		Monthly Initial 17-Sep - 19-Sep		17-Sep	Daily Initial 17-Sep; Daily Initial 19-Sep; Monthly Initial 17-Sep - 19-Sep
30-Sep-24	Monday		26-Sep				
01-Oct-24	Tuesday			24-Sep	24-Sep	19-Sep	
02-Oct-24	Wednesday	1-Oct				Monthly Recalc 17-Sep - 19-Sep	Daily Recalc 17-Sep; Daily Recalc 19-Sep; Monthly Recalc 17-Sep - 19-Sep
03-Oct-24	Thursday		1-Oct	26-Sep	26-Sep		
04-Oct-24	Friday	3-Oct		Monthly Initial 24-Sep - 26-Sep		24-Sep	Daily Initial 24-Sep; Daily Initial 26-Sep; Monthly Initial 24-Sep - 26-Sep
07-Oct-24	Monday		3-Oct				
08-Oct-24	Tuesday			1-Oct	1-Oct	26-Sep	
09-Oct-24	Wednesday	8-Oct				Monthly Recalc 24-Sep - 26-Sep	Daily Recalc 24-Sep; Daily Recalc 26-Sep; Monthly Recalc 24-Sep - 26-Sep
10-Oct-24	Thursday		8-Oct	3-Oct	3-Oct		
11-Oct-24	Friday	10-Oct		Monthly Initial 01-Oct - 03-Oct		1-Oct	Daily Initial 01-Oct; Daily Initial 03-Oct; Monthly Initial 01-Oct - 03-Oct;
14-Oct-24	Monday		10-Oct				
15-Oct-24	Tuesday			8-Oct	8-Oct	3-Oct	
16-Oct-24	Wednesday					Monthly Recalc 01-Oct - 03-Oct	Daily Recalc 01-Oct; Daily Recalc 03-Oct; Monthly Recalc 01-Oct - 03-Oct;
17-Oct-24	Thursday			10-Oct	10-Oct		
18-Oct-24	Friday			Monthly Initial 08-Oct - 10-Oct		8-Oct	Daily Initial 08-Oct; Daily Initial 10-Oct; Monthly Initial 08-Oct - 10-Oct;

Fall 2024 Settlements Release

- 9/16/24 – 10/14/24
- Unstructured – Sample Settlements Statements for Tuesday & Thursday TDs 9/17/24 thru 10/10/24
- Scope as of 9/4/24 Communication:

Fall 2024 Settlements Release Component Summary

CHANGE SUMMARY	IMPACTS
FERC 2222 <ul style="list-style-type: none"> • FERC Order 2222 seeks to remove barriers for DCR (Distributed Curtailment Resources) participation in RTO/ISO markets. The CAISO will amend its existing DER (Distributed Energy Resource) policy to accommodate FERC 2222, which will include reducing the maximum capacity requirement and introducing a new DERA resource type with underlying DCR. 	No PRR required <ul style="list-style-type: none"> • There are no configuration/formulation changes, hence no tech doc or PRR/BPM posting. For information only. • Effective Start Date: 11/01/2024
COTP Loss <ul style="list-style-type: none"> • Defect: Apply losses for the California Oregon Transmission Project (COTP) scheduled into the California Independent System Operator Corporation (CAISO) Balancing Authority Area using COTP capacity made available by Pacific Gas and Electric Company (PG&E) and the Transmission Agency of Northern California (TANC) consistent with the CAISO Tariff. This is an enhancement to implement an amended LOA among TANC, PG&E, WAPA. Instead of using average Day-Ahead Nodal prices for all nodes that includes the intertie (TRCYCOTPIISO), a five-year rolling average cost will be used as alternative for comparison with an hourly MEAA – another agreement - price. The MEAA price is at the intertie TRCYPG&E and Apnode WAPAMEEA3_ON_ASR-APND. 	PRR 1583 <ul style="list-style-type: none"> • For those with schedules tagged at the intertie TRCYCOTPIISO, the CAISO shall accumulate daily each scheduling coordinator's portion of COTP losses on an hourly basis and invoice each scheduling coordinator per payment calendar. • Effective Start Date: 11/01/2024
RC Config Change <ul style="list-style-type: none"> • Defect: Issue with multiple BAA for Minimum RC Charge Flag. BA_RC_SVCS_NLOAD_TOP_MTH_EXMPT_FLAG has reference date "S" and needs to be updated to "T" to correctly be included in RC Settlement runs. 	No PRR required <ul style="list-style-type: none"> • There are no configuration/formulation changes, hence no PRR/BPM posting. Updates is to reflect CAISO internal processing to ensure data is captured correctly. • Effective Start Date: 11/01/2024
RAAIM LESR change <ul style="list-style-type: none"> • Defect: Revise the Generic Availability and Flexible Obligation calculations for Limited Energy Storage Resources (LESR) RA resources. Consistent with how generic obligation award is computed only for positive capacity, the generic availability will recognize only bids/availability for the capacity above zero. Conversely, since flexible obligation award allows for the full range – from negative Pmin to positive Pmax – the flexible obligation assessment shall recognize the negative capacity values, particularly for NGRs which can operate in the negative range. 	PRR 1584 <ul style="list-style-type: none"> • This will directly impact non-generating resources (NGR) and LESR generic availability calculation and flexible obligation assessment. More likely, as a result of these resettlement, the other resources (non-NGRs, traditional generators and supply resources) may have more or less adjustments in the incentives they settled previously. The generic issue only occurs when the NGR resources has outage on its positive capacity. The flexible issue more likely will be a charge to NGRs for those with penalties, a slight uptick in incentives if they were previously getting incentives, and a likely net effect to non-NGRs to be an increase incentives. • Effective Start Date: 3/1/2023. This is retrospective going as far back at T+21M.

Fall 2024 Settlements Release (continued)

- 9/16/24 – 10/14/24
- Unstructured – Sample Settlements Statements for Tuesday & Thursday TDs 9/17/24 thru 10/10/24
- Scope as of 9/4/24 Communication:

Fall 2024 Settlements Release Component Summary

CHANGE SUMMARY	IMPACTS
RMR <ul style="list-style-type: none"> Defect: Fix a typo in BD with impact to CC 6470 design template. Typo correction will allow an RMR specific daily amount to be consumed by 7020 correctly. 	No PRR required <ul style="list-style-type: none"> There are no configuration/formulation changes, hence no PRR/BPM posting. Update is for typo error clean-up only. Effective Start Date: 11/1/2024.
BD Name Alias Change <ul style="list-style-type: none"> Defect: Hierarchy Charge Names with Discrepant BILL_DETERMINANT_NAME & BILL_DETERMINANT_ALIAS Values. The BILL_DETERMINANT and ALIAS columns should be exact matches except that the enumeration in the BILL_DETERMINANT column should have an '@' sign in the name. The ALIAS enumeration will have an '_' (underscore) in the same position. As long as we do not plan to recalc the BD for any trade dates in the past that have calculated using the previous spelling in the enumeration column we can make the change prospective without causing calculation errors going forward. 	No PRR required <ul style="list-style-type: none"> There are no configuration/formulation changes, hence no PRR/BPM posting. No financial impact because the impacted BDs (some PTB BDs) were never used. Effective Start Date: 11/1/2024.
T vs. S: <ul style="list-style-type: none"> Defect: Some Bill Determinants need to be updated from reference date "S" to "T" to align with best business practices. During review there were three bill determinants that had a different reference date than expected. While no settlements issues have been reported, to align the bill determinants with best practices, they will be updated prospectively. The following are the bill determinants impacted. RSRC_DAILY_APPLY_WHSL_CHG_FLAG, RSRC_DAILY_NGR_VER_FLAG, BA_5M_RSRC_TIE_DEV_EXEMPT_FLAG. 	No PRR required <ul style="list-style-type: none"> There are no configuration/formulation changes, hence no PRR/BPM posting. Updates is to reflect CAISO internal processing to ensure data is captured correctly. Effective Start Date: 11/1/2024.
TSMSP2: <ul style="list-style-type: none"> When updates (with a 6/1/2024 Effective Date) associated with the TSMSP2 project were released to Production with the Summer 2024 Release a defect discovered that entities with ATC Reservations are seeing a doubling of the export quantities associated with that intertie. This occurred because the PriorityWheelThruPosition payload (which provides the ATC PWT Reservation Quantity derived in WebWheel) provides the CONTRACTRIGHT_MRID attribute and the DReAMS and MSDC team had believed this to be a renaming of the CONTRACT_REF_ID which we were expecting in existing configurations. This is causing conflicts with existing business drivers and leads to inaccurate calculations. 	PRR 1585 <ul style="list-style-type: none"> A change is required to sum over this conflicting attribute in the configuration so that it not cause conflicts. Its purpose is informational and summing over it will not impact calculations. Effective Start Date: 6/1/2024.

FERC 2222

- Register by tomorrow, Friday, 9/13/24
- 9/16 – 10/11: Market Simulation Window
- 9/16 – 9/27: Connectivity
- 9/30 – 10/11: Unstructured Market Simulation
- MF, SIBR, MRI-S, RIMS

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
<i>FERC2222 -MKTSIM-001</i>	<p>Unstructured Testing.</p> <p>SIBR, MFRD, MRI-S enhancements will be made available if a market participant wants to test the HDERA resource type.</p> <p>Unstructured testing requires participant has at least one HDERA and one DERA resource set up in Master File for:</p> <ul style="list-style-type: none"> • MFRD web service data retrieval • SIBR NBT process (HDERA only), GDF submission with bids • MRI-S meter and (for HDERA only) monitor measurement data submission 	SC	<p>RIMS</p> <p>MFRD</p> <p>MRI-S</p> <p>Settlements</p> <p>SIBR</p>	<ul style="list-style-type: none"> • Interface Changes • New/Modified Model Data • New system process

FERC 2222

Unstructured guided scenario

Description	Verify HDERA resources in CAISO market
ISO Actions	ISO will provision HDERA resources in CAISO markets
WEIM Market Participant Actions	<ul style="list-style-type: none">• Submit HDERA resources GRDT for CAISO Masterfile• Verify resource availability in SIBR NBT process and GDF submissions with bids.• Verify MRIS meter and monitor measurement data submission for the resources.• Verify RIMS data and Settlements results for the resources
ISO Market Participant Actions	<ul style="list-style-type: none">• Submit HDERA resources GRDT for CAISO Masterfile• Verify resource availability in SIBR NBT process and GDF submissions with bids.• Verify MRIS meter and monitor measurement data submission for the resources.• Verify RIMS data and Settlements results for the resources
Expected Outcome	Resources are available/visible in CAISO systems.
Anticipated Settlement Outcome	N/A
Expected Settlement Outcome	N/A

UI Framework Upgrades

- UI framework upgrades for multiple systems
- No application functionality changes
- No impact to user access
- Will be made available in MAP-Stage prior to Production cutovers where applicable

User Interface	MAP-Stage
BAAOP	✓ July 2024
BSAP	✓ August 2024
RCBSAP	✓ August 2024
SIBR	✓ August 2024
HANA	NA
HANA STUDY	NA

UI Framework Upgrades

- Known Issues – UIs only
 - SIBR
 - Loading Screen Speed Slow
 - Upload bids/trades function not working
 - Create Bid Product Type NULL
 - Dynamic Limit Resource not populating for SC
 - BSAP
 - Submit Base Schedule Button Not Available
 - Workaround: right-click to submit

TSMSP2T3

- Register by tomorrow, Friday, 9/20/24
- 10/7 – 10/21: Market Simulation Window
- MF, OASIS, webWheel, SIBR, Settlements, Market
- ***Draft*** Market/Business Simulation Business Requirements:

Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
Unstructured Market Sim: SCs must have the capability to submit, view, and download their resale information.	N/A	webWheel™	New Process, New Data
SCs performing resale must attest the information entered for resale	N/A	webWheel™	New Process, New Data
Unstructured Market Sim: Market Participants must have the capability to view the resale information.	webWheel™	OASIS	New Process, New Data
End-to-End Internal ISO operator must have the capability to update reason code for submitted resales and Forced Releases	N/A	webWheel™	New Process, New Data
Unstructured Market Sim: SCs must have the capability to submit, view, and download their Forced Release information.	N/A	webWheel™	New Process, New Data

TEA

- Register by December 31, 2024
- February 2025 Market Simulation
- MF, SIBR, ETCC, ITS, Settlements, CMRI, OASIS

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
MKT-001	Owner of Transmission Owner Rights must have the capability to send sale information to CAISO. Note: See BRQ003 for more information.	OASIS OATI	Internal ISO System	Interface changes, New system process
MKT-002	Entities with pre-registered CRNs must have the capability to purchase Transmission Owner Rights. Note: See BRQ002 for more information.	N/A	MF	Interface changes, New system process, Rule Impacts
MKT-003	Entities with Parent CRN and have active transacted purchases with Sub CRNs will have access to both Parent and Sub CRN Report data in CMRI.	CMRI	User Client, System	Interface changes, Report Changes, New system process, Rule Impacts

TEA

- Draft unstructured scenario

<u>Unstructured guided scenario</u>	
Description	3 rd party to purchase right and schedule in the market
ISO Actions	N/A
WEIM Market Participant Actions	Transmission owner right sale should be recorded with CAISO
ISO Market Participant Actions	Needs to establish contract reference numbers (CRN) va MF? Schedule the rights in SIBR Submit tags consistent with their schedule
Expected Outcome	Contract self-schedule will receive priority awards Receive scheduling priority in ITS Receive awards in settlements based on their contract usage Verify the results in CMRI WEIM entities can verify sale information on CMRI
Anticipated Settlement Outcome	Reversal of congestion occurring up to their contract schedule. Receive exemption from wheeling or transmission access charges
Expected Settlement Outcome	Under review

HER

- Register by September 30, 2024
- November Unstructured Market Simulation

Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
End-to-End Testing: RC Customers to adjust the ER, HER and limit durations. Note: Reference BRQ403 for more information.	webOMS	webOMS, HANA	New Data Fields

ID#	Business Feature	Req. Type	Potential Application Impacted
HER – BRQ403	<p>System (webOMS) must have the capability for all current user who have read/write access to adjust the following new transmission MVA rating data elements/fields:</p> <ul style="list-style-type: none"> • Emergency Rating Duration (set in minutes) • Highest Emergency Rating Limit (set in MVA) • Highest Emergency Rating Duration (set in minutes) • Start/End time of override (existing field, set for above fields) <p>Implementation note: Operators shall be able to adjust to a higher rating, in addition to how they currently adjust to a lower rating; ; ISO users and RC customers shall use existing “Nature of Work” type of “EQUIPMENT_DERATE” in order to adjust rating higher or lower.</p> <p>Implementation and note: ISO users and RC customers shall utilize existing “Nature of Work” type of “EQUIPMENT_DERATE” in order to adjust to a higher or lower rating.</p>	Core	webOMS

CRR System Upgrade

- Register by 9/30/24
- 10/28 – 11/1: Connectivity
- 11/4: Start Market Simulation
 - 2 weeks Structured
 - 3 weeks Unstructured

WEIM Enhancements: WEIM Commitment Override – BAAOP UI

- Register by September 30, 2024
- October - Unstructured

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
MKT - 010	Unstructured Market Sim – WEIM External Commitment Override External WEIM BA Operators must have the capability within RTM - BAAOP to enter commitment overrides directly in the RTM Market UI. Note: See BRQ030.	N/A	<i>RTM – BAAOP</i>	Changes to UI

ID#	Business Feature	Req. Type	Potential Application(s) Impacted
<i>FAB – BRQ03</i>	<i>External WEIM Commitment Override</i> System (RTM) within BAAOP, must have the capability for external WEIM BA Operators to enter commitment overrides directly in the RTM Market UI. Implementation note: This would be similar functionality as CAISO BA Operations (Generation Dispatcher) having this ability. Implementation note: use the External BAA Operator role for BAAOP. Implementation note: Currently, external WEIM entities call the RTMO to request the commitment override and the RTMO enters the override into the RTM via BAAOP. The RTMOs do not have the authority to deny the request from the external WEIM entity. Implementation note: This requirement applies to any WEIM BAA with existing access to RTM. No new access provisioning needed in AIM, no updates to roles needed in AIM. Implementation note: UI updates only Impacted: BPM, UIs, Unstructured Market Sim	<i>Core</i>	<i>RTM - BAAOP</i>

HR2C RIMS

- Register by September 30, 2024
- November: Unstructured Shapefiles Market Simulation

ID#	Guidance on Market Participant Impacts	Source System	Sink System	Reason for Potential Scenario
MKT-004	Unstructured Market Simulation Market Participants must have the capability to input Site information data into web form submission. Note: BU requested that Market Participants have the opportunity to practice filling out and submitting the form prior to production.	N/A	RIMS	Unstructured Market Sim, New Data type
MKT – 005	Unstructured Market Simulation Market Participant must have the capability to upload Topo Map, Sharing Agreement, Shapefile, and provide Site Info via web form. Note: See BRQ150, BRQ285, BRQ144, BRQ300.	N/A	RIMS	Unstructured Market Sim, New Data type
MKT – 006	Unstructured Market Simulation Market Participant must have the capability to see on UI uploaded Topo Map, Sharing Agreement, Shapefile, and provide Site Info via web form. Note: See BRQ150, BRQ285, BRQ144, BRQ300.	N/A	RIMS	Unstructured Market Sim, New Data type
MKT – 007	Unstructured Market Simulation Market Participants must have the capability to add Topo Map, Site Info, Shapefile, and Sharing Agreement (applicable only to Fuel Type of Solar) to Bucket 1 for any hybrid resource project created with a fuel type of Solar or Wind. Note: BRQ145, BRQ275.	N/A	RIMS	Unstructured Market Sim, New Data type
MKT – 008	Unstructured Market Simulation In the event Market Participant's upload fails validation, Market Participant must receive notification of the error. Note: See BRQ350A, BRQ350B, BRQ205, BRQ335, BRQ325.	N/A	RIMS	Unstructured Market Sim, New Data type

Next Steps

- The next Market Simulation Forum will be on Monday, September 16, 2024 @ **10:00 AM PT (time change)**
- Contact
 - Trang Vo @ tvo@caiso.com
 - MarketSim@caiso.com