



California ISO

Market Simulation 2024

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Recordings

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Agenda

- Market Simulation Initiatives & Timelines
- Initiatives
 - Transmission service & market scheduling priorities phase 2 - Daily
 - ASSOC flag enhanced logic – settlements Release
 - Transmission exchange agreement
 - CIRA enhancement
 - Highest emergency rating
 - Advisory Shutdown Flag Data
- MAP Stage Availability
- Next Steps

Market Simulation Initiatives & Timelines

<u>Independent 2024 Initiatives</u>	<u>Start Date</u>	<u>Start Date (Trade Date)</u>	<u>End Date</u>	<u>Structured Simulation Start (Trade Date)</u>
Transmission service & market scheduling priorities phase 2 – <i>Daily - Complete</i>	04/30	04/30	05/17	05/07 , 05/09, 05/14
ASSOC Flag enhanced Logic – Settlements Release - <i>Complete</i>	04/16	N/A	05/17	N/A
CIRA Enhancement - <i>Complete</i>	05/06	05/06	05/20	N/A
Highest Emergency Rating	Aug	TBD	TBD	N/A
Transmission exchange agreement	07/22	07/23	08/16	N/A
Advisory Shutdown Flag Data	06/25	TBD	07/10	TBD

Transmission service & market scheduling priorities phase 2 - Daily

- **Timeline:** 04/30 - 05/17
 - 04/30 – 05/17 : webWheel™
 - 05/06 – 05/17 : SIBR / Settlements
- **Scenario:** Trade date 05/07 , 05/09, 05/14

Scenario document –

https://www.caiso.com/Documents/MarketSimulationStructure_dScenarios-TransmissionServiceandMarketSchedulingPriorities-phase2.pdf

Operations Foundational Improvements - CIRA enhancement

- **Timeline:** 05/06 - 05/20
- **BRS published :** 04/12
- Training :
 - CIRA UI : Automating Import allocation process (steps 8 thru 13), Currently this is done via manual process (Email)

Step #	Step Name	Step Details	Step Dates (Example)
Step 8	Transfers of Import Capability	Step 8 displays to all users all completed import capability transfers between LSEs. It will be validated against the LSE's Remaining Import Capability available. Note: When the transferor submits the transfer the record is finalized and no further action is required from the transferee side to accept or reject. Users can update/edit the submitted requests up to the end of the date/time deadline.	05/14/2024 – Whole day till 11:59 PM -MP Action
Step 9	Initial SC Request to Assign Remaining Import Capability by Intertie	LSE(s) to submit requests for Import Capability they want on each Branch Group (Time constraint). It will be validated against the LSE's and Branch Groups Remaining Import Capability available. Users can update/edit the submitted requests up to the end of the date/time deadline.	05/14/2024 - 05/15/2024 Whole day till 11:59 PM -MP Action
Step 10	Notification of Initial Remaining Import Capability Assignments and Unassigned Capability	CIRA to display report of amounts received and send automated notifications to the external users notifying them of the completion of the step 9 validation for amounts requested and received.	05/16/2024 ISO Action@1 AM
Step 11	Secondary SC Request to Assign Remaining Import Capability by Intertie	LSE(s) to submit requests for Import Capability they want on each Branch Group (Time constraint). It will be validated against the LSE's and Branch Groups Remaining Import Capability available. Users can update/edit the submitted requests up to the end of the date/time deadline.	05/16/2024 Whole day till 11:59 PM -MP Action
Step 12	Notification of Secondary Remaining Import Capability Assignments and Unassigned Capability	CIRA to display report of amounts received and send automated notifications to the external users notifying them of the completion of the step 11 validation for amounts requested and received.	05/17/2024 ISO Action @ 1 AM
Step 13	Requests for Balance of Year Unassigned Available Import Capability	MIC Enhancement (Already Existing in Production but page moved to Step 13 tab) LSE(s) to submit requests for Import Capability they want on each Branch Group (Time constraint). It will be validated against the Branch Groups Remaining Import Capability available. Users can update/edit the submitted requests up to the end of the date/time deadline. CIRA to display report for amounts requested and received and send notification for the same.	Not Required for Market Simulation. 05/17 Submissions can be done 05/20 Data will be available

ASSOC Flag enhanced Logic – Settlements Release

- Timeline : 04/16 – 05/17
- Presented in SUG Jan 17, Jan 31, Feb 14, 2024
- Upstream systems are making an enhancement to indicate when the (potentially uneconomical) energy schedule of the storage resource in the financially-binding interval might be driven (in part) by binding AS SOC constraints in any advisory interval due to AS obligations. This information is communicated to Settlements for BCR Shortfall evaluation.
- Upstream systems will validate AS Awards driving AS SOC binding condition. Settlement configuration will no longer check whether AS Awards are present in the same interval as AS SOC flags in RTM_NET_AMT_PC so ResourceASSOCConASRevenueAmount rmdhcif will be removed.
- Allow for corrections of AS SOC flags from 1 to 0, or 0 to 1.
- Retro-active corrections from TD 07/01/2023 onwards will require corrected AS SOC flags and Settlement to re-process them
- The “Market Operations” BPM has been updated to reflect this change. Please refer to PRR 1547. Comment period ended 2/13/24 11:59 PM & BPM meeting TODAY, 2/20/24 11AM PT

Transmission exchange agreement

- **Timeline: 07/22 - 08/16**
- UI: The current CMRI CRN report is not being changed.
- API: System external CRN Report API shall include the added “CRN Amount” data element to its payload. Add new CRN Amount data element (MW entitlements).
 - RetrieveContractUsage_CMRIv2
 - RetrieveContractUsage_CMRIv2_DocAttach

Highest Emergency Rating

- **Timeline:** August

- BRS published:

<https://www.caiso.com/Documents/Business-Requirements-Specification-Highest-Emergency-Rating.pdf>

Advisory Shutdown Flag Data

Project Information	Details/Date
High Level Business Problem or Need	<p>Problem: Missing input data value for existing BD, BA_5M_RSRC_ADVISORY_SHUTDOWN_FLAG, prevents CAISO from qualifying Minimum Load Cost consistent with Tariff 11.17.2.1, even if Settlements formulations currently exist.</p> <p>Solution: Work with upstream units to ensure advisory shutdown instruction data is broadcasted so that advisory shutdown flag BD can be created Use the input and reflect Minimum Load Costs qualification in Settlements</p>
BPM Changes	Settlements & Billing, Market Instruments
Impacted Systems	Settlements, CMRI

Milestone Type	Milestone Name	Dates	Status
Board	Board	NA	
BRS	BRS	May 9, 2024	
BPM	Settlements & Billing PRR 1571 - Updating SUC MLC PC BPM documentation for Advisory shutdown flag for MLC qualification	Apr 26, 2024	✓
	Market Instruments	Yes	
Tech Spec	CMRI Tech Spec	May 10, 2024	
Training	Training	Jun 11, 2024	
Market Simulation	Market Simulation	Jun 25 – Jul 10, 2024	
Production	Production	By Aug 1, 2024	

The advisory shutdown flag data details were covered in the Apr 24, 2024 Settlement User Group (SUG), presentation and recording available here: www.caiso.com > Stay Informed > Meetings & Events > User groups and recurring meetings > Settlement User Group

CIDI tickets

CIDI's	
Contracts for daily PT wheels	Pending
HASP Schedules report in CMRI is blank	Pending
TSMSP2 - Daily ATC AWT Request Report	Enhancement
RSEE Phase 2 Track 2	Enhancement
RSEE - ADS RTECON and RTLPT award display seems inconsistent and incorrect	Software fix
RSEE Phase 2 Track 2 03/14 training questions	Enhancement
RSEE Etag validation - DA tag	Enhancement
RSEE tag validation – no validation against RT CAISO_PRIORITY_TYPE?	Enhancement
RSEE tag validation – no auto adjust based on RT market awards	Enhancement
Example 1: CAISO Etag validation is not correctly adjusting Etags according to RT market award types and quantities.	Enhancement
Example 2: CAISO Etag validation is correctly adjusting according to RT market award types and quantities	Enhancement
CMRI Real-Time Export Schedules by Market Priority Types only displaying awards for Interval 3 each hour?	Enhancement
WebWheel- intertie points for adding new contracts	Pending

Market Simulation MAP Stage Availability

MAP Stage weekly maintenance window is Friday*

System	UI	API	Comments
ADS			
ALFS	NA		
BAAOP			
BSAP			
CIRA			
CMRI			
CRR		NA	
DRRS			
MF			
OASIS			
OMS			✓ Maintenance 04/15 – 04/17- Completed
RCBSAP			
RIMS		NA	
SIBR			✓ Unplanned issue in SIBR 04/22- Fixed at 11AM
MRIS			

AVAILABLE

MAINTENANCE

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

Next Steps

- The next teleconference is schedule for 06/20 at 2 PM.

References

Market Simulation Communication Plan

- **Schedule**

<i>Monday</i>	<i>Thursday</i>
Feb 26 March 4, 11, 18, 25	Feb 22, 29 March 7, 14, 21, 28

- **Connection Information**

- **Web Conference Information**

- Web Address: <https://caiso.webex.com/meet/MarketSim>
 - Meeting Number: 962 067 710
 - Audio connection instructions will be available after connecting to the web conference. When prompted, select "Call me" and enter the phone number you will use during the call. You will be called by the conference shortly.

- **Conference Call Information**

- Dial-in Number:
 - 1-844-517-1271 (Toll Free)
 - 1-682-268-6591
 - Access Code: 962 067 710

Market Simulation Issue Management

- Submit all issues to the CIDI case management system
- CIDI tickets must have “**Functional Environment**” = “**Market Simulation**” to be reviewed by ISO SMEs

ISO Market Simulation Support

- **Hours:** Monday thru Friday 0900-1800 PDT
- **ISO's 24x7 Service Desk:** (916) 351-2309 (Connectivity – UI or API)
- **Email:** MarketSim@caiso.com

WEIM Resource Sufficiency Evaluation Redesign

Phase 2

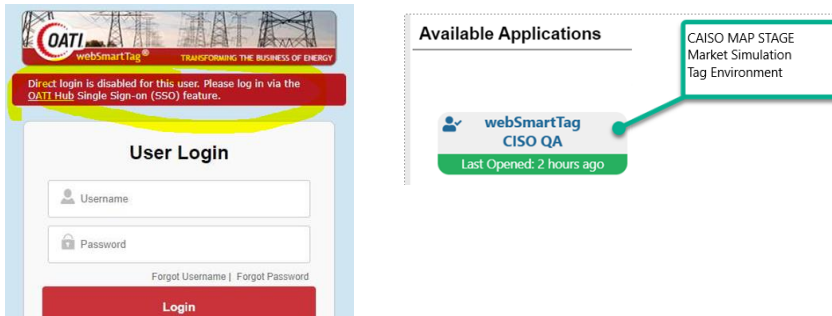
CAISO Market Environment	MAP TEST Available to ISO Only, not available to ISO Customers	MAP STAGE Market Simulation Available to ISO Customers
OATI Environment	OATI DEMO	CAISO DEMO CISO QA Please confirm your access to the CAISO DEMO / CISO QA tag environment (via UI or API) for Market Simulation by March 28, 2024.
CAISO G-FP Export Tag Structure Validation	CAISO will make Active	Active
CAISO DA Auto-Adjustments (1530 & 1730)	Active* *Adjusted to MAP TEST Market; ISO Customers won't be able to verify MAP TEST market results	Active* *Adjusted to MAP STAGE market results, available for IISO customers to verify
CAISO RT Auto-Adjustments (T-40)	Active* *Adjusted to MAP TEST Market; ISO Customers won't be able to verify MAP TEST market results	Active *Adjusted to MAP STAGE market results, available for IISO customers to verify
OATI HUB	https://www.qa.oatihub.oati.com/Hub/ OATI Public HUB (for Access to ETS/webSmartTag UI; NA for API)	
Energy Trading System (ETS) webSmartTag User Interface (UI)	https://demo.tag.oati.com/oati/ets-login.wml * OATI Public Tag Environment UI *User may be required to access from the OATI HUB URL Above	https://demo.caiso.tag.oati.com/oati/ets-login.wml * CAISO Tag Environment UI *User may be required to access from the OATI HUB URL Above
Energy Trading System (ETS) webSmartTag Application Programming Interface (API)	https://demo.tag.oati.com/oati/tagging.wml OATI Public Tag Environment API	https://demo.caiso.tag.oati.com/oati/tagging.wml CAISO Tag Environment API

WEIM Resource Sufficiency Evaluation Redesign

Phase 2

More Information:

- For RSEE2T2 Market Simulation, customers should use the CAISO DEMO/CISO QA environment, which is integrated with the CAISO MAP STAGE (Market Simulation) Market environment
- For those using the CAISO DEMO/CISO QA ETS/webSmartTag UI, the direct URL was <https://demo.caiso.tag.oati.com/oati/ets-login.wml>, but this direct URL may no longer work for your organization, and may require you to access via the new OATI HUB URL: <https://www.qa.oatihub.oati.com/Hub/>
 - If you access the direct URL (<https://demo.caiso.tag.oati.com/oati/ets-login.wml>), you may receive the following error:



- If so, please access the OATI HUB URL (<https://www.qa.oatihub.oati.com/Hub/>), and then click on CISO QA as shown above
- We understand that customers may not have tag templates and configuration set up yet in the CAISO DEMO / CISO QA tag environment for the ISO RSEE2T2 Market Simulation
 - Please continue to set up your tags, tag templates and configurations in the CAISO DEMO / CISO QA tag environment for ISO RSEE2T2 Market Simulation
 - Your organization's OATI PM may be able to assist you in copying over the templates from another tag environment (OATI DEV) to the CAISO DEMO / CISO QA tag environment
- To support customers that are still transitioning to the CAISO DEMO / CISO QA tag environment for the ISO RSEE2T2 Market Simulation
 - The ISO will also enable the RSEE2T2 G-FP Export tag structure validation in the OATI DEMO tag environment for the CAISO MAP TEST Market environment
 - This will allow customers to verify the tag structure validation that requires G-FP Export tags have priority type of "DALPT", "RTLPT", or "RTECON" or else they will be denied upon creation
 - The ISO DA (1530 & 1730) and RT (T-40) auto-adjustments are active in the OATI DEMO tag environment against the CAISO MAP TEST Market environment
 - The CAISO MAP TEST Market environment isn't available to ISO customers, so while you may see tags being auto-adjusted in the OATI DEMO environment, you will not be able to review the corresponding MAP TEST market results
 - Please work to configure your tags in the CAISO DEMO / CISO QA environment to fully participate in the RSEE2T2 Market Simulation in the ISO MAP STAGE environment

Transmission service & market scheduling priorities phase 1

Scenario Number	Unstructured scenario	
	Description	
1	ISO Actions	<ol style="list-style-type: none"> 1. Define submission windows for monthly PWT requests. 2. Verify PWT requests and prepare PWT awards. 3. ISO will publish market sim wheeling through priority request due date.
	WEIM Market Participant Actions	<ol style="list-style-type: none"> 1. Provision certificate access for the new role applicable for webWheel™. 2. Register PWT resource id's in CAISO master file. 3. Verify scheduling coordinators have access to PWT rule. 4. Register contract related information in PWT. 5. Submit PWT requests and verify received awards for monthly process. 6. Review PWT ATC awards for monthly process.
	ISO Market Participant Actions	<ol style="list-style-type: none"> 1. Provision certificate access for the new role applicable for webWheel™. 2. Register PWT resource id's in CAISO master file. 3. Verify scheduling coordinators have access to PWT rule. 4. Register contract related information in PWT. 5. Submit PWT requests and verify received awards for monthly process. 6. Review PWT ATC awards for monthly process. 7. Submit non RA contracts in CIRA 'Historic and new' for LSE's.
	Expected Outcome	<p>Participants to verify:</p> <ol style="list-style-type: none"> 1) Contract information in PWT . 2) PWT request submission. 3) PWT awards review. 4) Review non RA contracts in CIRA: Plan--> NLN Submission . 5) Review results in OASIS.
	Anticipated Settlement Outcome	N/A

WEIM Resource Sufficiency Evaluation Redesign

Phase2

Scenario Number	Unstructured scenario (RSEE2 Track -2)	
1	Description	Facilitate submission for Auto Approval of Export e-Tags with Product Code and CAISO_PRIORITY_TYPE.
	ISO Actions	N/A
	WEIM Market Participant Actions	<p>a) After the DA or HASP market results are published, Market Participants should e-tag several export resources as “Firm Provisional Energy (G-FP)” (via the Market Path product field) and mark “CAISO_PRIORITY_TYPE” in “Misc Info” as RTECON, RTLPT or DALPT</p> <p>b) Before or after the DA or HASP market results are published Market Participants should e-tag several export resources as product type other than G-FP (via Market Path product field) and mark “CAISO_PRIORITY_TYPE” in “Misc Info” as DAPT or RTPT</p>
	ISO Market Participant Actions	<p>a) After the DA or HASP market results are published, Market Participants should e-tag several export resources as “Firm Provisional Energy (G-FP)” (via the Market Path product field) and mark “CAISO_PRIORITY_TYPE” in “Misc Info” as RTECON, RTLPT or DALPT</p> <p>b) Before or after the DA or HASP market results are published Market Participants should e-tag several export resources as product type other than G-FP (via Market Path product field) and mark “CAISO_PRIORITY_TYPE” in “Misc Info” as DAPT or RTPT</p>
	Expected Outcome	Market Participants verify CISO approval of G-FP and other export resources e-tags in their own Web Smart Tag system. CAISO Operators will verify ITS for G-FP e-tags.
	Anticipated Settlement Outcome	N/A
	Expected Settlement Outcome	N/A

WEIM Resource Sufficiency Evaluation Redesign

Phase2

Scenario Number	Unstructured scenario (RSEE2 Track -2)	
2	Description	Facilitate submission for Auto Denial of Export E-Tags without final market priority from DA or HASP market runs or with incorrect Product Code and CAISO_PRIORITY_TYPE.
	ISO Actions	N/A
	WEIM Market Participant Actions	<ul style="list-style-type: none"> a) (new scenario) Before the DA or HASP market results are published, Market Participants should e-tag several export resources as "Firm Provisional Energy (G-FP)" (via the Market Path product field) and mark "CAISO_PRIORITY_TYPE" in "Misc Info" as RTECON, RTLPT or DALPT b) After DA or HASP market publishes Market Participants should e-tag several export resources as "Firm Provisional Energy (G-FP)" (via the Market Path product field) and mark "CAISO_PRIORITY_TYPE" in "Misc Info" as DAPT, RTPT c) Before or after the DA or HASP market results are published Market Participants should e-tag several export resources as product type other than G-FP (via Market Path product field) and mark "CAISO_PRIORITY_TYPE" in "Misc Info" as DALPT, RTLPT or RTECON
	ISO Market Participant Actions	<ul style="list-style-type: none"> a) N(new scenario) Before the DA or HASP market results are published, Market Participants should e-tag several export resources as "Firm Provisional Energy (G-FP)" (via the Market Path product field) and mark "CAISO_PRIORITY_TYPE" in "Misc Info" as RTECON, RTLPT or DALPT b) After DA or HASP market publishes Market Participants should e-tag several export resources as "Firm Provisional Energy (G-FP)" (via the Market Path product field) and mark "CAISO_PRIORITY_TYPE" in "Misc Info" as DAPT, RTPT c) Before or after the DA or HASP market results are published Market Participants should e-tag several export resources as product type other than G-FP (via Market Path product field) and mark "CAISO_PRIORITY_TYPE" in "Misc Info" as DALPT, RTLPT or RTECON
	Expected Outcome	Market Participants verify e-Tags in their own Web Smart Tag system for denial. CAISO Operators will verify denial in ITS.

WEIM Resource Sufficiency Evaluation Redesign

Phase2

Scenario Number	Structured scenario (RSEE2 Track -2)	
3	Description	Verify Pro-Rata curtailment of low priority exports
	ISO Actions	a) CAISO initiates EEA3 level alert. b) CAISO initiates pro-rata curtailments of low priority exports of G-FP eTags with the following CAISO Priority types: <ul style="list-style-type: none"> • RTECON • RTLPT • DALPT (non-high priority DA export)
	WEIM Market Participant Actions	Market Participants should do the following before EEA3 alert is issued a) e-Tag several export resources as "Firm Provisional Energy (G-FP)" (via Market Path product field). b) Mark "CAISO Priority Type" in "Misc Info" as RTECON, RTLPT, DAECON and/or DALPT
	ISO Market Participant Actions	Market Participants should do the following before EEA3 alert is issued c) e-Tag several export resources as "Firm Provisional Energy (G-FP)" (via Market Path product field). d) Mark "CAISO Priority Type" in "Misc Info" as RTECON, RTLPT, DAECON and/or DALPT
	Expected Outcome	Market Participants verify curtailed G-FP e-tags in their own Web Smart Tag system. CAISO Operators will verify ITS for the curtailed G-FP e-tags.

WEIM Resource Sufficiency Evaluation Redesign Phase2

Scenario Number	Unstructured scenario (RSEE2 Track -2)	
4	Description	Verify ADS instructions include Market Priority when HASP results broadcast to ADS: CRN_ID, DAPT, DALPT, RTPT, RTLPT, RTECON
	ISO Actions	N/A
	WEIM Market Participant Actions	Market Participants should submit bids for different priority types on the same Resource or Transaction ID in order for ADS to dispatch one resource with more than one priority type. (i.e. submit a DA SS LPT on a specific resource or transaction ID, then also submit a RT SS LPT and a RTECON bid on that same resource or transaction ID)
	ISO Market Participant Actions	Market Participants should submit bids for different priority types on the same Resource or Transaction ID in order for ADS to dispatch one resource with more than one priority type. (i.e. submit a DA SS LPT on a specific resource or transaction ID, then also submit a RT SS LPT and a RTECON bid on that same resource or transaction ID)
	Expected Outcome	Market Participants verify in ADS Market Priority CAISO Operators verify in ADS Market Priority
	Anticipated Settlement Outcome	N/A
	Expected Settlement Outcome	N/A

Transmission service & market scheduling priorities phase 2 - Monthly

- **Timeline:** 03/04 - 03/29
- **Scenario:** 03/05, 03/07
- **Access:**
 - Please work with your UAA to provision access to webWheel™

Scenario document –

https://www.caiso.com/Documents/MarketSimulationStructure_dScenarios-Transmissionserviceandmarketschedulingpriorities-phase2.pdf

WEIM Resource Sufficiency Evaluation Redesign Phase 2

- **Timeline:** 03/19 - 05/03
- **Structured:** 03/26, 03/28, 04/02, 04/11, 04/16, 04/18, 04/25
- **Testing hours:** 3PM - 5PM

Structured Scenarios document -

<https://www.caiso.com/Documents/MarketSimulationStructuredScenarios-ResourceSufficiencyEvaluationEnhancements-Phase2Track2.pdf>

Transmission service & market scheduling priorities phase 2 - Daily

Scenario Number	Unstructured scenario TD 05/14	
2	Description	Facilitate submission and retrieval of Daily PWT requests and awards.
	ISO Actions	<ol style="list-style-type: none"> 1. Define submission windows for Daily PWT requests. (05/09- 05/13 3PM) 2. Verify Daily PWT requests and prepare Daily PWT awards. (05/13 3PM-03:30PM)
	WEIM Market Participant Actions	N/A
	ISO Market Participant Actions	<ol style="list-style-type: none"> 1. Submit PWT requests (05/09- 05/13 3PM) and verify received awards for Daily process. (05/13 03:30PM) 2. Review PWT ATC awards for Daily process. (05/13 03:30PM) 3. Verify wheeling access charges (WAC) for periods PWT ATC is reserved. (After Settlements statements are published)
	Expected Outcome	Participants to verify TD (05/14): <ol style="list-style-type: none"> 1) PWT request submission. (05/09- 05/13 3PM) 2) PWT awards review. (05/13 03:30PM) 3) Review results in OASIS. (05/13 03:30PM) 4) PWT awards used in SIBR(05/13 03:30PM) – SIBR will use awards for validation of submitted wheeling bids 5) Review PWT awards in Settlements. (After Settlements statements are published)
	Anticipated Settlement Outcome	Verify wheeling access charge for PWT ATC awards
	Expected Settlement Outcome	Wheel export quantity pre-calc CC382- High voltage, CC383- low voltage

Advisory Shutdown Flag Data

- **Timeline:** Jun 25 – Jul 10, 2024

Guidance on Market Participant Impacts	Source System(s)	Sink System	Impacts
<p>Unstructured Test Scenario: Generator receives advisory shutdown instruction for one of its generator resources and settles appropriately.</p> <ul style="list-style-type: none">- SC submits IFM and RTM bids for its portfolio of generator resources- Both IFM and RTM markets run for the simulation trade date- During a FMM/RTPD run for the simulated trade date, the market instructs an advisory shutdown for one or more of the generators in the portfolio- SC receives the advisory shutdown instruction in real-time through the new CMRI report (instead of through ADS)- After the simulated trade date is over, the simulation will provide a settlement statement to show the BD BA_5M_RSRC_ADVISORY_SHUTDOWN_FLAG is correctly aligned with the CMRI report.	CMRI Settlements	External Resource SC	1. New Interface 2. New Report 3. Modified System/ Process