



# Market Simulation Call - Fall 2020 Release & Independent 2020 Releases

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# Agenda

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  - Intertie Deviation Settlement
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# Fall 2020 Release MAP Stage Availability

- Refer to MAP Stage portal <https://portalmap.caiso.com> for system availability information
- Current MAP Stage Maintenance
  - None
- Upcoming MAP Stage & Stage Maintenance
  - **MAP STAGE**
    - Friday 10/2: CMRI UI/API closure, system will be unavailable
  - **STAGE**
    - Friday 10/2: ADS UI/API: 2 hour outage
    - Monday 10/5: ADS cutover dry run 1500-1700 PT, [customers invited to participate](#)
- MAP Stage Weekly Maintenance Window
  - Friday

# Known Issues - ADS

#	System	Summary	Status	Estimated Fix Date
1	ADS	Few Participants are not able to share & load the Profile/Template	Fixed	9/30
2	ADS	ADS Query Tool Dead Space on the bottom when lots of data available to show	Fixed	9/30
3	ADS	Pop up and audible alarm settings not being saved with profile	Fixed	9/30
4	ADS	Trajectory Plot does not refresh with latest DOT automatically	Fixed	9/30
5	ADS	ADS Query - Seconds are missing from Batch Received and Sent Fields	Fixed	9/30
6	ADS	Support to share/port over the profiles across environment	Will help manually porting over one profile per user upon request. Please submit CIDI ticket with the details ( Profile Name, User ID & Environment To & From)	N/A

# ADS: Upcoming Changes for Query Tool

Based on several feedback we planned to make some changes for 'Query Tool', It will also improve the performance . Summary is given below:

- Allow user to retrieve data for 39 months:
  - 30 days max at a time for batchType Instructions
  - System will allow only 1 day at a time for batchType 'Trajectory' & 'MSS LF Instructions'
    - System to allow user select only startDate
    - System will automatically adjust the EndDate with user selected startDate.
- Provide user the option to choose what batchType to query for (Making it similar to Existing Query Tool functionality).
  - Available batchType:
    - Instructions (Includes following):
      - DOT
      - Commitment
      - AS Awards
      - Operating Instructions
      - ASTEST
      - Energy
      - Exceptional dispatch
    - Trajectory
    - MSS LF Instructions

# ADS: Visual for Upcoming Changes for Query Tool

The screenshot displays the 'Query Tool' interface in a Google Chrome browser. At the top, there are input fields for 'Start Date' (10/01/2020) and 'End Date' (10/01/2020), a 'Batch Type' dropdown menu, and a 'Resource' field. The 'Batch Type' dropdown is open, showing options: 'Instructions', 'Instructions', 'Trajectory', and 'MSSLF Instructions'. Below this is a 'Query Requests' section with a 'Requested Date' field and a 'Batch Type' dropdown. The main part of the interface is a table with columns: Resource ID, Interval Start Time, Market ID, Batch Type, Instruction Type, Sent, Configuration ID, Batch Received, Start Time, End Time, DOT, AS Type, Cleared MW, Award MW, Self Sched MW, ED Energy Code, Prev DOT, Min Accept DOT, Accept DOT, Accept Status, Hourly Sched, HASE SUPP, RMP, SPIN, NSPIN, MSSLF, TBD, and Bid. The table is currently empty. Below the table, there are three more instances of the 'Query Requests' section, each with its own 'Start Date', 'Batch Type', and 'Resource' fields. The first instance has 'Start Date: 10/01/2020' and 'Batch Type: MSSLF Instructions'. The second instance has 'Start Date: 10/01/2020' and 'Batch Type: Trajectory'. The third instance has 'Start Date: 10/01/2020' and 'Batch Type: Trajectory'. Each instance also has a 'Submit Query Request' button.

## ADS Replacement Transition - Cutover Dry Run in Stage/Parallel Operations environment

- Market Participants are invited to participate in the Cutover Dry Run in the Stage/Parallel Operations environment
- Monday 10/5 1500-1700 PT
- For Delphi client access to Stage, you may need to update the servers.xml file available on the Dev site under ADS
- A bridge will be provided

# ADS Replacement Transition

- *October 7* production deployment is pending ISO's quality review board decision
- ISO Operations will start using the new client and will keep the Delphi client available.
- Enhancements that require different Operator actions under the new client will be disabled until everyone has transitioned to the new client.
  - These enhancements will continue to be tested in MAPStage.
  - During this time, existing procedures will be utilized.
  - These enhancements include:
    - DOTT
    - Unannounced AS TEST
    - RTCD Commitment
  - ISO operators will conduct AS testing and issue operating instructions when needed to units using phone call (current process) while these enhancements are de-active in production. ISO operator will follow up with an ED instruction after phone call for AS testing. SCs should continue to respond to AS testing instructions and operating instructions.
- New data for FRU/FRD and FMM inter-ties will be available in the new ADS upon go-live of the ADS replacement
- v6, v7, and v8 API will be supported upon go-live of the ADS replacement

# ADS Replacement Transition

ADS Replacement Features on Go-Live	
Available	<ul style="list-style-type: none"><li>• 5 minute FRU/FRD</li><li>• 15 min FRU/FRD</li><li>• 15 Min Energy</li><li>• Removing Duplicate ED Entries in Instruction Grids.</li><li>• AIM ACL</li><li>• Operator messages view/download</li><li>• New columns<ul style="list-style-type: none"><li>• Previous Supp: similar to RT Prev DOT, will show last binding Supp.</li><li>• RT Sup Delta: similar to RT DOT Delta, will show difference between RT Supp. Energy and Previous Supp.</li><li>• Prev Accept DOT</li><li>• Accept DOT Delta</li><li>• Current DOT Delta</li></ul></li></ul>
Disabled	<ul style="list-style-type: none"><li>• DOTT</li><li>• Unannounced AS TEST</li><li>• RTCD Commitment</li></ul>

# ADS Replacement – Cutover Activities At a Glance

Milestone Date	Activity	MAPStage	Stage	Production
7/27/2020	New Code Available	New ADS UI ADS API V8	-	-
7/27/2020	Hard Cut-Over	ADS API V6	-	-
09/01/2020	New Code Available	-	New ADS UI ADS API V8	-
09/01/2020	Hard Cut-Over	-	ADS API V6	-
09/04/2020	Milestone	End Market Sim	-	-
09/30/2020	Milestone	-	End Parallel Operations	-
10/7/2020	New Code Available	-	-	New ADS UI ADS API V8 Production Go-Live
10/1/2020	Hard Cut-Over	-	-	ADS API V6
10/16/2020	Milestone	-	End Parallel Operations	
11/04/2020	Hard Cut-Over	Current ADS Delphi Client	Current ADS Delphi Client	-
02/01/2021	Hard Cut-Over	-	-	Current ADS Delphi Client ADS API V6

# ADS Replacement Transition

- October 7 production deployment is pending ISO's quality review board decision
- **What to expect:**
  - Backward compatible: Delphi client and V6 APIs
  - Target time is between 9-11 AM PDT
  - \*ADS interruption will be between 1015-1040 PT to avoid the hourly ramp
  - Planning for minimal downtime (10 min); the user interface will disconnect and automatically reconnect
    - *During this transition of downtime, SCs should continue to follow the last available DOT until new DOT becomes available.*
  - There will be a brief interruption to ADSWS (API)
  - **Market:**
    - Prior to cutover, RTD will send dispatches to all just like today
    - Then the outage starts and ADS will be down for all so no one will receive any dispatches. Everyone will remain at the last DOT sent (so they will stay flat). The expected down time is only around 10 minutes
    - During the outage ISO Operations will use the "send previous solution" functionality. This will also keep everyone flat because we just keep sending the previous DOTs
    - Then ADS comes back up. We will continue to stay flat and use previous solution so that DOTs are actually being sent to ADS. Then participants can verify that they are receiving DOTs just like before the outage started
    - Then once we get confirmation that DOTs are being received, then we will stop using the previous solution and we will switch over to using the "market disconnect". Since the market has been flat and using previous solution for a few intervals, we want to make sure that participants are comfortable with the new dispatch instructions that are about to be sent before actually sending them, to avoid any large swings here. This mitigation step will allow ISO Operations and EIM customers to verify their dispatches in BAAOP to decide whether or not to resume with latest market results.
    - Then if everyone is good with the new dispatch instructions, we turn off market disconnect and proceed as normal going forward.
- Data will be retained as it is today
- Customers are asked to join a bridge during the deployment - refer to public calendar and customer notice
- Parallel Operations will be extended to 10/16 in Stage

## ADS Replacement Transition

Planned Time	Action	Task	Team	MP Action / Comments
9:00	Validate	Login to current ADS and verify dispatches are coming	ISO MP	
9:00	Execute	Final Go/No-Go	ISO	
9:00	Execute	Open firewall to allow traffic in ADSWS and ADSUI	ISO	Continue to use current ADS and verify dispatches are coming
10:00	Execute	Apply Integration Changes	ISO	Continue to use current ADS and verify dispatches are coming
10:00	Validate	Verify data flowing into ADS	ISO	
10:00	Execute	Restart ADSWS	ISO	
10:00	Execute	Apply DNS changes	ISO	
10:00	Validate	Verify Users are able to login to new ADS UI	ISO MP	Verify external users are able to login to new ADS UI
10:00	Validate	Verify access to API v6, v7, v8	ISO MP	
10:00	Validate	Verify ADS is receiving data from upstream systems	ISO	
10:00	Validate	Verify ADS is sending data	ISO	
11:00	Validate	Verify Users successfully logged into ADS	ISO	

\*ADS interruption will be between 1015-1040 PT to avoid the hourly ramp

# ADS Replacement – Cutover Activities at a Glance

Even for use of existing ADS API URL and versions (v6 & v7), you may need to whitelist the new ADS API IPs as access to the v6 & v7 will redirect to the new IPs.

	MAP-STAGE	STAGE	PRODUCTION
API Existing URL	<a href="https://adsmap.caiso.com:447/">https://adsmap.caiso.com:447/</a>	<a href="https://adsstage.caiso.com:447/">https://adsstage.caiso.com:447</a>	<a href="https://ads.caiso.com:447/">https://ads.caiso.com:447/</a>
API Existing IPs	12.200.60.164	12.200.60.237 12.200.60.238	12.200.60.98 12.200.60.99 12.231.58.98 12.231.58.99
<b>API New Additional IPs</b>	<b>45.42.17.165</b> <b>45.42.23.165</b>	<b>45.42.17.51 - correction</b> <b>45.42.23.51 - correction</b>	<b>45.42.16.51</b> <b>45.42.22.51</b>
UI Existing URL	<a href="https://adsmap.caiso.com:447/">https://adsmap.caiso.com:447/</a>	<a href="https://adsstage.caiso.com:447/">https://adsstage.caiso.com:447</a>	<a href="https://ads.caiso.com:447/">https://ads.caiso.com:447/</a>
UI Existing IP	12.200.60.164	12.200.60.237 12.200.60.238	12.200.60.98 12.200.60.99 12,231.58.98 12.231.58.99
UI New Additional URL	<a href="https://ads.map.caiso.com/">https://ads.map.caiso.com/</a>	<a href="https://ads.stage.caiso.com/">https://ads.stage.caiso.com/</a>	<a href="https://ads.prod.caiso.com/">https://ads.prod.caiso.com/</a>
UI New Additional IP	45.42.17.130 45.42.23.130	45.42.17.16 45.42.23.16	45.42.16.16 45.42.22.16

# Independent 2020 Releases

# Independent 2020 Releases Structured Scenario Registration Details

MP's will need to register their request with the ISO to participate in this simulation via the [MarketSim@caiso.com](mailto:MarketSim@caiso.com) mailbox.

Date of registration October 9, 2020.

We will do our best to accommodate for late registration

# Independent 2020 Releases Market Simulation Initiatives & Timelines

<b>Independent 2020 Release Initiatives</b>	<b>Start Date</b>	<b>Start Date (Trade Date)</b>	<b>End Date</b>	<b>Structured Simulation Start (Trade Date)</b>
<b>Independent 2020 Release Market Simulation</b>				
Aliso Canyon Phase 5	10/13/20		10/28/20	N/A
FRP Improvements - Buffer and Min	10/13/20		10/28/20	10/13/20
Energy Imbalance Market (EIM) Enhancements 2020	10/19/20		10/30/20	N/A
Hybrid Resources - Phase 1	10/26/20		11/13/20	TBD
Commitment Costs and Default Energy Bid Enhancements Phase 1	7/27/20		11/24/20	N/A
Nodal Pricing Model	10/6/20		11/13/20	10/27/20
Intertie Deviation Settlement	10/20/20		11/20/20	10/21/20
Symmetrical Wheeling	10/20/20		11/20/20	
Settlements Q4/Winter Release	10/6/20		11/13/20	

# Aliso Canyon Phase 5

- **Timeline:** October 13 – October 28

Business Requirements Specification -

<http://www.caiso.com/Documents/BusinessRequirementsSpecification-AlisoCanyonPhase5.pdf>

# FRP Improvements - Buffer and Min

- **Timeline:** October 13 – October 28

Structured Scenarios document -

<http://www.caiso.com/Documents/MarketSimulationScenarios-FRPImprovementsBufferandMin.pdf>

# Energy Imbalance Market (EIM) Enhancements 2020

- **Timeline:** October 19 – October 30 (CMRI)
- BAAOP & BSAP currently available in MAP-Stage

Unstructured Scenarios document -

<http://www.caiso.com/Documents/MarketSimulationScenariosEnergyImbalanceMarket2020Enhancements.pdf>

# Hybrid Resources - Phase 1

- **Timeline:** October 26 – November 13

Business Requirements Specification -

<http://www.caiso.com/Documents/BusinessRequirementsSpecification-HybridResourcesPhase1.pdf>

# Commitment Costs and Default Energy Bid Enhancements

- **Timeline:** July 27 – November 24
- Training - <http://www.caiso.com/Documents/Presentation-CommitmentCosts-DefaultEnergyBidEnhancements.pdf>

# Nodal Pricing Model

- **Timeline:** October 6 – November 13
- **Structured:** October 27

Structured Scenarios document -

[http://www.caiso.com/Documents/NPM\\_structured\\_mktsim-Reviewed.pdf](http://www.caiso.com/Documents/NPM_structured_mktsim-Reviewed.pdf)

# Intertie Deviation Settlement

- **Timeline:** October 20 – November 20

Structured Scenarios document -

<http://www.caiso.com/Documents/MarketSimulationScenariosIntertieDeviationSettlement.pdf>

# Symmetrical Wheeling

- **Timeline:** October 20 – November 20

# Settlements Q4/Winter Release

## Release Milestones as follows:

- 1st draft technical documentation posted = 8/10
  - Posted IDS and Day Ahead Nodal (NPM project)
- 1st draft configuration output file + initial release component summary to post = 8/25
  - Will include current project scope -> IDS, Day Ahead Nodal & Symmetrical Wheeling
  - Also 1st draft tech doc for Symmetrical Wheeling
- 2nd draft configuration output file + 2nd draft tech docs + updated release component summary posted = 9/14
  - Includes 2 dispute related production adjustments:
    - RTM Net Amount PC for RMR capacity payment
    - Spin Non-Spin No Pay Quantity PC for fast start units
- 3rd draft configuration output file (pre market sim) to post = 10/2
- MAP-Stage deployment - 10/6
- Connectivity for PAC 10/13 - 10/21
- Structured scenarios 10/27 - 11/4

## Winter 2020 settlements release draft settlements technical documentation:

<http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=EF90CE68-D8D0-43F7-8052-04FBE1D0825B>

# Next Steps

- The next teleconference is scheduled on Monday, October 5 at 1400 PDT

# Reference Slides

# Independent 2020 Releases Communication Plan

- **Schedule**

<b><i>Monday</i></b> Sep 28, Oct 5,12,19, 26 Nov 2, 9	<b><i>Thursday</i></b> Oct 1,8,15, 22, 29 Nov 5, 12
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- **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: 866-528-2256
- International Dial-in: 216-706-7052
- Access Code: 202 249 0

# Market Simulation Issue Management

- Submit all issues to the CIDI case management system
- CIDI tickets must have “**Functional Environment**” = “**Market Simulation Independent 2020**” 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)
  - Issues called in after hours will be worked on during the next business day
- **Email:** [MarketSim@caiso.com](mailto:MarketSim@caiso.com)

# Automated Dispatch System (ADS) replacement

- **Timeline:** July 27 – September 04
- **Structured:** August 11 (Completed)  
Rerun on 8/18 per Market Participant Request - Complete

Structured Scenarios document -

<http://www.caiso.com/Documents/MarketSimulationScenarios-ADSReplacement.pdf>

Training -

- <http://www.caiso.com/Documents/AutomatedDispatchSystemReplacementPart1.pdf>
- <http://www.caiso.com/Documents/AutomatedDispatchSystemReplacementPart2.pdf>

# ADS: Update on Changes for FMM AS/EN

- Based on several feedback we planned to make some changes for 'FMM AS/EN' from Interval Grid and how it's filter the data when user click on 'Filter Resource' checkbox. Summary is given below:
  - Proposed change:
    - Renamed the 'FMM AS/EN' as 'FMM AS'
    - Checkbox must filter only the operating reserve ( Non-zero SR, NR, RU & RD).
  - Notes:
    - For FMM AS, keep processing and displaying all productType (SR, NR, RU, RD, FRU, FRD, LFU, LFD as applicable) for
      - Visual alert (pop-up/dialogue) – FMM AS
      - Visual alert (Flashing) – No change
      - Audio alert - No Change
    - For FMM Energy, keep processing and displaying productType (EN)
      - Visual alert (pop-up/dialogue) – FMM Energy
      - Visual alert (Flashing) – **No Flashing**
      - Audio alert - No Change
    - The audio alert for **FMM energy** will still be able to be configured for no alarm, 1 time, or continuous
    - Batch types will remain two separate ( batchType = 11 for 'FMM Energy', batchType = 3 for 'FMM AS' ('RT AS') also known as 'AS Awards')
    - The message will show as own message in message history.
    - API remains same (FMM energy dispatches & intertie bid type available)
- Update: This ADSUI changes is completed and will be ready on MKT-SIM on 9/28.

# ADS SSL Cipher Settings with ADS Cutover

As discussed on 9/15 TUG:

- **New SSL cipher settings will be enforced with for ADS with ADS cutovers in MAP-Stage, Stage, and Production**
- **No change in TLS version - TLS will remain 1.2**
- **We encourage customers to transition to the new SSL cipher settings as early as possible to avoid impacts when the new settings become enforced for ADS**
- In MAP-Stage and Stage
  - *On **11/4/20** old ADS will no longer be available, and participants will need to have the new SSL cipher settings to continue using new ADS UI and any ADS API (including v7)*
- In Production
  - When new ADS is available 10/1, we will not enforce the new SSL cipher settings
  - *On **2/1/21** old ADS will no longer be available, and participants will need to have the new SSL cipher settings to continue using new ADS UI and any ADS API (including v7)*

# ADS SSL Cipher Settings with ADS Cutover - continued

- Here is the list of the ciphers being accepted today, in comparison to the reduced list that will be enforced with the ADS cutover:

Currently Supported TLS 1.2 ciphers	Future Supported TLS 1.2 ciphers to be enforced 11/4 in MAP-STAGE/STAGE and 2/1 in PRODUCTION
TLS_DHE_RSA_WITH_AES_128_CBC_SHA TLS_DHE_RSA_WITH_AES_128_CBC_SHA256 TLS_DHE_RSA_WITH_AES_128_GCM_SHA256 TLS_DHE_RSA_WITH_AES_256_CBC_SHA TLS_DHE_RSA_WITH_AES_256_CBC_SHA256 TLS_DHE_RSA_WITH_AES_256_GCM_SHA384 TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256 TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 TLS_RSA_WITH_AES_128_CBC_SHA TLS_RSA_WITH_AES_128_CBC_SHA256 TLS_RSA_WITH_AES_128_GCM_SHA256 TLS_RSA_WITH_AES_256_CBC_SHA TLS_RSA_WITH_AES_256_CBC_SHA256 TLS_RSA_WITH_AES_256_GCM_SHA384	TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256 TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384

# ADS dependencies for DOTTC, IDS functionality

- New functionality includes
  - Follow DOT Flag
  - Operating instructions
  - Un announced AS TEST
  - RTCD Commitment
  - Receive Operating instruction flag for EIRs
  - Broadcast message to EIRs operator
  - Display the HASP schedule, the scheduling coordinator accepted value, and the difference between the two

## ADS Replacement – Data availability – During Parallel Operations

- During parallel operation Data for new functionalities (such as Follow DOT Flag, Operating instructions, Un announced AS TEST, RTCD Commitment) will not be available as we will stream production data to parallel environment.
- For those new functionalities data will be available in MAPStage.

# Trouble-shooting tips to access ADS

- Check your firewall settings.
- Clear the browser cache & cookies.
- Pop-up blockers on your browser may lead to issues accessing CAISO ADS.
- If you use a pop-up blocker, you must whitelist the CAISO domain (caiso.com)