Automated Dispatch System (ADS) Replacement Training Webinar Part 2

Gina Wansor
Sr. Client Trainer, Customer Readiness

July 16, 2020
Introduction: what is ADS? Let’s review!

• Automated Dispatch System (ADS) User Interface (UI) is used to view market dispatch instructions provided by the Real Time Market
• Currently, ADS can be used to view:
  – View Dispatch instructions
    • Dispatch Operating Targets (DOTs)
    • Commitment Instructions (Startups/Shutdowns/Transitions)
    • Ancillary Services
  – Critical ISO messages
  – Historical data
Previously, in ADS Replacement Part 1 Training:

- New ADS User Interface/WebSDK version
  - Look & Feel
  - What changed in what you do in the current UI vs. new UI
- **Business Requirements Specification 1.0** (BRS 1.0)
  - Covered some changes which will be applied in the new ADS user interface (UI) as part of the ADS Replacement Project
  - BRS Section 6.8 Manage ADS Messages
    - Querying Messages & new enhanced visibility
    - Query tool in the new UI
  - BRS Section 6.9 Manage Access to ADS Data
    - Data retention (this has also been covered in ADS CPG)
  - BRS 6.10 Manage Enhanced Access Controls
    - Access using Access Control Lists (ACL) in AIM (covered in overview on June 1)
    - Touch base with your UAA to ensure correct access for each phase
Reviewing grids
Today’s training:

• Review the planned timeline
• Become familiar with changes being implemented in Fall 2020 and in preparation for Market Simulation
  – Market Simulation starts July 27, 2020
  – Market Sim kickoff call is July 23, 2020
• Cover changes which will be applied in the new ADS user interface (UI) and/or the v8 API/webservice as part of the ADS Replacement Project
  – Business Requirements Specification 1.0 (BRS 1.0)
  – BRS Section 6.2 Manage Flex Ramp modifications (SC impacts)
  – BRS Section 6.3 Manage NSPIN Economic Dispatch
  – BRS Section 6.4 Manage Unannounced A/S Test Instructions
  – BRS Section 6.5 Manage Exceptional Dispatch (ED) Instructions
  – BRS Section 6.6 Manage DOT & SUPP Values
  – BRS Section 6.7 Manage DOT Value Acceptance/Variation

Note: Operating Instruction and Follow DOT flag per Dispatch Operating Target Tariff Clarification project will be covered in the training following this session
ADS Replacement

TRANSITION TIMELINE
ADS Replacement Phases - new UI and API v8 release

Market Simulation
• July 27-September 4, 2020
• MAPStage Environment with Structured Scenarios
• Note: MAPStage Environment will remain available until Nov 4

Parallel Operations
• September 1 - September 30
• Stage Environment, streaming Production data
• Note: Stage Environment will remain available until Nov 4

Production Go-Live!
• October 1
• Production Environment
• Note: Current (old) ADS will remain avail until Feb 1 (decommissioned on Feb 1)

For more information on the transition, refer to ADS CPG from July 9, 2020
www.caiso.com >> Stay Informed >> Meetings >> Customer Partnership Group >> ADS 7/9/2020
# Cutover activities at a glance by date and environment

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>MAP Stage Environment</th>
<th>Stage Environment</th>
<th>Production Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/27/2020</td>
<td>New Code Available</td>
<td>New ADS UI, ADS API V8</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Begin Market Sim</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/27/2020</td>
<td>Hard Cut-Over</td>
<td>ADS API V6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>*Decommissioning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09/01/2020</td>
<td>New Code Available</td>
<td>-</td>
<td>New ADS UI, ADS API V8</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Begin Parallel Operations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09/01/2020</td>
<td>Hard Cut-Over</td>
<td>-</td>
<td>ADS API V6</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>*Decommissioning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09/04/2020</td>
<td>Milestone</td>
<td>End Market Sim</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>09/30/2020</td>
<td>Milestone</td>
<td>-</td>
<td>End Parallel Operations</td>
<td>-</td>
</tr>
<tr>
<td>10/1/2020</td>
<td>New Code Available</td>
<td>-</td>
<td>-</td>
<td>New ADS UI, ADS API V8</td>
</tr>
<tr>
<td></td>
<td>Production Go-Live</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10/1/2020</td>
<td>Hard Cut-Over</td>
<td>-</td>
<td>-</td>
<td>ADS API V6</td>
</tr>
<tr>
<td></td>
<td>*Decommissioning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11/04/2020</td>
<td>Hard Cut-Over</td>
<td>Current ADS Delphi Client</td>
<td>Current ADS Delphi Client</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>*Decommissioning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02/01/2021</td>
<td>Hard Cut-Over</td>
<td>-</td>
<td>-</td>
<td>Current ADS Delphi Client</td>
</tr>
<tr>
<td></td>
<td>*Decommissioning</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ADS Replacement

OVERVIEW OF CHANGES
Flex Ramp Modifications (6.2)

- Display **Real Time Dispatch (RTD)** and **Fifteen Minute Market (FMM)** binding Flex Ramp Up and Flex Ramp Down (FRU & FRD) awards in the Resource Data Grid
  - Generator resources
  - Tie Generator resources

If you registered for Market Sim participation, validate viewing this data as part of structured scenario

*Data supported in new ADS UI & ADS v8 API*
FMM Energy Dispatches (6.2)

- Display FMM Energy Dispatches (Schedules) and the Bid Type in 15 minute displays
  - 15-min Intertie Resources
- Additional Alarm/Ppop up Notification added
- This data will be published to ADS from the Real Time Market

If you registered for Market Sim participation, validate viewing this data as part of structured scenario
Data supported in new ADS UI & ADS v8 API
Manage NSPIN Economic Dispatch (6.3)

- CAISO BA market functionality
  - Real Time Contingency Dispatch (RTCD): mode of the Real-Time Dispatch that will be invoked when a transmission or generation Contingency occurs and will include all Contingency Only Operating Reserves in the optimization [BPM Definitions & Acronyms]
  - Non-spin, Spin Reserves
    - Currently, during the use of the RTCD mode, if non-spin (NSPIN) is included, all NSPIN qualified resources with NSPIN awards are flagged in
Describe the new non-spin RTCD functionality. (6.3)

- Market functionality
  - New: RTCD shall run economic optimization for NSPIN (NSPIN qualified resources which are offline and with NSPIN awards)
    - Additionally, economic dispatch for resource capacity which is included in an energy bid will be included in optimization
  - Market will immediately broadcast Startups for resources which are committed and ADS will process and display the start up instructions through the Commitment Batch type
- ADS UI does not have direct visible impact (columns or grids)
- No impact to EIM entities
Unannounced Ancillary Service (A/S) Testing (6.4)

- Initiating unannounced ancillary service testing for **CAISO BA resources** in the market ("ASTEST" instruction)

- Applicable for resources with SPIN and NSPIN awards
  - Currently, the process you may be familiar with is part of the Resource Performance Verification procedures OP 5370 (www.caiso.com >> rules >> Operating Procedures)

- Does not impact EIM, but the columns will be visible to them
  - In the resource data grid, these can be unchecked to remove from view
Unannounced Ancillary Service (A/S) Testing (6.4)

• Initiating unannounced ancillary service testing for CAISO BA resources in the market (“ASTEST” instruction)
• Applicable for resources with SPIN and NSPIN awards
• Details
  – New Batch Type “ASTEST”
  – Including alarm, pop up message
  – New columns in resource data grid
  – Received by SC with designated resource
Other ADS changes (not part of current ADS application)

- Managing Exceptional Dispatch (6.5)
  - Duplicate ED entries removed

- Manage DOT & SUPP Values (6.6)
  - Previous Supp and RT Supp Delta

- Manage DOT Value Acceptance/Variation (6.7)
  - Previous Accept DOT to account any manual intervention from interchange scheduler
  - For example, if HASP Award = 20 MW and at T-50 SC calls with request to accept the award at 8 MW (partial the award at 8 MW). In the next HASP run the previous accept DOT = 8 MW.
Operating Instructions with the DOTT Clarification project for resources within CAISO BA

- Operating Instruction changes (Dispatch Operating Target Tariff Clarification) – *in the training following this*
  - New **columns** in Batch Grid, Resource Data Grid
  - New **Batch Type** = Flashing + Alarm + Notification [CAISO BAA resources only]

- Does not impact EIM, but the columns will be visible to them
  - In the resource data grid, these can be unchecked to remove from view
Configuration for Audio Alarm & Notification updated with new enhancements
New Batch Grid with changes

<table>
<thead>
<tr>
<th>Interval</th>
<th>RT DOT/FR</th>
<th>Hourly DOT</th>
<th>Exceptional</th>
<th>Commitment</th>
<th>FMM AS/EN</th>
<th>Hourly AS</th>
<th>Opr Instruction</th>
<th>AS Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Interval</td>
<td>21:05-21:10</td>
<td>21:00-22:00</td>
<td>Active</td>
<td>21:00-21:15</td>
<td>21:00-21:15</td>
<td>21:00-22:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dispatch Interval</td>
<td>21:10-21:15</td>
<td>22:00-23:00</td>
<td>Min</td>
<td>21:30-21:45</td>
<td>21:30-21:45</td>
<td>22:00-23:00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Batch Grid Changes:
- Flex Ramp add to RT DOT column
- FMM AS/EN
- Operating Instruction Column
- AS Test
Logging into the new ADS UI

• Login using the recommended and supported browsers: **Chrome** and **Edge with Chromium**
  – Not in scope to support Internet Explorer

• Will be accessible from the **Market Participant Portal (MPP)**

• **Certificate based login**
  – One (1) active session is allowed per user/certificate/environment combination
  – User Access Administrator at your organization provisions access
  – If your certificate is expiring soon, ensure to renew per normal process
<table>
<thead>
<tr>
<th><strong>General troubleshooting steps during Login</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Checking with your UAA</strong></td>
</tr>
<tr>
<td>• Not able to get in or get access denied error?</td>
</tr>
<tr>
<td>• Not seeing the correct SCID/resources?</td>
</tr>
<tr>
<td>• Certificate expired?</td>
</tr>
<tr>
<td><strong>Calling the CAISO Service Desk</strong></td>
</tr>
<tr>
<td>• Don’t know who your UAA is?</td>
</tr>
<tr>
<td>• Disconnecting, unable to reconnect? System appears to be unavailable? Should also check for any MNS notifications</td>
</tr>
<tr>
<td><strong>Clearing cache and restarting your browser</strong></td>
</tr>
<tr>
<td>• Opening a new ADS session and receive notification that a session is already established?</td>
</tr>
<tr>
<td>• Not seeing a change or new feature after patch implementation &amp; release note provided?</td>
</tr>
<tr>
<td><strong>Check browser and settings</strong></td>
</tr>
<tr>
<td>• Pop up display expected? Check settings allow for this</td>
</tr>
<tr>
<td>• Display not showing correctly? Check which browser you are in</td>
</tr>
</tbody>
</table>
Application pop-up notifications outside of the application itself

- In the new ADS UI, it is possible to receive a notification outside of the application
- There is a pop up notification which can be configured for ADS in Windows (think like the Outlook pop-ups)
  - To enable, the user will need to explicitly allow the ADS application to send Windows notifications by allowing permissions upon login for notifications from ADS when prompted

*Windows 10
Example: Enabling in Chrome when launching the application

1. Browser will prompt you to allow for notifications
2. If Allow is selected, the pop ups will display in the lower right hand corner of your display
3. To bring up ADS upon notification, click in the empty area of the notification. To close notification, click close
Example: Enabling notifications in Edge with Chromium when launching the application.

To allow for pop-ups on your desktop:

Let maptest-ads.lb.ete.caiso.com show notifications?

Yes  No  

California ISO
Example: Disabling the notifications

- To disable the pop up notifications, navigate to settings and edit in “Manage Permissions”
- In Edge with Chromium, can also click the “Settings” wheel icon in the notification
## General tips when using UI

### Logging in
- Log in each shift (i.e. during or after shift change, start new session)
- Load desired profile (previously setup/saved by you or your entity) using the Configurations button

### Viewing Full Screen
- To view in full screen:
  - Click 3 dots in upper right hand side of Chrome Browser
  - Navigate to row label’d Zoom and click the “square” icon
  - To exit full screen: click X when hovering in the middle of the display
  - F11 on the keyboard is shortcut key for the above steps

### Turning on Windows Notifications
- Accept request for permissions to allow for notifications upon logging in
- To enable when already logged in, go to the browser’s advanced settings and manage permissions

### Managing Audio Alerts in ADS
- To update settings, click **Pencil** icon, make changes by hitting **Update**
- To allow for alarm sound once, uncheck “Play Audio Alarm Continuously”
- To mute sound completely for notification, uncheck “Play Audio Alarm Continuously” **AND** click checkbox for “Mute sound”
Review

• High level - what is coming in terms of timeline and changes for ADS Replacement Project
• Walked through the general set of changes coming with the Replacement
  – Flex Ramp Up/Down awards
  – FMM Schedules
  – NSPIN Economic Dispatch
  – Unannounced A/S Testing
Next Steps

- **Continue attending Release User Group and Technical User Group for updates**
- **Review Market Simulation Scenarios and prepare for structured testing**
- **Participate in Market Simulation starting July 27th, 2020 (connectivity)**
- **Testing & Training throughout July-September 2020**
## Fall 2020 – ADS Replacement

<table>
<thead>
<tr>
<th>Project Info</th>
<th>Details/Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application Software Changes</strong></td>
<td>• Transition to web-based user interface to eliminate the need to install thick client</td>
</tr>
<tr>
<td></td>
<td>• Transition ADS provisioning to the Access and Identity Management (AIM) application</td>
</tr>
<tr>
<td></td>
<td>• including Resource Level Access Controls (RACL) access</td>
</tr>
<tr>
<td></td>
<td>• The query tool will provide 30 days of historical data</td>
</tr>
<tr>
<td></td>
<td>• Various user interface enhancements adding content per Operation’s request</td>
</tr>
<tr>
<td></td>
<td>• ADS B2B services changes</td>
</tr>
<tr>
<td><strong>BPM Changes</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Market Instruments</td>
</tr>
<tr>
<td></td>
<td>• Market Operations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Milestone Type</th>
<th>Milestone Name</th>
<th>Dates</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board Approval</td>
<td>Obtain Board of Governors Approval</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>External BRS</td>
<td>Post External BRS</td>
<td>Aug 06, 2018</td>
<td>✓</td>
</tr>
<tr>
<td>ADS Update</td>
<td>ADS Update Meeting</td>
<td>Aug 15, 2018</td>
<td>✓</td>
</tr>
<tr>
<td>ADS Demonstration</td>
<td>ADS WebEx Demonstration</td>
<td>Apr 16, 2020</td>
<td>✓</td>
</tr>
<tr>
<td>CPG Meeting</td>
<td>ADS CPG Meeting</td>
<td>Jul 09, 2020</td>
<td>✓</td>
</tr>
<tr>
<td>Config Guides</td>
<td>Design review - BPM and Tariff SMEs</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Tech Spec</td>
<td>Publish Technical Specifications</td>
<td>May 22, 2020</td>
<td>✓</td>
</tr>
<tr>
<td>Tariff</td>
<td>Tariff Activities</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>BPMs</td>
<td>Post Draft BPM changes</td>
<td>Jul 20, 2020</td>
<td></td>
</tr>
<tr>
<td>External Training</td>
<td>Provisioning ADS ACL Training</td>
<td>Jun 01, 2020</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Deliver External Training Part 2</td>
<td>Jul 16, 2020</td>
<td></td>
</tr>
<tr>
<td>Market Sim</td>
<td>Market Sim Window</td>
<td>Jul 27, 2020 - Sep 04, 2020</td>
<td></td>
</tr>
<tr>
<td>Parallel Operations</td>
<td>ADS Parallel Operations</td>
<td>Sep 1, 2020 - Sep 30, 2020</td>
<td></td>
</tr>
<tr>
<td>Production Activation</td>
<td>ADS Replacement</td>
<td>Oct 01, 2020</td>
<td></td>
</tr>
<tr>
<td>Decommission</td>
<td>Old ADS Decommission</td>
<td>Feb 01, 2021</td>
<td></td>
</tr>
</tbody>
</table>
ADS – DOT Tariff Clarification
July 16, 2020 – Next!

• Ability to see Operating Instructions at the EIR resource level
  – Applies to Eligible Intermittent Resources
  – “Do not exceed DOT” instruction that includes: Reason, Start and End time with a Opr Instruction Flag and Follow DOT Flag
  – For more information please refer to:
    • BRS:
    • Stakeholder Initiative Training:
      http://www.caiso.com/InitiativeDocuments/Presentation-DispatchOperatingTargetTariffClarificationTraining.pdf
• Implement a new *Under/Over Delivery* charge for intertie deviations from Market Schedule and After-The-Fact (ATF) E-Tag, to replace *Decline* charge in Settlements

• In ADS, ability to view the HASP schedule, the SC accepted value, and the difference between the two (delta MW)

• For more information, please refer to:
  – BRS:
Online References

- ADS Replacement Training Parts 1 and 2
  - caiso.com → Participate → Learning Center
  - Video for Part 2 may take 1-2 weeks
- Release Planning
  - Release Planning Home Page
  - Project Documents, including BRS and Market Simulation Scenarios
- Stakeholder Meetings
  - Release User Group (Ongoing)
  - ADS Customer Partnership Group (July 9th, 2020)
  - ADS UI Replacement Provisioning Access Review (June 1, 2020)
  - Technical User Group (May 26, 2020)
- API information/Technical Specifications
  - Developer.caiso.com >> Apps >> ADS
- BPM – Market Operations (caiso.com → Rules → Business Practice Manuals)
- BPM – Market Instruments (caiso.com → Rules → Business Practice Manuals)
For more detailed information on anything presented, please visit our website at:

www.caiso.com

Or send an email to:
CustomerReadiness@caiso.com