



California ISO

# Technical User Group (TUG)

June 23, 2020

10:00 – 11:00 AM Pacific

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# TUG Agenda

Web Conference Information		Conference Call Information	
<i>URL</i>	<a href="https://caiso.webex.com/meet/CAISO-TUG">https://caiso.webex.com/meet/CAISO-TUG</a>	<i>Domestic Call-In</i>	(866) 528-2256
<i>Meeting Number</i>	966 010 353	<i>International Call-In</i>	(216) 706-7052
<i>Access Code</i>	389 588 9	<i>Access Code</i>	389 588 9

Topic	Facilitator
Agenda and Roll Call	Indu Nambiar
TUG Agenda Posting Update	Indu Nambiar
System Interface Changes	Trang Vo
CAISO's B2B Integration Improvements	Ajay Mannepalli
Master File – Updated Tech Spec	LuAnn Rivera, Kiran Chitturi
DRRS Changes Overview	Eureka Cullado, Ibrahim Alatoum
Application Delivery Resiliency Implementation	Trang Vo
Ongoing Initiatives	Indu Nambiar

# TUG Agenda Posting Update

- As recommended by our Information Security department, we are moving our more technical information behind a password protected site to protect against nefarious actors.
- Over time, all technical information will be posted to the developer site rather on the public site.
- Going forward, only the agenda will be published on caiso.com with a link to the full presentation
- The full presentation will be available on the Developer site
- Video recording will also be made available only on the Developer site
- Existing agenda and recordings on caiso.com will not be impacted
- **Rollout : June 23, 2020**

# Fall 2020 Release - System Interface Changes - CCDEBE1

SIBR						
Project	Change Type	API Service Name & Major Version, Artifacts	MAP Stage	Production	Technical Specifications	
CCDEBE1	Modify	RetrieveCleanBidSet_SIBRv5_AP RetrieveCleanBidSet_SIBRv5_DocAttach_AP	✓ 10/16/19	✓ Deploy 3/26/20 Activation 10/1/20	13.2	
CCDEBE1	Modify	RetrieveCurrentBidResults_SIBRv5_AP RetrieveCurrentBidResults_SIBRv5_DocAttach_AP	✓ 10/16/19	✓ Deploy 3/26/20 Activation 10/1/20	13.2	
CCDEBE1	Modify	SubmitRawBidSet_SIBRv5_AP SubmitRawBidSet_SIBRv5_DocAttach_AP	✓ 10/16/19	✓ Deploy 3/26/20 Activation 10/1/20	13.2	

CMRI						
Project	Change Type	UI	API Service Name & Major Version, Artifacts	MAP Stage	Production	Technical Specifications
LMPME CCDEBE1	Modify	Tab: Default Bids Existing Report: Default Energy Bid Curves	RetrieveDefaultBidCurves_CMRIv2_AP RetrieveDefaultBidCurves_CMRIv2_DocAttach_AP	LMPME ✓ 9/12/19  CCDEBE1 ✓ 11/6/19	LMPME ✓ 11/13/19  CCDEBE1 ✓ Deploy 3/26/20 Activation 10/1/20	3.9.4  Release Notes 1.2
CCDEBE1	Modify	Tab: Default Bids Existing Report: Default Commitment Costs	RetrieveExternalDefaultCommitmentCost_CMRIv1_AP RetrieveExternalDefaultCommitmentCost_CMRIv1_DocAttach_AP	✓ 11/11/19	✓ Deploy 3/26/20 Activation 10/1/20	3.9.4 Release Notes 1.2

<https://developer.caiso.com>

# Fall 2020 Release - System Interface Changes

ADS					
Project	Change Type	Summary	Technical Specifications	MAP Stage	Production
N/A	Decom	Decommission of deprecated versions	✓ 6/16/20, v8.1.0	7/27/20	10/1/20
ADS Replacement DOTTC	New	APIWebService v8 APIResponseWebService v8	✓ 6/16/20, v8.1.0 ✓ 5/21/20, v8.0.0	7/27/20	10/1/20

DRRS					
Project	Change Type	Summary	Technical Specifications	MAP Stage	Production
ESDER3B	Modify	SubmitDRLocations_DRRSv2_AP	✓ 5/1/20, v3.2	7/27/20	Deploy 9/14/20
		SubmitDRLocations_DRRSv2_DocAttach_AP			
		SubmitDRRegistrations_DRRSv2_AP			
		SubmitDRRegistrations_DRRSv2_DocAttach_AP			
		RetrieveDRLocations_DRRSv2_AP			
		RetrieveDRLocations_DRRSv2_DocAttach_AP			
RetrieveDRRegistrations_DRRSv2_AP					
RetrieveDRRegistrations_DRRSv2_DocAttach_AP					

MRI-S					
Project	Change Type	Summary	Technical Specifications	MAP Stage	Production
EBTMP	Modify	For: - MRIS Meter: Submit Meter & - MRIS Meter: Retrieve Meter  additionally include EBtMP measurement type values (as negative load)  both Gross Load and EBtMP meter data would associate with same Load Resource ID	✓ 5/28/20, v2.5	7/27/20	Activation 1/1/21

# Fall 2020 Release - System Interface Changes

Master File						
Project	Change	Change Type	Summary	Technical Specifications	MAP Stage	Production
ESDER3B	Add enumeration to GRDT: DR_TYPE of PDR_LSR	Modify	RetrieveGeneratorRDT_MFRDv5 RetrieveGeneratorRDT_MFRDv5_DocAttach  SubmitGeneratorRDT_MFRDv5 SubmitGeneratorRDT_MFRDv5_DocAttach	✓ 6/12/20, v6.1 ✓ 5/28/20, v6.0	7/27/20	10/1/20
FERC841 RA	New GRDT attribute: <a href="#">Apply Wholesale Charge</a>					
EIM2020	New GRDT attribute: <a href="#">Meter Data Interval</a>					
Other	Remove from GRDT: <a href="#">MIN_DISP_LEVEL</a>					
CCE Tariff	New GRDT attribute: <a href="#">Run of River</a>					
Slow DR	New GRDT attribute: <a href="#">Slow DR</a>					

# Fall 2020 Release - System Interface Changes

CMRI					
Project	Change Type	Summary	Technical Specifications	MAP Stage	Production
N/A	Decom	Decommission of deprecated versions	✓ 5/29/20, v3.9.5	7/27/20	9/1/20
EIM2020	New	RetrieveEIMInfeasibility_CMRIv1_AP RetrieveEIMInfeasibility_CMRIv1_DocAttach_AP	✓ 5/29/20, v3.9.5	7/27/20	10/1/20
EIM2020	New	RetrieveLoadConfirming_CMRIv1_AP RetrieveLoadConfirming_CMRIv1_DocAttach_AP	✓ 5/29/20, v3.9.5	7/27/20	10/1/20
EIM2020	New	Available Balance Capacity	6/19/20	7/27/20	10/1/20

OASIS					
Project	Change Type	Summary	Technical Specifications	MAP Stage	Production
N/A	Decom	Decommission of deprecated versions	✓ 5/29/20, v5.1.13	7/27/20	9/1/20
EBTMP	New	<b>ENE</b> _EBTMP_PERF_DATA	6/23/20 ✓ 5/29/20, v5.1.13	7/27/20	Activation 1/1/21

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ISO Public



# CAISO B2B Improvements

- **Goals**
  - Enhance the developer experience working with CAISO Web API's
  - Provide API's in REST/JSON using OpenAPI 3.0 specification
  - Provide examples, mock services and tooling to generate client/server stubs and SDK
  - Provide tests for the API's using Postman collections and/or SOAPUI projects
  - Collaboration using Git and forums on developer.caiso.com
  - Simplify authentication using X.509 certificates and API keys
- **Update**
  - POC updates and notes for 6/16 webinar are posted on developer forum at <https://developer.caiso.com/forum/topics.aspx?ForumID=4>. Next webinar will be on 6/30/2020.
  - Implementation of SchedulePrices service using server stub from OpenAPI spec was demonstrated
  - Implementation of DRLocations service using server stub from OpenAPI spec was demonstrated
  - Focus items for team before next meeting
    - OpenAPI specification update for DRLocations\_v1 and SubmitMeterData\_v1
    - Server side implementation updates with pagination support for SchedulePrices API
    - Rate limiting updates to use client certificate
    - Updates to auto-generated API documentation in markdown format.

# Master File – Updated Technical Specification

- New Tech Spec has been standardized across all CAISO apps
- New Tech Spec is more concise, easy to use and locate information
- New Tech Spec should be used along with XSD for Element description
- Service examples have been removed and uploaded to CAISO Developer site
- Most recent changes are at the top of every section impacted
- Updated Tech Spec Version 6.1 can be found at:

Clean –

<https://developer.caiso.com/Artifacts/MFRD/TechSpecs/Master%20File%20Technical%20Specification%206.1.pdf>

Redline –

<https://developer.caiso.com/Artifacts/MFRD/TechSpecs/Master%20File%20Technical%20Specification%206.1%20REDLINE.pdf>

# Master File – Overview of Changes

- New Resource-level attributes (all are **read only**)
  - (FERC 841) Apply Wholesale Charge - Indicates if Settlements should apply the wholesale charge to the Resource invoice.
  - (EIM 2020) Meter Data Interval - Interval in which meter data is submitted. Valid values are 5, 15, and 60 minutes.
  - (CCE Tariff) Run of River - Indicates a hydroelectric generating unit has no physical ability to control or store its fuel source for generation.
  - Slow DR – currently not populated.
- Removing Minimum Dispatch Level
- (ESDER 3B) Adding new DR Type of “PDR\_LSR”

# DRRS Fall 2020 Release – Technology upgrades

## Major stack upgrade for performance and technology needs

- New backend infrastructure / software design improvements to support API and UI
- Updated look-n-feel on the user-interface (color scheme / icon images)
- New UI application URL (*note: Market Participant Portal DRRS will be updated*)

*Changing from- (existing)*

<https://portalmap.caiso.com/drrs> → mkt sim

<https://portal.caiso.com/drrs> → prod

*To- (new)*

<https://drrs.map.caiso.com> → mkt sim

<https://drrs.prod.caiso.com> → prod

## Request for market participant engagement - external testing exercise

- API submissions / retrieval
- User-interface

# DRRS Fall 2020 Release – UI look-n-feel

California ISO Demand Response Registration System

DRP VIEW | UDC VIEW | LSE VIEW | ADMINISTRATION

DRP VIEW Locations

LOC ID [ ] LOC Name [ ] SAN [ ] DRP [ALL] UDC [ALL] LSE [ALL] SUBLAP [ALL] Defense Active [ALL] Apply Reset

Create Copy Delete Defend Withdraw Edit End Date Register

Locations

1 - 25 of 423730

Select LOC ID	Name	SAN	DRP	UDC	LSE	SUBLAP	PNODE	Start Date	End Date	Status	Defense Active?	Defense Start	Defense End
<input type="checkbox"/>													

Registrations

Reg ID	Reg Name	Start Date	End Date	Status
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California ISO Demand Response Registration System

DRP VIEW | UDC VIEW | LSE VIEW | ADMINISTRATION

DRP VIEW > Locations

LOC ID [ ] LOC Name [ ] SAN [ ] DRP [ ] UDC [ALL] LSE [ALL] SUBLAP [ALL] Defense Active [ALL] Updated Since DateTime [ ] Apply Reset

Create Copy Delete Defend Withdraw Edit End Date Register

Locations

4976 - 5000 of 147047

Select LOC ID	Name	SAN	DRP	UDC	LSE	SUBLAP	Device Type	PNODE	Start Date	End Date	Status	Defense Active?	Defense Start	Defense End
<input type="checkbox"/>														

Registrations

Reg ID	Reg Name	Start Date	End Date	Status
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## DRRS Fall 2020 Release – LocationIDs via APIs

Currently in production, DRRS assigns a ( $\geq$ ) 14digit numeric identifier for Location records submitted via the API

*Example:* 22893776000001, 22893776000002...

With the fall release 2020, it will be reduce down ( $\geq$ ) 8 digits

*Example:* 22893776, 22893777.....

Any questions/concerns, please submit a CIDI ticket.

# Application Delivery Resiliency Implementation

- Areas
  - Access Policy Manager - Application Authentication
  - Local Traffic Manager - Load Balancing
  - Application Security Manager - Web Application Firewall
- User Impacts & Actions
  - New IP ranges requiring firewall changes
  - New URLs for UIs and APIs requiring cutover
  - No application functionality changes expected
  - No provisioning changes expected

# Application Delivery Resiliency Implementation

- Scope

Interface	In Scope	In Progress	Finished
UI	All remaining	ADS - Fall 2020 Release DRRS - Fall 2020 Release	Developer RCPortal GMS CIDI PIVision
API	All	ADS - Fall 2020 Release	None

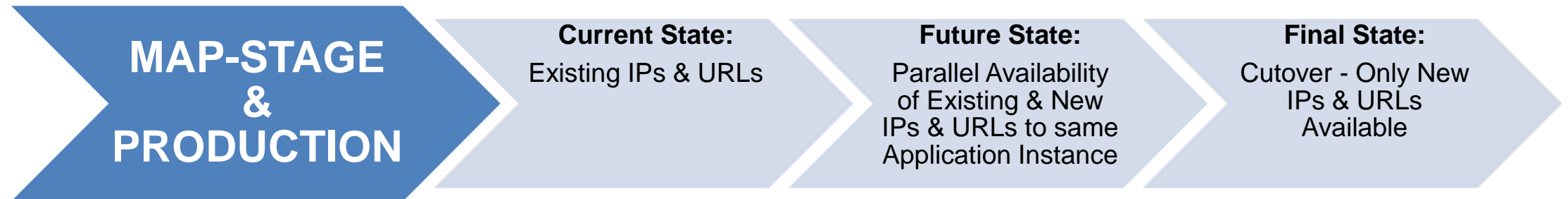


# Application Delivery Resiliency Implementation

## General URL Standards

Interface	Environment	Current	Future
UI	MAP-Stage	https://portalmap.caiso.com/<application>	https://<application>.map.caiso.com
UI	Production	https://portal.caiso.com/<application>	https://<application>.prod.caiso.com
API	MAP-Stage	https://ws.caiso.com/sst/<application>/<service>	https://ws.prod.caiso.com/sst/<application>/<service>
API	Production	https://wsmap.caiso.com/sst/<application>/<service>	https://ws.map.caiso.com/sst/<application>/<service>

## Implementation Overview



Questions about Application Delivery Resiliency Implementation? Contact Trang Vo at [tvo@caiso.com](mailto:tvo@caiso.com)

# Next TUG: July 07, 2020

Contact for Questions & Agenda Requests: Indu Nambiar, [inambiar@caiso.com](mailto:inambiar@caiso.com)

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