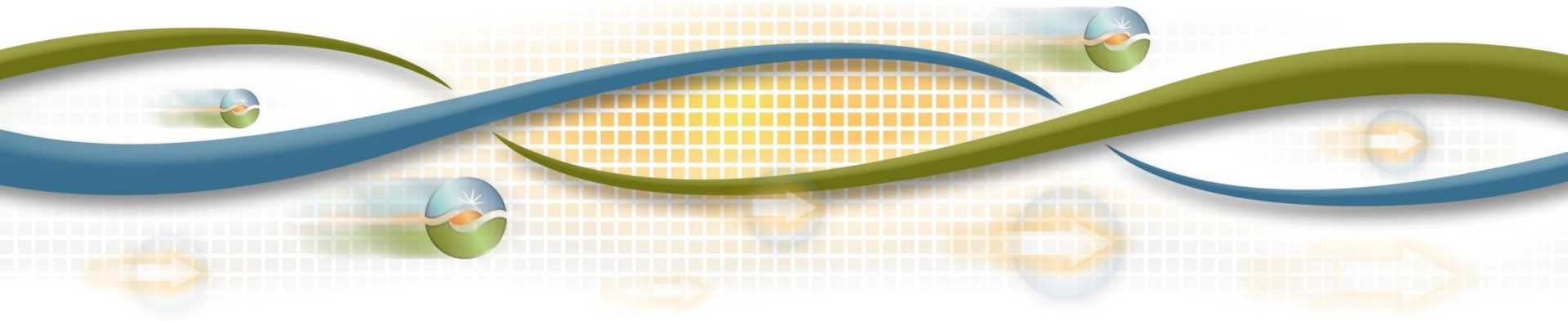# California ISO

Market Results Interface – Settlements User Interface (OMAR Replacement)
2016 Fall Release

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Customer Service Department

Agenda

- Objective

- Terms and acronyms

- Market Results Interface – Settlements (MRI-S)
    - Cert
    - User role
    - Functionality
    - Changes from OMAR

- Review of settlements timelines

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Objective

Given an overview of the new Market Result Interface – Settlements User Interface (MRI-S UI), you be able to practice the following in market simulation:

- Settlement Quality Meter Data (SQMD) submission
- MRI-S functionalities
- User roles
- Digital certificates
- Settlements timelines
- Identify changes from OMAR to UI

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Terms and Acronyms

Terms & Acronyms

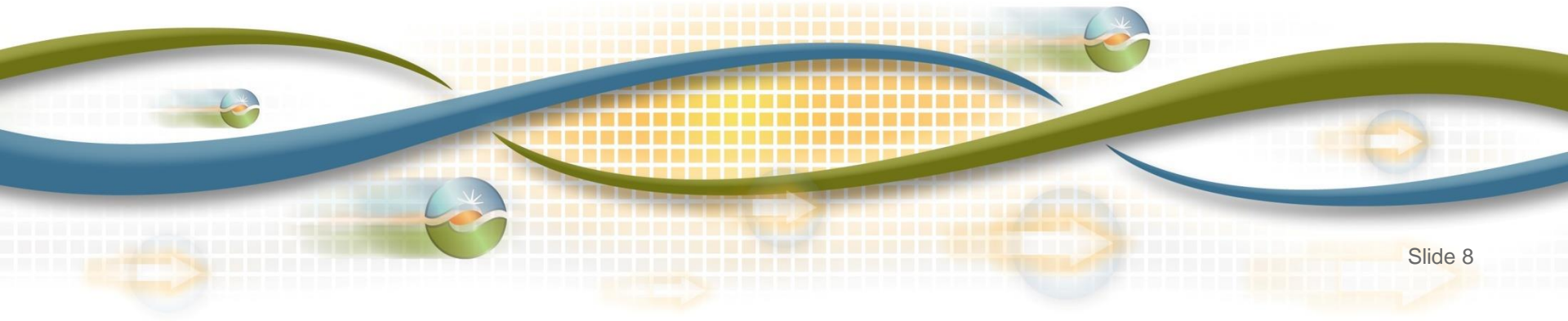| Acronym	Description
AARF	Application Access Request Form
AIM	**Access and Identity Management**
API	**Application Programming Interface**
Authorized ACL Group	The Authorized ACL Group section displays a list of the Access Control List (ACL) groups that isolate and grant access to a single asset (or group of assets). This group only has read only access.
CAISO	California Independent System Operator
CIM	Common Information Model
CMA	**Common Multiple Application**
CSV	**Comma Separated Value**
ECN	Electronic Communication Network
Flow gate	**Any schedule flow between two substations. In the metering space, an intertie and/or citigate is referred to as a flow gate. Physical path between BA(s) (i.e. Intertie)**
FTP	File Transfer Protocol

Flowgate = Intertie

Terms & Acronyms

Acronym	Description
GMT	**Greenwich Mean Time**
ISOME	ISO Metered Entity
LDAP	Lightweight Directory Access Protocol
MDEF	**Meter Data Exchange Format**
MPP	**Market Participant Portal**
mRID	**Market Resource. Resource ID as defined in the CAISO Master File.**
MRI-S	**Market Results Interface - Settlements**
NMS	New Metering Solution
OMAR	Operational Meter Analysis and Reporting
PDT	**Pacific Daylight Time. Currently has same time zone offset as PDT (UTC -7) but different time zone name. Pacific Daylight Time (PDT) is 7 hours behind Coordinated Universal Time. This time zone is a Daylight Saving Time zone and is used in: North America.**
POC	Point of Contact (replaced by UAA)

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Terms & Acronyms

Acronym	Description
PST	**Pacific Standard Time**
RQMD	Revenue Quality Meter Data
SC	Scheduling Coordinator
SCID	**Scheduling Coordinator ID**
SCME	Scheduling Coordinator Metered Entity
SQMD	**Settlement Quality Meter Data**
UAA	**User Access Administrator. This terminology replaces the term Point of Contact (POC) to better reflect the role of the person responsible for administering the user access for their organization. The UAA will have to sign the UAA agreement through DocuSign. The agreement is sent to the signer and to the UAA Requests mailbox at UAARequests@caiso.com.**
UI	**User Interface**
XML	**Extensible Markup Language**
XSD	XML Schema Definition

What has changed?

What has changed

- Two user roles
  - Utilize CMA certificate

- Two screens

- Versioning

- Timeline
  - No longer submitting late meter data forms

- Error codes

What has changed
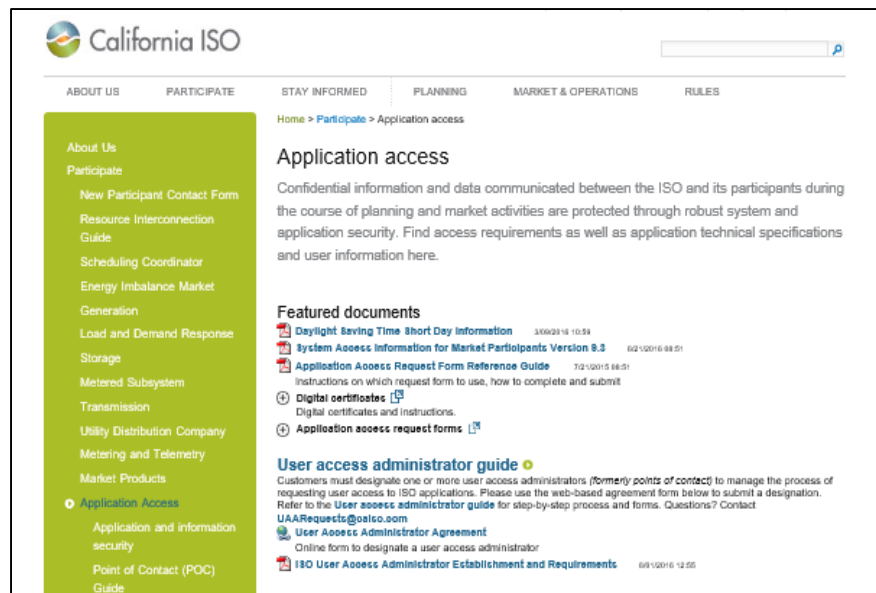
- Submission methodologies
  - API vs UI
  - FTP – no longer being used (replaced by API)

- Submission formats
  - GMT instead of PST/PDT
  - CSV, XML, MDEF
  - mRID vs. MSID

Manage User Authentication and Authorization

Request authorization for access

- Request application access from designated User Access Administrator (UAA)

  http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx

- *Access to MRI-S is managed using the Access and Identity Management (AIM) application*

Digital Certificates – Common Multiple Application (CMA)

- Before the MRI-S UI application can be displayed, user is required to select the respective CMA digital certificate for authentication.

OMAR:
SC limited to 10 users
Generators limited to 5 users

UI:
Unlimited users – request for as many users as you like

Benefit!
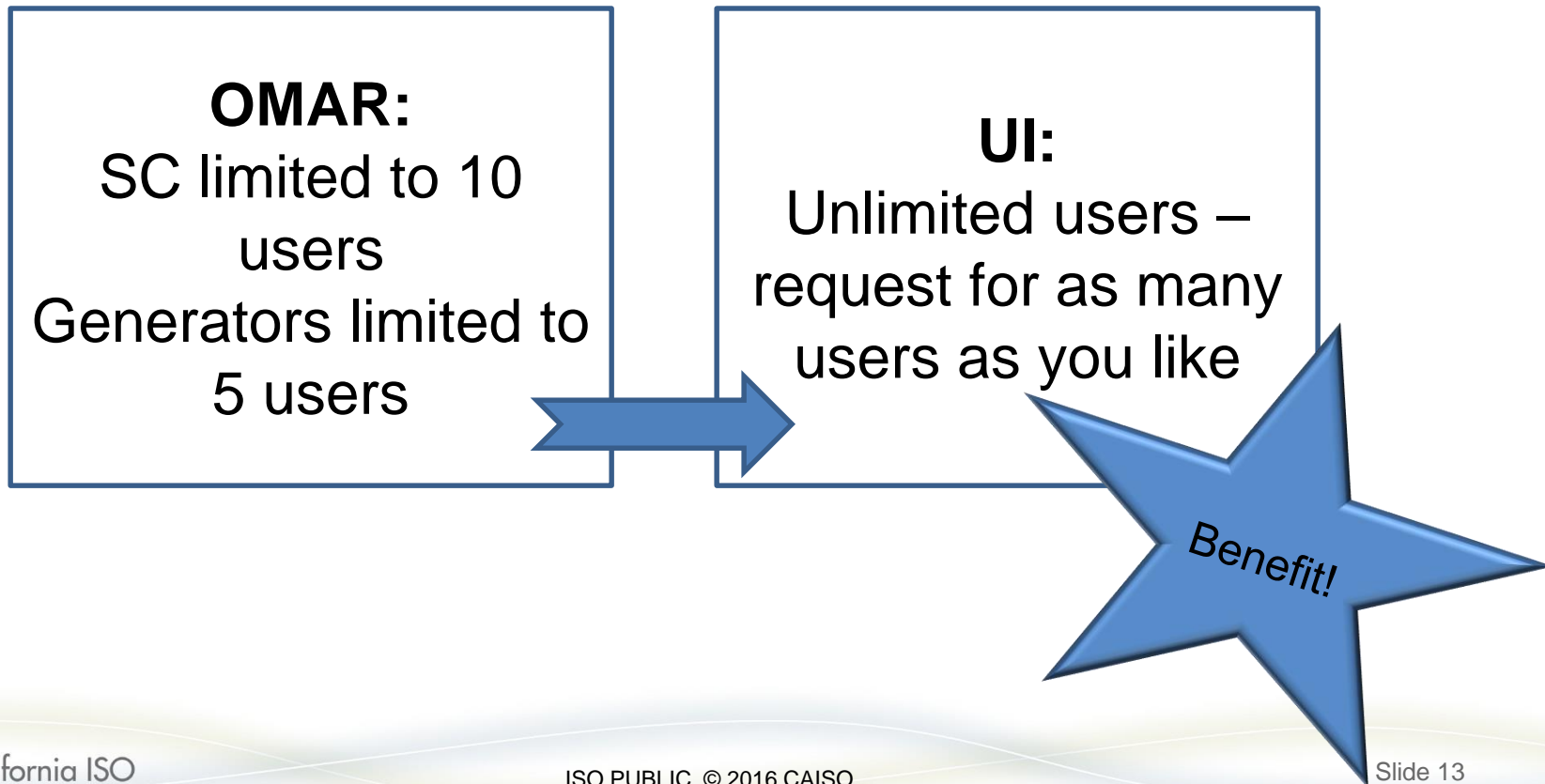
Manage Application Configuration

Manage application configuration

- Internet Explorer 11 (IE11) is recommended for support purposes

- Check compatibility to ensure successful uploads:
  - Tools → Compatibility View settings → Uncheck Display internet sites in Compatibility View box → Close → Re-open application

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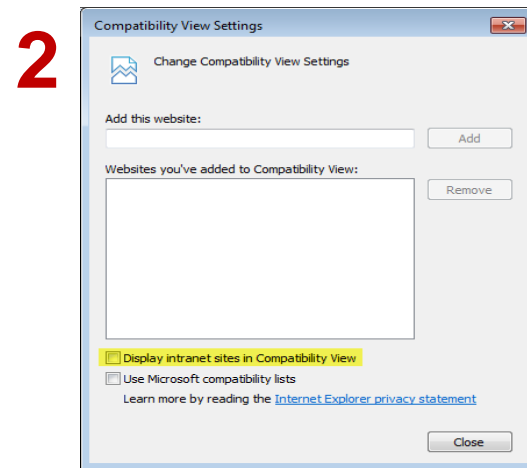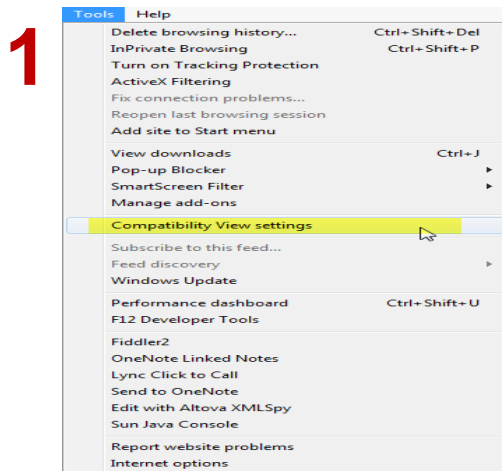
Application Access

- Users must be provisioned for access to Market Participant Portal page in order to participate in market simulation

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Manage User Data

Manage user roles

- Two user roles:
  – Meter Read
  – Meter Write

- Two screens:
  – Meter Data
  – Batch Status

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Manage user roles

Meter Data	Batch Status
• View	• Upload file
• Sort	• View
• Filter meter data	• Sort
• Download meter data from grid view*	• Filter Batch ID
• Use Manage User Filters	• Export Batch ID(s) from grid view
	• View Batch ID errors

*Meter Read users will not be able to export meter data from the grid view & will not be able to see batch status information

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Managing Meter Data
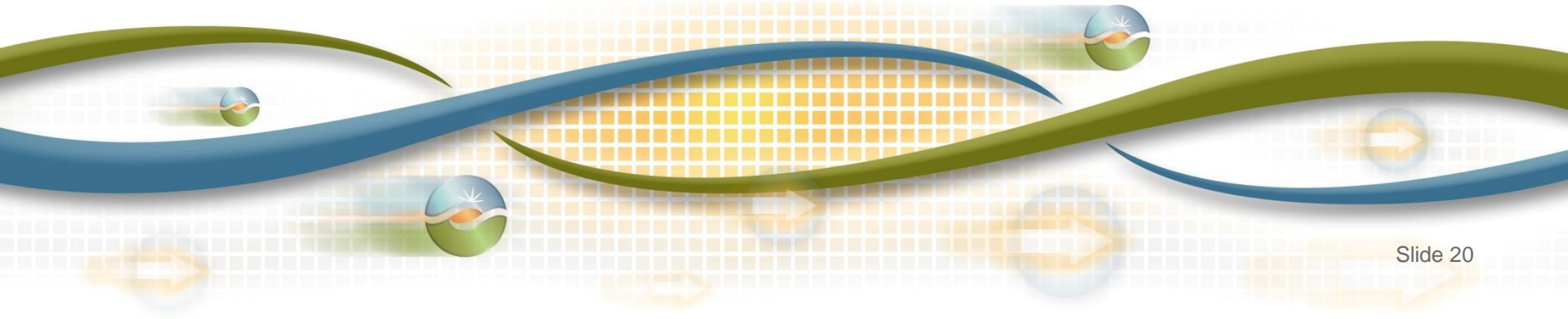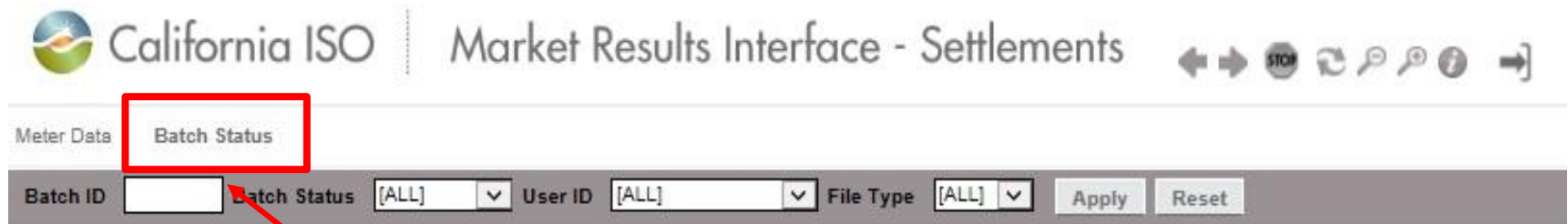
Two screens – Meter Data
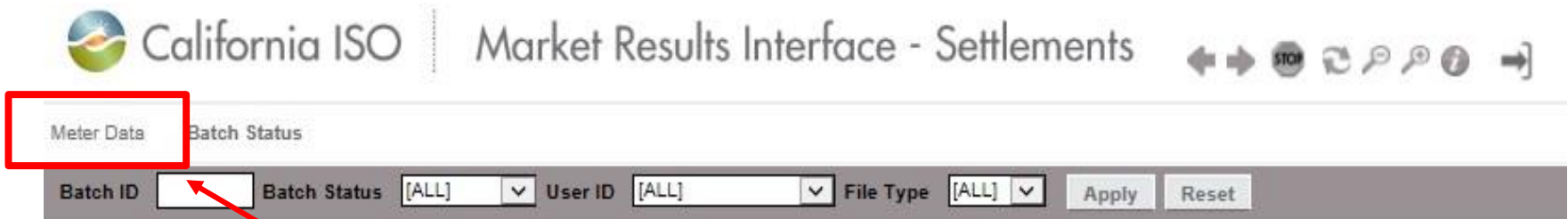
Meter Data

- Manage User Filters
- Retrieve SQMD
- Export Meter Data grid

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Two screens – Batch Status

Batch Status

- Upload files
- Filter batch data
- Export Batch IDs
- View Batch ID errors

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Manage meter data – multiple SCIDs

- Users with multiple SCIDs have the flexibility to select all or specific SCID(s) for meter data management.

- Performed under the Meter Data tab

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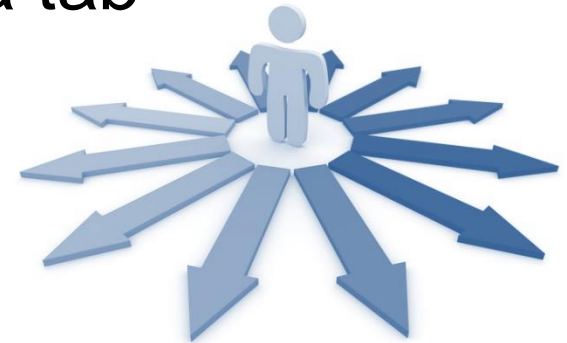
Application Functionality

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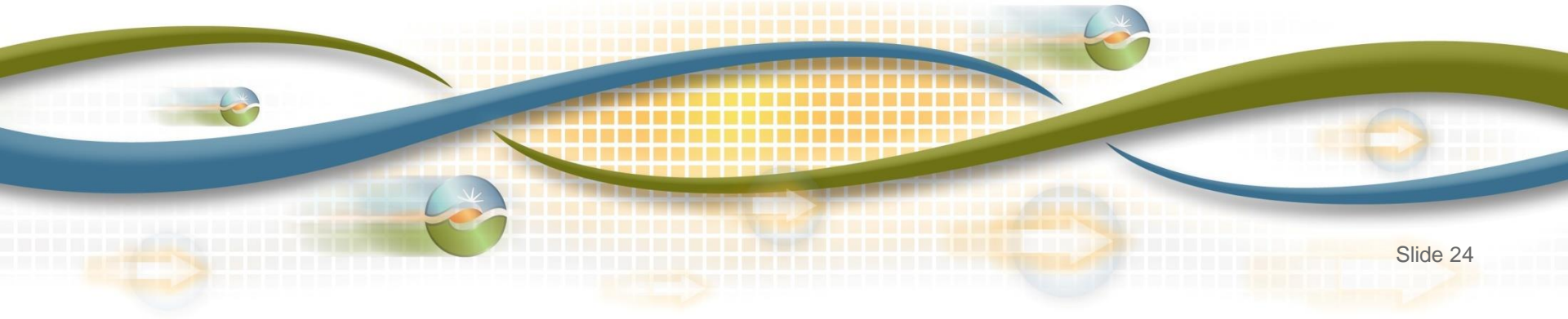
Manage application functionalities

- Based on the user's role, the MRI-S application allows user(s) to perform the following functionalities:

  – Access SQMD files

  – Search for SQMD files

  – Export files in the following formats, as applicable:

    - *XML, CSV, PDF*

  – Upload batch files via API or UI using the following formats:

    - *XML, CSV, MDEF*

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Meter data – manage user filters

"Group" functionality is performed through the provisioning process in AIM by the UAA; contact Client Rep with questions

Click **Manage User Filters** button to create/edit

Acts as a "favorites" for filtering meter data:
- Accessible by creator only
- Cannot delete a filter
- Can edit an existing filter

Meter data – manage user filters

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Meter data – create and edit user filters

Meter data – search parameters

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Meter Data   Batch Status

Trade Date: 07/25/2016   SCID: [ALL]   Resource: [ALL]   Apply   Reset
User Filter: [ALL]   User Filter Resource: [ALL]

Manage User Filters

Meter Data

Rows   0-0 of 0   Rows 25

Trade Date	Resource ID	Interval ID	SCID	Measurement Type	Resource type	Current			Previous			Initial		Recalc 1		Recalc 2					
						Batch ID	Value	Quality	Batch ID	Value	Quality	Value	Quality	Value	Quality	Value	Quality	Rerun 1	Rerun 2	Rerun 3	Rerun 4

No Data found

Retrieve SQMD using:
- Trade date
- SCID
- Resource ID

Trade date must be specific.
Can no longer select from a range of dates.
In order to export data from a range of dates, you must use API

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Meter data – performing a criteria-based meter data search

2 ways to search resource IDs for a selected SCID

Meter data – search parameter columns

Columns under History reflect Settlements Timelines; an example will be included in the updated user's guide

VERSION

HISTORY

- Trade Date
- Resource ID
- Interval ID
- Measurement Type
- Resource Type

- Batch ID Value Quality (Current)
- Batch ID Value Quality (Previous)

- Value Quality (Initial)
- Value Quality (Recalc 1)
- Value Quality (Recalc 2)
- Rerun 1
- Rerun 2
- Rerun 3
- Rerun 4

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Meter data - versioning

It is important to note: UI only contains <u>the last two versions</u> of SQMD that has been submitted
-CURRENT
-PREVIOUS

- Batch ID Value Quality (Current)
- Batch ID Value Quality (Previous)

Meter data – export

- Export data from the Meter Data grid

- View data records on page in following increments:
  - 25, 50, 100, 200 or 500

Meter data – export

- Export meter data

- Select data to export:
  - Export wizard allows for filtering data
  - Select export format
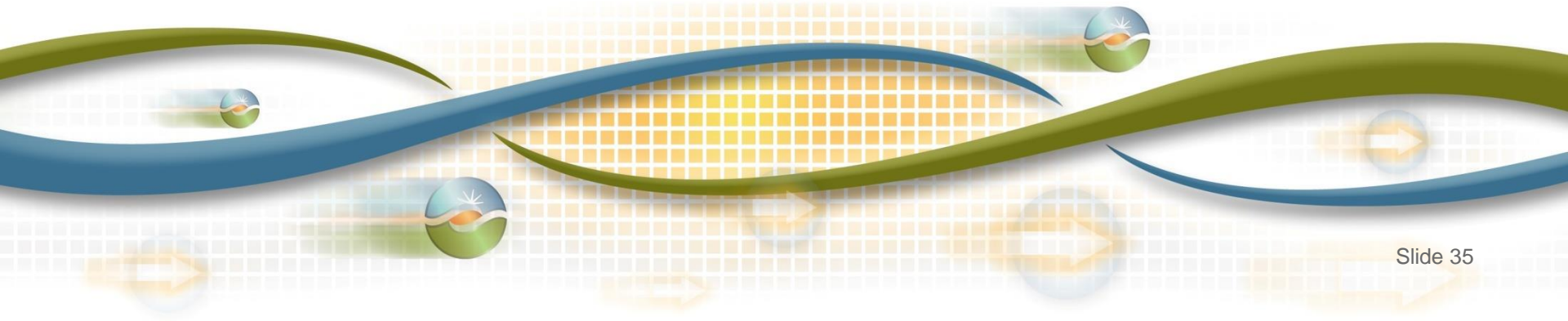
ISO PUBLIC © 2016 CAISO

Batch Status

Two screens – Batch Status

Batch Status

- Upload files
- Filter batch data
- Export Batch IDs
- View Batch ID errors

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Batch Status – upload SQMD

Data submitted through API will be visible on the Batch Status tab based on user role

From the Batch Status screen, participants can upload meter data for a given trade date

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Submission methodology: API vs UI

- API
  - SQMD must be in an XML format
  - SQMD must be in GMT
  - SQMD must contain the Market Resource ID (mRID)

- UI
  - SQMD must be in XML, MDEF or CSV*
  - SQMD must be in GMT
  - SQMD must contain the Market Resource ID (mRID)

Maximum acceptable attachment size 10MB (uncompressed)

Format: MSID vs. mRID

Meter System Identification (MSID)

Identification of Market Resource for OMAR online meter data submittal – NO LONGER APPLICABLE

EXAMPLE: **APPLE2PIE**

Market Resource Identification (mRID)

Identification characters assigned by the CAISO to Generating Units, Loads, Participating Loads, System Units, Proxy Demand Resources, and Physical Scheduling plants.

EXAMPLE: **APPLE_2_PIE**

Meter intervals: EIM

EIM meter intervals

- Generation for participating generators at 5-minute intervals

- Non-participating generators at 5, 15 or 60- minute intervals

- Interties at 5-minute intervals

- Load at 5,15 or 60-minute intervals

* Prior to submitting any given EIM resource, interval variation must be finalized for those resources identified with more than one interval options

Batch Status – upload meter data screen

Upload Meter Data File

Close	

Select File [_____] Browse...

File Name: [_____]

File Size: [_____]

User Id: [_____]

Batch Id: [_____]

Submit Cancel

Once file is selected, fields auto populate
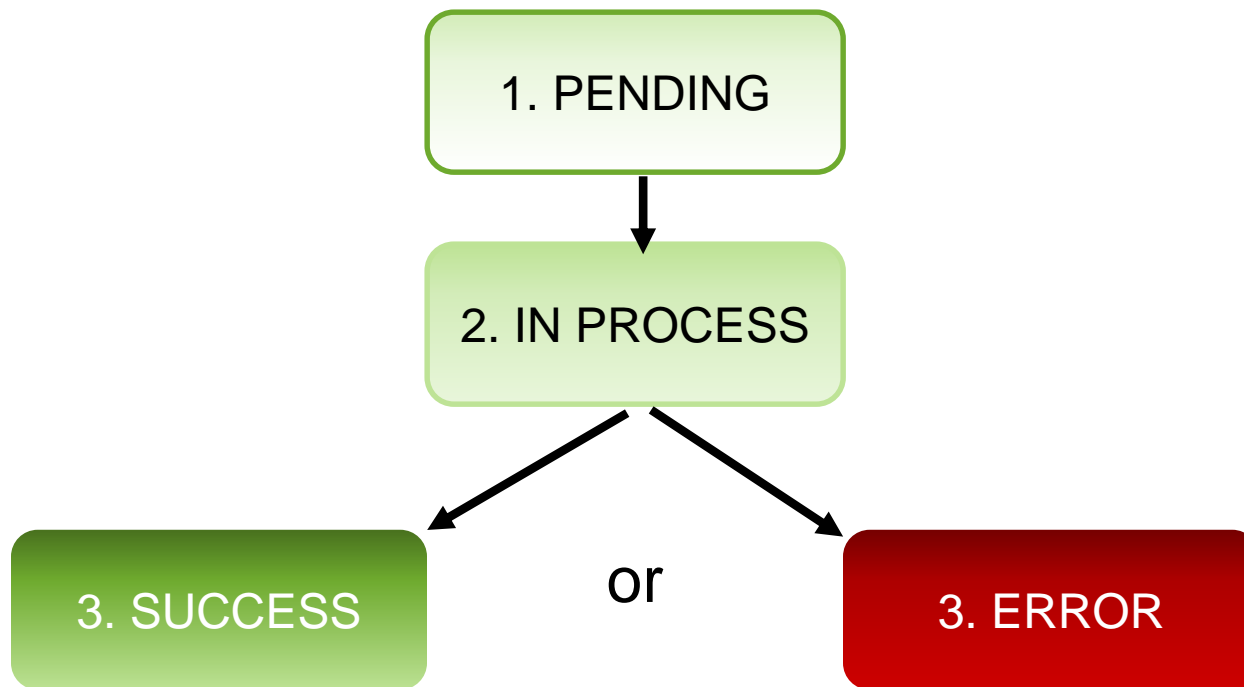*If it does not auto populate there is an error*

Files can be uploaded using one of the following formats:
- XML
- CSV
- MDEF

Return to Batch Status screen to view that status of your upload by clicking Close

Batch submission status

There are four values for the status of a submission:

1. PENDING

2. IN PROCESS

3. SUCCESS   or   3. ERROR

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Error Codes

Error code

Error message

All error codes that are associated with the selected Batch ID will be displayed on the right
Complete list can be found in the tech specs and user guide

If you receive error code 1001 or some other unexpected code, submit a CIDI ticket to troubleshoot

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Batch Status - filter

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Meter Data   Batch Status

Batch ID [   ]   Batch Status [ALL ▼]   File Type [ALL ▼]   [Apply] [Reset]

[Upload File]

Batch Status

1 - 25 of 188   0-0 of 0   Rows   Rows [25 ▼]

Batch ID	Status	User ID	File Type	File Name	File Size	Created Date	Updated Date
3871	SUCCESS		CSV	Meter_Data_1262.CSV	.497 KB	07/19/2016 15:58	07/19/2016 15:59
3870	SUCCESS		CSV	Meter_Data_1262.CSV	.497 KB	07/19/2016 15:54	07/19/2016 15:55
3852	SUCCESS		CSV	Meter_Data_1262.CSV	.497 KB	07/19/2016 15:50	07/19/2016 15:51
3851	ERROR		CSV	Meter_Data_1262.CSV	.497 KB	07/19/2016 15:48	07/19/2016 15:49
3850	ERROR		CSV	Meter_Data_1262.CSV	.497 KB	07/19/2016 15:47	07/19/2016 15:48
3830	ERROR		CSV	Meter_Data_1262.CSV	.488 KB	07/19/2016 15:45	07/19/2016 15:46
3810	ERROR		CSV	Meter_Data_1262.CSV	.475 KB	07/19/2016 14:56	07/19/2016 14:57
3791	ERROR		XML	Meter_Data_Error_Messages.XML	9638.321 KB	07/19/2016 14:44	07/19/2016 14:45
3790	ERROR		XML	Meter_Data_Error_Messages.XML	9638.321 KB	07/19/2016 14:42	07/19/2016 14:43
3771	ERROR		CSV	Meter_Data_combined_error		9/2016 13:56	07/19/2016 13:57
3770	ERROR		CSV	Meter_Data_combined_error		9/2016 13:52	07/19/2016 13:53
3751	ERROR		CSV	Meter_Data_943_60min_inte		9/2016 13:34	07/19/2016 13:35
3750	ERROR		CSV	Meter_Data_943_60min_inte		9/2016 13:30	07/19/2016 13:31
3710	SUCCESS		CSV	Meter_Data_943_60min_inte		9/2016 11:42	07/19/2016 11:43
3690	ERROR		CSV	Meter_Data_943_60min_inte		9/2016 10:39	07/19/2016 11:18
3675	ERROR		CSV	Meter_Data_943_60min_inte		9/2016 10:22	07/19/2016 11:17
3610	SUCCESS		XML			8/2016 16:14	07/18/2016 16:15
3510	ERROR		XML			8/2016 15:34	07/18/2016 15:35

Filter by:
- Batch ID
- Status
- User ID
- File details
- Dates

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Batch Status – export wizard
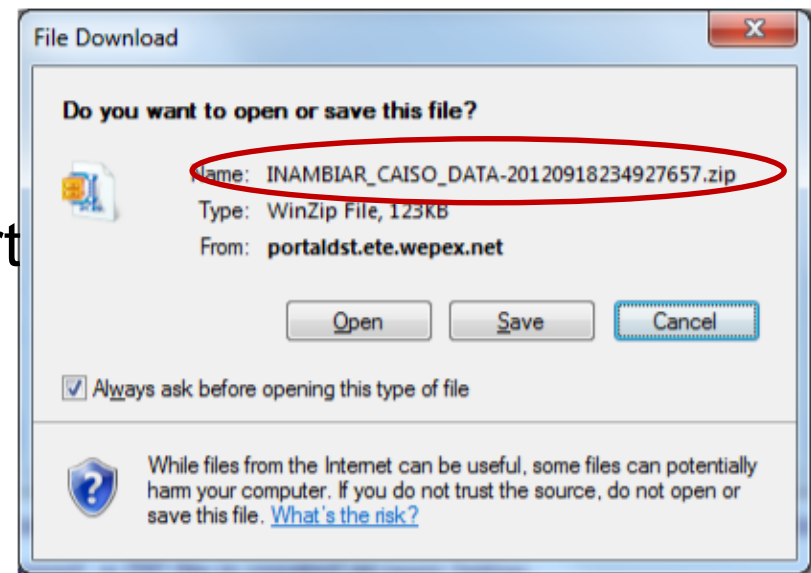
Export batch status information

Select data to export:

- Export wizard allows for filtering data
- Exports applicable file type:
  - XML
  - CSV
  - PDF

Export SQMD files

- Once user selects file(s) and download format, a zip file will be generated

- Naming convention:
  - **\<CertificateID\>- CAISO_DATA-YYYYMMDDHH24MISSFFF.zip**

- Save or open zip to extract file(s) requested

- Download formats using export wizard include Excel & CSV

- Export All & Export Page CSV only

File Download

Do you want to open or save this file?

Name: INAMBIAR_CAISO_DATA-20120918234927657.zip
Type: WinZip File, 123KB
From: portaldst.ete.wepex.net

[Open]   [Save]   [Cancel]

☑ Always ask before opening this type of file

While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?
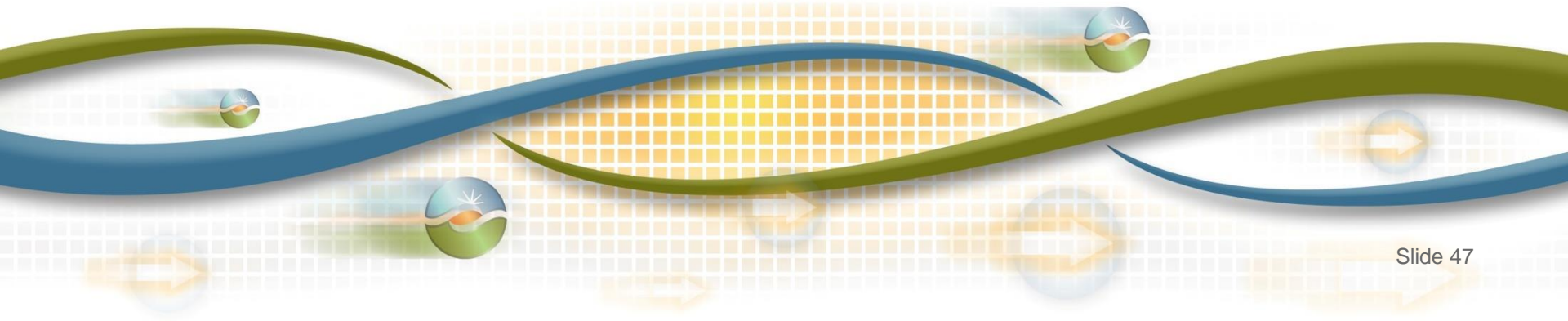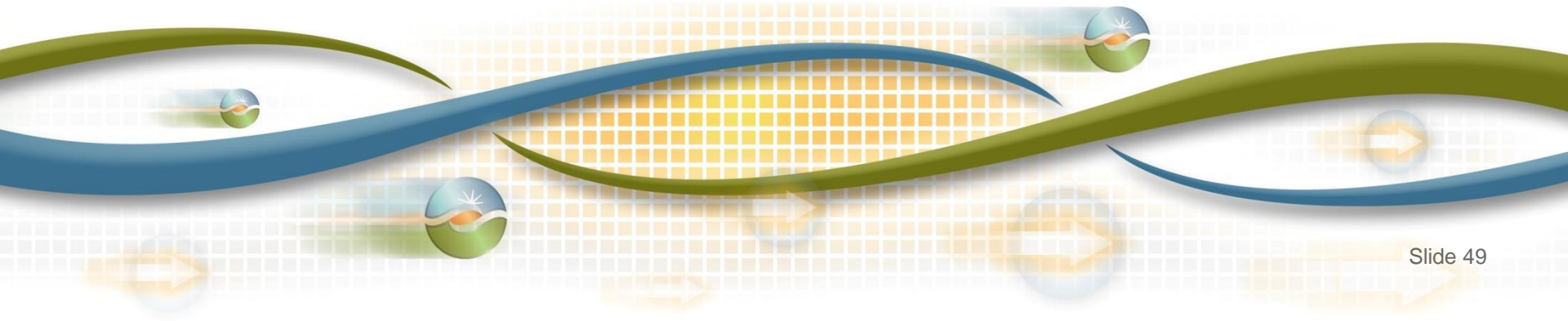
Auditability

Auditability

The UI allows auditability, which includes the following information:

- Creation Date

- Update Date

- Update User

- Update Reason/Comments

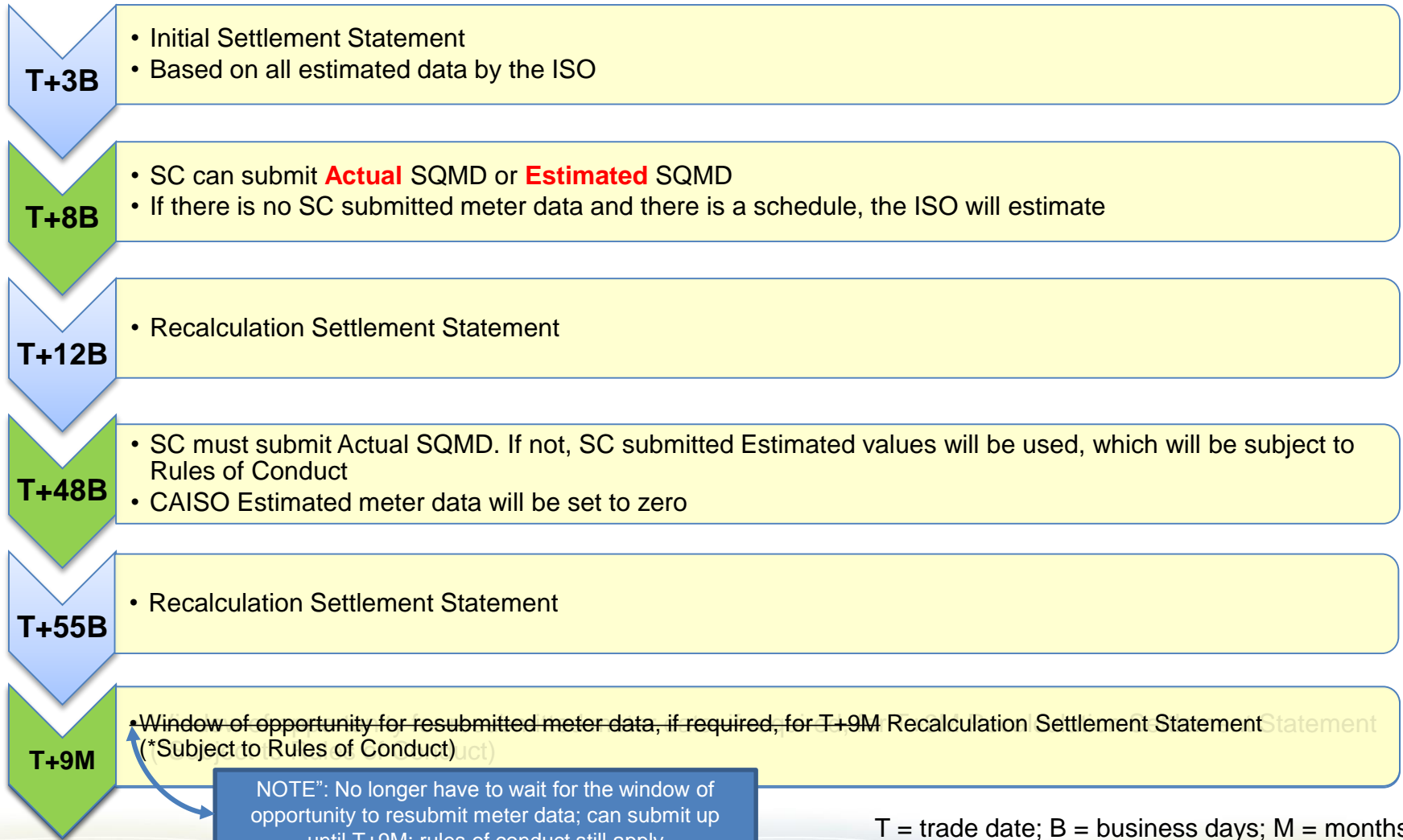- Publish Date for downstream applications (i.e. timestamp when the data was published to Settlements)

Timelines
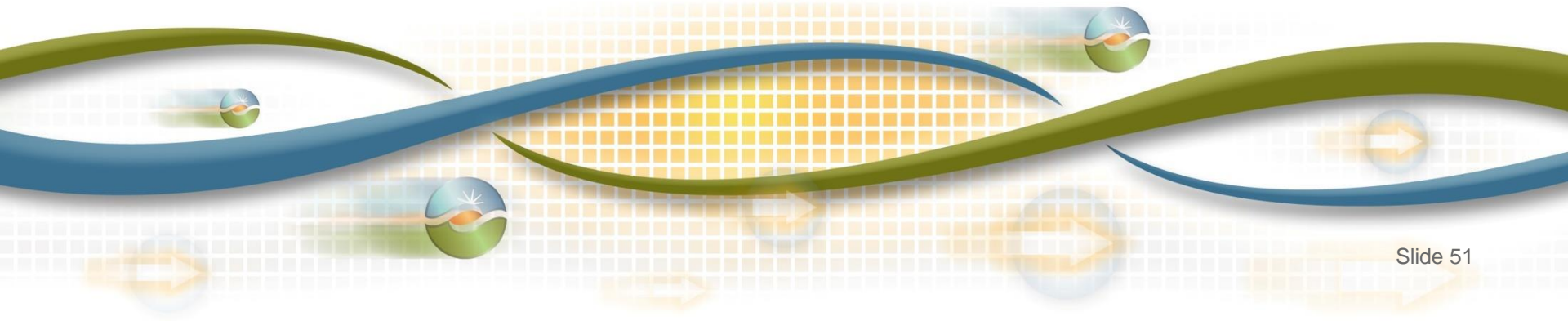
For submission and resubmission

Meter data submission: Settlement timelines

* Subject to rules of conduct

T+3B
- Initial Settlement Statement
- Based on all estimated data by the ISO

T+8B
- SC can submit **Actual** SQMD or **Estimated** SQMD
- If there is no SC submitted meter data and there is a schedule, the ISO will estimate

T+12B
- Recalculation Settlement Statement

T+48B
- SC must submit Actual SQMD. If not, SC submitted Estimated values will be used, which will be subject to Rules of Conduct
- CAISO Estimated meter data will be set to zero

T+55B
- Recalculation Settlement Statement

T+9M
- Window of opportunity for resubmitted meter data, if required, for T+9M Recalculation Settlement Statement (*Subject to Rules of Conduct)

NOTE": No longer have to wait for the window of opportunity to resubmit meter data; can submit up until T+9M; rules of conduct still apply

T = trade date; B = business days; M = months
T+9M = T+172B

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Transition

Transition from OMAR to UI

- OMAR will no longer be available after March 31, 2017
  - Data from OMAR will be migrated

- Individual cut-over based on demonstrated readiness and coordination between SC & ISO resources

- Data entered in market sim will NOT be considered production quality

- Formal data transition plan is under development

Stay tuned!

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Recap Changes
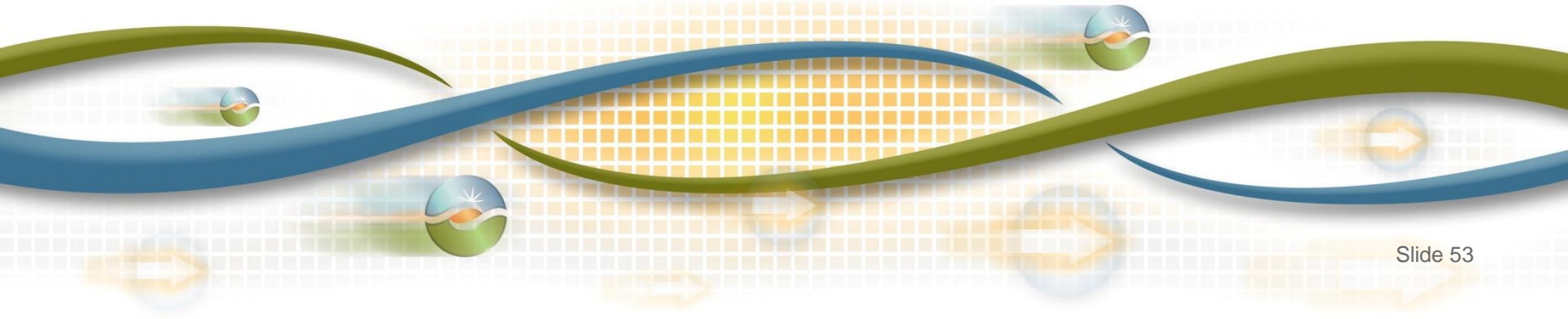
What has changed

- Two user roles
  - Utilize CMA certificate
- Two screens
- Versioning
- Submission methodologies
  - API vs UI
  - FTP – no longer being used (replaced by API)
- Submission formats
  - GMT instead of PST/PDT
  - CSV, XML, MDEF
  - mRID vs. MSID
- Error Codes
- Timeline
  - No longer submitting late meter data forms

Contacts

- **CAISO client service representatives**

  - Contact your client representative with questions

- **Scheduling coordinator's User Access Administrator (UAA)**

  - SC's central point of contact, responsible for submitting new requests or modifying user's ISO application access

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Questions?

- Support during market simulation:
  - Contact the ISO Service Desk at (888) 889-0450 or servicedesk@caiso.com
  - Submit a CIDI ticket
    - *select the market sim environment*

Reference Material

Features of User Interface

Helpful Links

Features of User Interface: Results Window

- The results window provides inline filtering and export functionality

		✖ ▼ 📊
	✖	Restore sort to default setting (removes user-created multiple column sorting)
	▼	The Inline Filter works as a toggle. Click the icon to filter data based on the content of a particular column. Press **Enter** after inputting the filter criteria. (Note: Wildcard symbols can be used in this column, but they are not necessary. For example, searching for *lake* or lake will provide the same results.)
	📊	Exporting (to Excel, Word, CSV)

Features of User Interface: Export Menu

- The export menu allows the user to customize the data export

Export All	All data points will be exported to Excel
Export Page	The current page will be exported to Excel
Export Wizard	The user can customize the data export

Features of User Interface: Application Toolbar

- The application toolbar contains the application or browser-based functions

←	Goes to the previous display in browsing history
→	Goes to the next display in browsing history
STOP	Stops loading the current display
↻	Refreshes the display in the current window
🔍	Zoom out
🔍	Zoom in
→]	Log out

Features of User Interface: Results Window

- The results window provides data in multiple pages

	⏮ ◀ 101 - 200 of 225 ▶ ⏭ [_____] ⟳	
⏮		Navigate to the first page of data
◀		Navigate to the previous page of data
▶		Navigate to the next page of data
⏭		Navigate to the last page of data
[_____] ⟳		Go to specific line item entered in search box

Helpful links

For Tech Specs, User Guide, BRS

http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=53D6EA67-9F4A-434D-8C41-BAA46169A237

Application Access Page

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx

Access and Identity Management (AIM) User Guide

http://www.caiso.com/Documents/AccessandIdentityManagement_AIM_UserGuide.pdf

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Thank you!!!

This concludes today's Market Results Interface – Settlements User Interface (OMAR Replacement) 2016 Fall Release training session…