MUI and SRS Overview

1. CRR MUI Overview & SRS_CBT

1.1 Congestion Revenue Rights (CRR)

CRR Market User Interface (MUI) Training Overview and Secondary Registration System (SRS)

1.2 Introduction

To fulfill the Tariff required training each individual needs to complete the following, in the order listed below:

- CRR Basics Overview CBT
- CRR MUI Overview CBT
- One of the following (although both are suggested)
  - MUI Allocation CBT
  - MUI Auction CBT

This course is for the participants, so your feedback would be appreciated. Please send any comments to crrdata@caiso.com
1.3 Goal of this Training Course

Provide an overview of the various CRR processes that participants should understand in order to be able to participate in the CRR Allocation and/or CRR Auction. This course specifically focuses on providing an overview of the Market User Interface and the high level features as well as providing information on the Secondary Registration System (SRS).

1.4 Training Course Agenda

In this presentation we will discuss the following topics related to Congestion Revenue Rights:

- Section 1 - General Timeline for CRR processes
- Section 2 – General MUI Information
  - Requesting access to CRR system
  - Market Participant Portal
  - MUI Overview and Navigation
- Section 3 - Open Access Same-Time Information System (OASIS)
- Section 4 - Secondary Registration System (SRS)
1.5 Section 1 – General Timeline for CRR Processes

General Timeline for CRR Process
- Timeline overview
- Annual Process Timeline
  - Allocation
  - Auction
- Monthly Process Timeline
  - Allocation
  - Auction

1.6 General Timeline
1.7 General Annual Process for Seasonal/TOU

1.8 General Timeline - Schedule

- Posted on CRR Production Page:
  - [http://www.caiso.com/market/Pages/ProductsServices/CongestionRevenueRights/Default.aspx](http://www.caiso.com/market/Pages/ProductsServices/CongestionRevenueRights/Default.aspx)
    - Current Process:
      - YYYY Annual Processes
      - YYYY Monthly Processes
1.9 CRR Allocation and Auction – Monthly Process

1.10 Section 1 – Questions

General Timeline for CRR Process
- Timeline overview
- Annual Process Timeline
  - Allocation
  - Auction
- Monthly Process Timeline
  - Allocation
  - Auction
1.11 Section 2 – General Market User Interface (MUI) Information

Market User Interface
- Requesting access to CRR System
- Market Participant Portal
  - CRR MUI
  - CRR Full Network Model
- MUI Overview and Navigation
  - Roles
  - Public data downloads and messages
  - Private data downloads and messages

1.12 Requesting access to the CRR System

In order to access the CRR System, you will need to have a valid CMA digital certificate and PIN.

To receive a CMA certificate, the following steps must be completed:
- Establish Point of Contact (POC)
- Complete a User Application Access Request Form (AARF)
- POC to send completed AARF using CIDI

Note:
- All forms are located at http://www.caiso.com/pubinfo/info-security/certs/index.html
- It normally takes 10 business days to process the AARF
- Access is only granted to registered Candidate CRR Holders
1.13 California ISO Market Participants Portal (MPP)

https://portal.caiso.com/Pages/Default.aspx

1.14 Software Requirements

- The MPP is accessed via the Internet using the following browsers:
  - Microsoft Internet Explorer Version 11
  - Chrome
  - Firefox
- The CRR System does not require any additional proprietary software to be installed on Market Participants’ computers.
1.15 MUI Overview and Navigation

MUI Overview and Navigation

- Overview
- Roles
- Public and Private data downloads
- Public and Private messages

1.16 Market User Interface Overview

Market User Interface Overview

CRR Market User Interface (MUI) allows MPs to
- View public data, public allocation/auction results, and public announcement and messages
- View private data, private allocation/auction results, and private announcement and messages
- Manage and submit their CRR nominations/bids to an upcoming allocation or auction
- Post ads to buy and sell CRRs using the Secondary Registration Systems (SRS)
- Transfer ownership of CRRs using the SRS
1.17 Market User Interface Overview (cont.)

- The CRR System requires upload data, including historical/forecasts load data, CRR nominations and CRR bids to be in extensible Mark-up Language (xml) format. Many of the CRR System downloads (e.g., allocation and auction results) will also be in xml format. Tools are available to transfer data from other common formats like comma separated value (.csv) into xml format for uploading.
- The transformation of CRR data into xml format is beyond the scope of this presentation and is the responsibility of each Market Participant to be able to do, as required, to participate in the CRR process.

1.18 Market User Interface Overview (cont.)

Summary of MUI Functions
- Public data functions
  - Download public CRR data
  - Retrieve public messages
- Private data functions
  - Download private data, including auction results
  - Retrieve private messages
  - Create, upload, edit and submit CRR allocation and auction portfolios
  - Upload/view historical/forecasted load data
  - Transfer ownership of CRRs using the secondary registration system
1.19 Market User Interface Roles

- The Market User Interface has two “roles” – Non Restricted (MUI) and Restricted (MUI – Restricted)
  - Non Restricted Access (MUI) – Individual that has signed Exhibit A of the CRR FNM NDA.
  - Restricted Access (MUI – Restricted) – Individual has not signed Exhibit A of the CRR FNM NDA.
- CRR FNM NDA is located at [http://www.ca ISO.com/market/Pages/ProductsServices/CongestionRevenueRights/Default.aspx](http://www.caISO.com/market/Pages/ProductsServices/CongestionRevenueRights/Default.aspx)
- Contact: CAISO NDA @ caisona@caiso.com

1.20 Public and Private Download Summary

<table>
<thead>
<tr>
<th></th>
<th>Non-Restricted Access</th>
<th>Restricted Access</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Action</td>
<td>Allocation</td>
</tr>
<tr>
<td>General</td>
<td>Exiting CRR</td>
<td>Exiting CRR</td>
</tr>
<tr>
<td>Market</td>
<td>Source and Sim Data, Baseline Loading CRR</td>
<td>Source and Sim Data, Baseline Loading CRR</td>
</tr>
<tr>
<td>Market Result</td>
<td>CRR Results, Defining Candidate</td>
<td>CRR Results, Defining Candidate</td>
</tr>
<tr>
<td>General</td>
<td>Exiting CRR</td>
<td>Exiting CRR</td>
</tr>
<tr>
<td>Market</td>
<td>Source and Sim Data, Upper Bound Validation Data</td>
<td>Signature Validation Data</td>
</tr>
<tr>
<td>Market Result</td>
<td>CRR Results</td>
<td>CRR Results</td>
</tr>
</tbody>
</table>
1.21 Public - General Tab

- Click here to remove public data
- Click here to select downloadable General Data - Enabling CRR Data
- Click on list box to select category
- Existing CRRs are all outstanding non-expired CRRs by the time the file was updated (last modified date)
- Click here on the list to download the desired item — then at the subsequent prompt, enter the name of the file to be saved to
- Last Modified Date is the date the file was updated.

1.22 Public - Network Tab

- Click here for the list of downloadable Network Data
- Click on the desired link to download the respective network model data files
- Note: This tab does not appear if you are a MUI - Restricted users
- Note: The full-network model for on and off peak periods will likely be the same.
1.23 Public - Market Tab

1.24 Public – Market Results Tab
1.25 Public Messages

1.26 Public Messages

- View current messages broadcast by the ISO CRR Market Operators
- Messages are color coded depending on their priority
  - **Low** (Green)
  - **Medium** (Yellow)
  - **High** (Red)
1.27 Private – General Tab

1.28 Private – Market Tab
1.29 Private – Market Results Tab

1.30 Private – Load Migration Tab
1.31 Private Messages

1.32 Section 2 – Questions

Market User Interface
- Requesting access to CRR System
- Market Participant Portal
  - CRR MUI
  - CRR Full Network Model
- MUI Overview and Navigation
  - Roles
  - Public data downloads and messages
  - Private data downloads and messages
1.33 Section 3 – Open Access Same-Time Information System (OASIS)

Section 3 – Open Access Same-Time Information System (OASIS)

CRR Information on OASIS
• CRR Inventory
• CRR Auction Clearing Prices
• CRR Revenue Adjustment Data
• CRR Auction Bid Data

1.34 Open Access Same-time Information System (OASIS)
1.35 Open Access Same-time Information System (OASIS)

- Access Public CRR data
  - Inventory
  - Clearing Prices
  - CRR Revenue Adjustment Data
  - Public Bids
- URL: [http://oasis.caiso.com/mricasis](http://oasis.caiso.com/mricasis)

1.36 Open Access Same-time Information System (OASIS)

How to retrieve Inventory data
- Congestion Revenue Rights
  - CRR Inventory
1.37 Open Access Same-time Information System (OASIS)

1.38 Open Access Same-time Information System (OASIS)

How to retrieve Clearing Prices
- Congestion Revenue Rights
  - CRR Clearing Prices
1.39 Open Access Same-time Information System (OASIS)

1.40 Open Access Same-time Information System (OASIS)
1.41 Open Access Same-time Information System (OASIS)

CRR Public Bids
- Bids submitted and used in the CRR auction markets, with bid id masked by pseudo bid id.
- Posted for the monthly auctions 90 days after the close of markets and seasonal auctions after each relevant quarter has passed.
- The Public Bid Data is downloadable to XML and CSV only, for a single market at a time.
1.43 Open Access Same-time Information System (OASIS)

How to retrieve Public Bids
- Public Bids
  - CRR Public Bids

1.44 Open Access Same-time Information System (OASIS)

Filters:
- Start Date
- Market Term

Effective start date of the auction market, has to be the first day of the term.
Select market term to choose monthly auction market or seasonal auction market.
Download data in xml or csv format.
1.45 Section 3 – Questions

CRR Information on OASIS
- CRR Inventory
- CRR Auction Clearing Prices
- CRR Auction Bid Data

1.46 Section 4 – Secondary Registration System

- SRS Overview
- Bulletin Board Postings
- Credit Evaluation
1.47 Secondary Registration System Overview

Secondary Registration System Overview

- Market Participants may trade CRRs bilaterally amongst themselves. The Tariff requires these trades to be registered with the CAISO.
  - The Secondary Registration System (SRS) is part of the CRR system and is designed only to facilitate the trading of CRRs by market participants. It does not effectuate buys and sells.
  - The financial rights (possibly portions of it) for each traded CRR are reassigned to the new owner by the SRS.
  - The SRS is used to register changes in CRR ownership so the CAISO Settlement system is aware of the current owner.
  - The SRS has an automated credit check to allow the ISO to ensure credit worthiness of buyers and sellers.
  - Seller and buyer need to register CRR transfers 8 business days before effective date of transfer of revenues associated with the CRR (Tariff section 36.7.3) or with sufficient time for the ISO to perform the necessary credit check.

1.48 Secondary Registration System

Secondary Registration System

- SRS operates like a “classified advertisement” bulletin board
  - CRR buy bids and sell offers are posted like advertisements for other market participants to see and partake on their own.
  - Market participants
    - Communicate directly with the owners that have posted the item of interest
    - Negotiate the terms of the CRR transaction
    - Transfer the financial settlement privately
  - The money is exchanged outside the purview of the CRR System.
  - Only the transfer of ownership of the CRR is conducted through the CRR System.

- The SRS registers change of ownership only and the CAISO is not responsible for any disputes with regards to the financial settlement of secondary transaction.
1.49 Secondary Registration System

Secondary Registration System

- All existing CRRs may be posted
  - On the CAISO SRS bulletin board
  - Only viewed by CAISO-accredited CRR Market Participants
- During the process of transferring ownership of a CRR, the CRR system
  - Will conduct a credit check to ensure credit worthiness of buyer and seller
- Once the transfer of ownership is complete, the CRR system
  - Considers the new owner for settlement purposes in regard to future billing statements

1.50 Secondary Registration System

Secondary Registration System

For more details on how to execute a buy or sell offer in the SRS please refer to section 8 of the Market User Interface manual. For any assistance please contact the CRR team at crrdta@caiso.com.
1.51 Section 4 – Questions

- SRS Overview
- Bulletin Board Postings
- Credit Evaluation
- End of CRR MUI Overview and SRS Training

1.52 End - Thank You

Thank You

Ensure that your default e-mail program is running then:

Click Here To Submit Results