

MUI and SRS Overview

1. CRR MUI Overview & SRS_CBT

1.1 Congestion Revenue Rights (CRR)



Congestion Revenue Rights (CRR)

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

1.2 Introduction

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

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).



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1.4 Training Course Agenda

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)



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1.5 Section 1 – General Timeline for CRR Processes

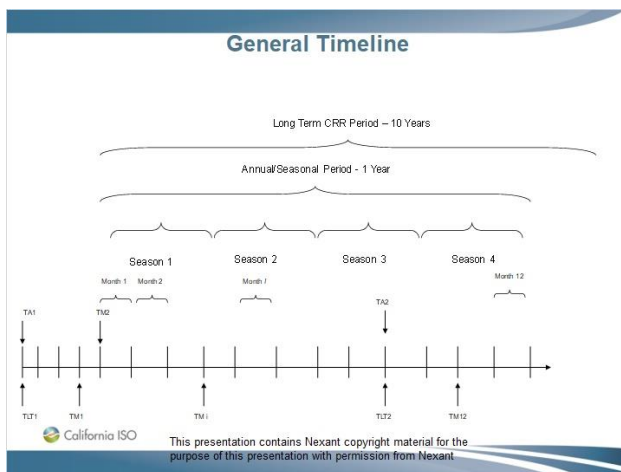
Section 1 – General Timeline for CRR Processes

General Timeline for CRR Process

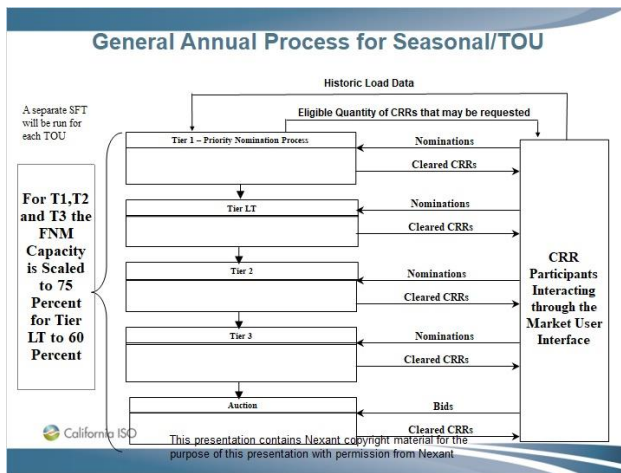
- Timeline overview
- Annual Process Timeline
 - Allocation
 - Auction
- Monthly Process Timeline
 - Allocation
 - Auction

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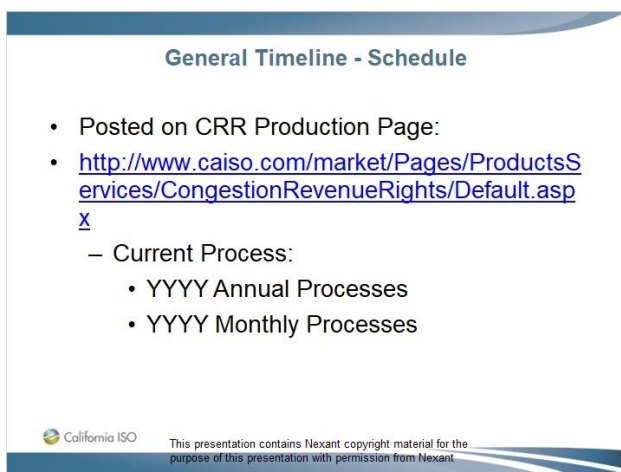
1.6 General Timeline



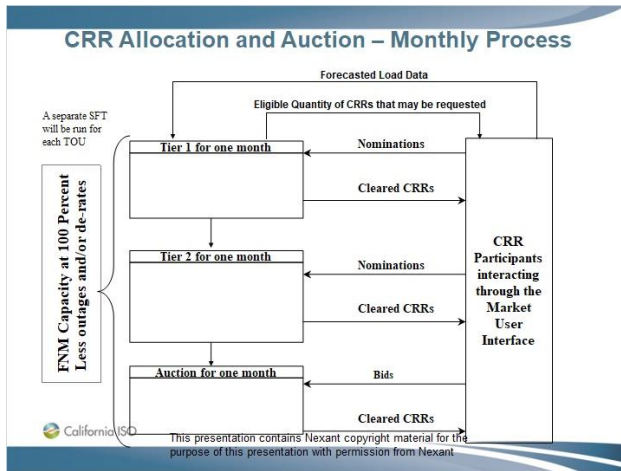
1.7 General Annual Process for Seasonal/TOU



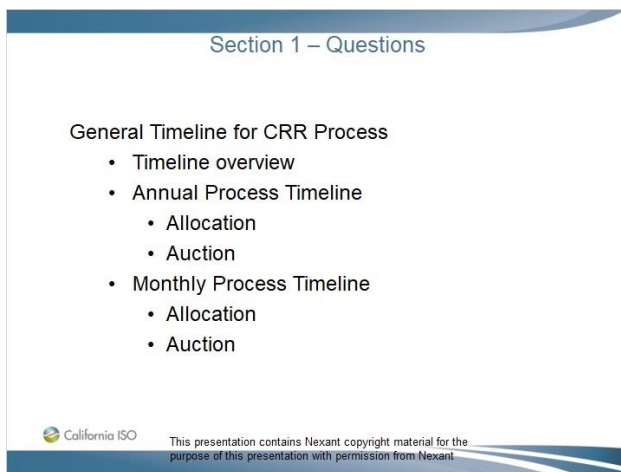
1.8 General Timeline - Schedule



1.9 CRR Allocation and Auction – Monthly Process



1.10 Section 1 – Questions




1.11 Section 2 – General Market User Interface (MUI) Information

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

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1.12 Requesting access to the CRR System

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

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1.13 California ISO Market Participants Portal (MPP)

California ISO Market Participants Portal (MPP)

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

California ISO Market Participant Portal

CRR FNM SharePoint Site

Applications that you have access to will appear here.

Market	Market Type	Market Status	Market Type	Market Status
1.1	OPEN	OPEN	1.2	OPEN
1.2	OPEN	OPEN	1.3	OPEN
1.3	OPEN	OPEN		

California ISO

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1.14 Software Requirements

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.

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1.15 MUI Overview and Navigation

MUI Overview and Navigation

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

California ISO **CRR SYSTEM**
Shaping a Renewed Future Welcome CISO (Full Access (With NDA)) Returns to Entity & Role Selection

Public CRR Private CRR

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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

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1.17 Market User Interface Overview (cont.)

Market User Interface Overview (cont.)

- The CRR System requires upload data, including historical/forecasted 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.


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1.18 Market User Interface Overview (cont.)

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

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1.19 Market User Interface Roles

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.caiso.com/market/Pages/ProductsServices/CongestionRevenueRights/Default.aspx>
- **Contact: CAISO NDA @ caisonda@caiso.com**

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1.20 Public and Private Download Summary

Public and Private Download Summary

CRR System Download Summary					
		Non Restricted Access		Restricted Access	
		Auction	Allocation	Auction	Allocation
Public Download	General	Existing CRRs *		Existing CRRs *	
	Network	Network Model, Contingencies, Monitored Lines and Transformers, Interface Definitions	Network Model, Contingencies, Monitored Lines and Transformers, Interface Definitions	NA	
	Market	Source and Sink Data, Base Loading CRRs	Source and Sink Data, Base Loading CRRs	Source and Sink Data, Base Loading CRRs	Source and Sink Data, Base Loading CRRs
	Market Result	CRR Results**, Binding Constraints, Source/Sink Clearing Prices	CRR Results**, Binding Constraints	CRR Results**, Source/Sink Clearing Prices	CRR Results**
Private Download	General	Existing CRRs		Existing CRRs	
	Market	Source and Sink Upper Bound Validation Data, Signature Validation Data		Source and Sink Upper Bound Validation Data, Signature Validation Data	
	Market Result	CRR Results		CRR results	

** Notes: CRR Results (results for nomination and bid CRRs for that market—no previously fixed CRRs will be displayed)
 * Existing CRRs are all outstanding non-expired CRRs

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1.21 Public - General Tab

Public - General Tab

California ISO CRR SYSTEM
Welcome CISO (Full Access (with NDA)) | Return to Entity & Role Selection

Public CRR | Private CRR

Public Downloads > General Data

1) Click here to retrieve public data

2) Click here to select downloadable General Data - Existing CRR Data

Select category of existing CRRs to download:

- All
- Monthly Auction
- Seasonal Auction
- Monthly Allocation
- Seasonal Allocation
- Long term Allocation
- Load Migration All
- Secondary Market

3) Click on list box to select category

4) Existing CRRs are all outstanding non-expired CRRs by the time the file was updated (last modified date).

4) Click here on the link to download the desired item – then at the subsequent prompt, enter the name of the file to be saved to

Download File	General	Network	Market	Market Result	Last Modified Date
ExistingCRRUPublic_ALL_CSV.zip					2012-02-20T19:03:34-0700

6) Last Modified Date is the last time the file was updated.

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1.22 Public - Network Tab

Public - Network Tab

California ISO CRR SYSTEM
Welcome CISO (Full Access (with NDA)) | Return to Entity & Role Selection

Public CRR | Private CRR

Public Downloads > Network Data

2) Select Auction or Allocation button

1) Click here for the list of downloadable Network Data

Select a market to download:

- Auction
- Allocation

AUC_MN_2012_M03_TC

Download Type	General	Network	Market	Market Result	Last Modified Date
Network Model	PSSE-DC_AUCTION_AUC_MN_2012_M03_TC_ON.raw				2012-02-21T16:20:06-0800
Contingencies	PSSE-DC_AUCTION_AUC_MN_2012_M03_TC_OFF.raw				2012-02-21T16:20:06-0800
Monitored Lines And Transformers	XML Format				2012-02-21T16:20:06-0800
Interface Definitions	XML Format				2012-02-21T16:20:06-0800

3) 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.

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1.23 Public - Market Tab

Public - Market Tab

California ISO CRR SYSTEM

Public CRR Private CRR

Public Downloads > Market

Select a market to download:

Auction Allocation AUC_MN_2012_MD3_TC

Download Type	Download Type	Last Modified Date
Source Sunk Data	XML Format	2012-02-21T16:20:06-0800
Base Loading CRRs	XML Format	2012-02-17T14:12:56-0800

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1.24 Public – Market Results Tab

Public – Market Results Tab

California ISO CRR SYSTEM

Public CRR Private CRR

Public Downloads > Market Results

Select a market to download:

Auction Allocation AUC_MN_2012_MD3_TC

Download Type	Download Type	Last Modified Date
CRR Results	XML Format	2012-02-27T14:20:44-0800
Binding Constraints	XML Format	2012-02-27T14:55:11-0800
Source/Sink Clearing Prices	XML Format	2012-02-27T14:55:11-0800

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Note: Binding Constraints does not appear if you are a MUI - Restricted users

1.25 Public Messages

Public Messages

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Sharing is encouraged

CRR SYSTEM
Welcome! CISO (Full Access) (With NDA) Returns to Entity & Role Selection

Public CRR
Private CRR

Downloads
Messages

Posted	Message
2009-03-07 12:12:23-0700	The April 09 Tier 2 Allocation results are now available. Please visit the website to view the results by clicking on the link provided. Please send any questions related to the results to crrdata@caliso.com by COB Friday, March 20th. Thanks CRR Team
2009-03-07 09:31:11-0700	Candidate CRR notices. This is a reminder that the nomination window for Tier 2 of the April Monthly Allocation process opened at 6:00 on Monday March 16th and will close at 1:00 on Monday March 16th. Thanks.
2009-03-17 16:39:49-0700	The HQs for Tier 2 of the April is now available. The data is located at Private CRR - Downloads - Market. Please validate this information and contact crrdata@caliso.com by March 19th. Thanks, CRR Team
2009-12-07 17:43:43-0800	Good Afternoon. The CRR team has posted the 2009 Annual Auction market results today. You can download and review the results through the CRR M&E system.
2009-11-10 16:09:04-0800	Good Afternoon. The CRR team has posted the 2009 Allocation Tier 3 market results today. You can download and review the results through the CRR M&E system.
2009-10-30 18:00:03-0700	10/30/09 Due to the size of the exact CRR file, several requests were received for us to provide to them the results from the TCR market. The results are attached here. Please send any questions or comments to crrdata@caliso.com. Thanks!
2009-10-30 13:57:56-0700	10/30/09 Attached is the posted results from 2009 Long Term Tier. Please contact crrdata@caliso.com if you have any questions. Thanks.
2009-10-30 16:12:08-0700	Good Afternoon. The CRR team has posted the Long Term 20:22 market results today. You can download and review the results through the CRR M&E system.
2009-10-17 16:10:10-0700	Good Afternoon. The CRR team has posted the TCR 20:20 market results today. You can download and review the results through the CRR M&E system. Please also find Long Term CRR for 20:20 from the previous long term market in the Existing CRRs download.
2009-10-13 17:44:49-0700	Good evening. The CRR team has successfully posted the 2009 Annual Allocation Tier 2 results on CRR 12:30. Please access the CRR M&E system to download and review your results. Please let the CRR team know if you have any question.
	CRR Tier 2 Annual Allocation 2009 market nomination submission window was closed at 12:30 PM on 10/12/09.

1) Click here to see the Public Message Board

2) Any messages will be posted here

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1.26 Public Messages

Public Messages

California ISO
Sharing is encouraged

CRR SYSTEM
Welcome! CISO (Full Access) (With NDA) Returns to Entity & Role Selection

Public CRR
Private CRR

Downloads
Messages

Posted	Message
2009-03-07 12:12:23-0700	The April 09 Tier 2 Allocation results are now available. Please visit the website to view the results by clicking on the link provided. Please send any questions related to the results to crrdata@caliso.com by COB Friday, March 20th. Thanks CRR Team
2009-03-07 09:31:11-0700	Candidate CRR notices. This is a reminder that the nomination window for Tier 2 of the April Monthly Allocation process opened at 6:00 on Monday March 16th and will close at 1:00 on Monday March 16th. Thanks.
2009-03-17 16:39:49-0700	The HQs for Tier 2 of the April is now available. The data is located at Private CRR - Downloads - Market. Please validate this information and contact crrdata@caliso.com by March 19th. Thanks, CRR Team
2009-12-07 17:43:43-0800	Good Afternoon. The CRR team has posted the 2009 Annual Auction market results today. You can download and review the results through the CRR M&E system.
2009-11-10 16:09:04-0800	Good Afternoon. The CRR team has posted the 2009 Allocation Tier 3 market results today. You can download and review the results through the CRR M&E system.
2009-10-30 18:00:03-0700	10/30/09 Due to the size of the exact CRR file, several requests were received for us to provide to them the results from the TCR market. The results are attached here. Please send any questions or comments to crrdata@caliso.com. Thanks!
2009-10-30 13:57:56-0700	10/30/09 Attached is the posted results from 2009 Long Term Tier. Please contact crrdata@caliso.com if you have any questions. Thanks.
2009-10-30 16:12:08-0700	Good Afternoon. The CRR team has posted the Long Term 20:22 market results today. You can download and review the results through the CRR M&E system.
2009-10-17 16:10:10-0700	Good Afternoon. The CRR team has posted the TCR 20:20 market results today. You can download and review the results through the CRR M&E system. Please also find Long Term CRR for 20:20 from the previous long term market in the Existing CRRs download.
2009-10-13 17:44:49-0700	Good evening. The CRR team has successfully posted the 2009 Annual Allocation Tier 2 results on CRR 12:30. Please access the CRR M&E system to download and review your results. Please let the CRR team know if you have any question.
	CRR Tier 2 Annual Allocation 2009 market nomination submission window was closed at 12:30 PM on 10/12/09.

1) Click here to see the Public Message Board

2) Any messages will be posted here

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

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1.27 Private – General Tab

Private – General Tab

California ISO CRR SYSTEM

Public CRR Private CRR

1) Click here to navigate to the Private CRR Downloads

2) Click here to select downloadable General Data - Existing CRR Data

Private Downloads > General Data

Select category of existing CRRs to download:

Auction
 Auction
 Secondary Market Allocation
 Existing CRRs

3) Click on list box to select category

Download Type	Last Modified Date
CSV Format	2012-02-27T14:20:44-0800
XML Format	

4) Click the desired download format – this prompts for the name of the file to be saved to.

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1.28 Private – Market Tab

Private – Market Tab

California ISO CRR SYSTEM

Public CRR Private CRR

1) Click here to navigate to the Private CRR Downloads

2) Click here to select downloadable Market - Market Validation Data

Private Downloads > Market Validation Data

Select a market to download:

Allocation ALLOC_MIN_2012_MD4_T2

3) Click on list box to select category

Download Type	Last Modified Date
Source and Sink Upper Bound Validation Data	
Signature Validation Data	

4) Click the desired download format – this prompts for the name of the file to be saved to.

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1.29 Private – Market Results Tab

Private – Market Results Tab

California ISO CRR SYSTEM

Public CRR Private CRR

Private Downloads > CRR Results

Select a market to download:

Auction Allocation AUC_MN_2012_M03_TC

	General	Market	Market Result	Load Migration
CRR Results			Last Modified Date	
			2012-02-27T14:20:44-0800	

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1.30 Private – Load Migration Tab

Private – Load Migration Tab

California ISO CRR SYSTEM

Public CRR Private CRR

Private Downloads > Load Migration Data

Select a market to download:

Load Migration LM_AN_2012_201204

	General	Market	Market Result	Load Migration
Load Migration CRRs			Last Modified Date	
			2012-03-20T14:54:22-0700	

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1.31 Private Messages

Private Messages

California ISO CRR SYSTEM
Welcome, CISO (Full Access)

Public CRR Private CRR
Downloads

Private User Messages

1) Click here to see the Private User Message Board

2) All messages will be posted here

3) Messages from CRR market operators are color coded (green, yellow and red)

4) Messages in black are posted by the system

5) All attachments will be shown here. Click on the link to download the attachment (if there are any).

Posted	Allocation Portfolio	Attached file
2012-03-18T08:55:26-0700	Auction Portfolio	
2012-03-13T09:05:12-0700	Secondary Market	ed portfolio "April_7_2_Transday_2012" to allocation
2012-03-08T13:08:51-0800	Historical/Forecasted Load	ed portfolio "April_7_1_Transday_2012" to allocation
2012-02-13T08:55:37-0800		You have successfully submitted portfolio "April_ETC_2012_25%" to allocation "ALLOCM_2012_M63_T1"
2012-02-09T07:33:59-0800		You have successfully submitted portfolio "March_7_1_Transday_2012" to allocation "ALLOCM_2012_M63_T1"
2012-02-08T13:37:58-0800		You have successfully submitted portfolio "March_ETC_2012_25%" to allocation "ALLOCM_2012_M63_ETC"
2012-01-17T09:08:47-0800		You have successfully submitted portfolio "February_7_2_Transday_2012" to allocation "ALLOCM_2012_M63_T2"
2012-01-10T09:19:00-0800		You have successfully submitted portfolio "February_7_1_Transday_2012" to allocation "ALLOCM_2012_M63_T1"
2012-01-09T14:40:30-0800		You have successfully submitted portfolio "February_ETC_2012_25%" to allocation "ALLOCM_2012_M63_ETC"
2011-12-14T08:46:51-0800		You have successfully submitted portfolio "January_7_2_Transday_2012" to allocation "ALLOCM_2012_M63_T2"
2011-12-08T08:58:25-0800		You have successfully submitted portfolio "January_7_1_Transday_2012" to allocation "ALLOCM_2012_M63_T1"
2011-12-07T13:50:49-0800		You have successfully submitted portfolio "ALLOCM_2012_M63_T1"
2011-11-14T08:36:21-0800		You have successfully submitted portfolio "ALLOCM_2011" to allocation

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1.32 Section 2 – Questions

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

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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

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1.34 Open Access Same-time Information System (OASIS)

Open Access Same-time Information System (OASIS)

California ISO | OASIS

HOME | ABOUT | PRICES | TRANSMISSION | ENERGY DEMAND | ENERGY | AUXILIARY SERVICES | CONGESTION REVENUE RIGHTS | PUBLIC BILL


Welcome to the California ISO Open Access Same-time Information System (OASIS) site. On OASIS you will find real-time data related to the ISO transmission system and its market, such as system demand forecasts, transmission outage and capacity status, market prices and market result data.

Standards Information
South American Energy Standards Board (SAEBS)
ISO Business Practice Manual
Available Transfer Capability Information

OASIS History
This site contains updates from April 1, 2008 to the current trading day.
Initial OASIS Trading Day at
Trading Dates: 4/1/2008 - 3/31/2009
Trading Dates: 3/31/2009 - 4/30/2009

System Help
Full interface technical support, product release plans and other supporting documents go to:
System Technical Information
Support

Other OASIS sites



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1.35 Open Access Same-time Information System (OASIS)

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/mrioasis>


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1.36 Open Access Same-time Information System (OASIS)

Open Access Same-time Information System (OASIS)

How to retrieve Inventory data

- Congestion Revenue Rights
 - CRR Inventory



California ISO | OASIS

ATLAS | REPORT REFERENCE | DEFINITION | PRICES | TRANSMISSION | SYSTEM DEMAND | ENERGY | AUXILIARY SERVICES | CONGESTION REVENUE RIGHTS | PUBLIC BIDS

Welcome to the California ISO Open Access Same-time Information System (OASIS) site. On OASIS you will find real-time data related to the ISO transmission system and the market with its associated financial instruments, transmission orders and products.

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1.37 Open Access Same-time Information System (OASIS)

Open Access Same-time Information System (OASIS)

Filters:

- Start Date
- Market Name
- Term
- Time of Use

Dates have to be between the start date and the end date of the specified market for data to show.

Apply to show data

Download data in xml or csv format

Market Name	Market ID	Time of Use	Start Date	End Date	CRR ID	Start	End	Segment	CRR Type
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021036	2	2	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021766	3	3	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021767	4	4	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021768	5	5	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021769	6	6	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021770	7	7	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021771	8	8	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021772	9	9	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021773	10	10	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021774	11	11	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021775	12	12	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021776	13	13	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021777	14	14	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021778	15	15	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021779	16	16	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021780	17	17	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021781	18	18	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021782	19	19	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021783	20	20	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021784	21	21	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021785	22	22	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021786	23	23	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021787	24	24	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021788	25	25	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021789	26	26	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021790	27	27	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021791	28	28	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021792	29	29	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021793	30	30	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021794	31	31	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021795	32	32	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021796	33	33	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021797	34	34	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021798	35	35	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021799	36	36	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021800	37	37	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021801	38	38	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021802	39	39	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021803	40	40	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021804	41	41	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021805	42	42	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021806	43	43	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021807	44	44	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021808	45	45	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021809	46	46	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021810	47	47	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021811	48	48	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021812	49	49	ADCC	PPF
ADCC_2_N001	ADCC_2_N001	ADCC_2_N001	8/10/2013	8/10/2013 23:59:59	1021813	50	50	ADCC	PPF

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1.38 Open Access Same-time Information System (OASIS)

Open Access Same-time Information System (OASIS)

How to retrieve Clearing Prices

- Congestion Revenue Rights
 - CRR Clearing Prices

Download data in xml or csv format

CRR Clearing Prices

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1.39 Open Access Same-time Information System (OASIS)

Open Access Same-time Information System (OASIS)

Filters:

- Start Date
- Market Name
- Term
- Time of Use

Dates have to be between the start date and the end date of the specified market for data to show.

Apply to show data

Download data in xml or csv format

The screenshot shows the OASIS interface with a table of CRR Clearing Prices. The table has columns for Market Name, Term, Time of Use, Source Name, Node ID, Start Date, End Date, and Price. The data rows are as follows:

Market Name	Term	Time of Use	Source Name	Node ID	Start Date	End Date	Price
AUC_ML_2013_ML_7C	Monthly	OFF_PEAK	AGUCALCAL_2_81	010102013	01/01/2013 23:59:59	01/31/2013	-119.0000
AUC_ML_2013_ML_7C	Monthly	OFF_PEAK	AGUCALCAL_2_81	010102013	01/01/2013 23:59:59	01/31/2013	102.23000
AUC_ML_2013_ML_7C	Monthly	OFF_PEAK	ALAMOGADO_7_MKT	010102013	01/01/2013 23:59:59	01/31/2013	-1.02934000

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1.40 Open Access Same-time Information System (OASIS)

Open Access Same-time Information System (OASIS)

How to retrieve CRR Revenue Adjustment Data

- Congestion Revenue Rights
 - CRR Revenue Adjustment Data

The screenshot shows the OASIS interface with the 'CONGESTION REVENUE RIGHTS' menu item selected. A red arrow points to the 'CRR Aggregated Revenue Adjustment Data' option in the dropdown menu.

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1.41 Open Access Same-time Information System (OASIS)

Open Access Same-time Information System (OASIS)

Filters:

- Start Date

Select date you are interested in.

Apply to show data

Download data in xml or csv format

CRR Aggregated Revenue Adjustment Data

Start Date	End Date	Transmission Constraint ID	Constraint Class	Natural Revenue (\$)	Offset Revenue (\$)
08/20/2019 00:00:00	08/20/2019 00:00:00	3112 EXCHEDUR_115_34116_LE_GKAND_115_ER_1_1	PG&MERCED 115-70 BR2	118 82123	-2 52653
08/20/2019 08:00:00	08/20/2019 08:00:00	3112 EXCHEDUR_115_34116_LE_GKAND_115_ER_1_1	PG&MERCED 115-70 BR2	837 82362	-78 85553
08/20/2019 16:00:00	08/20/2019 16:00:00	3112 EXCHEDUR_115_34116_LE_GKAND_115_ER_1_1	PG&MERCED 115-70 BR2	18 82374	-28 87112
08/20/2019 00:00:00	08/20/2019 10:00:00	3112 EXCHEDUR_115_34116_LE_GKAND_115_ER_1_1	PG&MERCED 115-70 BR2	509 19876	-65 86501
08/20/2019 16:00:00	08/20/2019 16:00:00	3112 EXCHEDUR_115_34116_LE_GKAND_115_ER_1_1	PG&MERCED 115-70 BR2	272 82032	-83 83799
08/20/2019 11:00:00	08/20/2019 12:00:00	3112 EXCHEDUR_115_34116_LE_GKAND_115_ER_1_1	PG&MERCED 115-70 BR2	436 27125	-77 83799
08/20/2019 12:00:00	08/20/2019 12:00:00	3112 EXCHEDUR_115_34116_LE_GKAND_115_ER_1_1	PG&MERCED 115-70 BR2	109 72219	-84 36623

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1.42 Open Access Same-time Information System (OASIS)

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.


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1.43 Open Access Same-time Information System (OASIS)

Open Access Same-time Information System (OASIS)

How to retrieve Public Bids

- Public Bids
 - CRR Public Bids



California ISO | OASIS

ATLAS REFERENCE REPORT DEFINITION PRICES TRANSMISSION SYSTEM DEMAND ENERGY AUXILIARY SERVICES CONGESTION REVENUE RIGHTS PUBLIC BIDS

Welcome to the California ISO Open Access Same-time Information System (OASIS) site. On OASIS you will find real-time data related to the ISO transmission system and its Market, such as system demand forecasts, transmission outage and capacity status, market prices and market result data.

California ISO

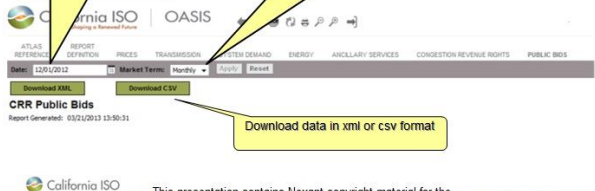
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1.44 Open Access Same-time Information System (OASIS)

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

California ISO | OASIS

ATLAS REFERENCE REPORT DEFINITION PRICES TRANSMISSION SYSTEM DEMAND ENERGY AUXILIARY SERVICES CONGESTION REVENUE RIGHTS PUBLIC BIDS

Date: 12/01/2012 Market Term: Monthly Apply Reset

Download XML Download CSV

CRR Public Bids

Report Generated: 03/12/2013 13:50:31

California ISO


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1.45 Section 3 – Questions

Section 3 – Questions

CRR Information on OASIS


- CRR Inventory
- CRR Auction Clearing Prices
- CRR Auction Bid Data

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1.46 Section 4 – Secondary Registration System

Section 4 – Secondary Registration System


- SRS Overview
- Bulletin Board Postings
- Credit Evaluation

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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 **5** 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.

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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 peruse on their own
 - Market participants
 - Communicate directly with the owners that have posted the item of interest
 - Negotiate the terms of the CRR transaction
 - Finalize 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

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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



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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 crrdata@caiso.com.




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1.51 Section 4 – Questions

Section 4 – Questions

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


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1.52 End - Thank You

Thank You

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

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 California ISO