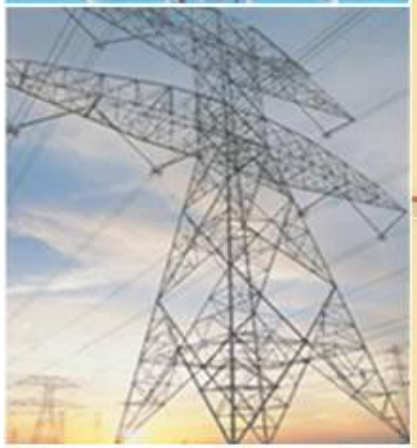

CRR DRY RUN WORKSHOP

Marriott Hotel – Rancho Cordova
9:00 am to 4:00 pm
April 28, 2006

Overview (0900 to 0945)

- Opening Remarks - Lorenzo Kristov
- Objectives of workshop
  - Kick off CRR Dry Run process by going through Draft CRR Dry Run Guidebook and draft data template
  - Reach common understanding of CRR Dry Run objectives, activities and time line
  - Discuss open issues
    - Season definitions
    - Required source and sink verification documentation
    - Process to handle oversubscribed sources in the verification process
- Basis of CRR Dry Run and today's workshop is filed MRTU Tariff, Section 36.

Overview Continued

History Of CRR Development – Scott Jercich

- Began design process in 2002, initial filing May 2002
- Stakeholder meetings, amended filing July 2003
- CRR Study 1 (Oct 2003 / Dec 2003)
- Stakeholder process to develop CRR allocation rules (March - October 2005)
- CRR Study 2 (August 2005 LECG report)
- CAISO filed Tariff language with FERC on Feb 9, 2006
- CRR allocation/auction system has now been developed
- CRR sandbox up and running (4/14/2006)
- Posted draft CRR Dry Run Guidebook and draft template for CRR Dry Run (4/21/2006)

Overview Continued

- Communication by Participants to the CAISO
  - Use Mailbox: MRTUImplementation@caiso.com
    - To submit questions
    - To submit CRR Dry Run data template
  - Use CRR system's Market User Interface (MUI)
    - To submit historical and forecasted load data, CRR nominations and CRR bids
  - Other (e.g., telephone, e-mail)
- Communication by CAISO to Participants
  - Use CRR Dry Run website at
    - http://www.caiso.com/17d0/17d0daf777b0.html
  - Communication will also occur via electronic mail, telephone and via CRR system's Market User Interface messaging capability

Overview Continued

- Guiding Documents
  - CRR Dry Run Guidebook
  - Tariff filed on February 9, 2006
- Data is kept confidential
- Data submittals are non-binding
- CRR Dry Run registration process
  - Send e-mail to MRTUImplementation@caiso.com by May 5, 2006
  - Request a digital certificate by May 19, 2006

Overview Continued

- Participation in Dry Run is voluntary
- Realistic and timely data submittals are important
- Merchant Transmission will not be considered in the Dry Run
- Software will be the same used for production
- CRR Dry Run reports will be prepared for Market Participants and FERC

CRR Dry Run Objectives (0945 – 1000)

- Main objective is to run allocations/auctions per filed Tariff
- Understand the CRR process
- Experience the data collection, submittal, and retrieval process
- Evaluate the need for software tool development
- Assess workload and staffing requirements
- Assess the allocation and auction process as per filed Tariff
- Use the Market User Interface to exchange data
- Use the Secondary Registration System to hypothetically trade CRR ownership and post CRR "advertisements"
- Fulfill the CRR training requirement
- Develop information for CRR summary reports for FERC and Market Participants

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Timeline for CRR Implementation (1000 – 1015)

High-Level Dry Run Schedule

Task	Start Date	End Date
CRR Dry Run stakeholder meeting to discuss the Dry Run	4/28/2006	4/28/2006
Request Digital Certificates	5/1/06	5/19/2006
Distribute revised CRR Dry Run Guidebook and Data Template	5/12/06	5/12/2006
Submission of data template information	5/8/2006	7/28/2006
Provide Digital Certificates to Market Participants	6/5/2006	6/9/2006
CRR Training	8/14/2006	8/18/2006
Load Data Submission (via Market User Interface)	8/22/2006	9/4/2006
CRR Dry Run allocation and auction process (including submission of nomination and bid data)	8/31/2006	2/23/2007
Prepare and distribute informational reports	12/18/06	3/12/2007
Secondary Registration System trading	2/26/2007	3/2/2007

CRR Dry Run Period (1015-1100)

- Dry Run proposed to cover the period December 1, 2007 through November 30, 2008
- Proposed months for each season and the individual months for the allocation and auction process include:

Season	Months within the Season	Season Name
Winter	December 2007 through February 2008	Season 4
Spring	March through May 2008	Season 1
Summer	June through September 2008	Season 2
Fall	October and November 2008	Season 3

Month	Year	Month Name
April	2008	Month 1
August	2008	Month 2

Data Submission and Templates (1100-1200)
Jim McClain

- Data submission for the allocation and auction process is iterative (see pages 13 and 14 of Guidebook)
- Overview of data submitted by Market Participants
  - Submission using the data template
    - General Market Participant information (Name, MSS Election and Market participation)
    - Collateral
    - Verification information
  - Submission using the Market User Interface
    - Historical/Forecasted Load
    - Nominations and Bids
    - Overview of data submitted through the Market User Interface will occur through training

Lunch Break
(1200 – 1300)

Data Submission and Templates

Data submitted via data template

- Auction Collateral Data
  - Market Participants must notify the CAISO as to the collateral amount to use for purposes of validating bids in the CRR Dry Run auction process
  - Total maximum purchase amount (i.e., maximum financial exposure) is determined by the CRR system by summing up all maximum purchase amounts for each bid submitted in the auction
    - Total maximum purchase amount must not exceed the collateral amount
  - See Appendix of CRR Dry Run Guidebook for details on calculating the maximum purchase amount for Point-to-Point and Multi-Point CRRs

Data Submission and Templates Cont (1300-1400)

Data submitted via data template

Source and Sink Verification Process

Source Location (Source verification will be based on data from the September 1, 2004 through August 31, 2005 time period and will be used in Tiers 1 and 2 of the annual process and Tier 1 of the monthly process)

Market Participant	Allowable Sources	Required Verification Information
LSE and MSS	Generating Units	Ownership and energy contracts
	Trading Hubs	Energy contracts
	Scheduling Points	Ownership of external Generating Units, resource energy contracts and contracts demonstrating ability to move energy to the scheduling point outside the ISO Control Area
Load external to CAISO Control Area	Generating Units located within CAISO Control Area	Demonstrate you have Generating Units under ownership or contract for energy internal to CAISO Control Area. (Trading Hubs and imports are not allowed)

Data Submission and Templates

Data submitted via data template
Source and Sink Verification Process Continued

Source MW -- Will be used in Tiers 1 and 2 of the annual process and Tier 1 of the monthly process and determined by the CAISO based upon the following:

Source	Required Verification Information
Generating Unit	Demonstrate the right to use a generating unit up to a specified MW amount. Maximum aggregate MW request for all Market Participants cannot exceed the Pmax of the Generating Unit
Trading Hub	Must demonstrate power contracts that source at the Trading Hub. Maximum request is limited to the average hourly quantity of energy contracted for delivery to the trading hub
Scheduling Point	Demonstrate the maximum MW values for each Scheduling Point source based on contract. Also, CAISO to pro-rate allocation of 50% of capacity not assigned through the verification process, on each scheduling point, to all LSEs based on their seasonal CRR Eligible Quantity.

Data Submission and Templates

Data submitted via data template
Source and Sink Verification Process Continued

Sink Location (applies to all Tiers)

Market Participant	Allowable Sinks	Required Verification Information
LSE and MSS choosing gross settlement election	Default LAPs (PGE, SCE, SDGE)	Demonstrate Market Participant can serve Load in the LAP or LAPs. -- LSEs verification can be based upon scheduling registration with IFM (during production) -- MSS may use filed MSS agreement
MSS choosing net settlement election	MSS LAP (to be created by CAISO)	Verify sink location via filed MSS agreement
Load external to CAISO Control Area	Scheduling points	Provide historical export schedule information, based on prior year, that confirms these Scheduling Points were used.

Data Submission and Templates

Data submitted via Market User Interface

Source and Sink Verification Process Continued

Sink MW (Seasonal and Monthly Eligible Quantities and applies to all Tiers)

Market Participant	How MW Limit is Determined
LSE and MSS choosing gross settlement election	Historical load data (Dec 2004 - Nov 2005) is used for the annual process. Market Participants can scale load upward to account for load growth expected between Dec 2007 - Nov 2008. Forecasted load data is used for the monthly process. Forecasted load data should be supported by the same forecast methodology used by the LSE for resource adequacy.
MSS choosing net settlement election	Must submit net historical and forecasted load data. Net historical load data should be based on forecasted generator usage and not historical generator usage. Forecasted load data should be based upon the same forecast methodology used for purposes of resource adequacy
Load external to CAISO Control Area	MW limit is based on the same process as for LSEs, except that load is replaced by historical export schedules. Both seasonal and monthly CRR Eligible Quantities are based upon historical hourly export quantities.

Data Submission and Templates

Data submitted via Market User Interface

- **Nomination and Bid Data**
  - Market Participants interested in participating in CRR Dry Run will submit the CRR nominations and CRR bids to the CAISO via the Market User Interface
  - The CRR system will verify the submitted nominations and bids using the verification data previously loaded into the system by the market operator

Data Submission and Templates
Scott Jercich

Detailed Data Submission Schedule

Task	Start Date	End Date
Submission of Data Templates Information		
CRR Dry Run participants to return completed data template, along with source/sink verification documentation	5/8/2006	6/8/2006
CAISO to review data template and return if additional information is needed	6/9/2006	6/29/2006
CRR Dry Run participants to return revised templates, if necessary	6/30/2006	7/14/2006
CAISO to review revised data templates	7/14/2006	7/28/2006
CRR Training for Market Participants		
CRR overview course	8/14/2006	8/16/2006
Market user interface and SRS class	8/17/2006	8/18/2006
Load Data Submission (via Market User Interface)		
Historical Load Data	8/22/2006	9/4/2006
Forecasted Load Data	8/22/2006	9/4/2006

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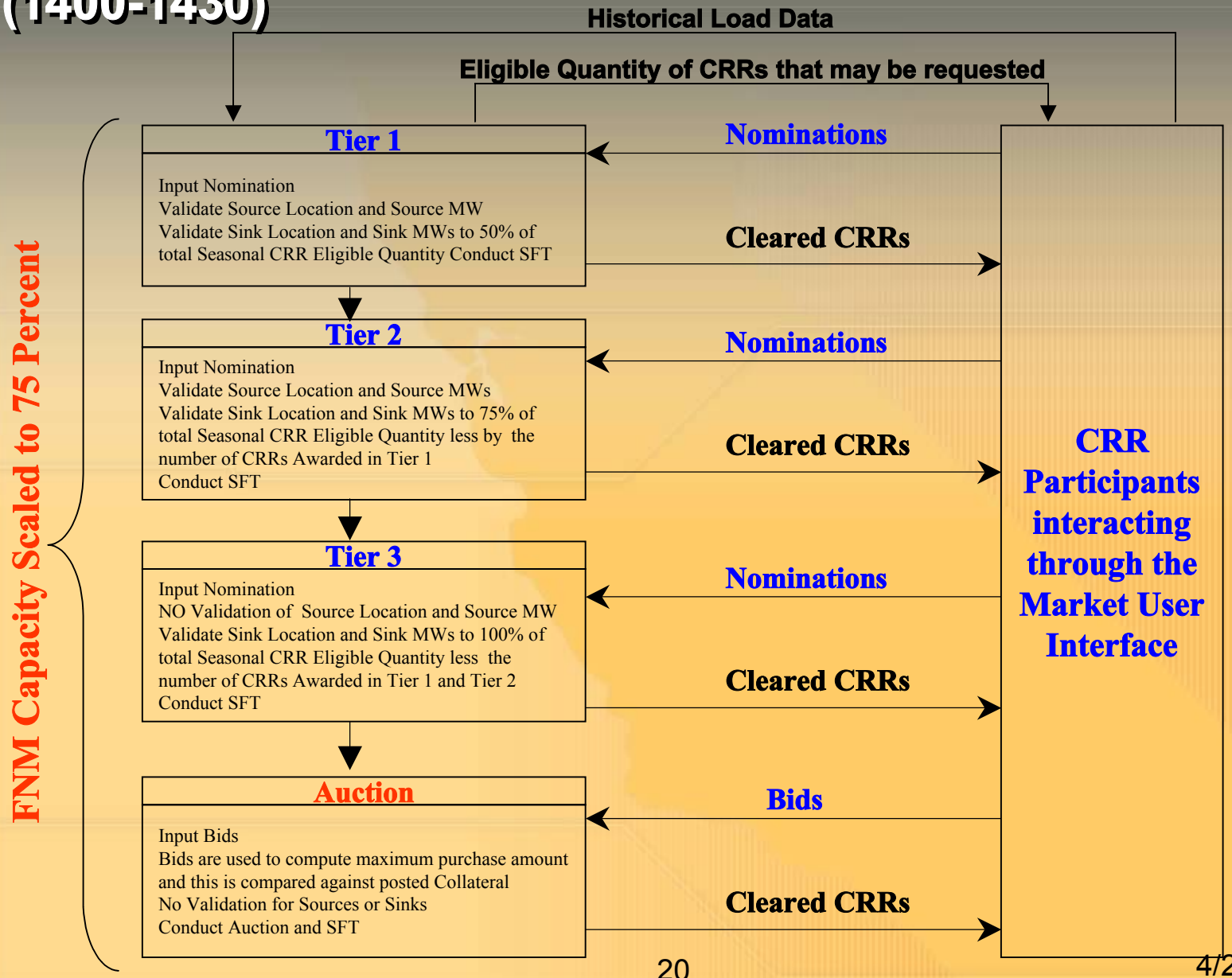
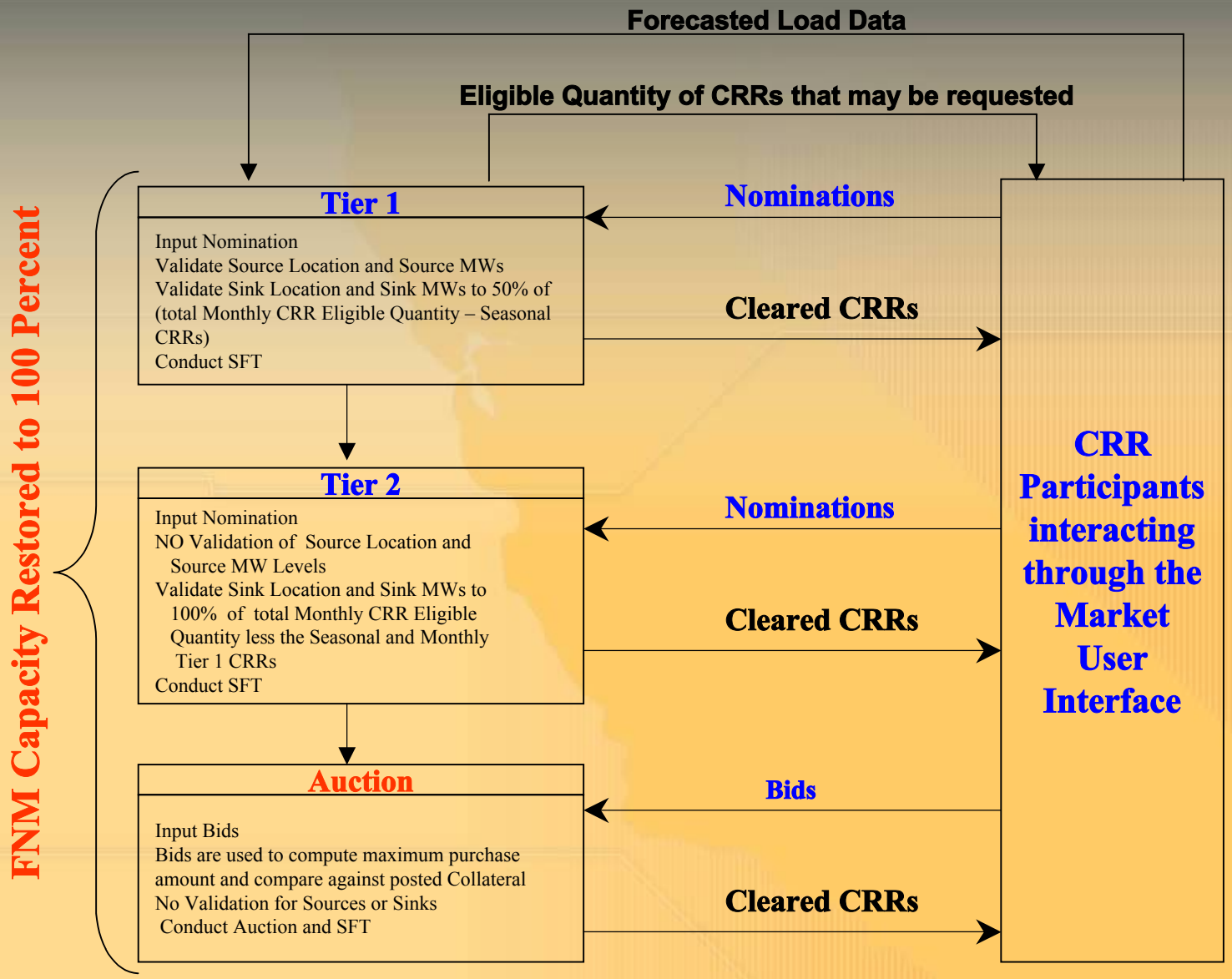
CRR Allocation and Auction Process – Annual Process (1400-1430)



CRR Allocation and Auction Process – Monthly Process



CRR Allocation and Auction Process

Detailed Allocation and Auction Schedule

Task	Start Date	End Date
CRR Dry Run allocation and auction process (subject to change after Dry Run Workshop)		
Run TOR market	8/31/2006	9/1/2006
Season 1 (Spring) Allocation	8/31/2006	10/2/2006
Season 1 Auction / Post results	9/27/2006	9/28/2006
Month 1 (April) Allocation	10/3/2006	10/19/2006
Month 1 Auction / Post results	10/20/2006	10/25/2006
Season 2 (Summer) Allocation	10/26/2006	11/17/2006
Season 2 Auction / Post results	11/20/2006	11/23/2006
Month 2 (August) Allocation	11/24/2006	12/12/2006
Month 2 Auction / Post results	12/13/2006	12/15/2006
Season 3 (Fall) Allocation	12/18/2006	1/17/2007
Season 3 Auction / Post results	1/18/2007	1/23/2007
Season 4 (Winter) Allocation	1/24/2007	2/19/2007
Season 4 Auction / Post results	2/20/2007	2/23/2007
Prepare and Distribute Informational reports	12/18/2006	3/12/2007
Secondary Registration System trading	2/26/2007	3/2/2007

Dry Run Parameters (1430-1530)
Roger Treinen

- CRR Term
  - Consistent with the definitions of the seasons with on-peak and off-peak
- Time-of-Use
  - On-peak and off-peak time-of-use periods as defined in the draft CRR Dry Run Guidebook
- Full Network Model (FNM)
  - The FNM for the annual process should contain the transmission capacity that will be in service on the date for the start of the annual production level CRR allocation and auction processes (May/June 2007)
    - Contemplating using the upgrades submitted by the PTOs for the Local Capacity Requirement (LCR) analysis for the year 2007, which included projects that will be operational on or before June 1, 2007
  - For the April and August monthly processes, the FNM may include additional capacity associated with planned transmission upgrades

Dry Run Parameters (1430-1530)
Roger Treinen

- Outages
  - For the Dry Run, outages will only be considered for the monthly allocation and auction process. All lines considered in-service for annual process
  - Modeling of outages based on historical information
  - Outage selection criteria to be developed
  - More detailed process to be included in the CRR Business Practice Manual
- Operating Constraints
  - Constraints enforced should be consistent with those used in IFM
    - Will coordinate with IFM team
  - Constraint limit values will be based on historical values with adjustments possibly made for new capacity
  - Adjustments will be made to constraint limits to take into consideration the absence of reactive power and losses
  - More detailed process to be included in the CRR Business Practice Manual
- Allowable Sources and Sinks
  - Working with internal CAISO groups to compile the list of allowable sources and sinks (may include sources for Generating Units that will be on-line prior to November 1, 2007)

Dry Run Parameters Continued

- Distribution Factors
  - Distribution Factors for Load Aggregation Points will be based on load patterns from seasonal base cases – applies to
    - Default Load Aggregation Points
    - Sub Load Aggregation Points
    - Metered Subsystem Load Aggregation Points
  - Trading Hubs
    - Distribution factors as defined in the Tariff

Dry Run Parameters Continued

- Modeling of the different types of Transmission Rights
  - Transmission Ownership Rights Modeling
    - Exempt from all CAISO congestion charges
    - CAISO will remove capacity from the FNM by modeling Point-to-Point CRR options (do not provide counter-flow)
  - Existing Transmission Contract Rights (ETCs)
    - Exempt from all CAISO congestion charges consistent with contractual rights
    - CAISO will model CRRs to account for the congestion charge exemption of ETCs, so as to ensure CRR revenue adequacy
    - Modeled with Point-to-Point CRR Obligations (provide counter-flow) and levels based on contractual rights and historical usage

Dry Run Parameters Continued

- Modeling of the different types of Transmission Rights Continued
  - Converted Rights (CVR)
    - Exempt from IFM (day-ahead) Congestion Charges
    - CAISO will model CRRs to account for the congestion charge exemption of CVR, so as to ensure CRR revenue adequacy
    - Modeled with Point-to-Point CRR Obligations (provide counter-flow) and levels based on contractual rights and historical usage

Action Items and Next Steps (1530-1600)