

# The Forward Capacity Auction: Post Auction Process and Pre Auction Training

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# Purpose

- Explain what happens after the Forward Capacity Auction (“FCA”) closes
- Outline the plan for user training: content, schedule and location
- Answer questions

# Agenda

- Discuss the timeline and sequence of events from Auction closure to the post Auction filing with the FERC
- Determination of the FCA Capacity Clearing Price
- Reporting of results to participants.
- Certification of the Descending Clock Auction by Power Auctions LLC
- Training Bidders on the use of the web based Auction software. Identification of Authorized Individuals.
- Conduct of the two Mock Auctions
- Questions and Answers

# General Overview of the FCA

- FCA consists of two distinct stages
  - Stage 1: Descending Clock Auction
    - Multi-Round Dynamic Auction
    - Auction Closes when Supply no longer exceeds Demand
    - Determines lower bound for Capacity Clearing Prices
    - Determines minimum awarded Capacity Supply Obligations
  - Stage 2: Auction Clearing
    - Solves Consumer Payment Minimization Problem
    - Determines final Capacity Clearing Prices
    - Determines final awarded Capacity Supply Obligations
- FCA final outcome is reported to Auction Participants after conclusion of second stage

# Overview of Closing the FCA

- FCA begins on Monday, **February 04, 2008**.  
Descending Clock Auction closes no later than Friday, **February 8, 2008**, absent extraordinary circumstances
- The Auction may run up to eight Rounds per day, absent extraordinary circumstances

# Overview of Closing the FCA (cont.)

- The Descending Clock Auction closes in Capacity Zone when:
  - **Supply  $\leq$  Demand**
    - Clearing Prices and Capacity Supply Obligation will be determined by Auction Clearing Algorithm
    - Final Clearing Price cannot be lower than announced End-of-Round Price of final Round at which Capacity Zone or External Interface closes
  - **Or Supply  $>$  Demand at  $0.6 \times \text{CONE}$  (Price Collar – “Floor” condition)**
    - Capacity Supply Obligation will be determined based on quantities offered at Floor Price
    - Clearing Price set administratively at  $0.6 \times \text{CONE}$  (\$4.50/ kW-Month) and will be prorated so total Consumer Payment does not exceed  $\text{ICR} \times 0.6 \text{ CONE}$

# Overview of Closing the FCA (cont.)

- Depending on Descending Clock Auction outcome, during the second stage of the FCA the ISO perform the following:
  - Execute Auction Clearing Algorithm and resolve tie-breaking situations
  - Determine final Capacity Clearing Prices (including effective Clearing Prices in case of pro-rating)
  - Determine final Capacity Supply Obligation for each Capacity Resource (including monthly Capacity Supply Obligations for resources involved in Composite Offers)
  - Prepare and verify final FCA reports delivered to all Auction Participants
- The Forward Capacity Auction is considered completed when final report is issued (expected to be no later than **5 business days after** closing Descending Clock Auction)

# Post FCA Timeline

- Sequence of post Auction events depends on which Closing process is implemented. The two extremes (with several combinations in between) are as follows:
  - **Example A** If the floor price is reached in both Capacity Zones and on the External Interfaces (with excess supply everywhere)
    - **Step 1** – Excess supply on External Interface is rationed to fit
    - **Step 2** – “Effective Floor Price” for Real Time Emergency Generation (“RTEG”) is pro-rated by the total quantity of RTEG remaining above 600 MW
    - **Step 3** – The Floor Price is pro-rated System Wide by the excess supply in the region. The Capacity Supply Obligations and the pro-rated Floor Price is expected to be posted to the participants in the Auction within 5 business days
      - Note that if RTEG > **600 MW**, will receive less than pro-rated Floor Price
    - **Step 4** – The bidders will be contacted (over an extended period) to elect the prorating of their Capacity Supply Obligation in place of the Floor Price

# Post FCA Timeline (cont.)

- Example B If the floor price is not reached in both Capacity Zones because Supply  $\leq$  Demand and there is still excess Supply on the External Interface(s)
  - **Step 1** – Excess supply on the External Interface(s) continues in the Auction until External Interface closes or Administrative (Floor) Price is reached
  - **Step 2** – The Capacity offered over External Interface at Floor Prices rationed to fit Interface Limit
  - **Step 3** – Aggregate Supply (Supply Offers and De-List Bids) is submitted to the Clearing Algorithm software. All Capacity Zones and External Interfaces are modeled simultaneously
  - **Step 4** – The Capacity Clearing Prices and Capacity Supply Obligations are determined by Consumer Payment Minimization Clearing Algorithm
  - **Step 5** – The Capacity Clearing Prices are determined for Real Time Emergency Generation by the total quantity of Real Time Emergency Generation remaining above 600 MW. This is the effective Capacity Clearing Price for all RTEGs
  - **Step 6** – The final Capacity Supply Obligations and Capacity Clearing Prices are reported to Auction Participants (bidders) within 5 business days

# Clearing Price Algorithm

- The Clearing Price is the result of solving a Consumer Payment Minimization problem (“CPM”) using heuristics, based on a bid cost minimization (“BCM”) problem
- The Clearing Algorithm uses custom software referred to as the “Clearing Engine” which solves a mixed integer problem with a quadratic objective function
- The process begins from a feasible solution of CPM and selected multiple combinations of non-rationable bids/offers for evaluation for all capacity zones simultaneously

# Clearing Price Algorithm (cont.)

- The Clearing Engine is designed to minimize the system wide Consumer Payment while respecting capacity requirement, maximum capacity limit , capacity transfer limits over external interfaces, over-buying constraints in import-constrained areas, and other system wide conditions (RTEG limit)

# Reporting the Results of the Auction

- Initial Reporting of Results
  - The Capacity Supply Obligation and Capacity Clearing Price will be sent to all Auction Bidders as MIS report (expected to be within 5 business days after closing of Descending Clock Auction)
  - Capacity Clearing Prices and Aggregate Supply will be posted on ISO External Web Site
  - Distribution of MIS reports indicates FCA completion and will be followed by Certification of the Auction
- As soon as practicable after all of the above is completed, including Certification, the results of the first FCA will be filed with the FERC (pursuant to Section 205)

# Certification of the First FCA

- The Auction Manager will certify that the Auction was implemented in accordance with the Market Rule
  - Power Auctions will issue a report by 12 noon of the business day following the receipt of the acknowledgements by ISO-NE
  - Power Auctions will certify that the Auction was implemented in accordance with Market Rule 1, and in compliance with ISO-NE's obligations to the FERC. Otherwise, Power Auctions will detail its reservations
  - The Certification Report will be made available to the Bidders in the first FCA on the FCM Web site
  - Not later than seven calendar days after the issuance of the Certification Report, the Capacity Clearing Prices and the Aggregate Supply Curve(s) for each Capacity Zone modeled in the Auction will be available on the FCM Web site

# Pre-Auction Hands on Training Plan

# FCA User Training Plan

- Provide hands on training to the individuals (up to three) authorized by a Bidder to submit Offers and Dynamic De-List Bids in the Auction (“Authorized Individuals”)
- Introduce the Auction Software thru a Power Point presentation that details and explains the user interface
  - Highlight the features of the software to aid entry of Offers and Bids
  - Explanation of each Tab used to navigate around the Bidder Screens
  - Demonstrate how a Training Auction will be conducted
  - Outline the hands on session and expectations for the training
- Hands-on interaction with auction software

# Training Schedule and Program

- Presently, four all day training sessions are scheduled:
  - November 15, 2007, at the Marriot, Springfield, MA
  - November 27, 2007, at the Courtyard Marriot, Marlborough, MA
  - November 28, 2007, at the Marriot, Springfield, MA
  - December 12, 2007, at the Doubletree, Westborough, MA
  - Arrival is expected between 8:30 am to 9:00 am
  - The Program will begin promptly at 9:00 am and end by 4:00 pm
  - Four interactive training Auctions will be conducted throughout the day. Laptop computers with access to the web based software will be provided by ISO-NE
  - Individuals authorized to bid in the Mock and Primary Auctions will be instructed on how to interact with the software and are required to participate in the training Auctions

# Requirements for Training

- Only Authorized Individuals in the Auction will be allowed to participate in the training Program
  - Registration for each day is first-come, first-served
  - Only 30 bidders per day can be accommodated
- Bidders with qualified capacity resources are required to designate their Authorized Individuals using CAMS
- Registration for the Training Program will be announced in the October 25 edition of the ISO News

# Conduct of the Mock Auctions

- Dates
  - Two mock auctions are scheduled prior to the production Forward Capacity Auction:

**Mock Auction #1: Monday, December 17, 2007**

**Mock Auction #2: Tuesday, January 15, 2008**

# Conduct of the Mock Auctions

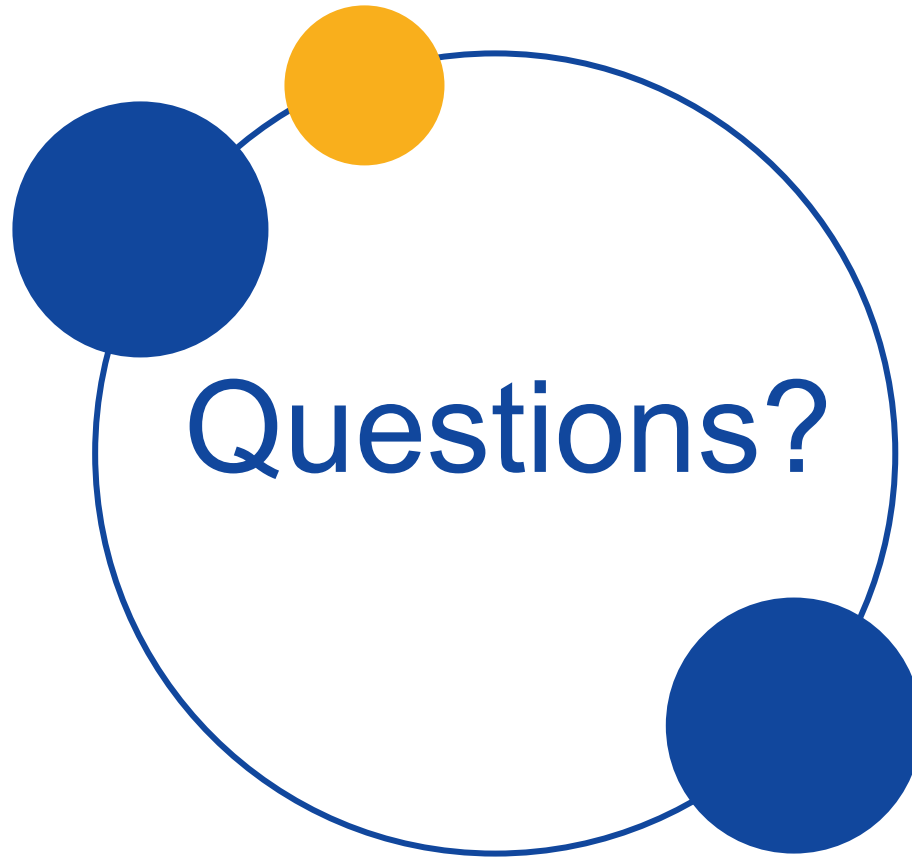
- Objectives
  - Test the integration of the ISO's business processes, systems and data interfaces by performing market business in a simulated manner consistent with Market Rule 1
  - Demonstrate the ISO's readiness to implement the Forward Capacity Auction
  - Provide Participants and Customers with an opportunity to test their own business processes, software and hardware in preparation for the Forward Capacity Auction

# Conduct of the Mock Auctions

- Mock Auction #1 Scope
  - Customers will be provided actual data that has been qualified to participate in the first primary auction
  - Only Authorized Individuals who have been registered in the ISO's Customer and Asset Management System (CAMS) will be allowed to submit Offers and/or Dynamic De-List Bids during the mock auction
  - Authorized Individuals will be required to provide their digital certificate in order to access the Forward Capacity Auction
  - Customers that experience connectivity/technical issues during the mock auction should follow the already established ISO process for contacting Customer Service and requesting that the ISO submit the customer's Offer and/or Dynamic De-List Bid on its behalf

# Conduct of the Mock Auctions (cont.)

- Mock Auction #1 Scope (cont.)
  - ICR will be artificially set, likely very high
  - Dynamic De-List Bid reliability review determinations will be artificially set
  - Customers will not be notified of Capacity Supply Obligations nor will auction results be published at the conclusion of the mock auction.
  - The primary objective of this first mock auction is to both reinforce bidder training concepts to Authorized Individuals as well as to exercise the market clearing engine processing



Questions?