



NEPOOL Manual 6 Financial Transmission Rights

Technical Review Session - Part II

Session Content

April 26, 2002

Douglas James, ISO New England



FTR Technical Session Content

- **Session 1 - FTR Auction Update (Doug James)**
 - Auction Startup and Timing
 - Auction Business Rules
 - Financial Assurance
 - FAQs
- **Session 2 - Auction Revenue Settlement (Doug James)**
 - Revenue Distribution: Who qualifies, How Calculated
 - Settlement Timelines
- **Session 3 - ARR Example (John Lally)**
- **Session 4 - Incremental ARRs (Doug James)**
 - Awards: Who qualifies, How awarded
 - Startup and Interim Incremental ARRs



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Session 1 - FTR Auction Update

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Auction Startup

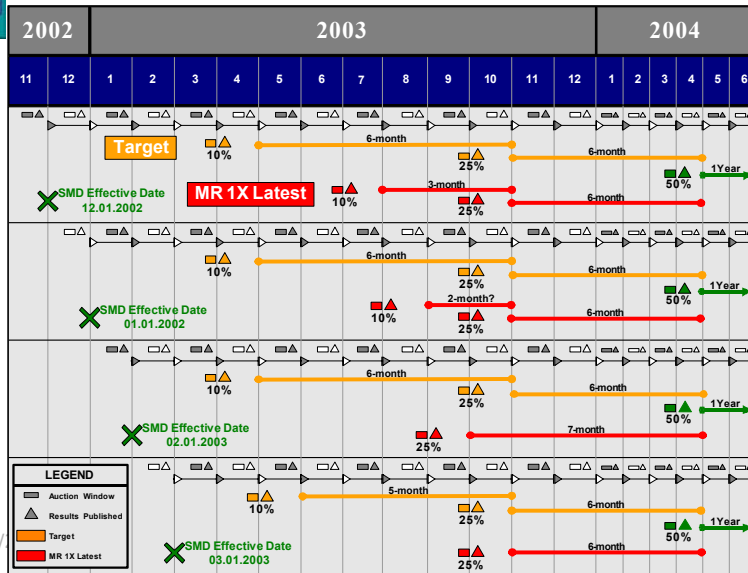
- First, initial monthly auctions
 - Initial monthly auctions offer full system capacity
- Then, initial long-term auctions
 - Introduce long-term auctions within 7 months of SMD Effective Date; term > 1 month, < 1 year
 - Post 30-day notice in advance of initial auction
 - Include schedule and percent of system offered
 - Coordinate with neighboring Control Areas
- Followed by annual and monthly auctions
 - 50% of system annually, balance monthly
 - Within 2 years of SMD Effective Date, evaluate offering FTRs with term > 1 year (1 yr increments)

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SMD Effective Date & Auction Scenarios



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Auction Time Line

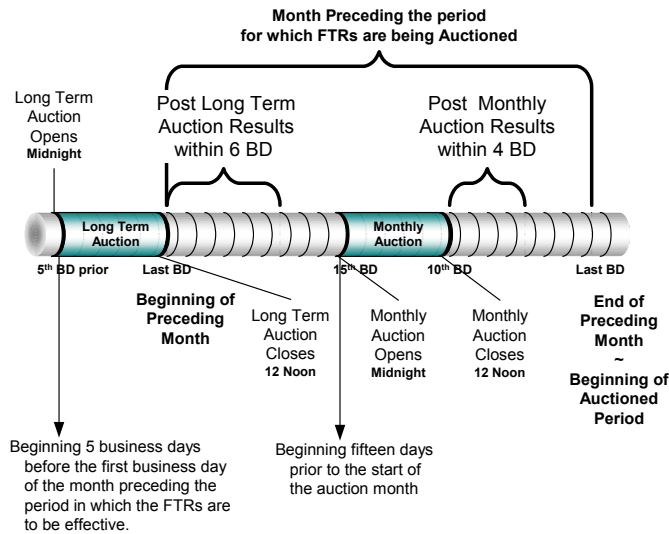
- Long-term auction
 - 5 business day quoting period
 - opens 5 business days before first day of month preceding period FTRs are effective
 - results posted within 6 business days (intended to be before monthly auction window opens)
- Monthly auction
 - 5 business day quoting period
 - opens 15 business days before start of auction month
 - results posted within 4 business days

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FTR Auction Timeline



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Auction Business Rules

- Non-Participant 1-time registration fee of \$500
- Bids and Offers:
 - Must be Eligible FTR Bidder to buy/FTR Holder to sell
 - To sell, must own for entire auction period duration
 - Rejected quotes may be resubmitted in quoting period
 - Bids: are for purchases up to the specified quantity (no minimum quantity may be specified)
 - Bids: may not specify a negative price
 - Offers: are for sales up to the specified quantity (no minimum); may specify a reservation price
 - Financial Assurance requirement must be met

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Financial Assurance

Proposal Before Budget & Finance Committee

- New FAP for Non-Participant FTR Customers
 - Base FA covers hourly FTR settlements
 - Bid FA covering amount of bids at auction close
 - Award FA covering previously awarded FTRs
 - If Total FA < requirement, current bids rejected

Also (near future)

- Modify May 20 FAP
 - Add requirement for covering amount of bids and awards in determining aggregate outstanding obligations; if FA < requirement, reject bids

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“Frequently” Asked Questions

FAQs: http://www.iso-ne.com/cmsmss/Standard_Market_Design/Frequently_Asked_Questions/

- Many Q's answered, some not
- FTR Subdivision
 - In time and by amount; not by path
 - Evaluate again after initial implementation
- eFTR, ARR Training
 - FTR Users Guide being prepared - June
 - eFTR Training (Internet-based) - July
 - ARR Training - July

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Questions?

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Session 2 - Auction Revenue Settlement (Section 7)

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Section 7- FTR Auction Revenue Settlement

- Overview
- ARR Definition and Eligible Entities
- ARR Allocation (MW Quantity)
- ARR Valuation and Auction Settlement Timeline
- Transmission Customer and Congestion Paying Entities Actions
- ISO Actions

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ARR Overview

- FTR Auction revenues are distributed to:
 - Sellers of FTRs in the Auction
 - Certain entities paying for new transmission upgrades (holders of Incremental ARRs (IncARRs), described in Section 8)
 - Entities that pay Congestion Charges (ARRs are awarded through the 4-step process described in Schedule 15 of NOATT)

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ARR Definition & Eligible Entities

- ARR represents shares of revenues generated by sale of FTRs in a specific auction and characterized by:
 - an injection Node/External Node
 - a withdrawal Node
 - a MW quantity
- ARR is allocated to entities exposed to paying the cost of congestion in NEPOOL:
 - Transmission Customers
 - Congestion Paying Entities
 - Parties to Excepted Transactions, NEMA Contracts

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ARR Allocation: 4-Stage Process

- Stage 1 - ARR (MW) are initially assigned based on:
 - Excepted Transactions (Attachments G & G2 of NOATT)
 - Load ratio share of NEPOOL generators and tie sources
 - Load - NEPOOL metered peak load distribution, scaled up to meet generator capacity plus tie source capacity.
 - Generation - demonstrated Seasonal Claimed Capability
 - Tie Sources - based on rated Total Transfer Capacity
- Stage 2 - Remove negatively valued ARR, run SFT
 - Eliminate initially assigned ARR having negative values in associated FTR Auction
 - Reduce remaining ARR to achieve simultaneous feasibility; these are Stage 2 ARR

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ARR Allocation: 4-Stage Process

Stage 3 & 4 reallocate ARR to NEMA LSEs

- Stage 3
 - Replace NEMA Stage 2 ARRS with initial assignment of NEMA Contracts
 - Eliminate initially assigned NEMA Contract ARRs having negative values in associated FTR Auction
 - Reduce remaining NEMA Contract ARRs to achieve simultaneous feasibility, resulting in Stage 3 ARRs
- Stage 4
 - Stage 2 and Stage 3 awards are tested for simultaneous feasibility, with only NEMA Stage 2 ARR awards reduced; these are Stage 4 awards

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ARR Valuation

ARR valuation is based on to/from market clearing prices in the corresponding FTR Auction:

- IncARRs: (unreduced MW Quantity)(price difference)
- Balance of Auction Revenues to ARR Holders:
 - Excepted Transactions/NEMA Contracts ARRs: (MW Quantity)(price difference)
 - Load Share ARRs:
 - 1) Sum all (MW Quantity)(price difference) by Load Zone;
 - 2) Allocate by share of Real Time Adjusted Load Obligation within Load Zone
 - Proportional adjustment to ARR valuation to distribute all auction revenues each month

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ARR Settlement Timeline

Auction revenues are settled on a monthly basis

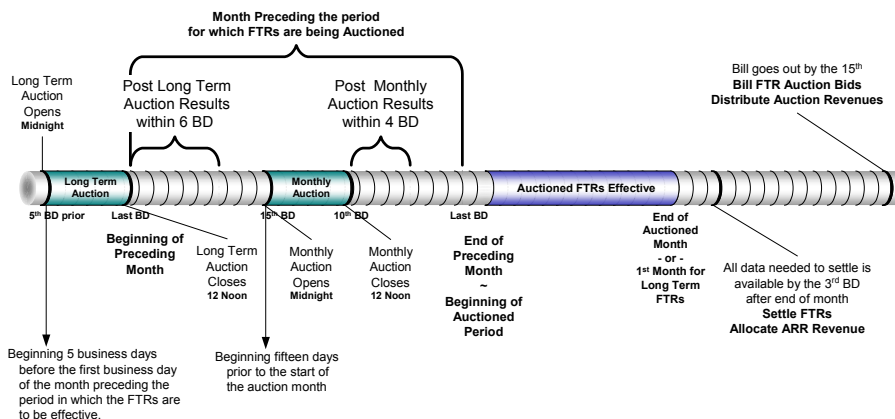
- **Monthly Auctions:**
 - Auction revenues are collected and distributed in second month after the auction
 - ARR quantities and values are calculated using data for the month in which the auctioned FTRs are effective
- **Long-term Auctions:**
 - Monthly share of revenue (by number of days in a month) collected and distributed as for the monthly auctions.

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FTR Auction & ARR Timeline



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Required Customer Actions

Transmission Customers and Congestion Paying Entities MAY, where applicable:

- Request ARR allocation for eligible Excepted Transactions
- Would have requested allocation for eligible NEMA Contracts (Oct 1, 2000)
 - Ongoing obligation to provide updated information for NEMA Contracts

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ISO Actions

- The ISO performs the following actions:
 - Receive, validate and monitor NEMA Contracts
 - Respond to requests for ARR allocations associated with Excepted Transactions
 - Select and validate network model and data inputs appropriate for related auction period
 - Conduct ARR allocation
 - Settle the FTR Auction
 - Distribute FTR Auction Revenues to ARR Holders

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Conceptual Illustration

We've Had the Auction...
Now,

Who Gets the Auction Revenues?

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**Session 3 - ARR Example
(Section 9)**

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John Lally, ISO New England



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Session 4 - Incremental ARR (Section 8)

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Douglas James, ISO New England



Section 8 - Incremental ARR

- Schedule 15 provides few specifics
- In keeping with SMD, looked to PJM while respecting differences in OATTs
- Design principles:
 - Conform to NEPOOL OATT and existing processes governing transmission upgrades
 - Measure incremental value of upgrade fairly using mature tools
 - Offer choices to customers
 - Provide reasonably enduring results
 - Correlate with related PJM practices

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Section 8 - Incremental ARR

- IncARRs and Eligibility for Awards
- Early Estimate of IncARRs
- Interim IncARR Awards
- IncARR Awards
- IncARR Business Rules
- Actions: who does what

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Section 8- Incremental ARR Overview

- IncARRs and Eligibility for Awards
 - Awarded for new transmission upgrades that make additional FTRs possible
 - Upgrades paid by RNS rate do not qualify
 - Share costs, share IncARRs proportionately
 - IncARRs continue with cost support/upgrade life
 - In MW, unidirectional, from Node/to Node
 - A claim on auction revenue, not an FTR
 - Multi-step process offering customer choice
 - Initially, will offer Interim IncARRs on auction by auction basis (until first annual auction)

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Early Estimates of IncARRs

- Early Estimate of IncARRs
 - Optional non-binding estimate to become available as part of Facility Study
 - Up to 3 pairs of Node-to-Node combinations

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Interim IncARR Awards

- Awarded following each on-peak and off-peak auction prior to first annual auction
- Represent direct share of auction revenues
- Process
 - Direct allocation specific to each upgrade
 - Sequential evaluation of upgrade value
 - Uses FTR Auction software
- When cost responsibility is shared Interim IncARRs are shared

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Interim IncARR Award Steps

- Begin with FTR Auction model, bids, prices, total revenue (Q_0) and ordered list of upgrades
- Remove last upgrade, re-run auction with original bids; value resulting FTRs with original prices to determine new total revenue (Q_1)
- Interim IncARR value of the last upgrade is $Q_1 - Q_0$
- Remove next to last upgrade, re-run auction with original bids; value resulting FTRs with original prices to determine new total revenue (Q_2)
- Interim IncARR value of the last upgrade is $Q_2 - Q_1$
- Repeat until all upgrades are exhausted

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Incremental ARR Awards

- Awarded sequentially for fixed duration for use beginning first annual auction
 - Awards applied to both on and off peak auction revenue settlements
- Process
 - Application initiates multi-round allocation specific to each upgrade
 - Uses FTR Auction and ARR allocation software with on-peak network model
- When cost responsibility is shared, lead customer requests and accepts IncARRs

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Incremental ARR Award Steps

- Requests
 - Completed application requires information to properly model the upgrade in the ISO EMS Network Model
 - Requests submitted point-to-point (from/to Nodes)
- Evaluation/Award
 - ISO establishes base conditions and base performance
 - Upgrades added, IncARRs corresponding to request are determined and offered to customer
 - Customer accepts in full, in part, or rejects
 - Repeat request/evaluation cycle with accepted IncARRs modeled as pre-existing in subsequent rounds
 - Up to three rounds

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Incremental ARR Business Rules

- ISO interacts with only one entity when accepting applications, evaluating requests and offering resulting IncARRs
- IncARRs offered become binding unless ISO receives alternative request within 3 business days
- IncARR awards continue as long as upgrade costs are supported or for life of upgrade, if shorter
- IncARRs are not subject to reduction in ARR allocation

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Actions - Interim Incremental ARR

Actions: who does what

- ISO
 - Requests information necessary to make awards
 - Awards FTR Auction Revenues per Interim IncARR methodology
 - Maintains record of Interim IncARRs awarded each auction
- Upgrade Sponsor
 - Provides information necessary to model upgrades and determine cost responsibility

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Actions - Incremental ARR

- Actions: who does what (going forward):

<u>Requesting Entity</u>	<u>ISO</u>
Submit applications	Receive/respond
Submit requests	Evaluate requests
	Offer IncARR awards
Accept awards	Post IncARR awards
	Maintain record of IncARRs

- For upgrades in-service/expected to be in-service prior to first annual auction, ISO will initiate process in sequential order

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Questions?

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