

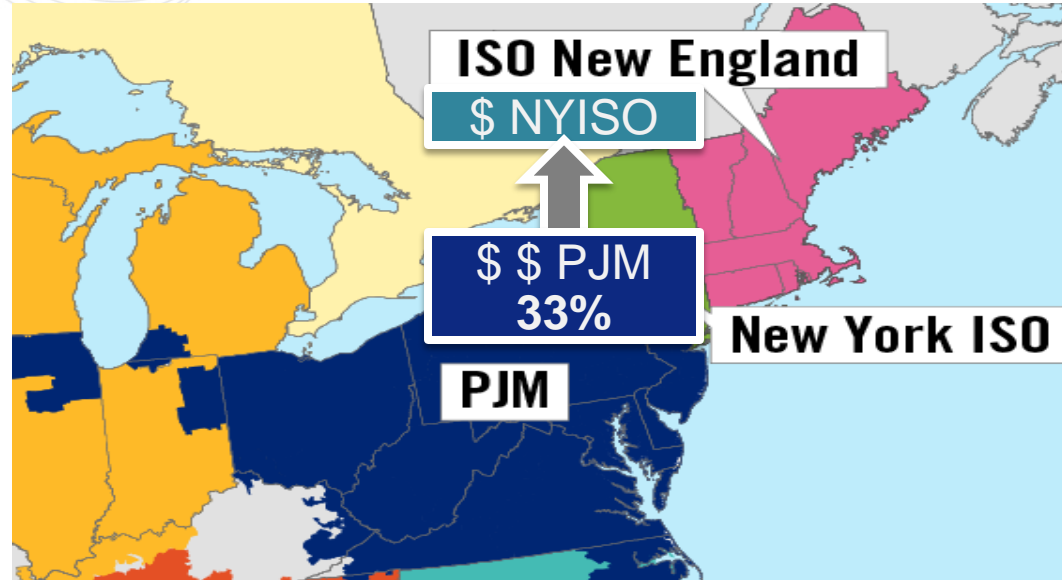


PJM/NYISO Coordinated Transaction Scheduling

Rebecca Carroll
Market Implementation Committee
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The objective of Coordinated Transaction Scheduling (CTS) is to improve interchange scheduling efficiency

- Increase alignment of energy scheduling with interface prices
- Adds the option for Market Participants to schedule energy transactions across the NYISO/PJM interface using an interface bid



- Market Participants will have the ability to provide one of three types of bids at the common NYISO/PJM interfaces
 - Hourly evaluations of traditional wheel-through transactions (existing)
 - Intra-hour evaluations of traditional LMP Bid/Offer (existing)
 - **Intra-hour evaluations of CTS Interface Bid/Offer (new)**

- CTS will be an optional scheduling product over the PJM/NYISO Interface using an Interface bid/offer
- CTS Interface bids will be evaluated and scheduled based on the projected price difference between PJM and NYISO at the Interface
- Ramp utilization improvements will be applied to NYISO schedules so they do not hold ramp until preliminary results are provided to PJM
- CTS Credit requirement will be the greater of the 97th percentile historical hourly price for the node or the projected price for the node
- Transmission fees and uplift costs are unchanged from today
- CTS Transactions will continue to be settled on an hourly basis consistent with the current PJM Energy Market settlements

Existing Process	Process After CTS
Acquire PJM Transmission Service	Acquire PJM Transmission Service
(Optional) Acquire PJM Ramp Reservation PJM validates against ramp limits	(Optional) Acquire PJM Ramp Reservation
Submit Tag PJM validates against ramp limits	Submit Tag
NYISO Bid Deadline at T-75	NYISO Bid Deadline at T-75
	NYISO Releases Preliminary Bid Results to PJM at T-50
	NYISO Adjusts Preliminary Bid Results to PJM at T-35
NYISO Releases Bid Results at T-28	NYISO Releases Final Bid Results at T-20
PJM corrects ramp limit violations, if necessary	PJM corrects ramp limit violations, if necessary



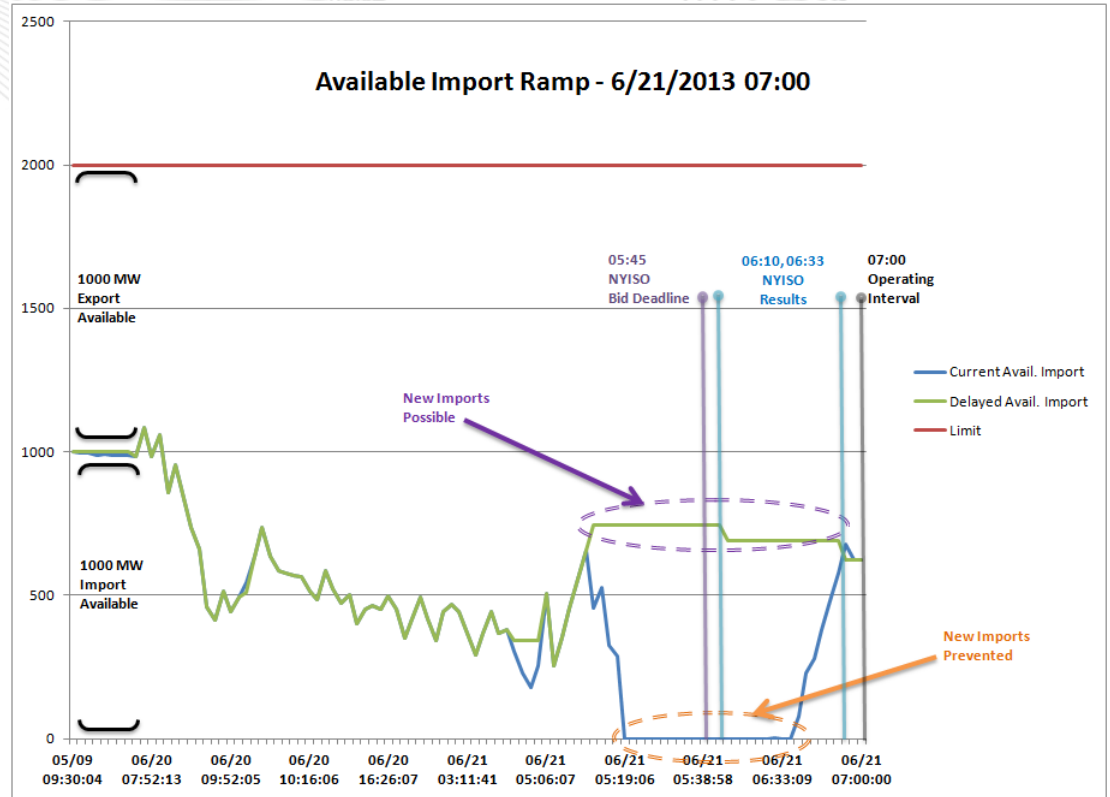
- LMP/LBMP Bids and CTS Bids are evaluated simultaneously and on a level playing field when establishing a merit-order
- LMP/LBMP
 - Imports/Exports = LMP/LBMP Offer Price
- CTS
 - Imports = PJM IT SCED Price + CTS Offer Price
 - Exports = PJM IT SCED Price – CTS Offer Price

	Price	CTS	Demand
RTC LBMP Projection	\$40	\$11	500 MW
PJM IT SCED Projection	\$29		

Imports	Type	MW	Offer Price	Cleared	Merit Order	Award MW	Calculation
Bid 7	LBMP	100	\$50	NO	X		\$50
Bid 6	CTS	100	\$15	NO	X		\$29+\$15=\$44
Bid 5	LBMP	200	\$40	YES	\$40	125*	\$40
Bid 4	CTS	200	\$11	YES	\$40	125*	\$29+\$11=\$40
Bid 3	CTS	75	\$6	YES	\$35	75	\$29+\$6=\$35
Bid 2	LBMP	125	\$20	YES	\$20	125	\$20
Bid 1	LBMP	50	\$15	YES	\$15	50	\$15
						500	

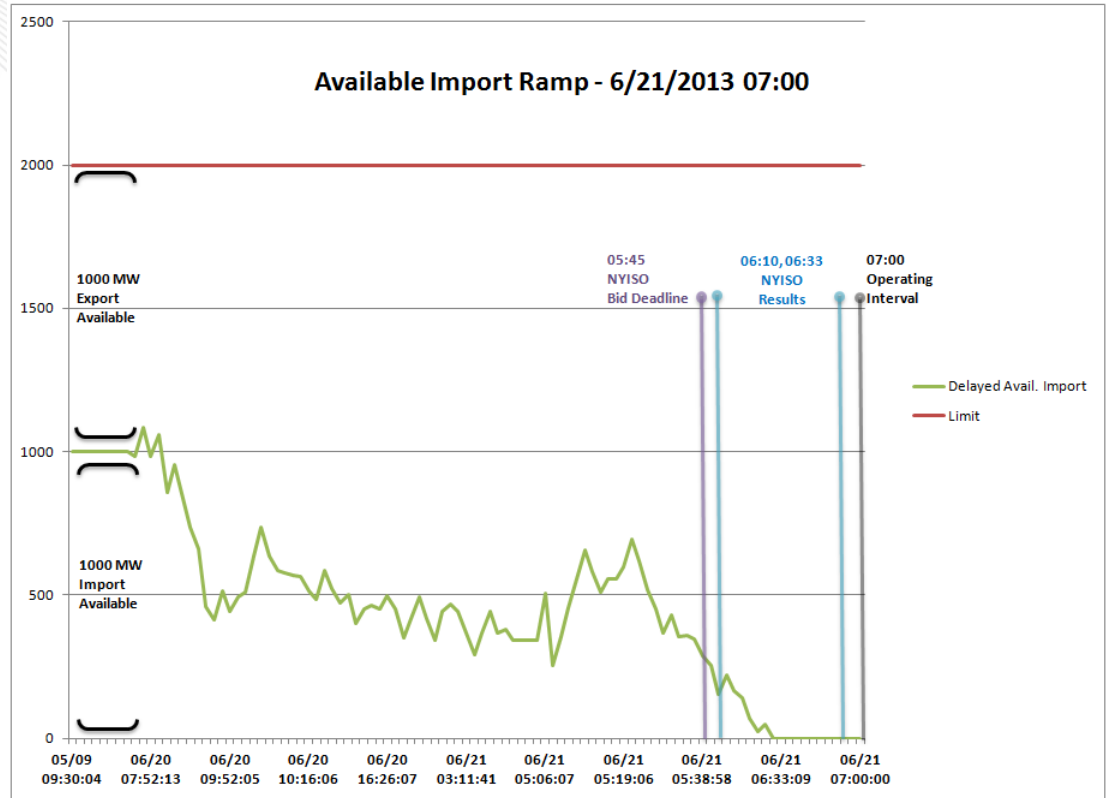
* MWs are awarded on a pro-rata basis for same merit order regardless of type.

- No change to the existing PJM methodology for assigning ramp correction priority timestamps. Ramp corrections will continue to be performed on a last-in, first-out basis
- Provides the potential for additional interchange schedules on all neighboring interfaces due to exclusion of uneconomic NYISO bids in PJM “available ramp” calculation



Ramp Utilization Impact to other Interfaces

- PJM's ramp utilization on neighboring interfaces remain on equal footing
- All tags receive ramp correction priority by timestamp and are treated on a last-in, first-out basis
- Economic criteria associated with NYISO LMP/CTS bids are not utilized for ramp limit corrections



- CTS Interface bids will be scheduled based on the projected price difference between PJM and NYISO at the interface
- In New York look-ahead prices are posted on the NYISO Website and are overwritten as new prices are produced
 - Historic prices are also available in the NYISO Decision Support System (DSS)
- PJM does not currently post look-ahead prices
 - Targeting a Spring 2014 implementation for publishing look-ahead prices

- Proposed requirement uses both historical and forecasted prices
 - Due to levels of historical variances between forecast and actual prices
- Credit requirement for a bid at a node would be the greater of
 - The 97th percentile historical (prior year) hourly price for the node
 - Calculated in two-month blocks (Jan-Feb, Mar-Apr, ...)
 - Calculated separately for peak and off-peak hours
 - Consistent with what PJM does today for virtual bids
 - The 15-minute IT SCED price forecast for the node
 - May be a forecast run prior to the one used for actual clearing

- CTS Transactions will be settled in the same manner as traditional transactions per this proposal
- Background
 - Stakeholders requested PJM and NYISO to investigate elimination of fees associated with external transactions
 - PJM currently does not support the elimination of Schedule 7 and 8 Fees (i.e. Regional Through and Out Rates) until NYISO and PJM reach additional agreements on Interregional Planning and Regional Transmission Enhancement Cost Allocation
 - Maintains the realization of benefits from transmission system upgrades by the RTO funding the upgrades
 - PJM and NYISO are continuing discussions but no date certain at this point on when an agreement may be reached
 - Stakeholders were also not supportive of the proposal to exempt CTS transactions from BOR charges in PJM
- Future fee elimination discussions will take place outside of the current CTS proposal discussion

- CTS Transactions will continue to be settled on an hourly basis consistent with the current PJM Energy Market settlements
- Background
 - PJM offered proposals to change the settlement timeframe for CTS transactions only or for all interchange transactions from hourly settlement to 15 minute settlement to align with interchange scheduling time frames
 - Stakeholder feedback via the July CTS survey indicated stakeholders were not in favor of this change

- Schedule 1 of the OA
 - Definitions
 - 1.3.1B.02A through D: New definitions added for Coordinated External Transaction, Coordinated Transaction Scheduling, CTS Enabled Interface, CTS Interface Bid
 - 1.3.11A.02: New definition added for Look-ahead Price
 - 1.6.2(x): additional service added pertaining to the PJM Interchange Market for CTS transactions
 - 1.6A.1(i): added Coordinated External Transactions
 - 1.7.6(a): added reference to the PJM/NYISO JOA
 - 1.7.20(h): additional requirement added for CTS Interface Bids
 - 1.10.1(d): clarification added for Coordinated External Transactions
 - 1.13(a) through (d): New section added for Coordinated Transaction Scheduling
- JOA
 - 35.2.1: New definitions added for Coordinated Transaction Scheduling or CTS, Intermediate Term Security Constrained Economic Dispatch, Real-Time Commitment
 - 35.12: Added the text “and Coordinated Transaction Scheduling” and created appropriate subsections
 - 35.12.2: New subsection added for Coordinated Transaction Scheduling

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