

Enhanced Interregional Transaction Coordination

Mike DeSocio

Market Product Specialist

New York Independent System Operator

MIWG

NYISO – Krey Corporate Center

January 5, 2010



Scope and Objectives

- ◆ Project Definition
 - *Provide a Market-Based Scheduling Mechanism to allow for real-time scheduling of intra-hour dispatchable energy transactions between the New York Control Area and the Other Control Areas*
- ◆ Objective
 - *Allow Market Participants to provide dispatchable energy transaction bids in the Real-Time Market, where the Real-Time Commitment and Dispatch will evaluate these dispatchable transactions on a intra-hour basis*
- ◆ Other Key Points
 - *Inter-Regional Transaction Coordination is intended to provide the Market an opportunity to address real-time energy market conditions without the ISOs directing the outcome*
 - This is not Virtual Regional Dispatch

Benefits

- ◆ The additional scheduling flexibility is intended to:
 - *Allow market participants to minimize buy-through of congestion exposure*
 - *Lower total system operating costs through improved consistency of transaction schedules with market-to-market price patterns*
 - *Expand the pool of flexible assets to balance intermittent power resources output*
 - *Improve price consistency and transmission utilization between markets*
 - *Address uncertainty in forward looking scheduling horizons*

Phased Approach

- ◆ Phase 1 – Begin with scheduling intra-hour dispatchable energy transactions between the NY and HQ control areas
- ◆ Phase 2 – Continue to evaluate the appropriateness of expanding the Interregional Transaction Coordination Concept by scheduling operating reserves and/or regulation service with the HQ control area
- ◆ Phase 3 (concurrently with Phases 1 and 2) – Continue with scheduling intra-hour dispatchable energy transactions between the NY and PJM control areas
 - *Sequencing in one controllable tie line at a time and subsequently adding the feature to the 'AC' interface between NY and PJM*
- ◆ Phase 4 – Continue with scheduling intra-hour dispatchable energy transactions between the NY and NE control areas
- ◆ Phase 5 – Continue with scheduling intra-hour dispatchable energy transactions between the NY and IESO control areas
- ◆ Continue to evaluate the appropriateness of scheduling operating reserves and/or regulation service with the PJM, NE and IESO control areas

Nomenclature

- ◆ Hourly Dispatchable Transactions – These transactions have previously been referred to as fixed transactions. Hourly dispatchable transactions are economically scheduled to vary only on an hourly basis (if at all) in either the Day Ahead or Real-Time market.
- ◆ Intra-Hour Dispatchable Transactions – Intra-hour dispatchable transactions will be economically scheduled in the Real-Time Market on a five and/or fifteen minute basis.

General Concept – Bidding & DAM

Bidding

- *Intra-hour dispatchable import/export transactions will be bid into the MIS similarly to the way hourly dispatchable import/export transactions are bid*
 - MPs shall indicate on each offer whether the transaction should be treated as an hourly or intra-hour dispatchable transaction in the Real-Time Market
 - Wheel-through transaction offers will not have the option to be treated as an intra-hour dispatchable transaction
- *All transactions will have the ability to provide an incremental/decremental cost curve and energy MW offer*
 - Today, transactions are only able to provide a single incremental/decremental cost and energy MW
- *The Real-Time Market bidding window will remain the same for hourly and intra-hour dispatchable transactions*
 - All offers are still required to be submitted for evaluation by RTC and/or RTD no later than 75 minutes before each hour

Day-Ahead Market (DAM) Scheduling & Settlement

- *No changes expected to the treatment of transactions in the Day Ahead Market*
- *Continue to allow external DAM Market transaction bids to be evaluated by SCUC on an hourly basis*
- *The evaluation of all transactions will be based on the NYISO ex-ante LBMPs*
- *External DAM LBMP Market transactions will be settled based on DAM LBMPs and DAM Schedules*

General Concept – Bidding (cont.)

TRANSACTION BIDDING OPTIONS

	OFFER OPTIONS				
	DAY AHEAD	REAL-TIME	OFFER LIMITS (\$/MWh)	MWs	MIN RUN
MULTI-HOUR BLOCK	YES	NO	-\$999.70 to \$999.70	1 MW MIN	No. of HOURS
HOURLY DISPATCHABLE	YES	YES	-\$999.70 to \$999.70	1 MW MIN	N/A
INTRA-HOUR DISPATCHABLE	NO	YES	-\$999.70 to \$999.70	1 MW MIN	N/A

ALLOWABLE REAL-TIME TRANSACTION TYPES BY DAY AHEAD SCHEDULE

DAY AHEAD TRANSACTION SCHEDULE	REAL-TIME TRANSACTION OFFERS	
	HOURLY DISPATCHABLE	INTRA-HOUR DISPATCHABLE
	MULTI-HOUR BLOCK	✓
HOURLY DISPATCHABLE	✓	✓
NOT SCHEDULED	✓	✓

General Concept – RTM Scheduling

Real-Time Market (RTM) Scheduling

- *Allow external hourly dispatchable transaction bids to be economically evaluated by RTC_{15} on an hourly basis, as is currently done*
 - Wheel-through transactions will only be evaluated by RTC_{15} on an hourly basis

- *Allow external intra-hour dispatchable transaction bids to be economically evaluated by RTC on a 15 minute basis*
 - The result of the RTC_{15} schedule for external intra-hour dispatchable transactions will be used to determine the expected schedule (interchange) on the NERC e-Tag

- *All external transactions (hourly and intra-hour) will be subject to an hourly checkout*

- *All Real-Time Market transactions are subject to reliability curtailments*

General Concept – RTM Scheduling

EVALUATION OF EXTERNAL TRANSACTIONS

	DAY AHEAD	REAL-TIME	
	SCUC	RTC	RTD
MULTI-HOUR BLOCK* (IMPORT/EXPORT/WHEEL-THROUGH)	Block Schedule for a Minimum Run Time	Treated as hourly or intra-hour dispatchable depending on MP preference	Treated as hourly or intra-hour dispatchable depending on MP preference
HOURLY DISPATCHABLE* (IMPORT/EXPORT/WHEEL-THROUGH)	Schedule does not vary within the hour, and may change from hour to hour	Schedule does not vary within the hour, and may change from hour to hour	Schedule does not vary within the hour, and may change from hour to hour**
INTRA-HOUR DISPATCHABLE* (IMPORT/EXPORT ONLY)	Not Applicable	Schedule may change every fifteen minutes	Schedule may change every five minutes**

*Schedules based on economic evaluation

**Subject to reliability curtailments in real-time

General Concept – RTM Settlement

Real-Time Market (RTM) Settlement

- *External hourly dispatchable transactions will be settled based on Real-Time Market LBMPs and RTC Schedules*
 - *Hourly dispatchable import transactions bid at a Proxy Generator Bus with intra-hour dispatchable transaction scheduling capability will no longer be eligible for RT BPCG*
- *External intra-hour dispatchable transactions will be settled based on Real-Time Market LBMPs and RTD Schedules*
 - *Intra-hour dispatchable import transactions will be eligible to receive RT BPCG payments*
- *The Real-Time LBMPs for all Real-Time Market transactions will be based on the RTD LBMPs unless the Pricing Rules for Proxy Generator Buses are invoked*
- *For external import bilateral transactions that choose to schedule energy via an intra-hour transaction, the LBMP settlement will be based on the 5 or 15 minute intra-hour transaction scheduling outcome*
 - *The TUC settlement for an external import or export bilateral will not change*
- *The Financial Impact Charge (FIC) will continue to apply to Proxy Generator Buses with intra-hour dispatchable transaction scheduling capability*

General Concept – NERC e-Tags

NERC e-Tag Requirements

- *The NERC e-Tag should have its Transaction Type set to 'Dynamic'*
- *The maximum expected energy should be set equal to the Energy Request (MW) bid into the MIS*
- *The RTC schedule will be used to set the expected average energy on the e-Tag during the hourly checkout process*
- *The actual interchange value will be updated as soon as possible after the dispatch hour is complete*
 - *With 15 minute scheduling of transaction, this update may occur a maximum 4 times an hour.*

HQ-NY Concept

Real-Time Market (RTM) Scheduling

- *Allow external intra-hour dispatchable transaction bids to be evaluated by RTD on a 5 minute basis*
 - RTD-CAMs could also evaluate intra-hour dispatchable transaction bids when a CAM is requested

- *The Desired Net Interchange (DNI) with the HQ control area would be updated on a 5 minute basis as a result of the RTC and RTD evaluations*
 - RTD-CAMs would update the DNI at the time the RTD-CAM completes, which may not be on a 5 minute basis
 - The 10 minute top of the hour DNI ramp with HQ will continue to be 70MW/min (700MW total), while the rest of the hour DNI ramp with HQ (remaining 50 minutes) would be limited to 20MW/min (100MW over 5 minutes) initially

- *The DNI with HQ would be exchanged using automated ICCP communication*

Status of HQ-NY

- ◆ TransEnergie and NYISO will continue discussions on operational opportunities for scheduling transactions on a 5 minute basis
- ◆ Continue to further the HQ-NY specific concepts with the NYISO stakeholders through Q2 2010

PJM-NY Concept

Bidding

- *The NYISO intends to offer a mechanism for market participants to reduce/reinstate the schedule of their transactions within the dispatch hour*

Real-Time Market (RTM) Scheduling

- *Allow external intra-hour dispatchable transaction bids to be evaluated by RTD on a 15 minute basis*
- *Intra-hour transactions scheduled on a fifteen minute basis will be subject to a 15 minute checkout*
 - The 15 minute checkout would occur at least 20 minutes before the quarter hour in which schedule is implemented
 - For an intra-hour transaction that receives a schedule for 1:30, the checkout would occur by 1:10

Status of PJM-NY

- ◆ PJM and NYISO will continue discussions on opportunities to achieve more efficient scheduling outcomes through increased coordination of, and greater frequency of, scheduling decisions
- ◆ Continue to further the PJM-NY specific concepts with the NYISO stakeholders throughout 2010

Status of NE-NY

- ◆ Initiating discussions on opportunities to achieve more efficient scheduling outcomes through increased coordination of and frequency of scheduling decisions
- ◆ Begin developing the NE-NY specific concepts with the NYISO stakeholders Q4 2010

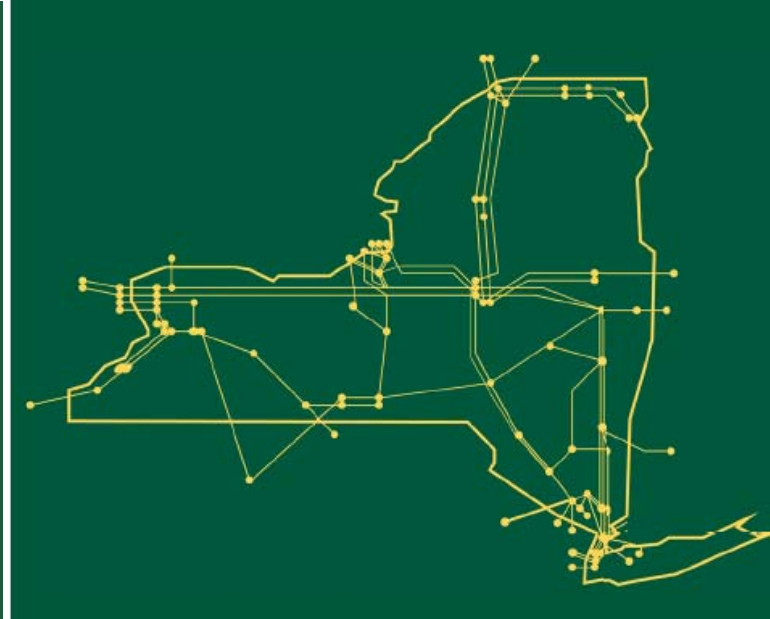
Status of IESO-NY

- ◆ Initiating discussions on opportunities to achieve more efficient scheduling outcomes through increased coordination of and frequency of scheduling decisions

Next Steps

- ◆ June 26, 2009 – Introduced the concept to MIWG
- ◆ September 1, 2009 – Presented proposal to MIWG
- ◆ September 29, 2009 – Presented proposal to SOAS
- ◆ October 21, 2009 – Presented proposal to the BIC for discussion
- ◆ December 10, 2009 – Presented proposal to the OC for discussion
- ◆ December 17, 2009 – Introduced PJM-NY Concept at MIWG
- ◆ January 5, 2010 – Continue proposal discussion at MIWG
- ◆ 2010 – Stakeholder Approval Process, begin implementation of Phase 1
- ◆ Q1 2011 – Complete Implementation of Phase I

The New York Independent System Operator (NYISO) is a not-for-profit corporation that began operations in 1999. The NYISO operates New York's bulk electricity grid, administers the state's wholesale electricity markets, and conducts comprehensive planning for the state's bulk electricity system.



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