Enhanced Inter-Regional Transaction Coordination with Hydro Quebec

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Scope and Objectives

- Project Definition
  - *Provide a Market-Based Scheduling Mechanism to allow for real-time scheduling of 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 Day Ahead and Real-Time Markets, where the Real-Time Commitment and Dispatch will evaluate these dispatchable transactions on a intra-hour basis*
- Other Key Points
  - *This is <u>not</u> Virtual Regional Dispatch*
    - 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

Phased Approach

- Phase 1 - Begin with scheduling dispatchable energy transactions between the NY and HQ control areas
- Phase 2 – Continue to expand the Inter-Regional Transaction Coordination Concept by scheduling operating reserves and regulation service transactions with the HQ control area
- Phase 3 – Continue the Inter-Regional Transaction Coordination Concept by introducing a bidding feature to allow for scheduling dispatchable energy transactions between the NY and its remaining neighboring control areas
  - *This bidding feature would still be rolled out to one control area at a time*

Nomenclature

- Block Transactions – These are represented as prescheduled or multi-hour block transactions. These transactions are scheduled at their bid MW amount for the minimum run time of the transaction offer in the Day Ahead Market.

- Hourly Dispatchable Transactions – These transactions have been referred to as fixed transactions. Hourly dispatchable transactions are scheduled on an hourly basis by the Day Ahead or Real-Time scheduling systems where the transaction schedules can vary from hour to hour.

- Intra-Hour Dispatchable Transactions – With the Inter-Regional Transaction Coordination project, the NYISO is pursuing a more granular level of transaction scheduling in its Energy Markets. Intra-hour dispatchable transactions will have an hourly schedule which can vary from hour to hour in the Day Ahead Market, while the Real-Time Market may dispatch the transaction as frequently as every five minutes within an hour.

Phase 1 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 indicate on each offer whether the transaction should be treated as an hourly or intra-hour dispatchable transaction
- *Wheel-Through Transactions through the NYCA will continue to be evaluated as hourly dispatchable transactions*
  - Intra-hour Dispatchable Transaction Scheduling will not apply to wheel-through transactions through the NYCA

Day-Ahead Market (DAM) Scheduling & Settlement

- *Allow external hourly and intra-hour dispatchable 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 hourly and intra-hour dispatchable transactions will be settled based on DAM LBMPs and DAM Schedules*

Phase 1 Concept – RTM Scheduling

Real-Time Market (RTM) Scheduling

- *Allow external hourly dispatchable transaction bids to be evaluated by RTC on an hourly basis, as is currently done*
- *Allow external intra-hour dispatchable transaction bids to be evaluated by RTC on a 15 minute basis*
  - The result of the RTC 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*
- *Allow external intra-hour dispatchable transaction bids to be evaluated by RTD on a 5 minute basis*
  - RTD-CAMs would also evaluate intra-hour dispatchable transaction bids
- *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 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

Phase 1 Concept – RTM Settlement

Real-Time Market (RTM) Settlement

- *External hourly dispatchable transactions will be settled based on Real-Time Market LBMPs and RTC Schedules*
  - All Real-Time Market transactions are subject to reliability curtailments
  - 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*
- *The Financial Impact Charge (FIC) will continue to apply to Proxy Generator Buses with intra-hour dispatchable transaction scheduling capability*

Phase 1 Concept – Proxy Pricing Rules

Real-Time Market (RTM) Proxy Bus Pricing Rules

- *The Pricing Rules for Proxy Generator Buses would be modified for Proxy Generator Buses with intra-hour dispatchable transaction scheduling capability to include situations where:*
  - The RTC15 evaluation has a binding constraint (NYCA Ramp, Interface Ramp or ATC Limit) associated with the Proxy Generator Bus or Interface, and RTD has a similar binding constraint at the Proxy Generator Bus or Interface
  - The RTC15 evaluation has a binding constraint (NYCA Ramp, Interface Ramp or ATC Limit) associated with the Proxy Generator Bus or Interface, and RTD does not have a similar binding constraint at the Proxy Generator Bus or Interface

Phase 1 Concept – Proxy Pricing Rules

Real-Time Market (RTM) Proxy Bus Pricing Rules

- *The pricing rules associated with Non-Competitive Proxy Generator Buses with intra-hour dispatchable transaction scheduling capability will change to include situations where:*
  - The RTC15 evaluation has a binding constraint (Interface Ramp or ATC Limit) associated with the Non-Competitive Proxy Generator Bus or Interface, and RTD has a similar binding constraint at the Non-Competitive Proxy Generator Bus or Interface
  - The RTC15 evaluation does not have a binding constraint (Interface Ramp or ATC Limit) associated with the Non-Competitive Proxy Generator Bus or Interface, and RTD has a similar binding constraint at the Non-Competitive Proxy Generator Bus or Interface
  - The RTC15 evaluation has a binding constraint (Interface Ramp or ATC Limit) associated with the Non-Competitive Proxy Generator Bus or Interface, and RTD does not have a similar binding constraint at the Non-Competitive Proxy Generator Bus or Interface

Phase 1 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*

Next Steps

- June 26, 2009 – Introduce the concept to MIWG
- September 1, 2009 – Present proposal to MIWG
- September 29, 2009 – Present proposal to SOAS
- October 21, 2009 – Present proposal to the BIC for discussion
- November 16, 2009 – Continue proposal discussion at MIWG
- 2010 – Stakeholder Approval Process and Planned Implementation, pending project approval
- Continue to work with TransEnergie to address operational opportunities

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 provides comprehensive reliability planning for the state's bulk electricity system.

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