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IESO Analysis – One Hour Bid/Offer Window

Prepared for IJT Meeting March 2, 2007

Subject Matter

Transitioning from a 2 hour bid/offer window to a 1 hour bid/offer window has impacts on both reliability and the market.

- Participant flexibility
- Current Protocols
- Future Protocols
- Transaction Failures
- Failure Charges

Participant Flexibility

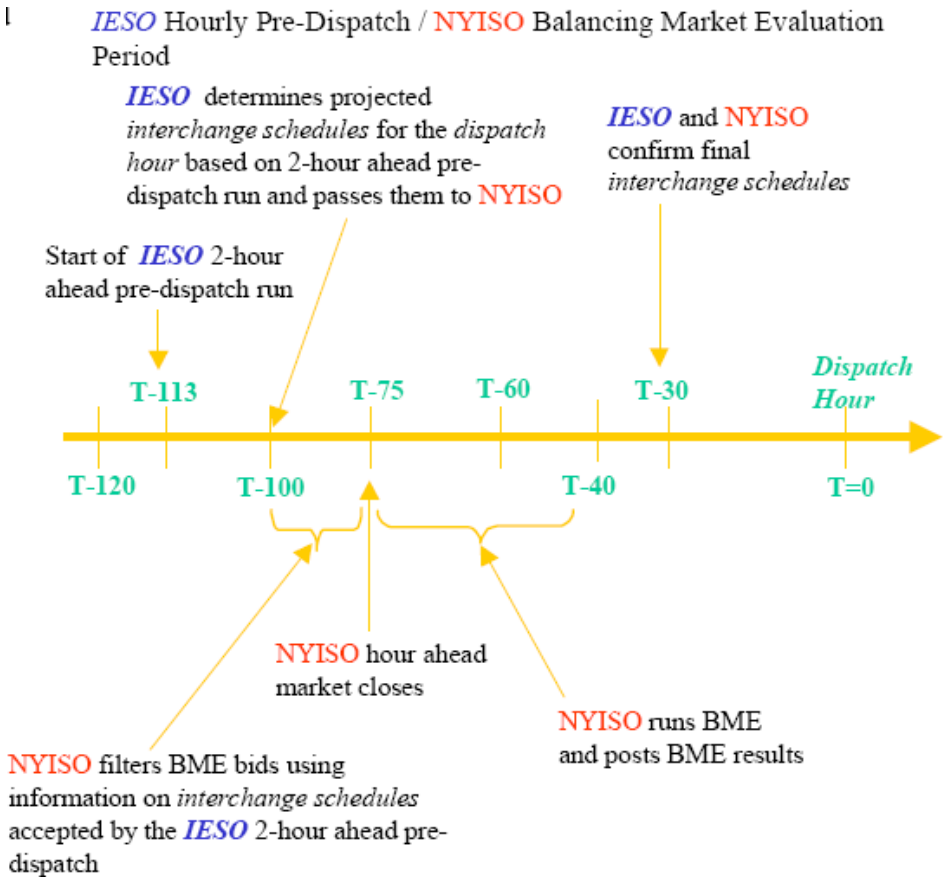
- More time for bid/offer changes.
- Participants can react to events that occur between the 2 hour and 1 hour period.
  - These events can be categorized as:
    - System events such as unit loss
    - Demand changes
    - External market event

Current Protocol - NYISO

- T-90: IESO communicates interchange schedule from 2-hour ahead pre-dispatch run to NY in advance of the close of the NYISO hour ahead market.

- NYISO identifies any discrepancies between IESO and NYISO interchange schedules and IESO adjusts Ontario interchange schedule to match NYISO.

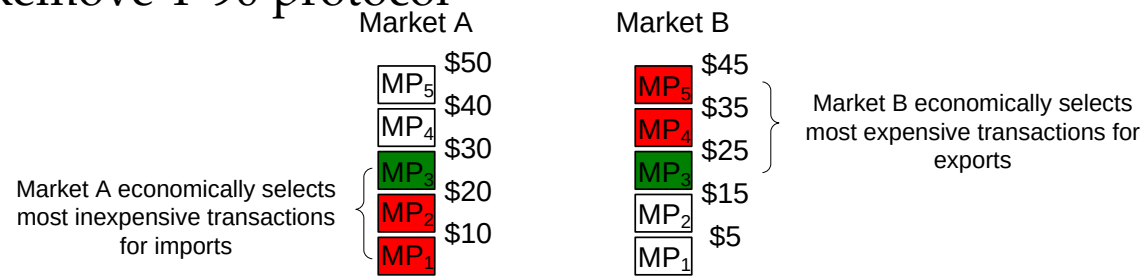
- T-30: IESO and NYISO confirm final interchange schedules.



Current Protocol – NYISO (2)

- Current Transaction Failure Experience
  - August 2, 2006 HE24
    - 1375 MW of export transactions were bid on the NY interface for HE24
    - T-90: 810 MW of export transactions scheduled on NY interface
    - Real-time: 612 MW of exports flowed to NY
    - As a result less than 50% of the bid transactions and approximately 75% of the T-90 transactions flowed in Real-time.

- Potential Future Transaction Failure Experience
  - Remove T-90 protocol



Result: Transactions which are most economic for each market are left off the table because they do not coincide in the selection. Transaction MP_3 is successful. MP1 and MP_2 fail in Market A and are not evaluated in Market B. MP_4 and MP_5 fail in Market B and are not evaluated in Market A.

Future Protocol - MISO

- The proposed protocol hinges on the 2 hour out pre-dispatch results with the 2 hour mandatory window.
- The elimination of the 2 hour mandatory window (1 hour bid/offer window) will effectively render the proposed protocol ineffective.

Transaction Failure – Reliability Impacts

Reliability:

- Import Failure:
  - Timing of the failure – same effect as a generator outage
  - Reliance on internal resources for dispatch to overcome the intertie transaction failure
  - Depending on time of year – energy limited resource utilization when not economic and shifting from potential peak periods when needed
  - Potential for Emergency Energy purchases/other emergency control actions

- Export Failure:
  - Excess Base Load Generation (EBG) concerns – potential nuclear unit dispatch

Transaction Failures – Market Impacts

Market:

- Import failure and subsequent upward pressure on price
  - Depending on time of year – energy limited resource utilization when not economic and shifting from potential peak periods when needed
  - Increased uplifts – Congestion Management Settlement Credits for internal resources
  - Divergence between RT and hour ahead prices – ineffective decision making
  - Exporter risk – no IOG
  - Arbitrage margin loss resulting in potential behavioral changes from traders
- Export Failure and subsequent downward pressure on price
  - EBG concerns – price taking unit dispatch (nuclear) and resultant lower clearing prices
  - Increased uplifts – IOGs price difference between RT and pre-dispatch, Congestion Management Settlement Credits for internal resources, SGOL DAGCG
  - Divergence between RT and hour ahead prices - ineffective decision making
  - Arbitrage margin loss resulting in potential behavioral changes from traders

Impact on Failure Charges

- With the introduction of a one hour bid/offer window, the impact to the amount of intertie transactions failures may increase with subsequent increase in failure charges. As a result both reliability and the market are at risk.
  - Risk of behavioral changes.

- Impacts both markets
  - The amount of transactional failures will have similar results in both areas.
  - For example, an export loss in Ontario results in an import loss in NY.