Reserve Shortage Operating Protocol

(AKA Enhanced ISO-NE / NYISO Scheduling)

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Background

- In an effort to reduce seams issues with neighboring control areas, NYISO has had ongoing discussions on reliability protocols.
- On June 03, 2008 ISONE adopted a new operating protocol to address reserve shortages through the use of export curtailment.
- As reported to the October 10, 2008, January 05, 2009, February 20, 2009 MIWGs, as well as the January 20 SOAS, NYISO will adopt a similar operating protocol.
- On March 03, 2009 NYISO met with ISO-NE and discussed this protocol. ISO-NE was in favor of this protocol.

Proposed Changes to Ensure Reliability

- If a deficiency of 10 minute Operating Reserves (East 10 and NYCA 10) occurs, or is forecasted to occur, for a sustained period, as a result of an unforeseen event, the NYISO may curtail RTC scheduled Export transactions to ensure adequate reserves are available to meet requirements.
  - *A sustained period is defined as 15 minutes (one RTC interval).*
  - *Examples of unforeseen events include but are not limited to the loss of an internal resource, the loss of import transactions including transaction curtailments associated with TLR events, and the loss of transmission capacity.*

Proposed Changes Continued

- RTC scheduled export transactions would be evaluated for curtailment based upon economic priority.
  - *DA scheduled transactions would NOT be eligible for curtailment.*
  - *Transactions identified as external ICAP would not be eligible for curtailment.*
- This protocol is not intended to circumvent gas turbine activation. GTs will still be evaluated via current economic scheduling protocols.

Proposed Changes Continued

- Notification to other control areas will be given indicating the initiation of this protocol to avoid an existing or imminent deficiency in Operating Reserves.
- This protocol would not be invoked if activation would put the neighboring control area into a more severe state of reserve shortage.
- The protocol's purpose is to enhance reliability in the NYISO control area until normal market transaction scheduling has an opportunity to solve for these events.
- ISO-NE has already adopted similar protocols in its control area.

Timeline of Activation

- The next slide walks through an example time-line of how this would work.
- Assumptions made in this example for the START of the timeline:
  - *Central East is binding*
  - *NYISO is not short of LI reserves*

Example Timeline

- 12:00 - The RTC to schedule HB 13 transactions begins to process.
- 12:15 – HB 13 transaction schedules are posted.
- 12:18 – 1000MW generator in the East trips offline.
- 12:19 – CAM initiated by Operators. Convert 10 and 30 minute resources to energy. SAR event initiated. System now short LI 30, East 30.
- 12:49 – SAR event ends. NYISO system now short LI 30, East 30 and East 10 and forecasted to be short for remainder of RTD optimization. No other resources available to Operators to secure reserves. Operators invoke new protocol and cut RTC scheduled exports to NE for remainder of HB 12 and for HB 13.
- 12:55 – Operators finalize cuts, NYISO system now short LI 30, East 30, 10 minute reserve restored.
- 13:15 - HB 14 transaction schedules are posted.

Reserve Demand Curve Values

	NYCA	EAST	LI
10 Min Spin	500*	25	25
10 Min Total	150*	500*	25
30 Min Total	200MW @$50 * 200MW @ $100 200 MW @ $200	25	300*

*Higher values reflect reserve requirements that must be maintained per reliability rules.

2007 Possible Occurrences

- The following three days in 2007 would have met the initial criteria (10 minute reserve shortage due to an unexpected event). Of these three days, two had hours where HAM transactions may have been eligible for curtailment.

Date	# of potential hours for activation	# of hours with potential HAM exports to cut
2/14/2007	3	0
5/16/2007	3	1
9/7/2007	2	2

Events Walk Through

- The following two slides walk through the events leading up to shortages on 05/16/07 and 09/07/07 as well as the prices during these events.
- Pricing acronyms on the next two slides:
  - *CAP – Represents price in the Capital Zone (F)*
  - *NYNE – Represents NY's price of NE (Sandy Pond)*
  - *NE – Represents ISO-NE's price.*

05/16/2007 Walk Through

- HB 12 Prices – CAP $184, NYNE $232, NE $96
- 12:15 – RTC posts transactions for HB 13 forecasts CAP $205, NYNE $170.
- 12:25 - Large Unit > 500MWs coming offline
- 12:27 – TSA declared
- 12:50 – Transaction derate 200MWs [CAP $53.87]
- 13:18 – Major Emergency declared short 10 minute [CAP $1575, NE $107]
  - ****Some point after 13:18, under the new protocol >10 MWs of Exports NY-NE would be cut*
- 13:30 – 150 MWs imports cut for contingency
- 13:50 – Transaction derate 200MWs

09/07/2007 Walk Through

- HB 18 prices – CAP $351, NYNE $119, NE $101
- 18:15 - RTC posts transactions for HB 19 forecasts CAP prices $469, NYNE $167.
- 18:42 – 550MWs of post RTC imports cut
- 19:38 – Generation derate > 500MWs [CAP $360]
- 19:40 – 131MWs of post RTC imports cut
- 19:47 – Loss of Generation > 250MWs
- 19:49 – Alert State declared [CAP $937, NE $121]
  - ****Some point after 19:49, under the new protocol >10 MWs of Exports NY-NE would be cut for HB 19 and 20*
- 20:07 – Major Emergency declared short 10 minute [CAP $1900, NE $133]
- 20:10 – Emergency sales from NE

Timeline of Implementation

- Internal procedures and training materials have been revised. Operating training is ongoing.
- Implementation of protocol scheduled for June 01, 2009.

NEW YORK INDEPENDENT SYSTEM OPERATOR

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