

Discussion of Contingency Reserves

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EASTERN ISO DESIGNS

The New York ISO has since its start-up scheduled 10-minute reserves to enable it to restore flows over IROL constraints internal to the New York ISO to their limits following transmission contingencies.

- These are called eastern 10-minute reserves;
- They are needed to restore flows over Central East Voltage and stability constraints.
- The New York ISO does not adjust the eastern requirement to reflect actual flows over Central East nor account for shift factor differences across locations.

EASTERN ISO DESIGNS

These eastern 10-minute reserves are included in the overall New York ISO reserve requirements, they do not increase the total reserve requirement, they change where reserves are located.

- Eastern 10-minute spinning reserves count toward the eastern 10-minute reserve requirement;
- Eastern 10-minute reserves count towards the NYCA 10-minute reserve requirement and the NYCA 30-minute reserve requirement.

EASTERN ISO DESIGNS

The California ISO design will similarly integrate contingency reserves with other California ISO reserve requirements.

- Spinning reserves within the relevant region will count towards the contingency reserve requirement.
- Contingency reserves will count towards other California ISO reserve requirements whose qualifications they meet.

EASTERN ISO DESIGNS

Eastern 10-minute reserve prices can impact NYISO energy prices when there is a trade off between energy and eastern 10-minute reserves.

- This is generally the case when there is a shortage of 10-minute reserves and meeting an incremental megawatt of load would reduce reserves by one megawatt.
- The shortage price for eastern 10-minute reserves has been \$500 per megawatt since February 2005.

EASTERN ISO DESIGNS

ISO New England applies a similar concept to its local 30-minute reserves.

- These reserves are not intended to reduce flows over IROL constraints.
- These reserves are to be used to reduce flows over lines into the Connecticut and Boston load pockets following a transmission or generation contingency so that load shedding can be avoided.

EASTERN ISO DESIGNS

The shortage prices for local reserves can set energy prices when ISO New England is short of reserves in these load pockets.

- The shortage price for local 30-minute reserves was raised from \$50 to \$250 per megawatt on January 1, 2010.

EASTERN ISO DESIGNS

Unlike the New York ISO, ISO New England adjusts its contingency reserve targets in real-time to reflect the level of flows on the constraints.

- This is the type of design envisioned by the California ISO.

EASTERN ISO DESIGNS

In scheduling these reserves, the New York ISO and ISO New England minimize the cost of being able to restore flows, i.e. of having the necessary capacity available to be dispatched.

- They do not minimize the cost of actually dispatching resources to restore flows following a transmission contingency. That is a low probability event.
- The California ISO design is consistent with this approach.