North Country Reliability Discussion

MIWG
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Draft for Discussion

Background

- ISO Operations staff have discussed the North Country Reliability Commitment process at the August 31 SOAS meeting and the September 14 MIWG meeting.

- This presentation is intended to respond to additional questions identified at the September MIWG meeting.

North Country Generation

- The following generating units, other than the NEG North Falcon Seaboard unit, are located inside the North Country Load Pocket:

  Clinton LFGE, Chateauguay High Falls Hydro, NEG North Alice Falls, NEG North KES Chateauguay, NEG North Plattsburgh, and N. Salmon Hydro

  These plants have an aggregate total capability of about 88 MW. These generating units' capability, in aggregate, are insufficient to meet the reliability needs of the North Country Reliability.

- The following wind generating units, are located inside the North Country Load Pocket:

  Altona Wind, Ellenburg Wind, Chateaugay Wind, and Clinton Wind

Normal Operations Planning

The NYISO is subject to the NERC "Standard IRO-004-1 Operations Planning" requirements that direct the ISO, acting as the Reliability Coordinator for the NY Area, to take any necessary action that it deems appropriate to address potential SOL or IROL violations.

The NYISO meets this requirement by committing available North Country resources**.**

NERC Standard IRO-004-1 – Operations Planning

R1. Each Reliability Coordinator shall conduct next-day reliability analyses for its Reliability Coordinator Area to ensure that the Bulk Electric System can be operated reliably in anticipated normal and Contingency event conditions. The Reliability Coordinator shall conduct Contingency analysis studies to identify potential interface and other SOL and IROL violations, including overloaded transmission lines and transformers, voltage and stability limits, etc.

R2. Each Reliability Coordinator shall pay particular attention to parallel flows to ensure one Reliability Coordinator Area does not place an unacceptable or undue Burden on an adjacent Reliability Coordinator Area.

R3. Each Reliability Coordinator shall, in conjunction with its Transmission Operators and Balancing Authorities, develop action plans that may be required, including reconfiguration of the transmission system, re-dispatching of generation, reduction or curtailment of Interchange Transactions, or reducing load to return transmission loading to within acceptable SOLs or IROLs.

R6. If the results of these studies indicate potential SOL or IROL violations, the Reliability Coordinator shall direct its Transmission Operators, Balancing Authorities and Transmission Service Providers to take any necessary action the Reliability Coordinator deems appropriate to address the potential SOL or IROL violation.

Normal Operations Planning

- The common tower contingency is an NPCC operating criteria, and is adopted by the NYSRC, and the NYSPSC.

- The NYISO is required to account for NPCC criteria in the day-to-day reliable operation of ISO Secured Transmission Facilities

- The NYISO is not aware of any NERC or NPCC criteria specifying the treatment of wind capability for addressing transmission security in the short-term operations planning or real-time operations timeframes

Review of Wind Performance

- The ISO intends to identify the potential circumstances in which wind capability can be used to meet short-term operational planning and real-time operations transmission reliability criteria.

- The ISO will perform studies to determine the extent it could expect to rely on wind generation based on the actual historical performance of wind generation in New York.

- The ISO intends to study actual wind generation as a function of Day-Ahead forecast generation following historical data analysis for the summer 2009 period and subsequent for the winter 2009/2010 period.

- The NYISO expects to complete the historical summer wind analysis by December 31, 2009 and the historical winter analysis in spring 2010.

North Country Transmission Operation

- In the past, on high load demand days in the North Country, NEG Falcon Seaboard was expected to be operating at or near full output.

- In the event that NEG Falcon Seaboard was not available during a high load demand day, and further assuming that the tower contingency had actually occurred, local area load relief measures may have to be taken.

- Under this hypothetical scenario, the ISO is prepared to, and would (if necessary) operate in accordance with Section 4.1.1 of the Emergency Operations Manual.

North Country Transmission Operation

Emergency Operations Manual

Section 4.1.1 Actual LTE and STE Rating Violations

If a transmission facility that constitutes a part of the NYISO Secured Transmission System (as defined in the *NYISO Transmission and Dispatching Operations Manual*) becomes overloaded, the NYISO shall apply relief measures immediately to bring the flow within established ratings.

When a facility becomes loaded above its LTE rating but below its STE rating, corrective action, which may include Voltage Reduction and/or Load Shedding, must be taken to return loading on the facility to its LTE rating within 15 minutes.

When a facility becomes loaded at or above its STE rating, immediate corrective action, which may include Voltage Reduction and/or Load Shedding must be initiated to reduce the loading on the facility to below its STE rating within 5 minutes and furthermore, to continue to reduce the loading on the facility to below its LTE rating within 10 minutes from the initial overload.

If the loading is substantially above the STE rating, Load Relief should be considered as the initial action to be taken.

After the loading on a facility has been reduced below its LTE rating, additional corrective action, excluding further Voltage Reduction and/or Load Shedding should be taken to reduce the loading on the facility below its Normal rating within 30 minutes of the initial overload.

In the event this cannot be accomplished, the NYISO Shift Supervisor shall invoke Emergency Transfer Criteria (ETC).

When a facility has been loaded for four continuous hours (or such longer period as may be established by the Rating Authority) above its Normal rating, but at or below its LTE rating, corrective action, which may include Voltage Reduction and/or Load Shedding, must be taken to return the facility to its Normal rating within 30 minutes.

Draft for Discussion

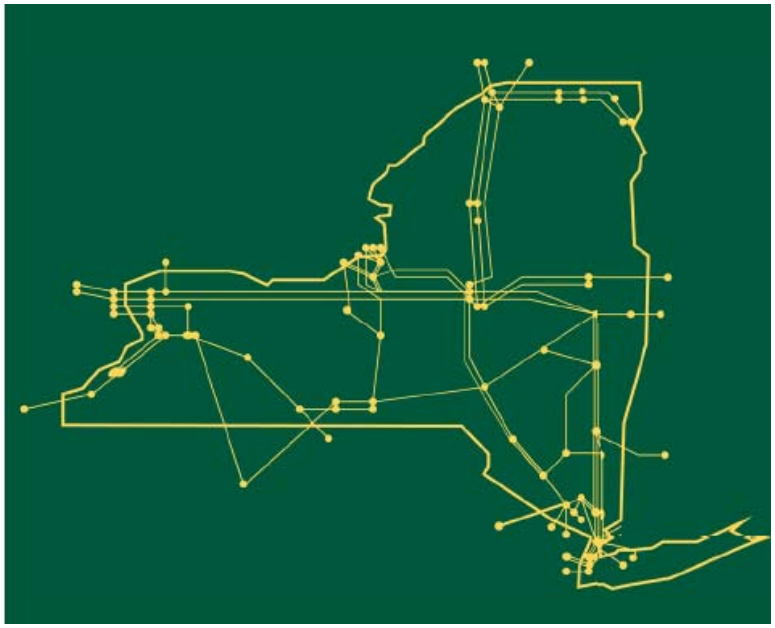
Day Ahead SCUC Modeling

- As a result of the NYISO-ISONE Mutual Assistance Agreement, ISO-NE has agreed to continue to provide up to 50 MW of sustained PV-20 power flow to NYISO beyond 30 minutes of the common tower contingency event by using phase angle regulator actions to control the PV-20 power flows.

- SCUC cannot explicitly represent the above expected PV-20 power flows into New York as a result of the ISO-NE operator actions controlling the phase angle regulator. Because SCUC can not correctly account for the expected PV-20 support from ISO-NE, it cannot accurately determine when it will be necessary to commit additional North Country generation.

- When the ISO obtains the authority to DARU generating units prior the DAM close the ISO will investigate the ability to eliminate post-SCUC commitments. This investigation will include reviewing with ISO-NE its ability to accelerate its forecast of anticipate support.

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 reliability and resource planning for the state's bulk electricity system.



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