Emergency Transfer Criteria

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DRAFT – FOR DISCUSSION PURPOSES ONLY

Background

- The NYISO was asked to discuss recent instances of Emergency Transfer Criteria (ETC) Declaration
- This Presentation will walk through ETC as defined in the NYISO Emergency Operations Manual (EOM)
- It will give real world examples of ETC from June of 2014
- The objective of the NYISO is to operate the NYS Power System within the Normal State. When the NYS Power System enters a condition other than the Normal State, the NYISO shall act to return the NYS Power System to the Normal State. (NYISO Emergency Operations Manual section 1.2.2)

NYSRC Definition of Emergency Transfer Criteria (ETC)

- *Emergency Transfer Criteria* - **It is intended that the NYS Bulk Power System be operated within normal transfer criteria at all times insofar as possible. However, in the event that adequate facilities are not available to supply firm load within normal transfer criteria, emergency transfer criteria may be invoked. Under emergency transfer criteria, transfers may be increased up to, but not exceed, emergency ratings and limits as follows:**

  a. Pre-contingency line and equipment loadings may be operated up to Long Term Emergency (LTE) ratings for up to four (4) hours, provided the Short Term Emergency (STE) ratings are set appropriately. Otherwise, pre-contingency line and equipment loadings must be within normal ratings. Pre-contingency voltages and transmission interface flows must be within applicable pre-contingency voltage and stability limits.

  b. Post-contingency line and equipment loadings within STE ratings. Post-contingency voltages and transmission interface flows must be within applicable post-contingency voltage and stability limits.

Pre-Contingency (Actual) flow Criteria

- **NYISO Emergency Operations Manual Section 2.2, Alert State**
- ***Emergency Transfer Criteria are invoked: Actual loading of equipment defined as the NYISO Secured Transmission System or the NERC Bulk Electric System is greater than Normal rating but less than or equal to LTE rating for greater than 30 minutes and may exist up to four continuous hours (or such longer period as may be established by the Rating Authority)***
- **NYISO takes actions applicable to the Alert State to return to the Normal State**
- **No cases existed in June 2014**

Pre-Contingency (Actual) flow Criteria (cont)

- NYISO Emergency Operations Section 3.2, Major Emergency State
- *Emergency Transfer Criteria are invoked: A transmission facility, which constitutes a part of the NYISO Secured Transmission System or the NERC Bulk Electric System remains loaded above its Normal rating, but equal to or less than its LTE rating for more than four continuous hours or such longer period as may be established by the Rating Authority*
- NYISO takes actions applicable to the Major Emergency State to return to the Normal State
- No cases existed in June 2014

Single Circuit Post Contingency Flow Criteria

- **NYISO EO Section 2.2, Alert State**

- ***Emergency Transfer Criteria are invoked: Predicted flow of equipment defined as the NYISO Secured Transmission System or the NERC Bulk Electric System is greater than Short-Term Emergency (STE) rating and corrective action could be taken to reduce the flows under STE in 5 minutes and under LTE within 10 minutes following the contingency AND predicted flow has not exceeded its STE rating for greater than 30 minutes***

- **No cases existed in June 2014**

Single Circuit Post Contingency Flow Criteria (cont)

- **NYISO EO Section 3.2, Major Emergency State**

- ***Emergency Transfer Criteria are invoked: A transmission facility which constitutes a part of the NYISO Secured Transmission System or the NERC Bulk Electric System remains at a loading level for greater than 30 minutes, which would cause its Short-Term Emergency (STE) rating to be exceeded following a contingency, or***

- ***Emergency Transfer Criteria are invoked: A transmission facility which constitutes a part of the NYISO Secured Transmission System or the NERC Bulk Electric System becomes loaded to a level that would cause its STE rating to be violated and corrective action could not be taken rapidly enough to meet the requirements, under STE in 5 minutes and under LTE within 10 minutes of initial overload, once the contingency occurs.***

- ***No cases existed in June of 2014***

Tower or Stuck Circuit Breaker Post Contingency Flow Criteria

- **NYISO Emergency Operations Manual Section 2.2, Alert State**

- ***Emergency Transfer Criteria are invoked: Post Contingency flow may exceed STE rating for tower and stuck circuit breaker contingencies***
  - ***This allows the NYISO not to declare a Major Emergency***

- ***Examples in June of 2014***
  - ***(2) 62 Niagara-Packard for loss of common tower 61 Niagara-Packard/ 64 Niagara- Robinson Rd (NYSRC Exception 13 allows operation of the Niagara Exit circuits up to STE)***
  - ***(1) 61 Niagara-Packard for loss of common tower 62 Niagara –Packard/ BP76 Beck Packard Rd (NYSRC Exception 13 allows operation of the Niagara Exit circuits up to STE)***

Procedure for Relief of Potential Overloads on Non-Secured Facilities, EOM Section 4.1.3

- **The NYISO does monitor the non secured system to account for the impact on the secured system**
- **In cases where the initiating contingency will case the non secured system to exceed STE, the NYISO will treat the initiating contingency and the facility predicted to be over STE as a single contingency**
- **When appropriate the NYISO will declare ETC on the underlying system**

- **Examples in June of 2014**
  - ***(4) 142 Dunkirk-Gardenville 115kV for loss of common tower 73 & 74 Dunkirk-Gardenville 230 kV and 141 Dunkirk-Gardenville 115kV***
  - ***(1) 969 Border City-Guardian 115kV for loss of 85/87 Wethersfield-Meyer 230kV and 934 South Perry-Meyer 115 kV***
  - ***(1) 969 Border City-Guardian 115kV for loss of common tower 7 Homer City- Stolle Rd 345kV/67 Stolle Rd-High Sheldon 230kV and 934 South Perry-Meyer 115 kV***

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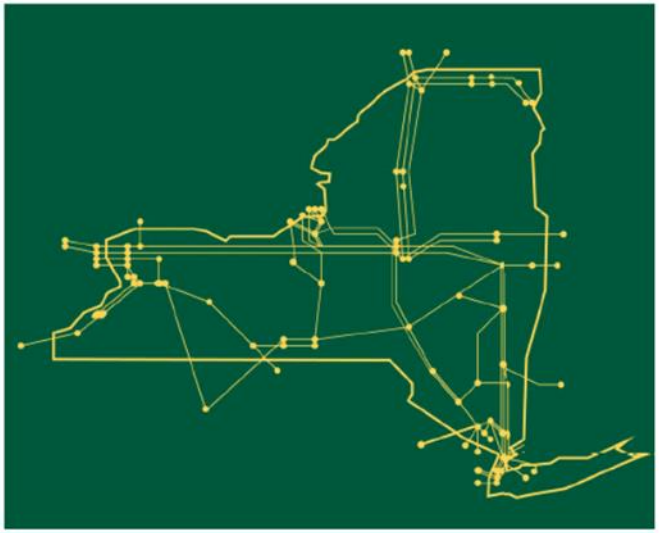

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