



# Simplified Locality Exchange Factor

**Wes Hall**

Principal Consultant, Power Systems Strategy  
GE Energy Consulting

7 March 2018

**DRAFT – Do Not Distribute**

# Objectives

---

- 1) Review the NYTOs' proposal for a Simplified Calculation of Locality Exchange Factors
- 2) Evaluate the impact of applying such a proposal to sales from New York generators to neighboring Control Areas
- 3) Determine whether NYCA reliability criteria can be maintained using the Simplified Approach



# Review of the NYTO's Proposal

---

GE has reviewed the NYTOs' proposal and is working with the NYISO to provide refinements where appropriate.



# Loss of Load is not equivalent to Need

---

The probability of simultaneous loss of load ( $P(L_{EXT}/L_{NY})$ ) does not consider the coincidence of an external system's need for capacity when New York received support from the exporting unit, and got that support, or loss of load events where support from the exporting unit can not resolve the loss of load.

**$P(L_{EXT}/L_{NY})$  is not equivalent to  $P(N_{EXT}/N_{NY})$**

Where:

$N_{EXT}$  = a need in the external system for the export unit

$N_{NY}$  = a need in New York for the export unit



# Calculating Need

---

## Two GE MARS Cases need to be considered

- 1) Perfect Capacity attached to New York – The hourly need for the capacity of the exporting unit in New York
- 2) Perfect Capacity attached to the external system – The hourly need for the capacity of the export unit in NE

From the hourly data consider  $P(N_{NY})$ ,  $P(N_{EXT})$  as well as the dependent probabilities  $P(N_{EXT}/N_{NY})$  and  $P(\sim N_{EXT}/N_{NY})$



# Calculating Need

---

- In order to evaluate the viability of the approach, sales from the GHIJ Locality would need to be evaluated into ISONE and PJM. (A final approach would need to comprehensively address potential scenarios).
- Based on the research completed to date, the probabilistic analysis appears to be significantly impacted and variable depending on the assumptions. This has made it more challenging to confirm whether and when LOLE is satisfied. GE and the NYISO are evaluating variables such as reviewing both the 2017 and 2018 IRM Base Case, as well as the order the sales are taken; before and after emergency assistance and considering the operating procedures.



# Next Steps

---

At the April ICAPWG, GE will present:

1. GE's findings on the analysis' objectives regarding a simplified Probabilistic LEF
2. Observations of the calculation of need under various conditions



