

Operation of the
ISO Secured System
in the
Con Edison Transmission System

NYISO Scheduling & Commitment
Department

2/14/01

Presentation Summary

- Background
- Related Issues
- ISO/Con Edison Agreement
- Day Ahead Market
- Hour Ahead Market
- Real-Time Market
- LRR Evaluation & SRE
- Thunderstorm Alert
- TO Responsibilities

Background Inf

■ ISO Secured System

- Secured in DAM, HAM, and RT Markets by the ISO
- 345kV overhead and underground cable facilities
- 345/138kV step-downs to NYC 138kV load pocket
- LBMP Congestion reflects ISO Secured System constraints

■ TO Operating Exception for Underground Cables

- Allows post-contingency cable loadings up to STE ratings
- Based on the ability to reduce loadings to LTE in 15 minutes

■ Phase Angle Regulator (PAR) Capability

- PARs and local area generation are used to mitigate constraints on both 345kV and 138kV transmission

Related Issues

- BME/SCD Market Pricing Inconsistencies in NYC area
 - Identified at September 12 S&P Meeting
 - Assumed cable operation in HAM not consistent with RT cable operation due to TO Operating Exception
 - OOM Generation for ISO Secured System and TO local system constraints
- NY PSC Interim Pricing Report
 - ISO requested to improve LRR Implementation
 - Reduce need for TO SREs after DAM posting
- PAR Operation
 - Consistency in DAM, HAM, and RT scheduling systems

ISO / Con Edison Agreement

- ISO / Con Edison Operations Agreement
 - Defines ISO and TO Operational Responsibilities
 - Ensures consistency in ISO and TO Operating Practices
 - Focused on ISO Secured System Operation
- Modeling Consistency in ISO Scheduling Systems
 - Defines Overhead and Underground Cable ratings used in DAM, HAM, and RT Market
 - Ensures consistency in evaluation of transmission capability
 - Defines TO PAR control actions for constraint mitigation in Real Time Operation

Day-Ahead Market

- Overhead Transmission Capability in SCUC
 - Summer/Winter Capability Season ratings
 - Normal ratings for ‘actual’ loading constraints
 - Long Term Emergency ratings for predicted contingency constraints
- Underground Transmission Capability in SCUC
 - Summer/Winter Capability Season ratings
 - Normal ratings for ‘actual’ loadings constraints
 - Average of Long Term and Short Term Emergency ratings for predicted contingency constraints (Op. Ex.)

Hour-Ahead Market

- Overhead Transmission Capability in BME
 - Summer/Winter Capability Season ratings subject to dynamic rating capabilities
 - Normal ratings for ‘actual’ loading constraints
 - LTE ratings for predicted contingency constraints
- Underground Transmission Capability in BME
 - Summer/Winter Capability Season ratings subject to dynamic rating capabilities
 - Normal ratings for ‘actual’ loading constraints
 - Average of LTE and STE ratings for predicted contingency constraints (Op. Ex.)

Real Time Market

- Overhead Transmission Capability in SCD
 - Summer/Winter Capability Season ratings subject to dynamic rating capabilities
 - Normal ratings for ‘actual’ loading constraints
 - LTE ratings for predicted contingency constraints
- SCD to directly secure overhead transmission actual and contingency constraints
- If SCD is not effective, adjustments to UPNY-ConEd interface capability will be used to secure overhead transmission constraints

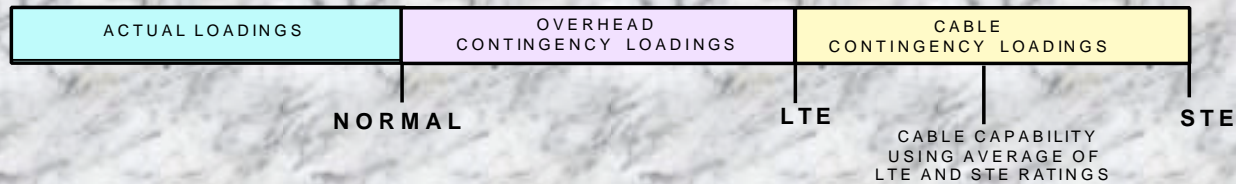
Real Time Market

- Underground Transmission Capability in SCD
 - Summer/Winter Capability Season ratings subject to dynamic rating capabilities
 - Normal ratings for ‘actual’ loading monitoring
 - LTE and STE ratings for predicted contingency monitoring are monitored (Operating Exception)
- SCD cannot directly secure cable contingency constraints to loading levels between LTE and STE ratings
- Adjustments to Dunwoodie-South interface capability will be used to secure all cable constraints
- OOM Generation not required for ISO Secured System

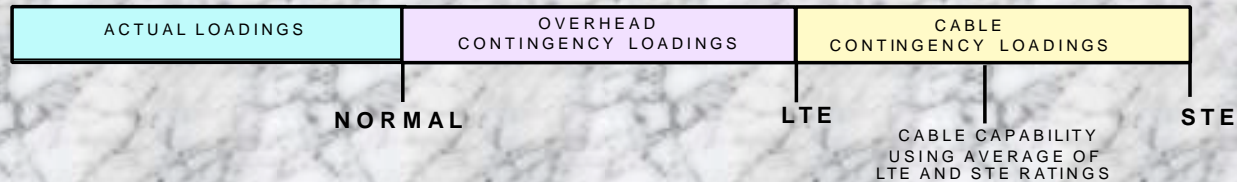
Con Edison Transmission System Capabilities

TRANSMISSION CAPABILITIES DAM, HAM, AND REAL TIME SCHEDULING SYSTEMS

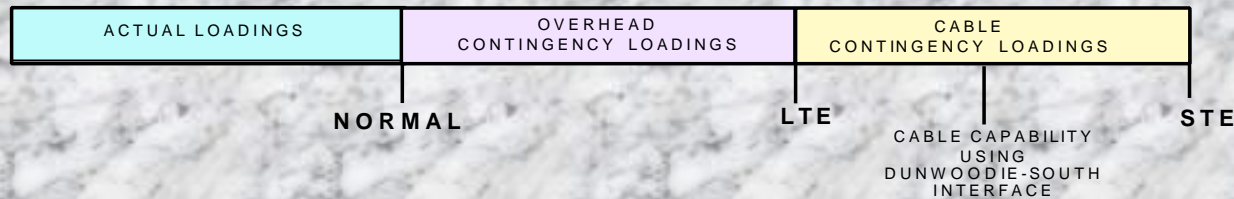
DAM



HAM



RT



Local Reliability Rules & SRE

- TO LRRs defined by NYS Reliability Council
 - Con Edison Unit Commitment is based on second contingency operating criteria
 - Implemented as ‘load pocket’ double contingencies in LRR pass of SCUC
- Revised LRR criteria should result in improved LRR evaluation in SCUC
 - LTE ratings used for 138kV LRR evaluation
 - Reduced need for TO SRE for LRR following DAM
- SCUC will consider TO SRE commitments to midnight
 - Reduced potential for morning ‘gap’ DAM schedules

Thunderstorm Alert (TSA)

- DAM
 - TSA Not Considered

- HAM
 - TSA Contingency cases activated in BME

- Real Time
 - TSA Contingency cases activated in SCD
 - If SCD is not effective, adjustments to UPNY-ConEd interface capability will be used to secure TSA constraints

TO Responsibilities

- TO Monitoring of the ISO Secured System
 - TO will notify the ISO of any actual or predicted overhead or underground cable constraints
 - TO responsible for local 138kV system constraints
- PAR Control Actions
 - TO will attempt to mitigate actual or predicted ISO Secured System constraints using PAR control actions under TO direct control
 - If TO PAR control actions are not sufficient, the ISO will secure the overhead or underground cable transmission constraints as defined under Real-Time Market Operation

Presentation Summary

- Background
- Related Issues
- ISO/Con Edison Agreement
- Day Ahead Market
- Hour Ahead Market
- Real-Time Market
- LRR Evaluation & SRE
- Thunderstorm Alert
- TO Responsibilities