

Amendment to the NYSRC Loss of Gas Reliability Rule Application for NYC

NYISO Market Structures Working
Group

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The Reliability Rule

The “Gas Burning Procedure - NYC” application is part of the NYSRC’s local reliability rule I-R3 “Loss of generator gas supply – NYC and LI.

“The NYS Bulk Power System shall be operated so that the loss of a single gas facility does not result in the loss of electric load within the NYC or LI zones.”

The Application

The existing application of the NYSRC ‘Gas burning procedure - NYC’ is as follows:

“A sudden loss of gas pressure in the gas transmission facilities that supply Con Edison’s In-City generators could result in the units tripping off line. This rule requires certain In-City units to burn oil at a minimum level based on the forecasted system load as follows:

1. Above 8000 MW – two of the three Astoria generators must be switched to minimum oil burn.
2. Above 9000 MW – all of the generators at Astoria, Ravenswood and East River should be switched to minimum oil burn.”

Discussion of Issue

- **Con Edison is seeking an amendment under the “existing application” of the NYSRC reliability rule for the Summer Capability Period.**
- **A study is required under the reliability rule’s measurement I-M1.**
 - **A contingency on the Con Edison gas transmission system can limit the ability to supply gas fuel to In-City generators and, in turn, can lead to equipment overloads, voltage collapse, and the loss of electric load, due to the loss of generation.**

The study

- **Con Edison undertook a comprehensive study for the Summer 2006 Loss Of Gas-Minimum Oil Burn.**
- **The study has been presented to the NYISO for review.**
- **The study involved:**
 - **Review of Con Edison electric and gas control areas.**
 - **Developing a simulated electric commitment and dispatch to meet the electric load.**
 - **Studying the effects that simulated gas contingencies have on control area generation using STONER steady state modeling software.**
 - **Studying the effects that the loss of generation has on electric system conditions using PSS/E steady state modeling software.**

The study results

- **The studies confirmed that without minimum oil burn and automatic fuel swapping, a gas contingency will result in the loss of generation at Astoria, Ravenswood and East River.**
- **A gas contingency occurring during the summer capability period when the allocation of gas supply is mainly dedicated to supplying the gas fired electric generation, magnifies the effect that a gas contingency has on the control area generation.**

The resultant post-contingency voltage levels are:

System Load	345kV (per unit) w/o Mitigation	345kV (per unit) with Mitigation	138kV (per unit) w/o Mitigation	138kV (per unit) with Mitigation
10800 MW	.99	1.0	.94	.98
11500 MW	.97	.98	.95	.98
12200 MW	.97	.98	.91	.98
12700 MW	.97	.98	.91	.96
13400 MW	Does Not Solve	.97	Does Not Solve	.96

Our request

- **Con Edison requests the following amendment under the existing application:**
 1. **Above 8000 MW two of the three Astoria Generators must be switched to minimum oil burn.**
 2. **Above 9000 MW all of the generators at Astoria, Ravenswood and East River should be switched to minimum oil burn. NYPA CC1/CC2, and Astoria Energy automatic fuel swap capability enabled.**
 3. **Above 10800 MW NYPA CC1/CC2 needs to have either CC1 or CC2 burning oil, with ST1 on line.**
 4. **Above 12200 MW Astoria Energy needs to burn 100% oil.**
 5. **Above 12700 MW NYPA CC1/CC2 needs to burn 100% oil. All of the generators at Astoria, Ravenswood and East River must be switched to 60% minimum oil burn.**

- **The existing requirements in the application will remain in effect as before.**

- **Con Edison requests this amendment to the application to be approved and effective for the Summer 2006 Capability Period.**
 - **The NYSRC's Glossary of Terms defines the Summer Capability Period to be from May 1 to October 31.**

Summation

- **Con Edison is not seeking to change the NYSRC reliability rule.**
- **Con Edison proposes an amendment under the existing application of the NYSRC reliability rule for the Summer 2006 Capability Period.**
- **Con Edison requests an expedited approval of its amendment by the Operating Committee.**
- **Approval is requested effective for this Summer Capability Period.**