Generation Interconnections

This analysis was completed to assess the reliability impact for a new generator interconnecting to the PJM system as a capacity resource.

Network Impacts - 100 MW Injection

Network Impacts for Option #1

At system normal no network problems were identified for the interconnection of the new generation to the Kent 69kV substation.

The worst single contingencies and a limited number of double contingencies were screened for this addition. No network problems were identified.

A short circuit screening was performed for the connection of a 100 MW generator to the Kent 69kV substation. This installation does not cause overstress of any circuit breakers in the area. The fault values in certain locations were at times doubled, but since the available fault current in the Bay Region is somewhat low, this increase did not prove to be a problem.

Network Impacts for Option #2

At system normal no network problems were identified for the interconnection of the new generation to the Cheswold - College Road 138kV line.

Single contingency analysis results in overloading of the Cheswold 138-69 kV (AT 1) autotransformer by 5.4% over its emergency rating of 71 MVA for the outage of the Church 138-69 kV autotransformer AT1. The existing Cheswold autotransformer would be replaced with a new 150 MVA autoransformer. Estimated cost is $ 1.5 Million. Time to replace the transformer is estimated to take 18 months.

A short circuit screening was performed for the connection of a 100 MW generator to the Cheswold - College Road 138kV line. This generator interconnection does not cause overstress of any circuit breakers in the area. The fault values in certain locations were at times doubled, but since the available fault current in the Bay Region is somewhat low, this increase did not prove to be a problem.