

#N12 North Haverhill 69kV **Generation Interconnection**

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

Network Impacts

The system, as planned, was evaluated for compliance with reliability criteria. Note that the N. Haverhill 69 kV interconnection location is not part of the Bulk Electric System governed by ECAR Reliability Standards. However, American Electric Power plans this area to meet Single Contingency criteria in accordance with AEP's FERC Form 715 filing. Therefore, this standard was used to evaluate the project. **The Haverhill N12 project was studied as 70 MW gross capability and 60 MW net capability.** The project was evaluated as an "energy-only" resource. The results are summarized below.

Normal System

No identified problems.

Single Contingency

Following the loss of the 138/69 kV transformer at East Kentucky Power Cooperative's Argentum Station, the N. Haverhill-Ginat Creek and Ginat Creek-Franklin Furnace portions of the N. Haverhill-Millbrook Park-Argentum 69 kV circuit exceed their present line ratings, as limited by the 2/0 Cu conductors in this circuit (see Figure 4).

Short Circuit Analysis

No problems identified.

Stability Analysis

Stability studies were not performed as part of this Feasibility Study. The cost estimates for Project Interconnection could change based on the results of the stability studies that will be performed as part of the Impact Study.

New System Reinforcement Costs (in 2005 dollars)

- The overload described above can be alleviated by reconductoring the N. Haverhill-Ginat Creek and Ginat Creek-Franklin Furnace portions of the N. Haverhill-Millbrook Park-Argentum 69 kV circuit with 556.5 kcmil ACSR conductor and replace 65 of 87 poles to accommodate the larger conductor.

Estimated Cost*	\$ 1,000,000
Estimated Removal Cost*	\$ <u>140,000</u>
Total Estimated System Modification Cost*	\$ 1,140,000

* The estimates are preliminary in nature, as they were determined without detailed engineering and design studies. Final estimates will require on-site review and coordination with the Interconnection Customer to determine final construction requirements. It will take approximately nine months after obtaining the authorization to construct the facilities as outlined above.

Contribution to Previously Identified System Reinforcements

None