



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 -13.5 MW Injection into the Westover South 34.5kV substation

Network Impacts

Potential network impacts for the injection of 13.5 MW into the Westover South 34.5 kV substation was evaluated for summer peak conditions in 2004.

Normal System

- No identified problems.

Multiple Facility Contingency (MAAC Criteria IIC)

- The new generator contributes 5 MW to an overload on the Shelocta - Keystone 230 kV circuit for the tower line contingency that includes loss of the Johnstown - Bar Tech 230 kV and Johnstown - Bon Air 115 kV circuits.

Generator Deliverability

- The new generator contributes 3 MW to an overload on the Lewistown - Juniata 230 kV circuit for loss of the Homer City - Shelocta - Keystone 230 kV circuit.
- The new generator contributes 1 MW to an overload on the Altoona - Johnstown 230 kV circuit for loss of the Homer City - Shelocta - Keystone 230 kV circuit.

Short Circuit Analysis

- No identified problems.

System Reinforcements

New Homer City 500 kV Substation and 500/345 kV Transformers

The new generation contributes to previously identified overloads in western Pennsylvania. A new Homer City 500 kV substation and two new Homer City 500/345

kV, 1000 MVA transformers are required to alleviate these overloads. The total cost is estimated to be \$20.8 million with a lead-time of 4 years. A breakdown of the total cost is as follows:

- Build a new 500 kV substation with 4 breakers at Homer City: \$9 million.
- Re-route the Keystone - Conemaugh 500 kV circuit through the Homer City 500 kV substation: \$1.8 million.
- Install two 500/345 kV transformers at Homer City: \$10 million.

The new generator will be allocated a percentage of the costs for these upgrades based on their MW contribution in relation to other new generators. Cost allocation percentages are not provided as part of the Feasibility Study analysis but will be provided in the Impact Study report.