# Generation Interconnection

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

**Network Impacts -75 MW Injection into the Keystone 500kV substation (G51)**

## Network Impacts

The Keystone **#G51 project was studied as an additional 75 MW capacity** increase into the Keystone 500 kV substation. Project # G51 was evaluated for compliance with reliability criteria for summer peak conditions in 2005. Potential network impacts were as follows:

**Generator Deliverability**
No identified problems.

**Multiple Facility Contingency – Tower Line Outages (MAAC Criteria IIC)**
No identified problems.

**Short Circuit**
No identified problems

## New System Reinforcements

None

## Contribution to Previously Identified System Reinforcements

The G43 project will contribute to the cost of the following previously identified network reinforcements:

1. Installation of a 350 MVAR SVC at Juniata 500 kV to mitigate previously identified voltage drop violations. The cost is estimated at $24.4 million. This includes the capacitors, appropriately sized transformer, 500 kV circuit breaker, all associated controls, site prep and substation modifications. It does not include gross-up for taxes. The SVC is estimated at $16.5 million and site expansion costs and line relocations at $7.9 million. See Figure #2.

2. Installation of a second Hunterstown - Conastone 500 kV circuit or a new Hunterstown - TMI 500 kV circuit will be required to eliminate voltage problems at Juniata 500 kV. The viability of the alternatives was not evaluated during the Feasibility study. Regardless of the alternative, the cost is expected to exceed $50 million and take in excess of 5 years. A more refined analysis of reinforcement options will be completed in the Impact Study.

Cost allocation percentages are not provided as part of the Feasibility Study analysis, however, cost allocation will be provided at the conclusion of the Queue D, E, & F Impact Study evaluations.

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**Figure #2**

## Proposed Juniata 500kv 350mvar SVC