R22 – Elk Garden – Junction 138 kV
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

The #R22 project was studied as a 90 MW (18 MW of Capacity) injection at two distinct points of the APS system. The first option is into a tap of the Mt. Storm-Doubs 500 kV line; and the second option is into a tap of the Parr Run-Junction 138 kV line. Project #R22 was evaluated for compliance with reliability criteria for summer peak conditions in 2011. Potential network impacts were as follows:

Generator Deliverability

No problems were identified

Multiple Facility Contingency

No problems were identified

Contribution to Previously Identified Overloads

No problems were identified

New System Reinforcements

None

Contribution to Previously Identified System Reinforcements

To be determined at the System Impact Study

Short Circuit (Both options)

No existing breakers were identified as requiring replacement

Delivery of Energy Portion of interconnection Request

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

As a result of the aggregate energy resources in the area, the following violations were identified:

For the 138 kV interconnection the project further overloads:

1. Albright – P52 – Mettiki – William 138 kV circuit.
2. William – Parsons – Loughs Lane

For the 500 kV interconnection option:

1. The Conastone-Peach Bottom 500 kV is congested for the outage of the 1128 MW unit at Peach Bottom. Pre and post loading values are around 150%.
2. The Brighton-Doubs 500 kV is congested for the outage of the Burchess-Possum 500 kV line. Pre and post loading values are around 117%.
3. Contribution of 7 MW further overloads the Loughs Lane-Parsons 138 kV line from 153% to 158% of its normal rating (126 MVA).
4. Contribution of 12 MW further overloads the Canaan-William 138 kV line from 94% to 100% of its emergency rating (207 MVA) for the outage of the Hatfield-Black Oak 500 kV line.