

#P27 - Winchester 34.5 kV (13 MW)

Generation Interconnection

Option 1:

Interconnection to Winchester 34.5 kV Substation.

Network Impacts

Option 1 considers the injection into Winchester 34.5kV substation. Project #P27 was evaluated for compliance with reliability criteria for summer peak conditions in 2010. Potential network impacts are as follows:

Generator Deliverability

No problem identified.

Multiple Facility Contingency

No problem identified.

Contribution to Previously Identified Overloads

None

New System Reinforcements (Dominion Assessment Results)

Modifications to Dominion's distribution system (local upgrades) to accommodate 16 MVA of generation capacity injected into Dominion's 34.5 kV circuit 491 from Winchester substation include the following construction requirements:

1. Reconductoring of 1.3 miles of overhead 3-phase 34.5 kV distribution line from 1/0 aluminum conductor to 477 mcm aluminum conductor
2. Replacement of 300 feet of underground 1/0 aluminum conductor with 1000 kcm aluminum conductor for capacity
3. Replacement of a 3-phase hydraulic line recloser with a 3-phase electronic line recloser
4. Replacement of a line fuse device with a 3-phase electronic line recloser to accommodate a transfer trip scheme and for proper coordination of upline protective devices.
5. Installation of transfer trip capability from the 2 line reclosers and substation circuit breaker to the customer's main generator breaker
6. Relay work in the substation and SCADA control as required by PJM

Contribution to Previously Identified System Reinforcements (Option 1)

None

Short Circuit

Under study

Option 2:

Interconnection to Peninsula - Whealton 115 kV Line

Network Impacts

Option 2 considers the injection into a tap off of the Peninsula - Whealton 115kV line. Project #P27 was evaluated for compliance with reliability criteria for summer peak conditions in 2010. Potential network impacts are as follows:

Generator Deliverability

No problem identified.

Multiple Facility Contingency

No problem identified.

Contribution to Previously Identified Overloads

None

Contribution to Previously Identified System Reinforcements (Option 2)

None

Short Circuit

Under study.