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 -14 MW Injection into the Brunner Island 230kV substation (G5)

Network Impacts

Potential network impacts for the injection of 14 MW into the Brunner Island 230 kV substation were evaluated for summer peak conditions in 2005. All load flow studies were completed under the assumption that the Yorkanna - Otter Creek 230 kV circuit was in-service. The G05 project cannot be granted capacity certification until the Yorkanna - Otter Creek 230 kV circuit is in-service, scheduled for 2004.

Normal System

No identified problems.

Multiple Facility Contingency – Tower Line Outages (MAAC Criteria IIC)

No identified problems.

Generator Deliverability

No new identified problems.

Short Circuit

No identified problems.

Contribution to Previously Identified System Reinforcements

The addition of 14 MW output for Brunner Island #1 contributes approximately 5 MW to the need to increase the rating of the Yorkana-Brunner 230kV circuit. The line exceeds its emergency rating for the outage of the Brunner-West Hempfield 230kV circuit.

System Reinforcements

No new identified network reinforcements.

The Yorkana - Brunner Island 230 kV contingency overload can be alleviated by reconductoring a .64 mile section of the line with 1590 ACSR conductor. This would increase the summer rating of the circuit to 653 MVA normal and 793 MVA emergency. This upgrade is expected to cost $660,000 with a lead-time of 2 years.

Total direct costs are $0 and network costs are expected to be less than .5 million for this project.