#N08 Dans Mountain

Generation Interconnection

Network Impacts

The **#N08 project was studied as a total injection of 125 MW (25 MW of capacity)** into a tap of the Carlos Jct.—Ridgeley 138 kV circuit. Project #N08 was evaluated for compliance with reliability criteria for summer peak conditions in 2008. Potential network impacts were as follows:

Generator Deliverability*

A marginal overload on the Black Oak 500/138 kV transformer was identified for the outage of Black Oak – Hatfield 500 kV. The more detailed Impact Study will determine whether this project is required to mitigate the identified overload. If required, the cost is estimated at $3.5 million with a 26 month lead time.

Multiple Facility Contingency – Tower Line Outages

No problems identified

Contribution to Previously Identified Overloads

None

New System Reinforcements

None

Contribution to Previously Identified System Reinforcements

None

Short Circuit

No breakers were found to be overdutied as a result of this project.

* 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 problems were identified by PJM:

  1. The Ridgeley – Dans Mountain (N08) 138 kV circuit is overloaded to 102% of its emergency rating (205 MVA) for the outage of the Hatfield – Black Oak 500 kV circuit. The #N08 project contributes approximately 86 MW to the contingency overloaded facility.

APS completed an analysis for the energy portion of this unit and identified the following potential problems:

- ✓ The Ridgeley - Cumberland 138kV line is overloaded for the outage of Black Oak - Hatfield 500 kV. The generator contributes 51.6 MW to this overload. Upgrading the Cumberland and Ridgeley 138kV Line terminals to 1272 ACSR at an estimated cost of $46,000 would eliminate this overload.
- ✓ The Loughs - Parsons - William 138 kV line is overloaded for numerous contingencies. Re-conductoring the Williams – Parsons Jct. 138 kV line to 954 ACSR and completing required terminal upgrades at Loughs and other substations at an estimated cost of $2.6 million will resolve the overload.
- ✓ A number of other 138 kV circuits in the area may impose additional operating restrictions. In most cases, these circuits would be expected to result in minimal re-dispatch requirements.