P59 – Belington 138kV

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 #P59 project was studied as a 125 MW (25 MW of Capacity) injection at a tap of the Belington-Loughs Lane 138 kV line. Project #P59 was evaluated for compliance with reliability criteria for summer peak conditions in 2010. 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

No overdutied breakers have been identified.

Potential Congestion Issues

There are several wind generation plants proposed in the general area of the P59 project, each with only 20% of their peak output level considered as a Capacity Resource, and the remaining 80% as energy only resource. If all of the wind generation plants are at their maximum out put level simultaneously, a significant number of the 138 kV facilities and potentially underlying system facilities could be overloaded, restricting operation to a lower output level.

PJM studied the delivery of the energy portion of this interconnection request. Any problems identified below are may result in operational restrictions to the project. The developer can proceed with 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:

1. Contribution of 21 MW to further overload the Albright-P52 from 203% to 214% of its emergency rating (202 MVA) for the outage of the N.Peters-N.Frank-Seneca Caverns 138 kV line.
2. Contribution of 21 MW to further overload the William-Mettiki 138 kV line from 168% to 178% of its emergency rating (202 MVA) for the outage of the N.Peters-N.Frank-Seneca Caverns 138 kV line.
3. Contribution of 21 MW to further overload the Mettiki-P52 138 kV line from 172% to 182% of its emergency rating (202 MVA) for the outage of the N.Peters-N.Frank-Seneca Caverns 138 kV line.