M15 Union City 230 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 **#M15 project was studied as 302 MW capacity** injection into a tap of the Erie South – Warren 230kV line. Project # M15 was evaluated for compliance with reliability criteria for summer peak conditions in 2008. Potential network impacts were as follows:

Normal System

• No identified problems.

Single Contingency (MAAC Criteria IIA)

• No identified problems.

Generator Deliverability

The M15 – Erie South 230 kV circuit is contingency-overloaded at **108%** of its emergency rating (540 MVA) for outage of the Forest – Lewis Run tap -Glade 230 kV circuit. The M15 project contributes approximately **274** MW to the contingency facility loading.

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

No problems were identified

Short Circuit Analysis

FirstEnergy did not complete a Short Circuit Analysis to confirm breaker adequacy of existing facilities that may be subject to increase fault currents. This review is typically done at the Impact Study phase. Preliminary PJM findings are no breaker adequacy violations in the bulk system (230kV and higher) breakers. A complete short circuit review will be provided at the Impact Study stage.

New System Reinforcements

FirstEnergy has identified the limiting component for the overload on the M15-Erie South 230kV circuit to be a terminal limitation (current transformers) at the Erie South substation. The cost of replacement of the current transformers is anticipated to be **$125,000.** It is anticipated replacement can occur in 1 year.

Contribution to Previously Identified System Reinforcements

None.

Cost Allocation

The M15 Union City project will be responsible for 100% of the costs to replace the current transformers at Erie South on the Erie South-M15 230kV circuit estimated to be $125,000.