

## **Generation Interconnection**

**This analysis was completed to assess the reliability impact for a new generator interconnecting to the PJM system as a capacity resource.**

### **Local AEP Transmission System Evaluation**

#### **Network Impacts**

The impact of the proposed generating facility on the AEP System was assessed for adherence with applicable reliability criteria. AEP planning criteria require that the transmission system meet single contingency performance criteria in accordance with the AEP FERC Form 715. Therefore, this criterion was used to assess the impact of the proposed facility on the AEP System. The #Q54 project was studied as a 100 MW net capability consistent with the interconnection application. The impacts for potential connection to the Haviland - Milan and Lincoln - Sterling 138 kV circuits were evaluated. The results are summarized below.

#### **Normal System (2010 Summer Conditions)**

- Haviland - Milan 138 kV Connection:
  - No problems identified.
- Lincoln - Sterling 138 kV Connection:
  - No problems identified.

#### **Single Contingency (2010 Summer Conditions)**

- Haviland - Milan 138 kV Connection:
  - No problems identified.
- Lincoln - Sterling 138 kV Connection:
  - No problems identified.

#### **Short Circuit Analysis**

- Haviland - Milan 138 kV Connection:
  - No problems identified.
- Lincoln - Sterling 138 kV Connection:
  - No problems identified.

#### **Stability Analysis**

- Stability studies were not performed as part of this Feasibility Study and are not normally performed as part of a Facility Study effort. The stability assessments are part of the System Impact Study. Based upon the results of this future System Impact Study, the extent of system upgrades could change and the associated costs could be significantly different.

## **PJM Transmission System Evaluation**

### **Network Impacts**

The #Q54 project was studied as a 100 MW wind resource with 20 MW of capacity generating into a tap of (1) the Lincoln-Sterling 138 kV line and (2) the Tillman-Milan 138 kV line. Project #Q54 was evaluated for compliance with reliability criteria for summer peak conditions in 2011. Potential network impacts were as follows:

### **Generator Deliverability**

No problems were identified

### **Multiple Facility Contingency**

No problems were identified

### **Short Circuit**

No problems identified

### **Contribution to Previously Identified Overloads**

No problems were identified

### **New System Reinforcements**

None

### **Contribution to Previously Identified System Reinforcements**

No problems were identified