PJM Generator Interconnection Request Queue #I7 Sammis 1860 MW Feasibility Study Report

January 2002
#175373

General

Interconnection Customer has proposed including the five steam generation units, #3, #4, #5, #6 and #7, connected to the 345kV substation at Sammis generating station be connected to the PJM transmission system. Because of this project's position in the PJM Generator Interconnection Request Queue, it will be necessary to perform additional analysis at a later date, in order to determine this project's cost allocation, if any, to system upgrade requirements. The units were evaluated utilizing a summer 2002 peak system representation.

Direct Connection Requirements

In order for the proposed generating units to be included in PJM the following has to be completed.

Metering must be installed, as shown in Figure 1, to record the flow on the four lines that tie Sammis 345kV substation with transmission systems other than PJM, on the three cranking transformers, and the five generating units connected to Sammis 345kV substation. New interconnection metering has been installed at Sammis 345kV substatiion on the Sammis-Highland and Sammis-Star 345kV lines. The installed cost of the new metering isa $399,600.

Control of the Sammis 345 kV substation must be assigned, via agreement, to PJM. The Sammis-Wylie Ridge 345 kV transmission line must become part of the PJM transmission system. Figure #2 shows, in red, the facilities to be controlled by PJM.

Figure #2

Network Impacts

With the Sammis units 3,4,5,6 & 7 and direct connection requirements modeled, the system was evaluated for compliance with reliability. The Wylie Ridge-Sammis 345kV circuit was assumed to be in PJM for this analysis. A summary of the results is as follows:

Normal System

- No identified problems.

Single Contingency (MAAC Criteria IIA)

- No identified problems.

Second Contingency (MAAC Criteria IIB)

- No identified problems.

Multiple Facility Contingency (MAAC Criteria IIC)

- No identified problems.

Generator Deliverability

- No identified problems.

Stability (MAAC Criteria IV)

- No analysis done. Since there is no physical change being made to the system configuration the existing connection of the Sammis units was assumed to be stable.

CETO/CETL (MAAC Criteria III / VIIB)

- No identified problems.

Short Circuit Analysis

- No analysis done. Since there is no physical change being made to the system configuration it is assumed that all equipment is capable of withstanding or interrupting fault currents produced.

Network Reinforcements

- None Required.