TAYLORSTOWN PROJECT (QUEUE#26)
FEASIBILITY STUDY ANALYSIS

DESCRIPTION OF PROJECT

The developer wishes to interconnect six 230 MVA combustion turbine generators (CT) and three 230 MVA steam turbine generator (ST) for a maximum total generating capability of 1731 MW (summer) at their Taylorstown site in Washington County, Pennsylvania near the town of Taylorstown. The project will require a new 500 kV interconnection station (Taylorstown), which will be located about 57 miles from Harrison Substation and about 21 miles from Wylie Ridge Substation on the Harrison – Wylie Ridge 500 kV line. The units will generate at 16.5 kV, using natural gas for fuel. The customer wishes to interconnect into the 500 kV, and plans to have the generators in service and producing power by July 2005.

ANALYSIS RESULTS

Normal (Base) System Conditions

No overloads or other system deficiencies were identified as being caused by this facility under normal system conditions.

Single Contingency Conditions

No overloads or other system deficiencies were identified as being caused by single contingencies.

Multiple Contingency Conditions

No overloads or other system deficiencies were identified as being caused by credible multiple contingencies.

Short Circuit Conditions

No breakers were identified as exceeding their maximum interrupting capacity. The through-fault current on the Wylie Ridge #3 345-138 kV transformer exceeded the bank's rating.

SYSTEM REINFORCEMENTS

Required Direct Interconnection Facilities

Construct substation facilities for Taylorstown Substation:

- Install six 500 kV breakers and associated facilities.
- Install 500 kV metering equipment and associated facilities.

Estimated cost to construct substation = $12,870,000

Loop Harrison – Wylie Ridge 500 kV line into substation

- Construct one (1) mile of double circuit 500 kV line.

Estimated cost to construct 500 kV double circuit line = $3,030,000

Required System Reinforcements

None identified.

Required Short Circuit Reinforcements

Replace Wylie Ridge #3 345-138 kV transformer.

- Install 336 MVA, 345-138 kV transformer .

Estimated cost to replace the transformer = $3,500,000.

Summary

Total estimated interconnection costs = $15,900,000

Total estimated upgrade costs = $3,500,000

Total estimated cost to interconnect the proposed generation facilities = $19,400,000