TALLMANSVILLE PROJECT (QUEUE #43)
FEASIBILITY STUDY ANALYSIS

DESCRIPTION OF PROJECT

The developer wishes to interconnect one steam turbine generator for a maximum total generating capability of 450 MW at their Tallmansville site in Upshur County, West Virginia near the village of Sand Run. The project will require a 138 kV interconnection at Tallmansville Substation. The unit will generate at 18 kV using coal for fuel. The customer wishes to interconnect into the 138 kV and plans to have the generator in service and producing power by July 1, 2005.

ANALYSIS RESULTS

Normal (Base) System Conditions

Overload on the Buckhannon-Loughs Lane 138 kV line.

Single Contingency Conditions

Overload on the Loughs Lane-William 138 kV line.

Overload on the Glen Falls-Buckhannon 138 kV line from National Carbon Tap to Buckhannon Substation.

Multiple Contingency Conditions

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

Short Circuit Conditions

The T1, T2, and T3 500-138 kV transformers at Pruntytown Substation were identified as being over their maximum through-fault rating.

SYSTEM REINFORCEMENTS

Required Direct Interconnection Facilities

Interconnect at Tallmansville Substation:

- Construct a five-breaker, 138 kV ring-bus (future breaker-and-a-half) switching station
- Install 138 kV metering equipment and associated facilities
- Engineer, design, and test interface equipment at customer's station

Estimated cost to install facilities at Tallmansville Substation = $3,260,000

Required System Reinforcements

Rebuild the Buckhannon-Loughs Lane 138 kV line:

- Construct a double circuit steel pole 138 kV line from Buckhannon to Tallmansville to Loughs Lane with 954 ACSR.
- Install two 138 kV breakers, one at Buckhannon Substation and one at Loughs Lane Substation.

Estimated cost to rebuild 21.38 miles of 138 kV line = $11,640,000

Reconductor the Glen Falls-Buckhannon 138 kV line:

- Reconductor from National Carbon Tap to Buckhannon Substation with 954 ACSR.

Estimated cost to reconductor 18.81 miles of 138 kV line = $3,000,000

Rebuild the Loughs Lane-William 138 kV line:

- Replace one 138 kV structure to reduce the sag constraint on this line

Estimated cost to replace one multiple wood pole structure = $100,000

Required Short Circuit Reinforcements

Replace the affected 500-138 kV transformers at Pruntytown Substation:

- Replace the T1, T2, and T3 transformers

Estimated cost to replace three 500-138 kV transformers = $12,000,000

Summary

Total estimated cost to interconnect the proposed generation facilities = $30,000,000.