

# **WARREN PROJECT (QUEUE #40)**

## **FEASIBILITY STUDY ANALYSIS**

### **DESCRIPTION OF PROJECT**

The developer wishes to interconnect 264 MW of generation near AP's Riverton Substation on the Riverton – Klines Mill 138 kV line. The generating facility will consist of one steam turbine (ST) generating at 175 MW and one combustion turbine (CT) generating at 89 MW. The ST and CT will generate at 18 kV and 13.8 kV, respectively. The customer plans to have the generators in-service and producing power by May 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**

Reinforcements due to N-1 contingencies include:

- Reconductor the Riverton – Double Toll Gate 138 kV line with 954 ACSR
- Reconductor the Double Toll Gate – Old Chapel 138 kV line with 954 ACSR
- Replace relaying current transformers at Riverton for the Warren (Klines Mill) 138 kV line.

#### **Multiple Contingency Conditions**

Reinforcements are necessary as a result of N-2 contingencies are as follows:

- Convert the Warren – Riverton 138 kV line section to double circuit 954 ACSR.

#### **Short Circuit Conditions**

No breakers were identified as being close to their maximum interrupting capacity.

## **SYSTEM REINFORCEMENTS**

### **Required Direct Interconnection Facilities and System Reinforcements**

- The estimated cost to acquire a site and construct a four-breaker, 138 kV (future breaker and a half) switching station is approximately **\$2,840,000**.

### **Required System Reinforcements**

- The estimated cost to convert the Warren – Riverton 138 kV line to double circuit using 954 ACSR is **\$1,890,000**.
- The estimated cost to rebuild the Riverton - Double Tollgate single circuit, multiple wood poles 138 kV line with 954 ACSR is **\$1,250,000**.
- The estimated cost to rebuild the Double Tollgate - Old Chapel single circuit, multiple wood poles 138 kV line with 954 ACSR is **\$1,770,000**. The total cost of protective relaying and communications equipment will be approximately **\$60,000**.

### **Required Short Circuit Reinforcements**

None identified.

### **Summary**

The **total estimated cost** to install all of the facilities is approximately **\$7,810,000**.