Network Impacts

Potential network impacts for the injection of 162 MW into the existing Minue Street to Sewaren R-2218 230 kV circuit was evaluated for summer peak conditions in 2005.

Normal System

- No problems identified.

Multiple Facility Contingency (MAAC Criteria IIC)

- No problems identified.

Generator Deliverability

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- No identified problems.

Short Circuit Analysis

- The interrupting capability of the Sewaren circuit breaker BS4-5 is exceeded with the E10 project modeled.

System Reinforcements

To eliminate the overdutied circuit breaker identified above, the following system upgrades are required. Replace the BS4-5 230 kV circuit breaker at Sewaren at a cost of $.35 million and take 18 months to complete. The estimated cost does not include a tax gross – up which will be addressed in the Interconnection Agreement. The current tax rate is 38 % in New Jersey.

The new generator will be allocated a percentage of the costs for the previously identified network reinforcements as follows:

1. Re-conductor the Linden to Warinanco to Aldene 230 kV circuit at a cost of $15.5 million and take five years to complete.
2. Re-conductor the Edison to Devils Brook 138 kV circuit at a cost of $3.5 million and take 2 years to complete.
3. Upgrade the Brunswick to Edison 138 kV circuit by replacing two disconnect switches and wave trap at the Brunswick terminal and two disconnect switches at the Edison terminal to increase the line rating to 412 MVA normal and 488 MVA emergency. The cost is estimated at $.5 million and take two years to complete.
4. Re-conductor the Sewaren to Woodbridge to New Dover “O” 138 kV circuit to provide a new line rating of 412 MVA normal and 488 MVA emergency. The cost is estimated at $3 million and takes two years to complete.
5. Re-conductor the Sewaren to Woodbridge to Lafayette Road “V” 138 kV circuit to provide a new line rating of 412 MVA normal and 488 MVA emergency. The cost is estimated at $1.8 million and takes two years to complete.

6. Re-conductor the Deans to Brunswick 230 kV circuit to provide a new line rating of 876 MVA normal and 1080 MVA emergency. The cost is estimated at $4 million and takes two years to complete.
7. Install a 3.5% reactor at Aldene substation at an estimated cost of $2.5 million and take two years to complete.
8. Install a series Phase Angle Regulator (PAR) on the Linden to Goethels 230 kV circuit at a cost of $10 million and take two years to complete.

Cost allocation percentages are not provided as part of the Feasibility Study analysis, however, cost allocation will be provided at the conclusion of the Queue D, E & F Impact Study evaluations.