PJM Generator Interconnection Request
Queue #R57
South Reading 69kV
Feasibility/Impact Study Report

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South Reading 69kV R57 Feasibility/Impact Study Report

General

Evergreen Community Power has proposed installing a 30MW 50% wood fired (biomass) generator 800 South Seventh Street, City of Reading, Berks County, Pennsylvania. Fuel will include a variety of biomass waste including waste from wood manufacturing, paper mill sludge, and tire derived fuel (up to 100 Tons/day). This proposal has been assigned queue position Q73 in the PJM Generation Interconnection Queue. The 30 MW generator is expected to be in service by the first quarter of 2008 with backfeed scheduled for December 1, 2007. The R57 request was made to increase the Q73 request to the full 30 MW energy and 25 MW capacity of the facility to be installed.

The intent of the Feasibility / Impact study is to determine system reinforcements and associated costs and construction time estimates required to facilitate the addition of the new generating plant to the transmission system. The reinforcements include the direct connection of the generator to the system and any network upgrades necessary to maintain the reliability of the transmission system.

Direct Connection

The interconnection requirement is the same as described below for the Q73 project.

The facility will be located adjacent to the existing United Corrstack campus. The closest FirstEnergy facility for interconnection is the 831 South Reading-West Reading 69 kV transmission line.

The new generation will be connected to the Metropolitan Edison 69kV system via a new 3-breaker ring bus. See Figure #1. It is expected that Evergreen Community Power will provide the land for the 69kV substation. It is estimated that 0.5 mile of double circuit 69kV transmission line will need to be constructed from the 831 line to the new 3-breaker ring bus. It is anticipated that Evergreen Community Energy will provide the right-of-way.

The FE direct connection and system upgrade conceptual costs (excluding CIAC and taxes) are estimated as:

• Three breaker 69kV ring bus, metering and relay protection	**$1,995,000**
• ½ mile of double circuit 69kV circuit (does not include r-o-w)	**$ 600,000**
• Relay and control upgrades at South Reading	**$ 135,000**
• Relay and control upgrades at West Reading	**$ 135,000**
Total	**$2,865,000**

It is estimated that it will take 9 months to design and install the above facilities from the signing of an interconnection agreement.

The customer will be responsible meeting the criteria in the applicable sections of the FE "Requirements for Transmission Connected Facilities".

Station Service metering will be accomplished with a bi-directional meter and a separate contract. If an additional interconnection is required for station service, a separate contract subject to Reserve Capacity rate considerations, will be needed with FirstEnergy.

Network Impacts

The #R57 project was studied as an injection of 11MW energy (9 MW capacity) into the South Reading – West Reading 69kV transmission line. Project #R57 was evaluated for compliance with reliability criteria for summer peak conditions in 2011. Potential network impacts were as follows:

Generator Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

No problems were identified

Multiple Facility Contingency

(Double Circuit Tower Line contingencies only for the full energy output. Stuck breaker and bus fault contingencies will be performed for the Impact Study)

No problems were identified

Short Circuit

No problems identified

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

No problems were identified

New System Reinforcements

None

Contribution to Previously Identified System Reinforcements

None

Figure #1