General

Queue U3-003 is a request to interconnect two 1.0 MW (Net Energy, and Maximum Facility Output) landfill gas reciprocating engine synchronous generators to the Choptank Electric Cooperative distribution system for the purpose of selling the energy output into the PJM wholesale market at the Delmarva – Choptank Electric Cooperative Mt. Olive interconnection point. Queue U3-003 is located at the Worcester County Landfill, 7091 Central Site Lane, Newark, Maryland. One 1.0 MW generator is already connected and operating, the second generator is scheduled for commercial operation in 2009.

Direct Connection Requirements

Queue U3-003 generation output will be injected into the Delmarva transmission system at the Delmarva – Choptank Electric system's Mt. Olive interface as shown on the one line diagram below.

Queue U3-003 Interconnection Customer Scope of Work

Queue U3-003 Interconnection Customer is responsible for design, construction and costs for all facilities associated with the U3-003 generation on the Interconnection Customer side of the POI (Point of Interconnection) on the one line diagram on page 1.

Queue U3-003 Interconnection Customer must have a valid Interconnection Agreement with Choptank Electric Cooperative and it must remain in effect during the time Queue U3-003 is operating under a PJM ISA (Interconnection Service Agreement).

Queue U3-003 will also be responsible for the cost of the following upgrades at Mt Olive substation which must be completed by Choptank Electric Cooperative to mitigate impacts to the Delmarva system resulting from the interconnection of Queue U3-003:

TBD (See Attachment 1 for a preliminary assessment of the relay protection requirements)

Interconnected Transmission Owner (Delmarva) Scope of Work

The following upgrades are required to mitigate impacts to the Delmarva system resulting from the interconnection of Queue U3-003:

TBD

Network Impacts

Queue U3-003 was studied as a 2 MW energy injection into the Delmarva 69 kV system at the Mt. Olive interconnection with Choptank Electric Cooperative (C.E.C.). U3-003 was evaluated for compliance with reliability criteria for summer peak conditions in 2013. Potential network impacts were as follows:

NETWORK IMPACTS

Generator Deliverability

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

No problems identified.

Multiple Facility Contingencies

(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 identified.

Contribution to Previously Identified Overloads

(This project contributes greater than the PJM cost allocation threshold loading to the following contingency overloads, i.e. "Network Impacts", identified for either (i) Earlier generation or transmission interconnection projects in the PJM Queue for upgrades >$5M, or (ii) Projects within the same PJM Queue for upgrades <$5M)

None identified.

Short Circuit

TBD (Generator and transformer impedance data was not provided by the Interconnection Customer)

Stability Analysis

Not required because of generator size and Point of Interconnection.

NETWORK UPGRADE REQUIREMENTS

(Queue U3-003 cost allocation for these upgrades will be determined for the Impact Study)

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. "Network Impacts", initially caused by the addition of this project generation)

None required.

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

None.

Short Circuit Upgrades

TBD (Generator and transformer impedance data was not provided by the Interconnection Customer)