PJM Generator Interconnection Request
Queue W3-063
Fultonham 4kV
Feasibility/Impact Study Report

October 2010
#619454

W3-063 South Fultonham 4kV Feasibility/Impact Study

General

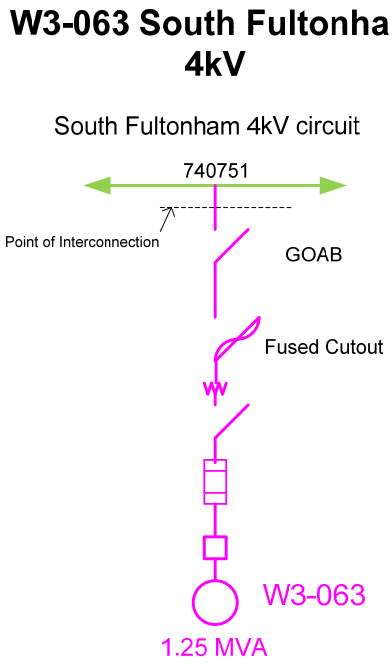
Quasar energy group, LLC has proposed installing a 0.85 MW biogas project on property at 6400 Maysville Pike, Zanesville, Mukingum County, Ohio. The commercial operation date is October 2, 2010.

The project uses anaerobic digestion, where bacteria breaksdown organic material over a 30 day period into biogas (methane and carbon dioxide) and liquid residue that is used as fertilizer. The methane is used to power a generator. The generator in this instance has a nameplate of 0.91 MW. The net delivery to the system is expected to be 0.85 MW.

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 project has been connected to the South Fultonham 4kV circuit 7407501 as described in the "Distribution Impact Study for Zanesville Energy LLC Distributed Generation Interconnection Request Located at 6400 Maysville Pike, Zanesville, Ohio dated 07/06/10".



Network Impacts

Queue project W3-063 was studied as a(n) 0.85 MW energy injection into AEP's system at the South Fultonham 69kV substation. The project was studied on a combined feasibility-impact basis which utilizes an AC analysis, and incorporates all contingency types. Project W2-090 was evaluated for compliance with reliability criteria for summer peak conditions in 2015. Potential network impacts were as follows:

Generator Deliverability

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

No problems identified

Multiple Facility Contingency

(Double Circuit Tower Line, Line with Failed Breaker and Bus Fault contingencies for the full energy output)

No problems identified.

Short Circuit

(Summary form of Cost allocation for breakers will be inserted here if any)

No problems identified

Stability

Not required because the project is less than 30 MW.

System Reinforcements

None

Energy Portion of Interconnection Request

(PJM also studied the delivery of the energy portion of the surrounding generation. Any potential problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Transmission Interconnection request.
Note: Only the most severely overloaded conditions are listed. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which analyzes all overload conditions associated with the overloaded element(s) identified. As a result of the aggregate energy resources in the area, the following violations were identified.)

No problems identified.