

***PJM Generator Interconnection
#G39 Joppatowne 4.2 MW
Feasibility Study Report***

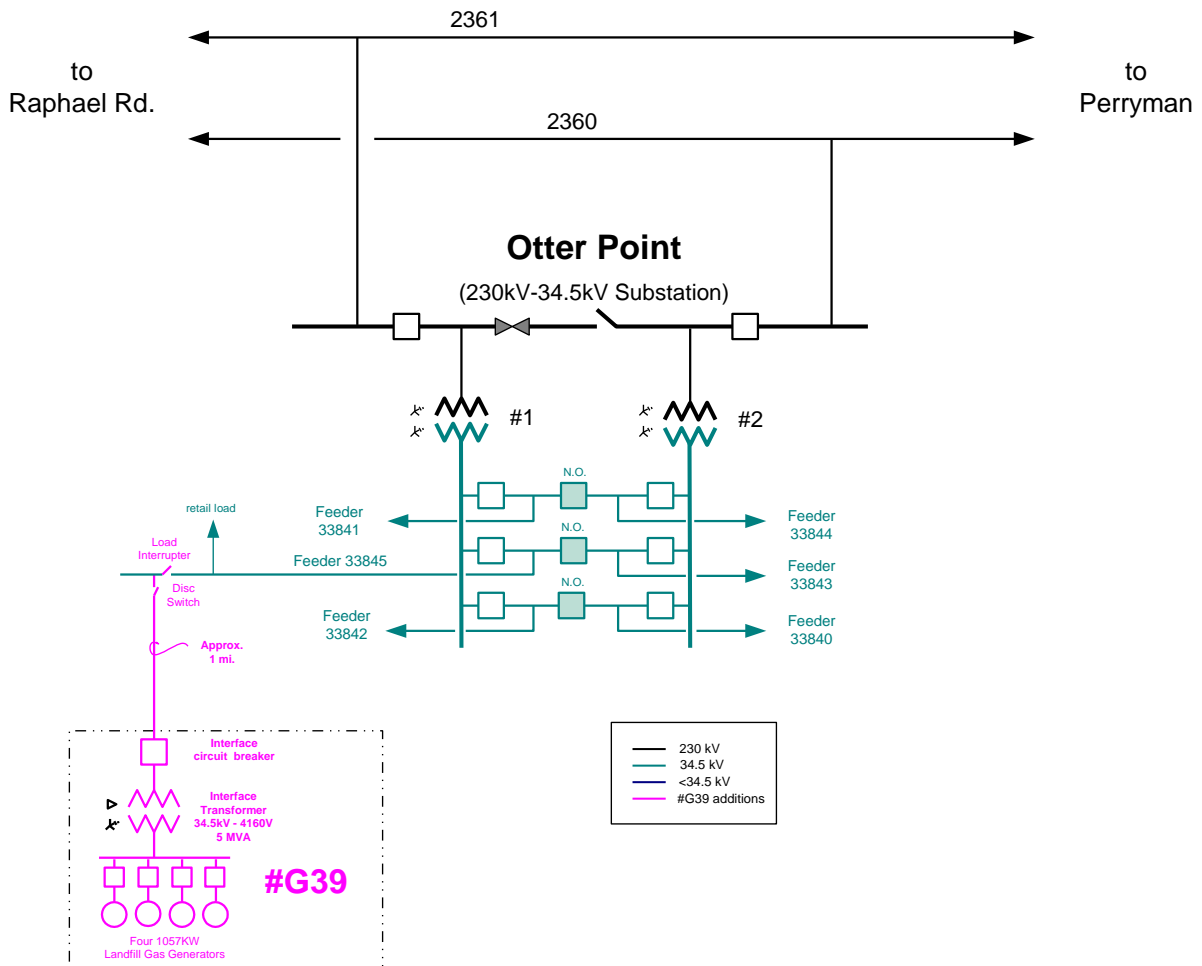
September 2001
DMS# 153426

General

Generator Interconnection Request #G39 is a Zapco Development 4.2 MW (summer capacity) generation project consisting of four 1057 KW landfill gas engine generators. The new generation will be installed at the Eastern Sanitary Landfill, Whitemarsh, Baltimore County, Maryland. Project #G39 is scheduled for commercial operation by June 1, 2002.

Direct Connection Requirements

Project #G39 can be connected to 34.5kV feeder 33845 as shown on the one line diagram below.



This option involves tapping Otter Point 33845 Feeder at Route 40 and Days Cove Road and installing approximately 1-mile of 336.4 ACSR overhead conductor down Days Cove Road to the entrance of the landfill. All poles on Days Cove Road from Route 40 (poles on which Joppatowne 7073 feeder tap are routed) will need to be replaced with taller

poles. Also, one set of sectionalizing disconnects and load break switches will be required. (see cost estimate below)

The Direct Connection facilities can be constructed by the scheduled June 2002 commercial date for project #G39

Cost Estimate for Connection to 34.5 kV Feeder 33845

	Quantity	Contract	Materials	Labor	Sub Total	S & E(20%)	FRINGE(40.5%)	Sub Total	CIAC(35.3%)	Loaded Total
Generator Metering	1		\$18,346	\$1,557	\$19,903	\$3,981	\$631	\$24,514	\$8,654	\$33,168
DA Equipment	1		\$6,000	\$3,500	\$9,500	\$1,900	\$1,418	\$12,818	\$4,525	\$17,342
Power Quality Metering	1		\$13,000	\$800	\$13,800	\$2,760	\$324	\$16,884	\$5,960	\$22,844
Transfer Trip Terminal Equip.			\$5,000	\$5,000	\$10,000	\$2,000	\$2,025	\$14,025	\$4,951	\$18,976
Spread Spectrum Radio *			\$40,000	\$20,000	\$60,000	\$12,000	\$8,100	\$80,100	\$28,275	\$108,375
Distribution Upgrade Costs		\$200,000			\$200,000	\$40,000		\$240,000	\$84,720	\$324,720
Engineering Design				\$15,000	\$15,000	\$3,000	\$6,075	\$24,075	\$8,498	\$32,573
Total Cost								\$412,416	\$145,583	\$557,998

* - Estimated, including costs for installation of antennae towers at customer site and Otter Point Substation

Project #G39 developer did not provide the exact location of the landfill gas generation plant or a one line diagram for the proposed installation. Thus, the cost estimate may need to be re-examined after this information is obtained.

Network Impacts

The system, as planned, was evaluated for compliance with reliability criteria. **The #G39 Joppatowne project was studied as 4.2 MW capacity.** The results are summarized below.

Normal System

No problem identified.

Multiple Facility Contingency – Tower Line Outages (MAAC Criteria IIC)

No problem identified.

Generator Deliverability

No problem identified.

Short Circuit Analysis

No problem identified.

Reinforcement Requirements

None.