

METRO ENERGY SOLUTIONS

Bergen County Utilities Authority



Project: Cogeneration Project
Cogeneration Plant Size: 3000kW
Project Cost: \$11.2 Million
Energy Savings: \$26.85 Million
(over 25 yrs)

The Bergen County Utilities Authority (“BCUA”) is a secondary biological wastewater treatment plant with a current process design capacity of 109 MGD located in Little Ferry, New Jersey. The facility has five (5) anaerobic digesters for the primary and secondary sludge. These digesters produce one (1) million scfd of biogas (digester gas). In addition to the digesters, there is a sludge storage tank, which produces approximately 127,000 scfd of additional biogas.

Metro Energy completed the preliminary and conceptual design for the cogeneration plant, assisted the BCUA through a RFP process in selecting a contractor and oversaw the installation of the plant as the construction manager for the BCUA.

Metro Energy Solutions evaluated a number of different options for a cogeneration installation for the plant utilizing excess biogas to generate electricity to offset power that is currently purchased to operate the facility. Electric power usage at the facility averages 3200 kW. Based on the electric and thermal loads at the site and the amount of biogas available, Metro Energy analysis provided for the installation of two engine generator sets, each rated at 1500 kW. The engines operate primarily on biogas. Natural gas is used as a supplementary fuel since the supply of biogas is insufficient to meet all of the needs of the plant. Maximum recovery is made of the waste heat from the engines. The new cogeneration plant operates in parallel with the local utility grid which in addition to energy savings provides a more reliable source of power.

The cogeneration plant will save approximately \$26 million over the course of running the plant for 25 years. The plant was commissioned in June 2008 and is currently providing electric and thermal energy to the waste water treatment plant.

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