

Powering the Global Energy Demand

Bay View Wastewater Treatment Plant

Owner/Operator: City of Toledo
Division of Water Reclamation
Location: Toledo, Ohio
Engineering and Design:
Middough
Installed: 2010

The Bay View Wastewater Treatment Plant in Toledo, Ohio, processes over 2.5 million gallons of liquid waste per hour. Before completion of the new on-site power generation facility, the treatment plant had been getting electricity from a 10 MW substation, with no back up plan in case of an extended power outage. Since having the system offline for any length of time could have terrible environmental consequences and result in fines, the City of Toledo's Division of Water Reclamation (DWR) decided to install an on-site combined heat and power (CHP) generation station to improve reliability, lower electricity costs, and to reduce emissions from city operations.

The wastewater treatment plant produces flammable gas as a byproduct of its solid waste digestion process and is only two miles away from the Hoffman Road Landfill, which produces large quantities of natural methane. To take advantage of this source of previously flared gas, the decision was made to construct a facility that could run on landfill methane



gas, digester gas, commercially sourced natural gas, or any combination of the three.

After closely evaluating the options, the DWR selected Solar Turbines to provide a 6 MW *Taurus*™ 60 gas turbine generator set, steam turbine, and a heat recovery steam generator to provide heat to the wastewater facility and nearby buildings, further lowering the overall energy cost of the plant. Solar was also selected to provide operation and maintenance of the plant under a long-term service contract. Remote monitoring and diagnostics from Solar's headquarters in San Diego provides high value diagnostics and early detection of adverse conditions and trends, assuring maximum production without interruption.

The Bay View CHP facility has received three prestigious recognitions: the Environmental Protection Agency's Landfill Methane Outreach Program's 2010 Project of the Year, the Association of Energy Engineers International Innovation in

Cogeneration and Renewable Energy; and the Combined Cycle Journal's 2010 Pacesetter Plant Award.

In more than 1,600 CHP installations worldwide, *Solar*® gas turbines generate clean electrical power from natural gas while simultaneously producing useful thermal energy tailored to meet your needs for heating cooling and processes steam. Our combined heat and power packages are specifically designed to limit the impact on the environment, protect people who operate the equipment, and respect people who live nearby. Due to their exceptional overall efficiency, *Solar* gas turbines can provide significant reductions in greenhouse gas emissions by displacing power and heat from more traditional and carbon-intensive sources while at the same time maintaining very low pollutant emissions levels.

For more information contact:
Solar Turbines Incorporated
Telephone: +1 619 544 5352
Email: powergen@solarturbines.com
Web: www.solarturbines.com