

Landia Chopper Pumps are a safe bet for FCPC Renewable Generation, LLC at Biodigester Plant

By Landia Ltd | 15-12-2016

Ten Landia Chopper Pumps in Milwaukee are playing a vital role in the success of the FCPC Renewable Generation, LLC's ("FCPC RG, LLC") Biodigester Plant. Greenfire Management Services, LLC managed the development of the facility for FCPC RG, LLC, which is operated under contract by Natural Systems Utilities (NSU).

Designed with an external knife system to prevent large solids from entering the casings, the Landia chopper pumps handle incoming food waste at the \$18.5M biogas project, which supports the FCPC's goal of using renewable, carbon-neutral resources to become energy self-sufficient.

Located adjacent to the FCPC's Potawatomi Hotel and Casino in the Menomonee Valley, the plant treats up to 120,000 gallons per day of high strength wastes, producing up to 2MW of

electricity (enough to power 1,500 homes). The Landia chopper pumps work 24/7 to handle a wide variety of solid and liquid waste from numerous local food and beverage manufacturers. Generating 7.7 million BTU (British Thermal Unit) per hour of heat, excess amounts are also utilised to provide hot water for the two anaerobic digesters, as well as the hotel.

Christopher Winkowski, Plant Manager for Natural Systems Utilities, said: "As part of our ongoing commitment to focus on sustainable model opportunities, we very much require top quality, long-lasting equipment. Landia's chopper pumps are proving extremely reliable and blockage-free. The pumps are capable of handling all types of food waste which, more often than not, has aggressively low pH levels, which corrode pumps that aren't up to the job".

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Forest County Potawatomi Community was awarded a \$2.5M grant from the U S Department of Energy for this biogas plant, plus solar installation at the tribe's administration building in Milwaukee and renewable energy projects on the tribe's reservation in northern Wisconsin.

All feedstock handling at the Milwaukee plant takes place in an enclosed, negative-air-pressure environment to stop odors being released. Silencers on the two internal combustion engines have also been included to reduce noise.

Engineered by Symbiont of Milwaukee and constructed by Miron Construction of Neenah, Wisconsin, the Veolia-Biothane anaerobic bioreactors process food waste in tanks devoid

of oxygen. Bacteria consume the waste and produce methane, which is then extracted and combusted in the engine generators to create electricity. The electricity is sent to the grid and purchased by We Energies, a Wisconsin electric service provider. By diverting waste from landfills and wastewater treatment plants, the biogas facility is mitigating up to 87,000 metric tons of greenhouse gas emissions annually (data source from US Department of Energy).

NSU operates over 150 wastewater and biogas systems and owns 24 private wastewater facilities. The company is developing over a dozen anaerobic digestion/renewable energy projects throughout the Midwest.

Natural Systems Utilities and Greenfire Management Services, like Landia, are members of the American Biogas Council, which works to promote the environmentally friendly process of anaerobic digestion and the use of biogas as a renewable energy source. Landia's chopper pumps and mixing solutions are used extensively for sludge and food waste processing in biogas plants across the world.



Left: William Radue (Operator/lab technician) from Natural Systems Utilities (NSU), with Local Landia sales rep, John Lyne.