



Compressor Room

Project Owner and Location

Granger Energy, LLC
Lansing, Michigan

Firm's Responsibility

Compression System Design
Office HVAC and Utility Design
3-D Modeling

GHG Savings Equivalency

87,000 passenger vehicles/year

Completion Date

2009



Many people see Conestoga Landfill, near Morgantown, Pennsylvania, as a big pile of trash. However, Granger Energy saw it as a big source of potential. With ThermalTech's help, Granger was able to convert 7,500 cubic feet/min of waste landfill gas, which was previously being flared off as waste gas, into the largest multi-customer landfill gas utilization project in the U.S. Thanks to Granger's vision, this "waste" gas now powers 25 boilers, four hot oil heaters, four ovens, three indirect fired heaters, two process water heaters, two remote thermal oxidizers, one space heater, and two rooftop building heaters for seven separate customers.

ThermalTech worked with Granger engineers and equipment suppliers to design the landfill gas treatment and compression system, as well as the power generation, building HVAC, and utility systems for the associated facilities. The methane treatment and compression system incorporated scrubbers, eleven 1,500 SCFM compressors, aftercoolers, separators, dryers, and various piping and control systems.

The entire piping system was designed and analyzed using a 3-dimensional modeling package developed by ThermalTech. This package enabled ThermalTech to use "smart" P&ID drawings and equipment schedules, which were used to purchase all major equipment components, instrumentation, and valves.

The annual reduction of greenhouse gases attributable to this project is the equivalent of removing nearly 87,000 passenger vehicles from the road per year, or preserving over 107,000 acres of forest. In addition, the annual energy savings from the power generated by this project equate to powering nearly 14,000 average homes.

This was such a successful endeavor that the Conestoga Landfill Gas Recovery Project was recognized as the 2008 Landfill Methane Outreach Program (LMOP) Project of the Year, a prestigious honor awarded annually by the Environmental Protection Agency.



Main Control Room



Coalescing Filter and Dryer