

March 04, 2009

HTI Turkey-Waste Gasification Project Moving Ahead in Michigan

Michigan-based gasification technology supplier Heat Transfer International (HTI) confirmed to Gasification News last week that a \$3 million project to gasify turkey wastes from the Sietsema Farm Feeds facility (at Howard City, Mich.) aims to start-up in August.

“We convert biosolids and semi-biosolids into a synthesis gas, then combust the synthesis gas in a separate chamber called a ‘Low-NOx Oxidizer,’ then use that heat to make a commodity, such as steam, power, hot air, hot water and chilled water,” HTI business development manager Patrick Dickinson told us.

“Rather than cleaning up the syngas to be used as the ‘gas source,’ we prefer to combust the syngas and use the heat – approximately 1800°F - 2000°F – which can be used in a waste heater boiler, or a biomass turbine that uses clean hot air, which is capable of producing 500 KWH per turbine module. And yes, we possibly can use a Stirling engine also.”

HTI is also the supplier of the gasification technology for the proposed Recovered Energy Resources (RER) municipal solid waste gasification project for three counties in Michigan (see GN 2/18/09).

As noted in a report from the Grand Rapids (Mich.) Press last week, the HTI plant will process manure from some 1.3 million turkeys to produce syngas for power.

The plant will get a 15-year tax break thanks to its construction in a special “Renewable Energy Renaissance Recovery Zone,” the report said.

“At Sietsema Farm Feeds, the steam created using gasification will be used in feed production, while turbines hooked to generators will create the plant’s power,” the report said.

In October 2007, the U.S. Department of Agriculture awarded Sietsema Farms Feeds a \$500,000 grant and \$700,750 loan guarantee to construct the renewable energy project, the report said.

As HTI explained to us, the plant will produce 500-KW of power from a biomass turbine and 8,500 lbs./hour of steam will be provided for feed manufacture.

The \$3 million plant cost estimate doesn’t include Sietsema’s cost for a new building that will house the gasification facilities.

Two trucks per day will deliver turkey litter to the gasification plant adjacent to the feed mill. “The airflow in the new building was engineered to move from the outdoors in, and all odors will be eliminated in the gasification process,” Dickinson said.

Michigan Dept. of Environmental Quality approved the plant’s air permit in November 2008, “and all emissions are well below any major threshold limits without any air pollution control systems” required, he said.

– Jack Peckham