



Howard City farm's new plant converts turkey waste into power

Published: Friday, October 23, 2009, 7:13 PM Updated: Tuesday, October 27, 2009, 5:55 PM



By **Ron Cammel | The Grand Rapids Press**



Octavian Cantilli | The Grand Rapids

PressHarley Sietsema, center, who owns Sietsema Farms, pushes the button to turn on a new biomass system that turns turkey waste into electricity Friday. HOWARD CITY -- **Sietsema Farms Inc.** will stop sending more than \$500,000 a year out of state to burn fossil fuels. Its new \$3 million plant will also settle issues in containing the waste of 1.5 million turkeys.

Hundreds gathered Friday to witness the startup of new technology that will turn 70,000 pounds of turkey litter a day into electricity and steam for a grain mill that prepares feed for the birds.

"Our objective is to look down the road and try to see where we need to be and where agriculture needs to be," said Harley Sietsema, owner of the Allendale Township-based business that has five turkey operations in West Michigan.

The 15,000-square-foot plant on Lake Montcalm Road can generate 500 kilowatts of electricity, enough to power 400 homes, said Dave Prouty, president of Heat Transfer International, which built the generator.

The technology comes from Bob Graham, who for 50 years has custom-designed power generation systems worldwide for businesses such as Midland-based Dow Chemical Co.

He merged his Sanford-based S&H Combustion with HTI, of Kentwood, as he developed the new system that generates power without water discharges or air emissions.

The resulting solid waste -- ash that's a 10th the weight of the original manure -- can be used for fertilizer or other products, he said.

Called a starved-air, low-temperature biomass gasification system, the plant heats manure to 600 degrees, creating a gas then oxidized and "glows like the sun" at 2,000 degrees, said Prouty.

That energy does two things: It turns water into steam that softens the grains in the mill; and it sends hot, clean air into a turbine to make electricity.

Prouty said the system is unique because typical generators use dangerous high-pressured steam.

Most industrial-scale generators are made very large to be worthwhile, but this "middle ground" system is good for smaller businesses, he said.

The making of the system created hundreds of jobs in Michigan, Prouty said.

It also used a \$200,000 state grant, a \$500,000 federal grant and help from The Right Place, an economic development agency based in Grand Rapids.

"This is the kind of project we need a lot more of," said Jim Turner, of U.S. Department of Agriculture Rural Development. "We're looking for communities, banks and companies to do business with, to do more projects like these."

Prouty said he could have 10 more similar plants "ready to roll" when banks solve their financing problems from the recession.

E-mail the author of this story: localnews@grpress.com

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