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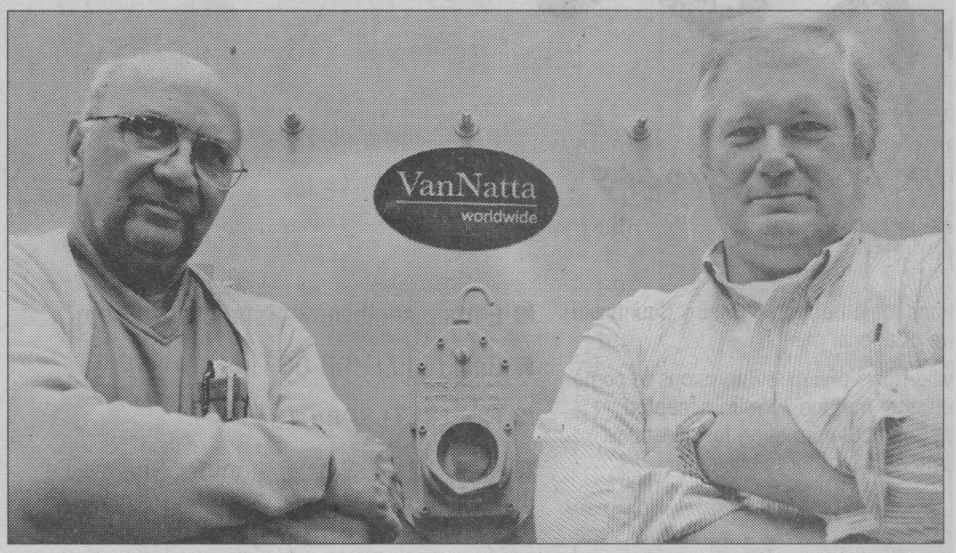
BUSINESS



Submitted photo

Ren Jhala, left, owner of Thermo Transfer Inc., and Jim VanNatta, chairman and CEO of VanNatta WorldWide, pose in front of the V-3 Thermal Vortex Unit built in Shelbyville at Thermo Transfer.

Local company aims to reduce waste, produce clean energy

By ANDY PROFFET
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Forty-some years ago, landfills didn't pose the environmental concern they pose today. So the concept of converting waste to technology didn't have the immediacy it does today.

But the idea was there, and Jim VanNatta and others are working to make it a reality.

The Thermal Vortex System was essentially created over 40 years ago here in Shelbyville. Six years ago, VanNatta brought it back.

"Back in July 2008, I had started an alternative energy company, and I was starting to work with municipalities on their energy policies for things like wind and solar and compressed natural gas for their public vehicles," VanNatta said. "I called my dad and said, 'Hey, we

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need to resurrect the vortex unit.' Because it puts off so much heat. And the next phase back then was to tie it in to this energy recovery process. He said, 'No, no, stick with the CNG and the wind and the solar, that's what everybody's doing.'

"Well, thank God I'm stubborn, I called back a week later and said, 'We've got to do this thing.' He said OK, gave me Bob Hasselbring's number."

Hasselbring was the inventor of the technology, at General Electric. VanNatta's father was Ralph VanNatta, Shelbyville's mayor at the time of Hasselbring's creation.

"They started putting some things together. Dad went out and applied for a federal demonstration grant, received the money, and they worked closely with GE, built a facility. It was fully tested and approved by the EPA at that time," VanNatta said.

"At that time, it was just decided inside the corporation to put it all on hold because they didn't think it was necessary at that time. That many years ago, landfills were everywhere. And now we have a severe problem."

The Thermal Vortex System is essentially a tornado of fire, burning anywhere from 1,800 to 2,200 degrees and spinning at 90 mph. Waste material is shredded, forced into the chamber and burned by the intense heat.

As the waste material burns in full suspension inside the vortex of fire, it becomes its own fuel, allowing the external fuel source to be shut off. The waste material is mixed with controlled amounts of air to achieve complete and perfect combustion.

"Because we don't let the waste material sit and smolder, we don't produce harmful emissions like the smoke and fly ash," VanNatta said.

A clean method of disposing of waste and a clean method of producing energy.

"In fact, one of the things we can do with this is that we can do what's called landfill reclamation," he said. "Currently, when they do landfill reclamation, they go in and they dig up the materials, they shred it, they chemically neutralize it, and they pretty much just rebury it. And all that does is kind of reduce the size. Once you do that, you still can't build any infrastructure on it, you can only do a golf course or a playground or something like that.

"With ours, we dig it up, we shred it, we don't need to chemically neutralize it, we'll burn it, and we'll actually destroy 99.98 percent of the original combustible material. Everything that's left over after that can be separated out, then clean fresh fill is put in. ... We could effectively eliminate the need for landfills."

VanNatta Worldwide plans to work with developers to make the system available to small municipalities, its target market.

"We won't actually be selling directly to the municipalities," VanNatta said. "Obviously very tough economic times for many, many years. Most small communities don't have the kind of money it would take to be able to solve something like this, so we're working through the private sector. We work with what's called developers or owner-operators of the facilities."

Among the communities in the pipeline: the town of Caliente, Nev., and a coal mine in central Illinois. VanNatta said the company also has orders from Poland and Guam.

While the company won't employ a huge number of people in Shelbyville, because the process doesn't require a lot of employees, VanNatta wanted the company based here because of its influence on the vortex technology's origins.

"This is where the mindset was, this is where the knowledge base was," he said. "Probably the most important thing it does for Shelbyville is bring the recognition, a way to tout what originated here."

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