

Mount Ayr company looks for wind market niche

BY TERRI QUECK-MATZIE

Charles Sharp, CEO of Heartland Energy Solutions figures there's a niche for mid-sized turbines and his Mount Ayr company can fill it.

Everything about Heartland is right down the middle. It plans to manufacture mid-sized turbines for mid-sized winds for mid-sized enterprises.

The "Freedom" turbine is 160 feet tall, has a blade span of 95 feet and produces 100 kilowatts of electricity. It reaches maximum efficiency in winds of 5-18.5 miles per hour.

That's a very different machine than the larger versions found dotting the Iowa landscape. The larger turbines used by major utility companies are 200-300 feet tall with blades 65 to 130 feet long and produce 200 to 300 megawatts of power. They reach maximum efficiency in very high winds.

But large-scale wind production doesn't serve all needs, Sharp said.

"We're looking to fill a need for a smaller, more user-friendly turbine," says Heartland Director of Strategic Planning and Alliances Patrick Ramsey. "There are many areas of the world that can utilize such a thing. Iowa

is only the beginning."

The Freedom turbine is designed specifically for smaller projects.

It can be shipped by commercial truck over typical rural roads and bridges. Local people can be trained to maintain and service the unit.

Heartland intends to present the product in a turn-key package, with installation, monitoring and service provided. Larger and more powerful than the 2 to 10 kilowatt version marketed for individual use, it has great potential for mid-sized industrial applications.

It is also designed for Iowa weather. Each blade runs independently to react to the wind, and the entire unit can revolve according to wind direction. Internal heating and cooling elements protect the turbine from Midwest weather extremes. The unit automatically shuts off at wind speeds in excess of 55 mph so as not to harm the turbine.

New product, new approach

Even the manufacturing process at Heartland Energy Solutions is unique. The plant will utilize a zone manufacturing technique, rather than the more popular assembly line. Teams of cross-trained workers



Larry Preston, director of electrical engineering at Heartland Energy Solutions, unloads materials at the company's plant in Mount Ayr. PHOTO/TERRI QUECK-MATZIE

will assemble each unit from start to finish, encouraging pride in the total project, and enabling each team to be eligible for motivational incentives.

The Heartland team hopes to have a prototype erected and functioning by November, with production to begin shortly thereafter. "The anticipation is killing us," Sharp said.

The Freedom turbine is not only a different machine than those used by mainline utilities, it is aimed at a different market. Sharp says the company's target audience is local utilities, colleges and universities, prisons, schools, airports and the like.

One customer is Farmer's Rural Electric Cooperative (REC) in Greenfield. (Please see article on page 6.)

Heartland is also discussing possibili-

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