



**“DMI is really on top of the ball as far as keeping the job going in a timely and safe manner.”**

**Avery Blanton**  
Penpower Installation Lead

## **DMI Responds Immediately to Help GE Energy Avoid Costly Installation Delay**

### **Customer Profile**

General Electric Energy is one of the world’s leading suppliers of power generation and energy delivery technology. Based in Atlanta, Ga., the company provides equipment, service and management solutions across the power generation, oil and gas, transmission and distribution, distributed power and energy rental industries. It designs and produces wind turbines ranging from 1.5 to 3.6 megawatts and advanced wind turbine blades. GE Energy has approximately 7,000 turbines installed worldwide comprising more than 5,600 megawatts of capacity. Penpower is a GE Energy subsidiary that handles installations.

### **Situation**

In January 2006, GE Energy was in the process of erecting wind towers on the 4,000-acre Wolverine Creek Wind Farm 10 miles southeast of Idaho Falls, Idaho. The 64.5-mw installed capacity project consists of 43 80-meter towers supporting GE 1.5-megawatt turbines. DMI manufactured and delivered 36 of the 43 towers for the project. The project developer is Invenergy Wind, and PacifiCorp is purchasing the power, which provides electricity to approximately 17,500 Utah Power residential customers.

### **Critical Issue**

Technicians discovered a bolt had twisted off underneath a dampener platform in a top section. The section was scheduled for installation the next day.

“It really would have created a monster if we had flown this thing the way it was, because the problem was below the deck and almost 180 degrees away from the ladder so it couldn’t be reached. If we would have had to bypass that tower, it would have meant another tear-down to get to it,” said Blanton. “The job required extensive knowledge and proper tooling to remove and replace the bolt while the section was still on the ground.”

### **Big-Time Delivery**

Blanton contacted DMI at 5:30 p.m. to report the problem and spoke to Dave Sweere, DMI field service representative.

Sweere assured Blanton that he would arrive the next morning. “I’ve been in business myself, so I’ve been the customer and I know the stress that’s involved with these kinds of situations,” Sweere said. “My goal is to take care of DMI’s customers the same way I’d like to be taken care of. When they have a question or problem, they need an answer or a solution right away.”

At 7 p.m. Sweere was on the road in the DMI service truck, which is fully equipped and stocked with tools, a welder, a generator, an air compressor – anything that might be needed up to handle service needs on a site. By 11 a.m. Idaho time the next day – less than 18 hours after receiving the call and more than 1,000 miles later – Sweere was on the job.

### **Results**

Within two hours the problem was corrected, the section was ready to install, and GE Energy was able to avoid a costly delay. “On the job site, things come in to play that you can’t foresee, and the people at DMI always seem to go out of their way to accommodate the job,” said Blanton. “The way Dave got on top of the situation and handled it really went a long way toward getting the job done on time. That’s the kind of response I get from DMI.”



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**“DMI delivers,  
in every sense of the word.  
They build quality towers,  
and working with them  
eliminates a lot of headaches.”**

**Brad Adams**  
Director of Project Development  
Whitewater Energy Corp.

**President**  
Whitewater Wind Energy, Inc.

## **DMI Engineers Less Expensive Wind Tower Solution for Whitewater Energy**

### **Company Profile**

Whitewater Energy Corp., Torrance, Calif., has been developing and managing wind energy projects in Southern California since 1982. Whitewater Energy's sister company, San Gorgonio Farms, Inc., manages its projects and is one of the founders of the California Wind Energy Association. Whitewater Energy has developed wind energy projects that are capable of generating over 145 megawatts of electricity. San Gorgonio Farms currently manages two of its projects – Whitewater Hill near Whitewater, Calif., and Karen Avenue in North Palm Springs, Calif. – with 224 turbines capable of generating 43 megawatts. The company helps meet California's power needs with 100-130 million kilowatts of power per year.

### **Situation**

In 2003, Whitewater was planning to add three 1.5 megawatt turbines to its Karen Avenue facility. The towers needed to support megawatt-class turbines with rotors a little more than 231 feet in diameter.

### **Critical Issues**

The maximum height of structures allowed within North Palm Springs city limits is 300 feet. A standard tower height is 65 meters, or 214.5 feet. When added to rotor diameter, turbine height and base height, the towers would be too tall. Whitewater had re-engineered a tower design for the lower height, and included those specifications when it let bids for the project. In addition, Whitewater set an aggressive deadline for project completion.

## Big-Time Delivery

When DMI engineers reviewed the specs, they realized there was a better way that would save both material consumption and production hours. Instead of using the weld seam locations as designed, the DMI change called for fewer cans and alternative weld seam locations. The new layout not only met the height restriction, but also significantly cut down on waste material and welding time. DMI's flexible equipment and facility made production with the new design possible. DMI also promised an eight-week delivery time, much more aggressive than any of its competitors.

"DMI was not the lowest bidder, but they could provide us the towers the soonest," said Brad Adams, Whitewater's director of project development. "They also saved us money by engineering the tower further. That wouldn't have occurred if they had followed the original specifications."

DMI delivered the towers within eight weeks, as promised. The only hiccup in the process, which came in the 11<sup>th</sup> hour, involved internal wiring from a third-party contractor. DMI quickly stepped up to the plate and found an alternative supply option to keep the project on schedule, all at no cost to Whitewater.

## Results

Whitewater had the towers installed on time and was able to meet its power-generation obligations. The experience was so positive that the company now includes DMI on its bidder list for new projects.

"The quality of DMI's towers is excellent, and the fact that they were delivered on time was very important, due to the costs associated with construction delays and lost revenue," said Adams. "In the future, even if DMI's bid comes in slightly higher, we might go with them anyway."



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**“You can see it for miles,  
and the huge word, ‘STUART,’  
is just outstanding.”**



**Doug Christensen**  
Superintendent  
Stuart Municipal Utilities

## **DMI Delivers One-Off Logo Application for Stuart, Iowa**

### **Customer Profile**

Stuart, Iowa is a city of 1,712 people located 30 miles west of Des Moines and 100 miles east of Omaha, Neb. In 2003, the city-owned utility, Stuart Municipal Utilities, launched “Green City Energy,” a new program for developing renewable energy sources for the city.

### **Situation**

A centerpiece of Stuart’s Green City Energy project was a utility-scale wind turbine in the city. The cost of purchasing and erecting the tower and turbine was approximately \$805,000, and the City of Stuart received a grant from the Iowa Department of Economic Development to cover half of that. In addition, the utility asked its customers to contribute funds. The renewable energy initiative became a point of pride for the city and its residents.

“We’re involved with wind energy because it’s good for the environment, the economy and our energy independence,” said Stuart Municipal Utilities Superintendent Doug Christensen. “With this wind turbine, we’re helping ensure a clean and sustainable legacy for our children and grandchildren.”

Stuart Municipal Utilities hired Vestas Wind Systems to manufacture and erect the 660-kilowatt V-47 turbine, and Vestas worked with DMI to fabricate the 65-meter tower and apply the logo. The city also requested that its logo, “STUART,” be applied on two sides of the tower.

## Critical Issues

Logo application is not common in the industry, and this was the first request for DMI. To get the job done, we needed to address several issues: how to keep the logo straight on a conical tower, how big to make the lettering, how to design the lettering on the tower wall, and how to apply the logo twice with consistency.

## Big-Time Delivery

DMI developed a new production plan to accommodate the one-off process while maintaining quality controls. Our engineering group determined the logo sizing, spacing and layout with input from Stuart Municipal Utilities. We consulted with a paint manufacturer regarding how to apply the paint to ensure it would not fade or peel from the exterior urethane paint system. To create a clean working environment, we closed down one of our bays in the cure building. Finally, we contracted with Whiplash Signs of West Fargo to complete the outlines and apply the two coats of paint.

## Results

DMI completed the project on budget and on time. Stuart's new tower arrived at the site in May 2005, and the turbine now provides up to 13 percent of the city's electricity. The Stuart wind tower has become a source of pride for the community and a landmark for miles around.

"People are just amazed at how good it looks," said Christensen. "They're saying positive things about the logo on the tower, which is a real benefit to our community."



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