

# MANUFACTURING

*Production • Fabrication • Components • Supply Chain • Materials • Tooling • Machinery*

## GE BREAKS GROUND ON ADVANCED MANUFACTURING WORKS

*\$400 million facility intended to strengthen Power & Water segment's technical capabilities and drive innovation in manufacturing processes*



General Electric today announced the construction of a new state-of-the-art Power & Water advanced manufacturing facility to be built in Greenville, SC. GE plans to invest \$400 million over the next ten years in Greenville to expand the company's advanced manufacturing capabilities. The new Advanced Manufacturing Works is expected to open in 2015 and create more than 80 jobs.

GE Power & Water President and CEO Steve Bolze, South Carolina Governor Nikki Haley, Senator Lindsey Graham, Senator Tim Scott and Greenville County Council Chairman Dr. Bob Taylor attended a ceremonial groundbreaking at the current GE Greenville Manufacturing site where the new facility will be co-located.

This will be GE Power & Water's first advanced manufacturing facility. The facility will serve as an incubator for innovative advanced manufacturing process development and rapid prototyping for the Power & Water businesses, including wind turbines, heavy duty gas engines, distributed power gas engines, nuclear power services and water processing. By developing new techniques and production processes at the new facility, the GE Power & Water business will be able to design, test, iterate and bring its products to market for customers quicker than ever.

"Greenville serves as the ideal location for the Power & Water advanced manufacturing site. Here we will be able to deliver even more innovative breakthrough products and services, work better with each other and

our customers, and bring best-in-class technologies to market quicker," GE Power & Water President and CEO Steve Bolze commented. "GE thanks Governor Haley, Senator Graham, Senator Scott and Council Chairman Taylor for their hard work and their continued partnership which made today possible."

GE started in Greenville more than 40 years ago with a 340,000 sq. ft. site. The site has since grown into more than 1.5 million square feet of factory and offices, manufacturing products for customers worldwide. GE has more than 3,000 employees in Greenville and, in the past five years, has invested more than \$500 million to bolster critical manufacturing activities housed on the GE Power & Water campus. The company has established valuable relationships with local community schools, universities and technical programs to develop new technologies and create a system to support those who are passionate about growing with the industry.

South Carolina Governor Nikki Haley said, "The Greenville community has a long standing relationship with GE, and it welcomes the new GE Power & Water Advanced Manufacturing Works facility. Manufacturing innovation is integral to economic progression and I am delighted that South Carolina has the infrastructure and skilled workforce that enables GE to shape the future of work."

"Today's Advanced Manufacturing Works facility groundbreaking is an exciting day for South Carolina and Greenville," said Senator Lindsey Graham. "GE's continued development in the state demonstrates that South Carolina is a great place for business and we will continue to lead in the development of innovative solutions that solve today's toughest challenges."

"Today's announcement builds on a well-established relationship between Greenville and General Electric," Senator Tim Scott said. "The Upstate continues to be at the epicenter of South Carolina's manufacturing renaissance, as our state is home to a well-trained workforce that is eager to produce world-class products. GE's commitment is a great sign for the future of our state's economy."

— Source: GE Power & Water

## Black oxide coated bearings by SKF promote turbine reliability and performance

SKF black oxide bearings add a surface layer of protection to promote higher reliability and performance for wind turbines. The coating can be specified for all types of critical bearings in wind turbine systems to help promote higher reliability against widely varying temperatures, speeds, and loads and to resist contaminants, moisture, and chemicals that otherwise could limit bearing lifecycles and increase costs of turbine operation and maintenance. The coated bearings can be introduced into new installations or serve as replacement upgrades.

Black oxide bearings ultimately can increase turbine uptime by enhancing resistance to corrosion and smearing; improving performance in low-lubrication conditions; limiting risk of fretting, micropitting, and cracking; reducing potential damage from aggressive oil additives; and reducing the effects of friction and wear.

The black oxidation surface treatment is applied to a bearing's rings and/or rollers. The process — involving a chemical reaction at the surface layer of the bearing steel — is performed in an alkaline aqueous salt solution at defined temperatures. Up to 15 different immersion steps create a thin, dark black surface layer delivering a significant performance up-



grade for the broad range of bearing types and sizes in wind turbines (up to 2.2m in diameter and up to 1,000 kg per individual bearing component).

Suitable bearing types for the coating include tapered roller bearings, cylindrical roller bearings, spherical roller bearings, and CARB toroidal roller bearings, among others playing vital roles in wind turbine systems.

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## Women of Wind Energy is thrilled to announce the 2014 Rudd Mayer Fellows.

WoWE welcomes to Las Vegas six outstanding women as the 2014 Rudd Mayer Fellows, wishing them great success in the renewable energy field.

**Tanzila Ahmed**  
Kansas State University  
Electrical Engineering

**Allie Brown**  
University of Georgia  
Anthropology

**Kalie Brunton**  
Columbia Gorge Community College  
Renewable Energy Technology

**Kaitlyn Bunker**  
Michigan Technological University  
Electrical Engineering

**Melissa Showers**  
Massachusetts Institute of Technology  
Mechanical Engineering

**Huiyi Zhang**  
Iowa State University  
Wind Energy Science, Engineering, and Policy

Is your company on the sponsor list? Email [giving@womenofwindenergy.org](mailto:giving@womenofwindenergy.org) for more information.

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