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Contact: T. Arnold (Arn) Boezaart, (616) 331-6901, Director, MAREC

GVSU / MAREC Receives Approval to Launch Offshore Lake Michigan Wind Assessment Study
New technology to provide first-time approach to research

MUSKEGON, Mich. — Grand Valley State University's Michigan Alternative and Renewable Energy Center (MAREC) has received federal approval to proceed with the purchase of an offshore research platform that will allow a ground breaking Great Lakes wind assessment research project to move forward. The university has selected a vendor and has awarded a purchase order for an offshore research buoy. The project will deploy state-of-the-art laser wind sensing technology along with other instrumentation that will be mounted on a floating buoy / research platform Manufactured by AXYS Technologies, Inc. of Sidney, British Columbia.

The buoy, called WindSentinel, is scheduled for deployment on Lake Michigan in early September. It will come equipped with a Vindicator laser wind sensor manufactured by Catch the Wind of Virginia. This will be the first time that laser wind sensing technology will be used on a floating platform to measure offshore wind resources.

"This is the first time this advanced technology will be deployed on the Great Lakes," said Arn Boezaart, director of MAREC. "The WindSentinel will provide extended season, real-time in-the-water data using the most advanced wind testing equipment. The flexibility and mobility of the buoy and significant cost and time savings compared to constructing a meteorological (met) tower with traditional anemometer instrumentation will provide a new level of highly mobile research capacity that is able to explore the potential of possible future offshore wind development on the Great Lakes."

This project was developed through a unique collaborative effort both in terms of research as well as funding. The research partners who will be working with GVSU MAREC and the Padnos College of Engineering and Computing include the University of Michigan and its Memorial Phoenix Energy Institute (MMPEI) and the Michigan Natural Features Inventory (MNFI) of Michigan State University Extension. "As we are entering the era of real applied use of alternative energy, this project will allow GVSU and its partners to make a notable contribution," said Charlie Standridge, Assistant Dean of the Padnos College of Engineering and Computing.

Funding for the project is being provided by a coalition consisting of the U.S. Department of Energy, the Michigan Public Service Commission, We Energies of Wisconsin and the Sierra Club.

Real-time data will be transmitted from the research buoy to a shore station where it will be evaluated and analyzed by researchers in Grand Valley's Padnos College of Engineering and Computing. From there the remote sensing data will be forwarded to researchers at the University of Michigan's Phoenix Energy Institute and MNFI for more comprehensive analysis and integrated assessment with a variety of research topics. Researchers at MMPEI will cover a variety of research topics including wind modeling, thermo fluid analysis, wind, wave and ice climatology. Work at MNFI will focus on bird and bat studies.

Effective April 1, James B. Edmonson will serve the project manager for the offshore wind assessment study. He brings a background in business planning, large-scale project management, geology, geography and spatial planning.

Background
The primary objective of the MAREC wind study assessment is to gain a better understanding of offshore wind energy, as well as other physical, biological and environmental conditions on the Great Lakes. The research will provide information for the future development of offshore wind energy technology. The project is a significant partnership between MAREC and the University of Michigan's Phoenix Energy Institute that flows from participation by both organizations on the Great Lakes Offshore Wind Council (GLOW) established by Governor Jennifer Granholm in late 2008.

In May of 2009 the project secured a $1.4 million grant from the U.S. DOE that was added to in early 2009 with a $1.3 million energy efficiency grant from the Michigan Public Service Commission. Subsequent funding needed to complete the project was provided by We Energies and the Sierra Club.

For more information, contact Arn Boezaart at (616) 331-6901 or Jim Edmonson at (231) 557-8543. Additional information about AXYS Technologies is available at www.axystechnologies.com. Information about the Vindicator wind sensing unit provided by Catch the Wind is available at www.catchthewindinc.com