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## DOE Offers \$6 Million for Research on Short-Term Wind Forecasts for Utility Grids

by Sylvia K. Burks and Benjamin A. Wiles

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*On June 1, 2010, the Department of Energy (DOE) issued a Funding Opportunity Announcement (FOA) that aims to improve short-term wind forecasting and research the effect of improved forecasts on utility operations. The DOE will provide \$2 million this year to the National Oceanic and Atmospheric Administration (NOAA) to fund its technical support of the selected projects and \$1 million to one or two competitively selected awardees. The DOE also anticipates providing an additional \$3 million in fiscal year 2011 to the NOAA and the recipient team(s) for completing the project.*

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Accuracy of commercial wind energy forecasting services is limited to a large degree by core meteorological and forecast products available from the NOAA National Weather Service, which to date has not focused on providing foundational meteorological information optimized for wind energy. This project seeks to research and test whether improved meteorological observations will provide more accurate wind forecasts that can be utilized within the public and private sectors to facilitate grid operations. The DOE anticipates a period of performance of 24 months, with observation and data assimilation and modeling to begin in early 2011 and continue for a 12-month period.

### Project Team

It is anticipated that the project team will consist of a public-private partnership between the recipient, the DOE and NOAA. Applicants are expected to bring various data capabilities and perspectives to the project, including access to necessary data and cooperation from wind power plants within a proposed project region, wind measurement equipment and data, power output conversion techniques and data, and the ability to determine the operational system benefits with use of new forecasts.

The proposed team membership must include involvement of or support from one or more electric power system Balancing Authorities (BA). The BA can be a public or private electric utility or electric power system operator (Regional Transmission Organization or Independent System Operator). The BA must be able to (i) support evaluation of the system operations benefits provided by improved forecasts and

(ii) determine economic savings attributable to such forecasts. The proposed team may include wind plant operators, owners, developers and manufacturers, wind forecasters, weather service providers, wind measurement instrument suppliers, regional academics and academic institutions, and others.

All domestic applicants are eligible to apply for this FOA, except 501(c)(4) nonprofit organizations that engaged in certain lobbying activities after December 31, 1995. The term “domestic applicant” is not defined, and whether U.S. affiliates of a foreign entity would be eligible would need to be confirmed. Some FOAs have considered U.S. subsidiaries of foreign companies to be “domestic applicants.”

### Required Project Elements

Projects must include the following components:

- **Sensor Deployment:** Surface and atmospheric profiling sensors will be deployed in a selected region to augment existing observations.
- **Test Data Collection/Assimilation:** Data from the sensors must be reliably collected for assimilation into the NOAA’s mesoscale weather forecasting model or used for model verification.
- **Wind Plant Power Output Prediction:** The test data produced from numerical weather prediction models will be used for predicting wind plant power generation and incorporated into electric power system operations.
- **Data Analysis and Evaluation:** Analyses will be conducted to quantify the effects of the added data on wind prediction accuracy, the ability to accurately identify magnitude and timing of “ramp events,” and power system operational efficiency benefits attributable to improved wind prediction.

### Application Process and Funding

**Submission Deadline.** Applications must be received by July 13, 2010, no later than 11:59 PM EDT.

**Cost Share.** The cost share must be at least 20% of the total allowable costs for research and development projects and must come from non-federal sources unless otherwise allowed by law.

**Awards.** The DOE anticipates making 1-2 awards under the FOA. Approximately \$895,000 is expected to be available for new awards in fiscal year 2010, and an additional \$2,105,000 is expected to be available for awards made under this announcement in fiscal year 2011, depending on fiscal year 2011 appropriations. The DOE anticipates that awards will be in the \$500,000 - \$3,000,000 range for the total project period. The DOE anticipates notifying applicants selected for award by the end of August 2010 and making awards by the end of September 2010.

**Period of Performance.** The period of performance is expected to be 24 months.

### Application Review Criteria

Applications will be evaluated against the following merit review criteria:

- Team Member Qualifications (Weight: 40%)

- Strength of the Scientific/Technical Approach (Weight: 30%)
- Potential Project Impact/Advancement (Weight: 30%)

The DOE may consider the following program policy factors in the selection process:

- Technological diversity of projects (for example, balancing component vs. systems vs. research projects)
- Cost share offered above the minimum amount required
- Alignment with the mission and goals of the Wind and Water Power Technologies Program
- Diversity of approaches

The FOA provides significant opportunities to applicants, but the laws and regulations incorporated in the FOA are complex, and failure to comply strictly can have adverse consequences. Applicants are advised to seek experienced counsel in pursuing funding under this and other FOAs.

If you have any questions regarding the content of this advisory, please contact the Pillsbury attorney with whom you regularly work or the attorneys below.

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