PMC-EF2a
(3.0.602)

U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION

RECIPIENT: Bowling Green State University **STATE:** OH

PROJECT TITLE : Coastal Ohio Wind Project for Reduced Barriers to Deployment of Offshore Wind Energy

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
CDP	DE-EE0003871	GFO-0003871-001	EE3871

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

A9 Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.

B3.1 Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:

B3.6 Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).

Rational for determination:

Bowling Green State University (BGSU), in Bowling Green, Ohio, is proposing to use federal funding to 1) develop a sensor that would monitor avian and bat fatalities resulting from wind turbines and 2) to address a particular Great Lakes condition, ice accumulation on wind turbines. BGSU is partnering with the University of Toledo (UT) to perform research and development on two existing 1 MW, N1000 wind turbines, installed by the City of Toledo, near the shore of Lake Erie.

The scope of the proposed project would include: optimizing and deploying an existing radar system for bat detection; data acquisition and analysis on the City of Toledo's wind turbines; lab studies on migrating ice accumulation on turbine blades; and development of wind tunnel that can incorporate ice to study the effects on the components.

The BGSU project would involve the development of a sensor that would monitor avian and bat fatalities. Traditional methods cannot be used to track fatalities in an offshore environment. This near-shore turbine would be used to determine reliable tracking methods.

BGSU would be using a 25 kW Furuno X-band marine radar system, which emits radio frequency waves to determine the range altitude, direction, or speed of objects moving relative to the unit. The unit would be mounted on a moveable stand and it would be transported to the site via a small trailer. The radar system is used in conjunction with an IR/acoustic array to further identify the bird/bat of interest. The combination of the three data streams would be utilized to monitor and detect wildlife near the wind turbines.The radar works in the X-band of frequencies between 8 to 12 GHz. X-band radars do not emit any sound and they do not create any interaction with a bird or bat that would alter its behavior or harm the animal.

In addition to radar surveillance, BGSU would determine the impact of ice formation and the effects it has on turbine and blade reliability. BGSU would acquire turbine operation data from the existing N100 wind turbines. This would involve the collection and analysis of wind resource and turbulence data, as well as temperature and moisture, to accurately characterize the ice buildup and wind loading conditions, and their effects on the turbine.

An icing research wind tunnel at UT would be used for conducting ice accretion studies on wind turbine components. The wind tunnel would test various new or commercially available coatings on model test articles. The work would be conducted in a laboratory at UT located at 2801 West Bancroft Street, Toledo, OH, 43606. The safety protocols at UT are subject to OSHA standards. The UT Department of Safety and Health monitors these protocols internally and

externally. An R&D questionnaire was completed, which addressed the protocols in place regarding laboratory safety, risk management, chemical handling and waste disposal. The proposed icing research tunnel does not require new construction of major facilities, but only reconfiguration of existing laboratory equipment to provide the cooled air for the tests.

In view of the information provided by the recipient, DOE has determined that the impacts related to the proposed project are anticipated to have negligible affects on the human and natural environment. The proposed project is consistent with actions outlined in A9 (information gathering), B3.1 (site characterization and environmental monitoring) and B3.6 (indoor bench-scale research) and is, therefore, categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Cristina Tyler 4.7.2011

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 4/11/2011
NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

☐ Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

☐ Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
☐ Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____ Date: _____
Field Office Manager