

PMC-EF2a

(204.02)

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



RECIPIENT:Bluestem, LLC

STATE: NE

PROJECT TITLE : Springview Direct Drive Turbine Wind Energy Test Site

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	DE-EE0000134	GFO-10-400	0

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:

- 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).
- B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

Rational for determination:

The State of Nebraska will provide \$3,700,000 in Recovery Act funds to Bluestem, LLC and Nebraska Public Power District (NPPD) for the retooling and reconstitution of a wind energy test facility at the NPPD test site located in Keya Paha County, NE near Springfield.

The site previously hosted two 750KW wind turbines as test production models. The two turbines were disassembled in 2008 in preparation for testing of next generation wind turbines, which is the subject of this project. The facility is located about 1.5 miles from the city of Springview and 3/4-mile from the nearest structure, which is a farm house. The surrounding area is best characterized as farmland and open fields. The site has documented studies and letters from the Nebraska Historical Society and Fish and Wildlife Service that indicate no impact of historical or wildlife significance.

The project consists of the installation of two 750KW wind turbines, new foundations to support the turbines, an underground collection system to interconnect the turbines with the local utility, and a new meteorological tower. The two turbines and foundations and tower are in replacement of the two previous turbines and foundations and tower. The underground collection system is new installation. The project will not increase the footprint of the test site and will occur on previously disturbed land. The objective is to test the performance of next generation turbines using direct-drive technology and to train wind technology engineers and power plant engineers in the operation and maintenance of new generation wind energy systems. Direct-drive technology is predicted to be more reliable and energy efficient in the conversion of wind energy to electrical power. Further, the new design promises to reduce noise and require less torque and fewer blade RPMs than conventional turbines. Less frequent maintenance, reduced noise levels, and lower blade RPMs for equivalent power production vis-a-vis gear-box type turbines are hypotheses to be tested at the site.

In view of information provided by the State of Nebraska, Bluestem, LLC, and NPPD, the project is classified as B3.6 for the research and training aspects of the work that will occur on an existing test facility and B5.1 for the energy conservation aspects of the project related to the production of power for the local utility.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

According to the project officer, funding for this project is \$3,700,000. It is presumed that the footprint of the existing test facility will not increase. Should the scope of this work change in such a matter to impact the facility footprint, then the project will require further NEPA review. Otherwise, a change in funding will not impact my determination.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: 
NEPA Compliance Officer

Date: 5/21/10
5/19/2010

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: _____
Field Office Manager

Date: _____