PMC-EF2a
(2.04.02)

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

RECIPIENT: Montana DEQ **STATE:** MT

PROJECT TITLE: SEP CORE Megawatt-Scale Direct Wind Generator

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	DE-EE0000138	GFO-10-633	EE0

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.

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 Montana Department of Environmental Quality (DEQ) proposes to provide $500,000 of SEP funds to Core Wind Power in Ronan, Montana to design, fabricate and test a new 3 megawatt, 8-meter wind turbine generator using existing printed circuit board manufacturing techniques and facilities. The Conductor Optimized Rotary Energy (CORE) technology uses a direct drive repeatable multiplayer printed circuit board process to replace the old geared drive-train of the generator. This process will allow for production of a reliable, light-weight and low-cost turbine that will eliminate the failure prone, maintenance intensive, heavy gear box of conventional turbine systems. CORE wind generators are being designed for mass production in Montana and development is expected to create more than one hundred jobs over the next three years.

The assembly and testing of the CORE wind generator will take place inside a leased warehouse facility. The first one-off complete generator, assembled in Ronan for initial testing, is planned to be disassembled into quadrants and shipped to the National Renewable Energy Lab (NREL) in Boulder, CO to be tested on a dynamometer in the later part of 2011.

Task 1: Obtain DOE NEPA Approval and all Necessary Permits, and Notice to Proceed - all information for NEPA approval including documentation of environmental impacts, access to site for DEQ or DOE review, responses to questions asked by agencies.

Task 2: Preliminary Generator Design – Core Wind will complete 3D models of generator components, sub-assemblies and full assembly to evaluate and select a main 3 megawatt wind turbine generator build concept and refine mechanical and electrical specifications.

Task 3: Detail Design and Procurement – select final design parameters and generate component, sub-assembly and assembly drawings for each generator component. Core Wind will send drawings out to obtain bids from manufacturers for components, raw materials and equipment. Purchase orders will be placed with selected suppliers when drawings and quotes are available.

Task 4: Fabrication, assembly and preliminary testing of assembly fixtures, test fixtures and production sub-assemblies – inspection of pre-production components and sub-assemblies will be completed and tested at Core Wind in Ronan and with the Underwriters Laboratory. The final result of this task is the pre-production approval of the printed circuit board stator sub-assembly as a UL compliant component.

Task 5: Final Assembly, Testing and Shipping – Core Wind will make final modifications to fixtures, processes and components and a fully assembled and preliminarily tested CORE Generator will be shipped to NREL test facility in Boulder, Colorado.

Task 6: Display – DEQ will provide the AARA to Core Wind to be displayed in a manner that is clearly visible to the public.

Task 7: Final Report – a final written report will be submitted to the DEQ documenting the status of each task, the expenditure of ARRA funds, and an estimate of the number of jobs created or retained.
The DOE conducted a site visit at the CORE facility in Ronan, MT on September 14, 2010. The facility is located on private land within the exterior boundaries of the Confederated Salish and Kootenai Tribes (CSKT) of the Flathead Indian Reservation. The surrounding land use is industrial.

There are no ground disturbing activities associated with the project. The project will not generate any air emissions, waste water or hazardous materials. No new water supply is needed and no waste water will be generated. No hazardous wastes will be generated. Since there will not be any construction or modifications to existing facilities, the project would not disturb any historic, archeological, or cultural sites.

The EPA is responsible for air and water permits on reservations in Montana. The EPA reviewed the project and concurred that no air, water, or waste material permits will be needed for the project. On September 8, 2010, the Acting Director for the CSKT Natural Resources Department and Manager of the Environmental Division and the Director sent an email to the EPA and DEQ stating the Tribe also had no environmental concerns with regard to the Core Wind project.

This project comprises engineering designs, fabrication and testing of a large scale wind turbine generator using existing manufacturing techniques and facilities; therefore, it qualifies for a CX under A9 and B5.1.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

This EF-2a was prepared by Chris Paulsen.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 9/29/10

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