

PMC-EF2a

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



(2.04.02)

RECIPIENT:University of Minnesota**STATE:** MN

PROJECT TITLE : An Industry/Academe Consortium for Achieving 20% wind by 2030 through Cutting-Edge Research and Workforce Training

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000090	DE EE0002980	GFO-10-112	EE2980

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).
- C12** Siting, construction, and operation of energy system prototypes including, but not limited to, wind resource, hydropower, geothermal, fossil fuel, biomass, and solar energy pilot projects.

Rational for determination:

The objective for this project is to develop an industry/academe consortium led by the University of Minnesota. Project activities will include curriculum development; research facility development; consortium program research and development; and database modeling.

Tasks include:

Program Area 1: Development of the field scale research facility (CX A9)

Phase 1: Pre-construction tasks

- Task 1.1 Procurement of Design-Build Services
- Task 1.2 NEPA and Section 106 Assessments
- Task 1.3 Preliminary Design

Phase 2: Construction tasks (C12)

- Task 1.4 Turbine Acquisition
- Task 1.5 Power Utility Interconnection Agreement
- Task 1.6 Construction Cost Estimation and Subcontractor Team Development
- Task 1.7: Final Design
- Task 1.8: Construction
- Task 1.9: Construction Project Closeout

Program Area 2: Research Program (CX B3.1 and B3.6)

- Task 2.1: Increasing wind turbine output using vortex generators and riblets
- Task 2.2: Active flow control for improving aerodynamic performance and reducing noise
- Task 2.3: High-resolution CFD-FSI code for aeroelastic simulations of turbine blades
- Task 2.4: Increasing wind turbine output by mitigating blade icing and fouling
- Task 2.5: Multi-scale modeling for wind farm siting
- Task 2.6: A Novel Power Electronics based Electrical Generation System for Wind Turbines
- Task 2.7: Radar interactions with wind turbines

Program Area 3: Curriculum Development (CX A9)
Task 3.1 Curriculum Development

Program Area 1, Phase 1 of this project will involve the preparation and preliminary planning activities, including the NEPA process, associated with the construction and installation of wind turbine; therefore a CX A9 will apply.

Program Area 1, Phase 2 involves activities associated with the construction of 2.3MW wind turbine research facility instrumented with state-of-the-art sensors and measurement devices which will be sited at the UMN Outreach Research and Education Park in Rosemount, MN. Activities under this phase will include turbine acquisition, final design and installation; therefore a C12 - Environmental Assessment will be required.

Program Area 2 (tasks 2.1 – 2.7) will involve research and development activities in conventional laboratory facilities located at the University of Minnesota (UMN), primarily in their wind and water tunnel facilities on campus. The University has filled out an R&D questionnaire which thoroughly addresses their established safety protocols, waste and chemical handling procedures; therefore a CX B3.6 will apply.

Field studies will also occur under these tasks. Field work will involve data collection and conducting radar studies on local wind turbine sites and eventually from the proposed 2.3 MW turbine that is to be built on campus. This work involves field work for site characterization; therefore a CX 3.1 will apply.

Program Area 3 (task 3.1) will involve curriculum development, information gathering and dissemination; therefore a CX A9 will apply.

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

Program Area 1, Phase 2 (Tasks 1.4 – 1.9); including capital equipment purchase, final design, earth moving, site prep, and construction activities associated with the construction of a utility-scale wind turbine pending the outcome of the environmental assessment.

This restriction does not preclude you from:

Program Area 1:

Phase 1: Pre-construction tasks (tasks 1.1 – 1.3)

Program Area 2: Tasks 2.1 – 2.7

Program Area 3: Task 3.1

The University of Minnesota is authorized to initiate the preparation of an Environmental Assessment by a third-party contractor, consistent with DOE NEPA implementing regulations. DOE, University of Minnesota and third-party contractor shall enter into a Memorandum of Agreement (MOA) defining the scope of services to be completed by the third-party contractor on behalf of DOE.

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

The University of Minnesota is authorized to initiate the preparation of an Environmental Assessment by a third-party contractor, consistent with DOE NEPA implementing regulations. DOE, University of Minnesota and third-party contractor shall enter into a Memorandum of Agreement (MOA) defining the scope of services to be completed by the third-party contractor on behalf of DOE.

Note to Specialist :

Phase 2 (tasks 1.4 – 1.9 in the current SOPO) of this project will require the preparation of an environmental assessment and are currently conditional under NEPA pending the outcome of the EA. We recommend the recipient's funding be placed on ASAP approval.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: 
NEPA Compliance Officer

Date: 3/4/10


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: 3/4/10