

PMC-EF2a

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



RECIPIENT: Illinois Institute of Technology

STATE: IL

PROJECT TITLE : A World-Class University-Industry Consortium for Wind Energy Research, Education, and Workforce Development

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000090	DE-EE0002979	GFO-10-114	EE2979

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.
- A11** Technical advice and planning assistance to international, national, state, and local organizations.
- 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 Illinois Institute of Technology (IIT). Project activities include curriculum development; development of control algorithms for enhancing the reliability of wind turbine components; development of operation and planning tools for accommodating the high penetration of intermittent wind energy in electric power utility systems; and stakeholder/student education.

Phases/Tasks include:**Phase 1:**

- Task 1.0 Install a 1.5MW GE Test Wind Turbine
- Task 2.0 Install an 8KW Viryd Test Wind Turbine
- Task 3.0 Install a Small Wind Turbine for Public Awareness

Phase 2:

- Task 4.0 GE Wind Turbine Reliability Study
- Task 5.0 Viryd Wind Turbine Reliability Study
- Task 6.0 Noise Reduction in Wind Turbine Design through Fluid Dynamics and Acoustics

Phase 3:

- Task 7.0 Advanced Reactive Power and Low-Voltage-Ride-Through Technology
- Task 8.0 Advanced Wind Integration Study for Utility-Grade Operation
- Task 9.0 International Collaboration on Wind Energy Research

Phase 4:

- Task 10.0 Engage Undergraduate Students in Wind Energy Research
- Task 11.0 Develop Undergraduate Courses and Laboratories on Wind Energy
- Task 12.0 Offer Degree Program and Certificates on Wind Energy
- Task 13.0 Develop Teaching Materials and Textbooks on Wind Energy
- Task 14.0 Project Management and Reporting

Phase 1 (tasks 1.0 – 3.0) involves the installation of three wind turbines of variable sizes. Details of these installations are not known at this time. Task 1 involves the installation of a large 1.5 MW utility-scale wind turbine on campus and will require an Environmental Assessment; therefore a C12 applies to this phase.

Phase 2 (tasks 4.0 – 6.0) involves research and development activities in conventional laboratories on the IIT campus and at DOE's National Renewable Energy Laboratories. ITT has submitted an R&D questionnaire for their lab facilities that addresses their integrated safety equipment/protocols and waste stream handling that follows OSHA standards; therefore a CX B3.6 will apply for this phase.

Phase 3 (tasks 7.0 – 9.0) involves additional R&D activities, paper studies and technical collaboration with international students; therefore a CX A9, A11 and B3.6 will apply.

Phase 4 (tasks 10.0 – 14.0) 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:

Phase 1 (Tasks 1.0, 2.0 and 3.0); including capital equipment purchase, final design, earth moving, site prep, and construction activities associated with the construction of a wind turbines.

This restriction does not preclude you from:
Phase 2 – 4 (tasks 4.0 – 14.0)

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:

Submit an additional EF1 for Phase 1 activities with specific details of turbine installations.

Note to Specialist :

Phase 1 (tasks 1.0, 2.0, and 3.0) of this project will require the preparation of an environmental assessment and is conditional under NEPA pending the outcome of the EA. Phases 2.0 and 3.0 have NEPA conditions pending the submission of additional project information the small wind turbine installations.

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.

