PMC-ND
(1.08.09.13)

U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION

RECIPIENT: University of North Carolina at Charlotte **STATE:** NC

PROJECT TITLE : Advanced High Torque Density Magnetically Geared Generator

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000978	DE-EE0006801	GFO-0006801-001	

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, analysis, and dissemination	Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)
B5.15 Small-scale renewable energy research and development and pilot projects	Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding the University of North Carolina at Charlotte (UNC) to design, fabricate and test a 30kw magnetically geared generator (MGG). Initially a multi stage magnetic gearbox (MSMG) will be designed, constructed and tested in order to demonstrate the MGG capability. UNC would perform five tasks for this project. These include:

- Task 1 – Construct a dynometer test stand.
- Task 2 – Design, construct and test the MSMG.
- Task 3 – Design, construct and test the MGG
- Task 4 – Conduct a scaling and parameter analysis.
- Task 5 - Reporting

Task 1 would include the design, and fabrication of the test stand. All work would occur at the University of North Carolina at Charlotte Laboratory Facility located in Charlotte, NC. (UNC Lab).

Task 2-3 would include designing, fabricating and testing both the MSMG and the MGG. Both the magnetic gearbox and the magnetic gear generator would be put on the dynometer test stand developed in Task 1 and tested with the dynometer at the UNC Lab. All work in these tasks would occur at the UNC Lab.

Task 4 would include analysis of the results obtained in tasks 2 and 3 to verify the scalability characteristics of the MSMG.

Task 5 would involve required reporting to the DOE.

All solid waste generated by the projects would be disposed of appropriately and would comply with all required standards for disposal of solid wastes.

No additional affects to resources or additional concerns were found to exist during this review.

Based on review of the project information and the above analysis, DOE has determined the research, development and testing activities would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusion A9 "information gathering, data analysis and computer modeling", B5.15 "small scale renewable energy research and development and pilot projects", and is 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:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

Wind Program
This NEPA determination does not require a tailored NEPA provision
NEPA review completed by Roak Parker on 11/25/2014.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 12/2/2014
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