

PMC-ND  
(1.08.09.13)

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



RECIPIENT: North Carolina State University

STATE: NC

PROJECT TITLE : PowerAmerica Institute

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
	DE-EE0006521	GFO-0006521-002	GO6521

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:

<b>A9 Information gathering, analysis, and dissemination</b>	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.)
<b>A11 Technical advice and assistance to organizations</b>	Technical advice and planning assistance to international, national, state, and local organizations.
<b>B1.31 Installation or relocation of machinery and equipment</b>	Installation or relocation and operation of machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment), provided that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to an existing building, within or contiguous to a previously disturbed or developed area, that are necessary for equipment installation and relocation. Such modifications would not appreciably increase the footprint or height of the existing building or have the potential to cause significant changes to the type and magnitude of environmental impacts.
<b>B3.6 Small-scale research and development, laboratory operations, and pilot projects</b>	Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.
<b>B5.23 Electric vehicle charging stations</b>	The installation, modification, operation, and removal of electric vehicle charging stations, using commercially available technology, within a previously disturbed or developed area. Covered actions are limited to areas where access and parking are 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 to North Carolina State University (NC State) to establish, effectively manage, and assess the performance of PowerAmerica: The Next Generation Power Electronics Manufacturing Innovation Institute (referred to interchangeably as "PowerAmerica" or "Institute.") The Institute is planned as a consortium established under a Cooperative Agreement with the DOE and led by NC State (the prime recipient), with participation from sub-recipients of the award, Member Companies, universities and other educational institutions, as well as other state and federal government agencies and research organizations. The Institute would define and manage a program to enable the next generation of energy-efficient, high-power electronic chips and devices by making wide bandgap (WBG) semiconductor technologies cost-competitive with current silicon-based power electronics in the next five years. This project has five budget periods but only project activities within budget period 1 and 2 (BP1 and BP2) have been defined. BP1 was reviewed in a previous NEPA Determination (GFO-0006521-001; 11/14/2014). This NEPA Determination is specific to BP2 only. Further NEPA review will be required for the remaining budget periods once those activities have been defined and negotiated.

Proposed activities in BP2 are generally laboratory scale operations; equipment installation; data analysis and modeling; or educational, managerial, and reporting activities. The location of the facilities and description of proposed activities for the prime recipient and each sub-recipient is detailed within question 2b of the completed EQ1 for the project. Initially, entries detailed in question 2b include only those projects approved by the contracting officer at the start of BP2. Additional entries in question 2b may be incorporated as new partners are brought into the PowerAmerica project and specific sites are identified as long as these additional entries conform to the rationale and CXs applied in this NEPA Determination. Any new sub-recipients that do not fit the above will be required to submit separate EQ1s for further review.

For the majority of the project partners, the scope of work proposed fits within the type and scale of activities that already occur within their facilities. These facilities would conduct activities consistent with current operations and expansion or modification of facilities is not expected to occur in BP2. Other than outdoor installation of an EV charging station (see below), activities occurring at the listed facilities would not require new permits, licenses or authorizations for BP2 activities. No new waste streams or effluents would be produced as a result of the proposed activities in BP2. Tasks/subtasks in BP2 are described in detail in the uploaded document SOPO\_MOD0008 PA draft05312016.docx. Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Task 4.13 includes a demonstration for the EV fast charger unit that is being developed at the NCSU lab in the Keystone Science Center building. This demonstration would either occur indoors within their existing laboratory space or outdoors at the adjacent parking deck. If the demonstration occurs indoors, no facilities modifications are needed. If the demonstration occurs at the adjacent parking deck, only the running of a low-voltage cable through an existing electrical conduit and mounting of the electrical equipment would be required. The parking deck was constructed to accommodate EV charging stations and several EV charging stations are already installed and are in daily use. No construction would be necessary. If the outdoor installation is pursued, the installation will require permitting and would comply with all relevant medium voltage electric codes. See the uploaded document EERE Environmental Questionnaire - NCSU Keystone EV Charger.pdf for additional details.

Based on review of the project information, DOE has determined the proposed activities in BP2 would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed activities are consistent with actions contained in DOE categorical exclusions A9 "information gathering, analysis and dissemination," A11 "technical advice and assistance to organizations," B1.31 "installation or relocation of machinery and equipment," B3.6 "small-scale research and development, laboratory operations and pilot projects," and B5.23 "Electric vehicle charging stations," and are categorically excluded from further NEPA review.

#### 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:

**Budget Periods 3 through 5**

This restriction does not preclude you from:

**Budget Periods 1 and 2**

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:

Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

The recipient is required to submit information to the DOE Project Officer and the NEPA Compliance Officer regarding the location of the facilities and a description of proposed activities for each new sub-recipient that is brought into the PowerAmerica project. Any new sub-recipients with proposed activities that do not conform to the rationale and CXs

applied in the existing NEPA Determination will be required to submit separate EQ1s for further review.

The recipient is required to consult with the DOE Project Officer and NEPA Compliance Officer regarding any project that could result in:

- construction of new facilities or other ground disturbing activities; or
  - modifications to existing facilities that increases the output or scale of current activities; or
  - changes the type of activities that occur at an existing facility
- prior to initiating any of these activities in order to determine whether additional NEPA review is required.

Note to Specialist :

This NEPA Determination requires a tailored NEPA provision.  
Advanced Manufacturing Office  
Casey Strickland 06/13/16

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature: \_\_\_\_\_

 **Lori Gray**  
NEPA Compliance Officer

*Lori Gray*

Date: 6/13/2016

**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: \_\_\_\_\_