

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: The Next Generation Power Electronics Manufacturing Innovation Institute

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000683	DE-EE0006521	GFO-0006521-BP3	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>A11 Technical advice and assistance to organizations</b>	Technical advice and planning assistance to international, national, state, and local organizations.
<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>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 small-scale 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.

## 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 periods 1, 2 and 3 (BP1, BP2, BP3) have been defined. A NEPA Determination has been completed for BP1 (GFO-0006521-001; 11/14/2014), and BP2 (GFO-0006521-002; 06/13/2016). This NEPA Determination is specific to BP3 only. Further NEPA review will be required for the remaining budget periods once those activities have been defined and negotiated.

Proposed activities in BP3 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 BP3. 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.

The scope of work proposed at each facility fits within the type and scale of activities that already occur at each site, and is consistent with current operations. The expansion or modification of facilities is not expected to occur. No new permits, licenses or authorizations would be required for BP3 activities. No new waste streams or effluents would be produced as a result of the proposed activities. Tasks/subtasks in BP3 are described in detail in the uploaded document Attachment 1 – Statement of Project Objectives – BP3 Only FINAL. 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.

Based on the review of the proposal, DOE has determined BP3 fits within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410(2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. BP3 is 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 4 and 5

This restriction does not preclude you from:

Budget Periods 1 through 3

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

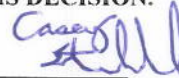
Diana Heyder 07/10/17

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

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



Casey Strickland



Date: 7/10/2017

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: \_\_\_\_\_

Field Office Manager

Date: \_\_\_\_\_