PMC-EF2a

(2.04.02)

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

RECIPIENT: Syracuse University **STATE:** NY

PROJECT TITLE : A Proposal to Accelerate Innovations in Advanced Manufacturing of Thermal and Environmental Control Systems

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
JIAC2012AM	DE-EE0006031	GFO-0006031-001	GO6031

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.)
B3.6 Small-scale research and development, laboratory operations, and pilot projects	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.

Rational for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Syracuse University to fund four research and development (R&D) projects that would develop next-generation Thermal and Environmental Controls Systems (TECS) through innovations in materials, product design, and manufacturing processes. Funding would be used to select and fund four R&D projects over two Budget Periods, two projects per Budget Period. Two projects have been identified and proposed for Budget Period 1 (BP-1) and two projects for Budget Period 2 (BP-2) have yet to be determined.

This DOE award is part of a multi-agency Federal Funding Opportunity partnership titled the Advanced Manufacturing Jobs and Innovation Accelerator Challenge (Advanced Manufacturing Jobs Accelerator). This NEPA Determination is for the DOE award.

This NEPA determination covers information gathering, analysis, dissemination and research and development activities in BP-1. These activities are associated with the implementation of the two proposed BP-1 projects and the selection of the two additional projects proposed for BP- 2. Due to the undefined scope of work and unknown project locations for the two BP-2 projects, the potential impacts of these activities cannot be evaluated; therefore, a NEPA determination for activities in BP-2 cannot be completed at this time and further NEPA review is required. This NEPA determination does not apply to Budget Period 2 and associated Tasks.

Budget Period 1 projects:

Project #1: Nanomaterials for Improved Heat Exchange - This proposed project would occur at two different university laboratories and would involve the fabrication, analysis and testing of novel nano-structured surfaces and research into the scalability of these surfaces to large area systems. Fabrication and analysis work would be performed at the Cornell NanoScale Science & Technology Facility (CNF) located at Cornell University, 410 Thurston Ave, Ithaca, New York, 14850. Testing of fabricated nano-structured surfaces would occur at Link Hall located at Syracuse University, 400 Ostrom Avenue, Syracuse, New York, 13210.

Both Universities completed a R&D questionnaire addressing the protocols in place for laboratory safety, risk management, chemical handling and waste disposal. Both comply with standard laboratory safety procedures. All handling and disposal of gases, chemicals, effluents and hazardous waste are subject to their campus Environmental Health and Safety protocols which comply with all appropriate regulations. Both operate under all applicable permits to

conduct laboratory research and GMOs would not be used during this project.

Project #2: Subzero Data Center Chip Cooling – This proposed project would involve literature research, analysis, and computer modeling to design a thermo-mechanical cascade system to create a subzero cooling regime for computer chips. System performance would be modeled to determine overall energy savings.
All desktop research, analysis, and computer modeling work would be performed at Syracuse University's Green Data Center and Link Hall, Syracuse, New York. No physical laboratory work would be performed.

This DOE NEPA determination does not apply to BP- 2 and associated Tasks, as the two proposed projects in BP-2 are undefined. BP-2 and associated Tasks are subject to further NEPA review prior to the authorization of federal funds.

Based on review of the project information and the above analysis, DOE has determined the proposed information gathering, analysis, and dissemination and research and development activities in the two BP-1 projects 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," and B3.6 "small-scale research and development, laboratory operations and pilot projects," 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 Period 2 and associated Tasks
This restriction does not preclude you from:
Budget Period 1 and associated Tasks
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.

Note to Specialist :

This project has a NEPA hold on Budget Period 2 and associated Tasks and will require an additional NEPA review and approval prior to expenditure of funds for these activities.

Obadiah Broughton 12/10/2012

DOE funding: $450,000
Cost share: $112,500
Total Project Cost: $562,500

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 12/10/2012
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.