

PMC-ND
(1.08.09.13)

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



RECIPIENT: Carnegie Mellon University

STATE: PA

PROJECT TITLE : ABC4PV, referencing Agent Based Coordination for PhotoVoltaics.

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-EE0007165	GFO-0007165-002	GO7165

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 to Carnegie Mellon University to develop the technology and operating framework to deploy integrated solar photovoltaics (PV), storage, and load control in an integrated way that realizes greater value than either the individual components deployed on their own or single integrated combinations operating independently of other such deployments.

The project is divided into six tasks to be completed over three budget periods:

Task 1: Design and Development of Distributed Resource Coordination and Control Methodology

Task 2: Software Implementation of Algorithms

Task 3: Cybersecurity Assurance

Task 4: Installation of Physical Components and Test-bed Setup

Task 5: Performance Testing in Test-bed

Task 6: Energy Storage Sub-System and Full System Assessment and Control Optimization

A previous NEPA Determination (GFO-0007165-001; CX A9, A11; 11/18/15) reviewed Tasks 1, 2, 3 and Subtasks 4.1, 4.2, but restricted Subtasks 4.3, 4.4 and Tasks 5, 6 pending further review. This NEPA Determination is to review Subtask 4.3: Initial Deployment and Validation. Further NEPA review will be required for Subtask 4.4 and Tasks 5, 6 once location details for these activities are determined.

Subtask 4.3 of the proposed project would involve testbed development for pilot-scale demonstration purposes. A single integrated solar system would be deployed and tested prior to a full ten-system setup that would be deployed in Subtask 4.4. Activities associated with Subtask 4.3 would include: equipment procurement; initial unit design, assembly, testing, and validation; and data analysis. The unit would consist of a PV array, an energy storage device, a multimode inverter, a system controller, and a communications interface. This work would be performed at subrecipient Aquion Energy's dedicated test facility in Pittsburgh, PA. Aquion Energy is an established battery manufacturing company with purpose-built research facilities for the type of activities being proposed; therefore, DOE has determined that there would be no effect to sensitive resources as a result of the proposed project. No change in the use, mission, or operation of existing facilities would arise out of this effort. The facility has all applicable permits in place, and would not need additional permits for the proposed activities.

Based on the review of the proposal, DOE has determined Subtask 4.3 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. Subtask 4.3 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:

Subtask 4.4: Full Deployment and Validation

Task 5: Performance Testing in Test-bed

Task 6: Energy Storage Sub-System and Full System Assessment and Control Optimization

This restriction does not preclude you from:

Subtask 4.3: Initial Deployment and Validation

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 :

Solar Energy Technologies

This NEPA determination requires a tailored NEPA Provision.

NEPA review completed by Whitney Doss, 2/6/2017

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____



Kristin Kerwin

NEPA Compliance Officer

Date: _____

2/6/2017

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: _____