

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** AGENT-BASED COORDINATION SCHEME FOR PV INTEGRATION (ABC4PV)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001108	DE-EE0007165	GFO-0007165-001	

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.)

A11 Technical advice and assistance to organizations Technical advice and planning assistance to international, national, state, and local organizations.

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 combination of PV, storage, and load control operating independently of other such deployments.

The proposed project would include software/algorithm design and development and validation of software performance on hardware units deployed outdoors. The project is divided into six tasks spread 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

Tasks 1, 2, 3 and Subtasks 4.1 and 4.2 would consist of software design and testing, computer modeling, data collection and analysis, design of hardware units, and site selection for outdoor testing. Activities associated with these tasks and subtasks would occur indoors at existing research facilities at Carnegie Mellon University, Pittsburgh, PA, the National Rural Electric Cooperative Association, Arlington, VA, and Aquion Energy, Pittsburgh, PA. The above described tasks and subtasks would use no physical materials beyond basic office supplies. Subtasks 4.3 and 4.4 and Tasks 5 and 6 would consist of deployment of ten hardware units at an existing electric cooperative, software testing and data collection and analysis based on system performance. The hardware units would consist of PV arrays, computational units and a battery storage system. The location and installation details of the outdoor testing are currently unknown. As such, there is not enough information to review Subtasks 4.3 and 4.4 and Tasks 5 and 6 at this time; therefore activities associated with those tasks and subtasks are prohibited until DOE has conducted an additional NEPA review.

Based on review of the project information and the above analysis, DOE has determined that Tasks 1, 2, 3 and Subtasks 4.1 and 4.2 would not have a significant individual or cumulative impact to human health and/or

environment. DOE has determined that these tasks and subtasks are consistent with actions contained in DOE categorical exclusion A9 "information gathering, analysis and dissemination," and A11 "Technical advice and assistance to organizations" 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:

Subtask 4.3: Initial Deployment and Validation

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:

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

Task 2: Software Implementation of Algorithms

Task 3: Cybersecurity Assurance

Subtask 4.1: Identification of Suitable Feeder

Subtask 4.2: Design/Sizing of Devices

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 :

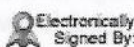
Solar Energy Technologies Office

This NEPA determination requires a tailored NEPA provision.

Review completed by Logan Sholar on 11/16/2015

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:



Signed By: Kristin Kerwin

NEPA Compliance Officer

Date: 11/18/2015

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