

PMC-ND
(1.08.09.13)

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



RECIPIENT: Fraunhofer USA Inc., Center for Sustainable Energy Systems

STATE: MA

PROJECT TITLE : Plug and Play Photovoltaics for American Homes

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000653	DE-EE0006035	GFO-0006035-004	GO6035

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.
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 the Fraunhofer USA Inc., Center for Sustainable Energy Systems (Fraunhofer) to research, develop and design ways to reduce the installed cost of residential solar photovoltaic (PV) systems by developing a residential "Plug and Play" solar PV system. Funding would be used for testing, validation and technical and economic analysis of a residential "Plug and Play" solar PV system.

Three previous NEPA determinations were made for the project which is divided into three Budget Periods (BPs). The determination for BP 1 (GFO-0006035-001 CX A9, B3.6. 1/28/2013) activities applied to information gathering, analysis, computer modeling, materials testing, preliminary prototype "Plug and Play" solar PV system design, and prototype "Plug and Play" solar PV system fabrication and testing. The second determination (GFO-0006035-002 CX A9, B3.6, B5.16 6/05/2013) applied to the addition of a new partner, 3L Power, to perform electrical bench testing and for the demonstration of solar PV at a solar test facility. The third determination applied to BP 2 activities which included technical and economic analysis and design, fabrication and testing of "Plug and Play" solar PV systems. This NEPA determination applies to BP 3 activities only.

Proposed project activities for BP 3 would include project management, design, fabrication, testing and demonstration of a commercial ready Plug and Play PV System consisting of administrative work, computer modeling, data analysis and collection, software and hardware integration, bench scale fabrication and testing of prototype hardware and outdoor testing of a PV system on an existing test roof.

To accomplish the proposed activities, Fraunhofer would partner with Lumeta Solar in Fremont, CA; Tufts University in Boston, MA; Sandia National Laboratories in Albuquerque, NM; 3L Power in Concord, MA; ConnectDER NextFab Studio in Philadelphia, PA, Volt Server in East Greenwich, RI, and SunPower Corp. in Austin, TX. Project management and data analysis activities would occur at the Fraunhofer offices in Boston and at Tufts University.

Design, fabrication and testing at bench scale would occur at existing facilities for Lumeta, 3L Power, ConnectDER, Volt Server, SunPower, and Sandia National Laboratory. Outdoor testing would occur at the existing Fraunhofer facility in Albuquerque, NM. The model PV system would have a capacity of three kilowatts with dimensions of 10 feet by 20 feet. The model PV system would be placed in a previously disturbed, fenced area directly adjacent to the Fraunhofer building on an existing test roof. There is no ground disturbance expected as a result of the proposed project. The model would not be connected to the grid. No physical modification of existing facilities or construction of new facilities would occur under this project. No change in the use, mission or operation of existing facilities would arise out of this effort. The laboratories and facilities comply with standard safety procedures and all processes and procedures are monitored by the Environmental Health and Safety staff. The laboratories and facilities have all applicable permits in place, and would not need additional permits for the proposed activities. All handling and disposal of gases, chemicals, wastes and liquid effluents comply with appropriate regulations. No additional or new permits are expected to be required as a result of the proposed project.

For all work conducted through DOE laboratories, project activities are subject to additional NEPA review by the cognizant NEPA Compliance Officer for the lab and would be required to meet the labs health and safety requirements.

Based on review of the project information and the above analysis, DOE has determined that BP 3 tasks would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusion A9 "information gathering, analysis and dissemination," B3.6 "small-scale research and development, laboratory operations and pilot projects" and B5.15 "Small-scale renewable energy research and development and pilot projects" and is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

Solar Energy Technologies Office
This NEPA determination does not require a tailored NEPA provision.
Review completed by Logan Sholar on 8/3/2015

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: 
NEPA Compliance Officer

Date: 8/3/2015

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: _____
Field Office Manager

Date: _____