

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** SunPower Corporation**STATE:** CA**PROJECT TITLE:** Reducing BOS costs, improving reliability, and enabling safety shutdown of solar installations through module-integrated electronics

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000923	DE-EE0006682	GFO-0006682-002	

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.
- B5.16 Solar photovoltaic systems** The installation, modification, operation, and removal of commercially available solar photovoltaic systems located on a building or other structure (such as rooftop, parking lot or facility, and mounted to signage, lighting, gates, or fences), or if located on land, generally comprising less than 10 acres 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 funding to SunPower Corporation to transition a bench-scale prototype electronics device, which can limit the maximum voltage out of a solar panel and bypass solar cell-strings at lower temperature, to a ready-to-manufacture product.

The proposed project activities would include design, fabrication, bench-scale testing and field testing of solar photovoltaic (PV), module-integrated, power regulation electronics device. Design, fabrication and bench-scale testing of the voltage-limiting device would occur at existing SunPower facilities located in Fremont, CA, San Jose, CA, Richmond, CA and Reliant Labs in Santa Ana, CA. These activities would consist of computer-based analysis and bench-scale indoor lab work. These activities would not require new construction or physical modification to the existing facilities, or new or modified permits. Outdoor field-testing of the voltage-limiting device would occur at an existing SunPower PV installation in Richmond, CA; the planned Henrietta PV installation near Lemoore, CA; an existing PV installation at the Renewable Energy Test Center in Fremont, CA; and multiple DOE Regional Testing Sites.

Field-testing at the Richmond site would include the installation of 72 PV modules with 72 integrated voltage-limiting devices mounted on four, 40 foot rows of standard SunPower Oasis trackers totaling 30kW. The 72 modules would be placed on an asphalt parking lot using non-penetrating racking in an enclosed area as an addition to the existing

PV installation at the site. The PV installation would be grid-tied using existing infrastructure at the site. There are not expected to be adverse effects to the floodplain, cultural resources or visual resources as a result of the proposed PV addition at the Richmond site. This site is fully permitted for PV installation, and the proposed addition of PV modules is not expected to require new permits or modifications to existing permits. At the Henrietta site, approximately 2,500 voltage-limiting devices would be integrated into PV modules servicing a 1MW test bed of the planned 136MW utility scale PV plant. Field test activities would consist of installing the device on PV panel mounts and testing the voltage limiting capabilities and weather resistance. The device itself is 4.1 inches by 5.5 inches by 1 inch and is not expected to add to the visual impact of the existing and planned PV installations. All locations where project work would be performed are permitted, and the proposed project would not require new permits or modifications to existing permits.

At this time, the identities and locations of the DOE Regional Testing Sites that would be used in Subtask 3.8 are unknown; therefore, any work on proposed activities at those locations are prohibited until an additional NEPA review has been completed.

Based on review of the project information and the above analysis, DOE has determined the proposed project would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that this project is consistent with actions outlined in DOE categorical exclusion A9 "information gathering," B3.6 "Small-scale research and development, laboratory operations, and pilot projects" and B5.16 "solar photovoltaic system" is therefore 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 effect 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 3.8

This restriction does not preclude you from:

All other subtasks as described in the SOPO (Jan. 21, 2015)

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

Review completed by Logan Sholar on 4/1/15.

This NEPA Determination requires a tailored NEPA provision.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____


NEPA Compliance Officer

Date: _____

4/2/2015

FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required