

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 Predictive Models and Novel Accelerated Tests for the Reliability of Front-Contact and Back-Contact
: Cell Metallization and Solder Joints in Photovoltaic Modules

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001195	DE-EE0007139	GFO-0007139-001	GO7139

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 federal funding to SunPower Corporation to develop predictive models and novel accelerated tests for the reliability of cell metallization and solder joints in photovoltaic modules.

Proposed project activities would include the design and fabrication of solar cells, indoor laboratory testing of solar cells and field testing of PV modules. Design, fabrication and lab testing of solar cells would occur at the SunPower Research and Development laboratory in San Jose, CA. Fabrication and lab testing of solar cells would take place at the National Renewable Energy Laboratory (NREL) in Golden, CO. Outdoor field testing would occur at two SunPower manufacturing facilities located in Binan and Lipa, Philippines. Outdoor field testing of assembled PV modules would consist of placing thirty to fifty modules on the rooftops of the existing PV module manufacturing facilities. Total estimated area for PV modules would be 45 to 75 square meters.

All facilities are purpose-built for the type of activities being proposed; therefore, no adverse impacts to sensitive resources are expected as a result of the proposed project. No ground disturbance or change in the use, mission or operation of existing facilities would arise out of this effort. No modifications to permits or new permits, additional licenses and/or authorizations would be necessary, no major construction would occur, nor would the mission or operation of the facility be altered. Existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments.

For all work conducted at DOE laboratories, project activities may be 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 the proposed project would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that the proposed project is consistent with actions outlined in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination", B3.6 "Small-scale research and development, laboratory operations and pilot projects" and B5.16 "Solar photovoltaic systems", and is therefore categorically excluded from further NEPA review. The proposed activities at the SunPower manufacturing facilities located in the Philippines are exempt from further review under EO 12114 per Section 5.1.1 (Actions not having a significant effect on the environment outside the US) of the DOE EO 12114 Implementing Guidelines.

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.

Insert the following language in the award:

You are required to:

For all work conducted at DOE laboratories, project activities may be subject to additional NEPA review by the cognizant NEPA Compliance Officer prior to initiating work and would be required to meet the labs health and safety requirements.

Note to Specialist :

Solar Energy Technologies Office

This NEPA determination requires a tailored NEPA provision. Please see above.

Review completed by Logan Sholar, 9/23/2015

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:



Kristin Kerwin

Date:

9/23/2015

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.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature:

Date:

Field Office Manager