

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** Arizona State University**STATE:** AZ

PROJECT TITLE: PV Foundry: Increasing Manufacturing Capabilities in the US by Developing Passivated Contact PV Technology: This project will leverage the advanced cell and module prototyping facilities that are currently available at Arizona State University to support

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002064	DE-EE0008975	GFO-0008975-001	GO8975

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), 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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Arizona State University (ASU) to work with project partner Georgia Institute of Technology (GIT), to develop a partnership and innovation hub; the "Photovoltaic Innovation Alliance and Foundry." The PV Foundry would serve to connect stakeholders within the solar PV industry and consolidate resources for the development, fabrication, and testing of silicon based solar cells for solar photovoltaic (PV) applications. The project would be completed over three Budget Periods (BPs), with a Go/No-Go Decision Point in between each BP.

ASU would coordinate all project activities. Project work would be performed at existing, purpose-built laboratory facilities at the campuses of ASU and its project partner, the Georgia Institute of Technology (GIT), in Tempe, AZ and Atlanta, GA, respectively. Proposed project activities would include stakeholder engagement (e.g. industry, academia, national laboratories, etc.), PV Foundry development, and performance of collaborative projects with stakeholders through the PV Foundry.

The PV Foundry would be made up of existing laboratory facilities operated by ASU and GIT. These would be developed for use by PV Foundry collaborators. New materials processing equipment would be installed at these facilities which would be used for silicon, solar cell, and PV module fabrication and characterization. Facilities modifications would not be required at either ASU or GIT. Likewise, the project would not include the construction of new facilities, ground disturbing activities, or changes to the use, mission, or operation of existing facilities. No additional permits, licenses, or authorizations would be required.

Collaborative projects would be performed with stakeholders as part of the PV Foundry development. These projects would have their own scope of work and would be developed and coordinated by the PV Foundry. The PV foundry would provide training on processing tools and characterization equipment. All collaborative projects would be limited to laboratory-scale testing and fabrication activities, including material characterization, material synthesis

(e.g. solar PV cell synthesis), and performance.

Project activities would involve the use and handling of industrial chemicals and gases. All such handling would be performed in controlled laboratory environments. Both ASU and GIT would adhere to established university health and safety policies and procedures in order to mitigate against any potential risks associated with the performance of project work. Protocols would include personnel training, the use of personal protective equipment, monitoring, and engineering controls. All chemicals would be handled, stored, and disposed of in accordance with each entity's chemical hygiene policies. ASU and GIT would observe all applicable Federal, state, and local health, safety, and environmental regulations.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Solar Energy Technologies Office

This NEPA determination does not require a tailored NEPA Provision.

NEPA review completed by Jonathan Hartman, 03/02/2020

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:

 Kristin Kerwin
NEPA Compliance Officer

Date: 3/3/2020

FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required
- Field Office Manager review required

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

Field Office Manager's Signature:

Field Office Manager

Date: _____