

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** University of Arizona**STATE:** AZ

PROJECT TITLE: Restricted Area Printing by Ink Drawing (RAPID) Printing of Highly Efficient and Stable Perovskite Films for Solar Cell Applications

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002357	DE-EE0009523	GFO-0009523-001	

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 is proposing to provide funding to the University of Arizona in support of a research and development project aimed at controlling perovskite grain growth to increase the chemical and thermochemical stability of high-efficiency devices.

The project would occur over three years and be comprised of six tasks. Project activities would include the design, development, fabrication, and laboratory testing of perovskite-based photovoltaics. All research activities would occur at purpose-built research laboratories and shared user facilities located at the University of Arizona.

The project would involve the use and handling of various hazardous materials, including lead-based materials and solvents. All such handling would occur in-lab and hazardous and non-hazardous materials would be disposed of in accordance with Federal, state, and local environmental regulations. The proposed would involve the use of oxide or polymer thin films thinner than 100 nm. These materials would be well adhered to macroscale substrates and be handled in fumehoods or gloveboxes and disposed of in accordance with Federal, state, and local environmental regulations.

All project activities would occur in existing facilities and laboratories designed for the type of work planned. No physical modifications to existing facilities, ground disturbance, or changes to the use, mission, or operation of existing facilities would be required. No additional permits or authorizations would be required. DOE does not anticipate any impacts to resources of concern due to the proposed activities of the project.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Solar Energy Technologies Office

This NEPA Determination does not require a tailored NEPA provision.

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: _____

 Electronically
Signed By: Kristin Kerwin

NEPA Compliance Officer

Date: 5/7/2021

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: _____