

PMC-EF2a

(201002)

**U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION**



RECIPIENT: University of Texas at El Paso

STATE: TX

PROJECT TITLE : Collaborative atomic-scale design, analysis, and nanofabrication for record breaking, single-crystal Zn(x) Cd(1-x)Te solar cell arrays

Funding Opportunity Announcement Number
DE-FOA-0000654

Procurement Instrument Number
DE-EE0005958

NEPA Control Number
GFO-0005958-001

CID Number

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.

Rational for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the University of Texas, El Paso to conduct research and development activities that advance solar photovoltaic (PV) technology. DOE funding would be used to create a patterned thin-film design and deposition and analysis capabilities to create more uniform solar cell arrays that decrease defect-density and increase open-circuit voltage. Along with experimentation, molecular dynamics, optical and device simulations would be used.

Work would be completed at the University of Texas, El Paso (UTEP) and two facilities at the Sandia National Laboratory (SNL).

Nanofabrication and semi-conductor research activities would be completed at UTEP, located at 500 West University Avenue, El Paso, Texas 79968. UTEP has completed an R&D questionnaire addressing the protocols for laboratory safety, risk management and waste disposal. The laboratory complies with standard safety procedures and all processes and procedures are monitored by the UTEP Environmental Health and Safety Department (EHS). The University has all applicable permits in place to conduct research on campus. All handling and disposal of gases, chemicals and liquid effluents would be executed by EHS personnel who comply with appropriate regulations of OSHA. Any hazardous waste would be handled, stored and disposed of by EHS personnel to a licensed hazardous waste vendor.

All other work would be completed at two SNL facilities located at the Center for Integrated Nanotechnologies (CINT) at 1101 Eubank Blvd. SE, Albuquerque, New Mexico 87123. SNL completed an R&D questionnaire addressing the protocols for laboratory safety, risk management and waste disposal. The laboratory complies with standard safety procedures and all processes and procedures are monitored by the Industrial Hygiene Department (IHD). SNL has all applicable permits in place to conduct research. All handling and disposal of gases, chemicals and liquid effluents would be executed by SNL personnel who comply with appropriate regulations of OSHA. Any hazardous waste would be handled, stored and disposed of by SNL personnel to a licensed hazardous waste vendor.

Based on the review of the project information and the above analysis, DOE has determined the research and development activities 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," and B3.6 "small-scale research and development, laboratory operations 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 :

Kelly Daigle 11/9/2012

DOE Share: \$895,728
Total Project Cost: \$895,728

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 11/9/2012
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