PMC-EF2a

(2.04.02)

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

RECIPIENT: Massachusetts Institute of Technology **STATE:** MA

PROJECT TITLE : Next Generation Sulfide Materials: Optimizing CZTS and Developing SnS by Systematic Defect Engineering

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000387	DE-EE0005329	GFO-0005329-001	0

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:

DOE is proposing to provide federal funding to the Massachusetts Institute of Technology (MIT) to conduct laboratory research and development activities that advance solar photovoltaic (PV) technology. DOE funding would be used to advance the efficiency of Tin Sulfide PV devices from the current laboratory, making SnS a viable commercial successor to the current generation of sulfide/chalcogenide PV materials (CIGS and CsTe).

All research, prototype fabrication and testing would be conducted in a laboratory environment within university facilities including: MIT (77 Massachusetts Avenue, Cambridge, Massachusetts 02139) and Harvard University (12 Oxford Street, Cambridge, Massachusetts 02138).Both universities have completed an R&D questionnaire addressing the protocols in place for laboratory safety, risk management, chemical handling and waste disposal. Both universities comply with standard laboratory safety procedures and labs are inspected by university staff and safety personnel. The safety protocols are monitored by the University's Environmental Health and Safety Offices.

Both universities have applicable permits in place to conduct research on campus. The proposed project may generate small amounts of D001 ignitable and D002 corrosive hazardous wastes. These will be managed in compliance with the universities existing practices as large quantity generators. Liquid effluents consisting of solvents, acids, bases, chemical reagents and other liquid wastes will be disposed of through the campus Division of Environmental Health and Safety, which picks up waste in approved containers and disposes of it through licensed facilities.

Based on this information, DOE has determined the work outlined is consistent with activities identified in categorical exclusion A9 (information gathering) and B3.6 (indoor bench-scale research and conventional laboratory operation).

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 :

Cristina Tyler 11.16.2011

DOE Funding: $1,500,000
Total Project Cost: $1,500,000

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Kristin Kerwin Date: 11/17/2011
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