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 : Scalable High-Efficiency Thin-Crystalline Si CElls Enabled by Light-Trapping Nanostructures

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000387	DE-EE0005320	GFO-0005320-001	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 develop a c-Si thin-film solar cell with thickness of less than ten microns at an efficiency greater than twenty percent.

All research, prototype fabrication and testing would be conducted at the Microsystems Technology Laboratories (MTL) of MIT (60 Vassar Street, Cambridge, Massachusetts 02139). The MTL is a microelectronics fabrication facility that consists of 12,500 square-feet of labs and support space. MIT has completed an R&D questionnaire addressing the protocols for laboratory safety, risk management, chemical handling and waste disposal. MIT complies with standard laboratory safety procedures and labs are inspected by university staff and safety personnel. Internally, the department is monitored by the MTL EHS Coordinator and the Senior Chairperson of the EHS Committee. Externally, the department is monitored by the MIT EHS Department.

MIT has all applicable permits in place to conduct research on campus. Permits in place for this facility include an MWRA discharge permit, Massachusetts Air Quality Title V permit and Cambridge Fire Department Flammable Storage permit. All wastewater from the facility is treated in a pH neutralizations system. 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 11.28.2011

DOE Funding: $750,000
Total Project Cost: $750,000

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 11/30/2011
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