PMC-EF2a

(2.0602)

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

RECIPIENT: The Regents of the University of California, San Diego **STATE:** CA

PROJECT TITLE : Low Cost High Performance Nanostructured Spectrally Selective Coating

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000595	DE-EE0005802	GFO-0005802-001	

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 Regents of the University of California, San Diego (UCSD) to perform laboratory research and development activities to develop prototype high performance coating and more efficient solar absorber for concentrated solar power technology.

Researchers would develop a process to fabricate and coat nanoparticles onto solar absorber surface to achieve ultra-high spectral selectivity. The nanoparticles would be developed with spark erosion and sprayed onto an absorber metal surface. The nanoparticle composition, size and morphology would be guided by numerical modeling and laboratory testing. Two prototypes, ~1 meter long, would be utilized to demonstrate a large area nanoparticle coating. The prototypes would be tested and measured for performance. The research and outcomes would be published in peer reviewed journals.

All of the work would be performed in laboratories at the UCSD campus. Work would be completed at existing facilities, Center for Magnetic Recording Research and Engineering Building Units 1 and 2, located at University of California, San Diego, 9500 Gilman Dr., La Jolla, California 92093-0411.

UCSD completed an R&D questionnaire addressing the protocols for laboratory safety, risk management, chemical handling and waste disposal. UCSD complies with standard laboratory safety procedures and requires all individuals to have completed general laboratory training. UCSD has all applicable permits in place to conduct research on site. No additional permits are needed for project activities. The laboratory general safety procedures would be followed and has assigned safety managers. Labs are inspected by UCSD Environmental Health & Safety personnel.

Based on review of the project information and the above analysis, DOE has determined the research and prototype development would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with the actions contained in DOE categorical exclusion A9 "information gathering, analysis, and dissemination," and B3.6 "small-scale research and development," and is categorically excluded from further NEPA review.

Any further projects will require a separate NEPA determination review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Diana Scott 8.2.2012

DOE Funding: $1,000,000
Leveraged Funds: $250,000
Total Project Cost: $1,250,000

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 8/2/2012
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