

PMC-EF2a

(20402)

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



RECIPIENT: 3M Company

STATE: MN

PROJECT TITLE : Cleanable and Hardcoat Coatings for Increased Durability of Silvered Polymeric Mirrors

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-FC36-08GO18027	GFO-0018027-001	GO18027

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.)
B5.15 Small-scale renewable energy research and development and pilot projects	Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.
B5.17 Solar thermal systems	The installation, modification, operation, and removal of commercially available smallscale solar thermal systems (including, but not limited to, solar hot water systems) located on or contiguous to a building, and if located on land, generally comprising less than 10 acres within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rational for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funds to the third phase of 3M Company's ongoing project. DOE provided federal funding to 3M Company (3M) for the first two phases to develop optical coatings specifically for application or integration into silvered polymeric mirrors to assist in the long term lifetime and performance of the mirrors in Concentrating Solar Panel installations. DOE made a NEPA determination, GFO-08-047 (B3.6, 2/19/2008) for Phase 1 and 2 which included research, development and design activities. This NEPA determination applies Phase 3 (Field Validation) activities.

Funding would be used for 3M to collaborate with Gossamer Space Frames and Abengoa Solar to produce, field test and validate the optical coatings 3M designed and developed in Phases 1 and 2. Funding would also be used to validate manufacturing processes for the optical coatings and installation processes for the coatings onto Concentrating Solar polymeric mirrors. The optical coatings would be tested and validated at five existing concentrating solar installations. Data would be collected and analyzed over a one year period.

Gossamer Space Frames would produce approximately 20 prototype reflector panels with the 3M optical coating at their existing facility located at Research Drive and Argosy Street in Huntington Beach, California. Approximately 20 existing concentrating solar panels at Sunray Energy's existing concentrating solar installation located at 3100 Santa Fe Street, Daggett, CA 92327 would be removed and replaced with the prototype panels. No ground disturbance would occur during this activity.

Abengoa Solar would retrofit existing parabolic trough modules at four existing concentrating solar installations located at the following sites: Federal Correctional Institution, 9595 West Quincy Avenue, Littleton, Colorado; Federal Correctional Institution at 37900 N 45th Ave, Phoenix, Arizona; Cochise Community College at 4190 W. State Highway 80, Douglas, Arizona; Frito Lay at 600 Garner Road, Modesto, California. Abengoa would laminate the 3M optical coating on approximately 24 existing parabolic trough modules at each site. Existing modules would not be removed or replaced. No ground disturbance would occur during this activity.

3M and their partners have completed an R&D questionnaire addressing the protocols for laboratory, facility and site safety, risk management and waste disposal. The laboratories, facilities and sites comply with standard safety

procedures and all processes and procedures are monitored by the Environmental Health and Safety staff. The laboratories and facilities have all applicable permits in place, and would not need additional permits for the proposed activities. All handling and disposal of gases, chemicals, wastes and liquid effluents comply with appropriate regulations.

Based on review of the project information and the above analysis, DOE has determined the development, field testing and validation 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 exclusions A9 "information gathering, analysis and dissemination," B5.15 "small scale renewable energy research and development pilot projects," and B5.17 "solar thermal systems," 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 :

Obadiah Broughton 2/4/2013

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 2/7/2013
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