

PMC-EF2a

(20102)

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

**RECIPIENT:**The Dow Chemical Company**STATE:** MI

PROJECT TITLE : Transformational Approach to Reducing the Total System Costs of Building Integrated Photovoltaics

Funding Opportunity Announcement Number DE-FOA-0000493	Procurement Instrument Number DE-EE0005434	NEPA Control Number GFO-0005434-002	CID Number GO5434
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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.

Rational for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to The Dow Chemical Company (DOW) to conduct pre-commercial and deployment activities that advance solar photovoltaic (PV) technology. DOE funding would be used to develop a building integrated PV (BIPV) roofing shingle product.

DOE made a previous NEPA determination, GFO-0005434-001 (CX A9, B3.6 12/8/2011) for Budget Period 1 which included design, fabrication and testing of prototype BIPV modules. This NEPA determination applies to Budget Period 2 (BP2) which includes, design and testing of advanced power electronic prototypes in isolation for compatibility with BIPV product requirements. The testing of the one (1) kW BIPV roofing shingle product and the development of physics based models and design of small area test specimens to probe key failure modes and quantify lifetimes. This NEPA determination does not apply to Budget Period 3 (BP3).

All research and development activities would occur at Dow Solar R&D located in Building 1381 and 1382 at the Dow Chemical Company, South Saginaw Road, Midland, Michigan 48640. DOW follows all OSHA and Company safety standards and is internally audited to ensure such compliance is maintained. The facility is assigned leveraged Environmental, Health, and Safety (EHS) support. All chemicals used in development activities would be stored and disposed of according to manufacturer and Materials Safety Data Sheet recommendations, and regulatory requirements. All waste materials, including hazardous, would be characterized on site and placed into packs prior to being sent for disposal. Current permits for air, water, and waste are in place and no additional permits would be required.

Deployment activities would occur at DOW Solar R&D in Midland, Michigan on a pre-existing structure. One (1) kW of BIPV roofing shingle product would be mounted on a south facing structure on concrete ballast footings. No new foundations would need to be laid and no additional trenching would occur. DOW's campus includes 550 buildings and 30 production plants spread over 1900 acres adjacent to the Tittabawassee River. The area is highly industrialized. The proposed scope of work would not have adverse effects on endangered species, wetlands, floodplains, or cultural resources, as these resources are not known to occur at the proposed site.

At this time, BP3 has not been defined to the extent that DOE can conduct a NEPA review. This NEPA determination does not apply to BP3 and is subject to further NEPA review prior to the authorization of federal funds.

DOE has determined that the development and deployment of the BIPV roofing shingle product in BP2 are consistent with actions defined in DOE categorical exclusion A9, "information gathering," and B5.15, "small-scale renewable energy research and development and pilot projects".

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

Budget Period 3

Any deployment activities not mentioned in this NEPA determination

This restriction does not preclude you from:

Budget Period 2

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

Kelly Daigle 11/7/2012

DOE Share: \$700,000

Cost Share: \$2,284,700

Total Project Cost: \$2,984,700

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Lori Gray / Lori Gray Date: 11/7/2012
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