

FMC-EE2a

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



RECIPIENT: PPG Glass Technology Center - Glass R&D

STATE: Mult

PROJECT TITLE : Glass Innovations for Improved Efficiency Thin Film PV

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000234	DE-EE0004736	gfo-0004736-001	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 (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.
- B3.6** Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).
- B5.1** Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

Rational for determination:

PPG Glass Technology Center proposes to use federal funds to research and develop a new coated glass with improved transparent conducting oxide and a low-soiling anti-reflective coating for use in the fabrication of thin-film photovoltaic. This product is aimed at, when commercialized, will reduce the overall all cost of the photovoltaic panels. The associated tasks with this project will be performed in a laboratory based on theoretical and modeling studies. These laboratories will include PPGs Glass Technology Center, Mt Zion Glass Plant, Oak Ridge National Laboratory, and Colorado State University.

Phase 1 will include feasibility studies and equipment design for transparent conduction oxide buffer layer investigations, feasibility of low soiling anti-reflection layer coating investigations, and process and equipment design – model development.

Phase 2 will include online process development and demonstration to develop a fabrication process for the transparent conduction oxide buffer layer and low soiling anti-reflection coating. This will also include process development/updates to models and system design.

Phase 3 will include process scaling and product commercialization to execute the fabrication of the coatings. This will include the purchase of equipment necessary for fabrication and prepping for high volume manufacturing. Product commercialization will include quality control, marketing and product demonstration.

This project will take place within laboratories for the development of glass coating layers for thin film photovoltaic. Each facility has submitted an R & D Questionnaire which outlines each facilities responsibility for chemical and safety handling protocols.

After completion of Phase 1, Mt Zion will be required to update Title V air permit to meet state and federal requirements for the further pursuance of research at their facility.

There will be no installation of photovoltaic panels associated with this project.

This project is comprised of conventional research and development as well as actions to conserve energy through cost reduction to the consumer of end product PV; therefore a CX A9 B3.6 and B5.1 apply.

NEPA PROVISION

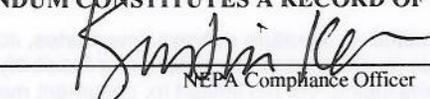
DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Eugene Brown 3/10/2011

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 3/25/2011
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