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PMC-ND
(1.08.09.13)

U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION



RECIPIENT: Enki Technology Inc.

STATE: CA

PROJECT TITLE : Integrated Glass Coating Manufacturing Line

| | | | |
|------------------------------------------------|--------------------------------------|----------------------------|-------------------|
| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
| DE-FOA-0001018 | DE-EE0006810 | GFO-0006810-001 | |

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Enki Technology, Inc. to design and develop a fully functional manufacturing line which would enable U.S. module manufacturers to coat solar glass with Enki's state of the art, tunable, functionalized, anti-reflection (AR) coatings at the lowest possible cost and highest possible level of performance.

The proposed activities would include synthesis and fabrication of coating materials, coating and curing of solar glass, measurement of the performance of the glass coatings and installation and testing of a glass coating manufacturing line. The proposed manufacturing line would be comprised of three steps: a glass washing tool, a glass roll-coating tool and a cure oven. Small-scale research and design of the modifications would be undertaken at Enki Technology's Lab in San Jose, CA. The manufacturing line would be installed and tested at Flextronic's industrial manufacturing facility in Milpitas, CA. Both of these facilities are designed for this type of research; therefore, no modifications or new permits, additional licenses and/or authorizations would be necessary.

The proposed project would involve the use and handling of various hazardous materials, including solvents and liquid organo-silanes. All such handling would occur in-lab, or inside manufacturing equipment. Both facilities have dedicated hazardous material disposal practices and all employees have been trained in the proper use, storage, handling, and disposal of these materials. Most of the materials used in this project would be consumed by production of the coated glass. Waste would consist of evaporated Isopropyl Alcohol vented to the atmosphere, small amounts of liquid waste consisting of unused coating material, and small amounts of solid waste such as wipes or gloves contaminated with coating material. All liquid and solid hazardous wastes would be transported and disposed of using a hazardous waste contractor. The glass remnants would be recycled or sent to landfill. No siting, construction or major expansion of waste storage, disposal, recovery, or treatment actions/facilities would be required.

Based on review of the project information and the above analysis, DOE has determined the proposed project, excluding installation and testing activities, would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that this project is consistent with actions outlined in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination" and B3.6 "small-scale research and development, laboratory operations and pilot projects" and is therefore categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

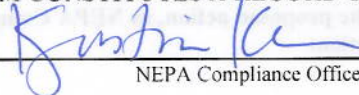
Insert the following language in the award:

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 :

This NEPA determination does not require a tailored NEPA provision.
Review completed by Rebecca McCord 09/10/2014.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 9/10/2014
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