

PMC-ND
(1.08.09.13)

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



RECIPIENT:1366 Technologies

STATE: MA

PROJECT TITLE : Project Automate: Enabling Automation for <\$0.10/W High-Efficiency Kerfless Wafers Manufactured in the US

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001018	DE-EE0006808	GFO-0006808-001	

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 funding to 1366 Technologies to utilize the Direct Wafer™ processes' unique advantage to tailor the shape of silicon wafers for photovoltaic (PV) solar cells simultaneously, making thinner and stronger wafers that enable high-efficiency cell architectures while using less silicon.

The proposed project activities would include computer modeling, design and minor modifications to existing manufacturing equipment and development of metrology, including machine visions systems. All proposed activities would consist of computer modeling, data analysis and small-scale research and development (R&D) and would occur at the 1366 Technologies headquarters in Bedford, MA. The project would involve the use of high-temperature furnaces and hazardous chemicals for subsequent solar cell processing. All activities would be conducted according to corporate safety policies with appropriate training for all personnel involved. Project work would be completed at an existing facility designed for this purpose; therefore no modifications to the facilities physical structure, mission or operation are necessary for this project. The facility has all required permits for use of hazardous chemicals (from Bedford Fire Dept.) and wastewater discharge (MA Water Resources Authority). Subtask 4.2 would be completed by a currently unknown subcontractor. Prior to beginning work for this subtask, 1366 Technologies is required to submit a DOE NEPA Environmental Questionnaire 1 for additional NEPA review.

Based on a review of the project information and the above analysis, DOE has determined that the proposed project would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that this project, with the exception of subtask 4.2 which requires additional NEPA review, is consistent with actions outlined in DOE categorical exclusion A9 "information gathering" 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 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:

Subtask 4.2 - Stringing Cells

This restriction does not preclude you from:

Task 1 - Define Target Geometry

Task 2 - Develop Methods for Obtaining Desired Profile

Task 3 - Efficiency potential and wafer handling

Subtask 4.1 - Single Cell Modules

Subtask 4.3 - Hotspot Analysis

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 :

Solar Energy Technologies Office

This NEPA Determination requires a tailored NEPA provision.

NEPA review completed by Logan Sholar, 10/15/14

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: 
NEPA Compliance Officer

Date: 10/16/2014

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: _____
Field Office Manager

Date: _____