

PMC-EF2a

(2.0+02)

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



RECIPIENT: Altus Devices

STATE: CA

PROJECT TITLE : High-Efficiency Low-Cost Thin-Film GaAs Photovoltaic Module Development Program; NREL Tracking No. 10-023

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
		NREL-10-023	GO10337

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:

**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).

## Rational for determination:

DOE funding would be used by NREL to support the Solar American Initiative (SAI) PV Technology Incubator. The program is structured to allow innovative approaches targeted at research and development of PV cells and module prototypes. The primary objective of this SAI PV Technology Incubator project would be to achieve prototype modules and pilot production to eventually service the residential, commercial, and utility market sectors of grid-tied electric power.

The subcontractor (Alta Devices) for this proposed 18-month PV Technology Incubator program would develop processes for manufacturing modules utilizing the subcontractor's thin-film GaAs cells. This effort is to be completed in two phases; 1) developing the process components to assemble the cells into a module in the first 9-month period, and 2) refining the process components to improve the conversion efficiency of the modules in the second 9-month period. The subcontractor will focus on: 1) developing a metal deposition process that is scalable; 2) developing a process to expose the back contact to the cell that is production worthy; 3) separation of semiconductor material into discrete cells, while minimizing damage; 4) assembling the cells to form an electrically active matrix; and 5) assembling the electrically active matrix into a module, with encapsulation.

The Alta Devices proposed facility for this project is located inside an existing semiconductor fabrication facility, located at 3260 Scott Blvd, Santa Clara CA 95054. Alta Devices has established environmental, health, and safety policies and protocols, including, but not limited to: safety training, HAZCOM, HAZMAT protocols, evacuation drills, chemical emergency response team readiness, operation & maintenance, and EHS program monitoring. This project would be completed using industry standard methods and protocols, and conducted in accordance with all federal, state, and local regulations. Alta Devices holds applicable permits for hazardous waste generation, air emissions, industrial wastewater discharges, and hazardous materials management with the representative regulatory agencies. Alta Devices is a Large Quantity Generator (LQG) with the assigned EPA identification number of CAL000332041. They file California Hazardous Material Business Plans (HMBP) and hazardous waste disposal reports with their local Certified Unified Program Agency (CUPA), County of Santa Clara Hazardous Materials Compliance Division. They also have the appropriate fire code, flammable material, etc. permits with Santa Clara Fire Department. SMI holds an industrial wastewater permit with San Jose/Santa Clara Water Pollution Control Plant and complies with the air permitting requirements of the Bay Area Air Quality Management District. Except for a minor modification to the air permit for a new diesel-fired emergency generator, no modifications to existing permits and registrations, or acquisition of new permits are required for this project. The facility is equipped with the appropriate exhaust scrubbers and semiconductor emission control technology that is properly rated for this application. This project would result in negligible increases in air emissions, hazardous waste generation, and storage and hazardous materials.

This project comprises bench-scale research projects and a small-scale pilot project therefore the DOE has

categorized this project as CX B3.6.

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

EF2A completed by Rob Smith

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature: Lori Plummer *Lori Plummer* Date: 5/26/2010  
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