

PMC-EF2a

(20102)

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



RECIPIENT: University of Wisconsin-Madison

STATE: WI

**PROJECT TITLE :** Enabling Earth-Abundant Pyrite (FeS<sub>2</sub>) Semiconductor Nanostructures for High Performance Photovoltaic Devices

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000387	DE-EE0005330	GFO-0005330-001	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:

**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 is proposing to provide federal funding to the University of Wisconsin-Madison to perform laboratory research investigating the feasibility of using pyrite nanostructures in photovoltaic (PV) solar devices. The goal of the proposed project would be to improve the efficiency of pyrite-based PV devices.

All work would be completed at the Jin research laboratories located at 1101 University Avenue, Madison Wisconsin 53706. An R&D questionnaire was completed, which addressed the protocols in place regarding laboratory safety, risk management, chemical handling and waste disposal. The laboratory safety protocols are defined by the Environment, Health and Safety Department at the University of Wisconsin-Madison. Laboratory safety practice is monitored by this office and also by the Safety Committee in the Chemistry Department through safety inspection and audits. These protocols are posted on line and are consistent with OSHA laboratory standards (29 CFR 1910.1450). All students and other researchers have received mandatory safety training.

All waste is disposed of according to the University of Wisconsin's Large Quantity Generator status. Disposal options include incineration, landfill, recycling, fuels blending and sink disposal in compliance with all Federal, State and local regulations.

Based on this information, DOE has determined the work outlined is consistent with activities identified in Categorical Exclusion B3.6 (indoor bench-scale research and conventional laboratory operations).

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

Insert the following language in the award:

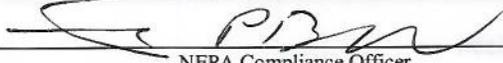
If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

Cristina Tyler 10.24.2011

DOE Funding: \$462,508  
Total Project Costs: \$462,508

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

NEPA Compliance Officer Signature:  Date: 10/26/11  
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

DOE is proposing to provide federal funding to the University of Wisconsin-Madison to perform laboratory research investigating the feasibility of using cyclic nucleotides in photovoltaic (PV) solar devices. The goal of the proposed project would be to improve the efficiency of photovoltaic PV devices.

All work would be completed at the in research laboratories located at 7101 University Avenue, Madison, Wisconsin 53706. An R&D statement was completed, which addressed the protocols in place regarding laboratory safety, and management, chemical handling and waste disposal. The laboratory safety protocols are defined by the Environmental Health and Safety Department at the University of Wisconsin-Madison. Laboratory safety protocols are monitored by the office and also by the Safety Committee in the Chemistry Department through safety inspection and audits. These protocols are posted on the site and are consistent with OSHA laboratory standards (29 CFR 1910.1460). All students and other researchers have received mandatory safety training.

All waste is disposed of according to the University of Wisconsin's Large Quantity Generator status. Disposal options include incineration, landfill, recycling, just bleeding and sink disposal in compliance with all Federal, State and local regulations.

Based on this information, DOE has determined the work outlined is consistent with activities identified in Category Exclusion B3 & (indoor bench-scale research and conventional laboratory operations).

NEPA PROVISION

DOE has made a (2) NEPA determination for the event.

from the following language in the event:

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 Federal Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing work beyond that currently approved.

Not to exceed:

Contract Type: 10242011