

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** University of California, San Diego**STATE:** CA

**PROJECT TITLE :** Integrated Pest Management (IPM) for Early Detection Algal Crop Protection

|  |                                      |                            |                   |
|--|--------------------------------------|----------------------------|-------------------|
| <b>Funding Opportunity Announcement Number</b> | <b>Procurement Instrument Number</b> | <b>NEPA Control Number</b> | <b>CID Number</b> |
| DE-FOA-000162                                  | EE0007094                            | GFO-0007094-001            |                   |

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:**

|   |  |
|---|--|
| <b>A9 Information gathering, analysis, and dissemination</b>                                | 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.)   |
| <b>B3.6 Small-scale research and development, laboratory operations, and pilot projects</b> | 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 the University of California, San Diego (UCSD) to develop affordable technologies for the early detection and identification of pathogens, predators, and non-productive competitors in a production algae pond.

Proposed project activities would include the design, development, fabrication, and field testing of an early detection system of pathogens or predatory destructive biological agents of algal biomass growth cultures produced at the flask, tank, bag, and outdoor pond scales for the purposes of advancing crop protection.

This NEPA review is limited to process and data validation activities as they are described in Task 0 of the Statement of Project Objectives. Upon completion of this task there will be a go/no go decision made as to whether or not the remaining tasks will be undertaken. If the decision to move the project forward is made, future tasks will require additional NEPA review.

The process and data validation activities would be completed by a third-party validation team from the National Renewable Energy Laboratory and a sub-contractor on the UCSD campus. This initial validation may also include laboratory-scale experiments. All proposed activities would take place in existing facilities designed for the type of activities designed for this type of activities; therefore, no new construction, modifications or new permits, additional licenses and/or authorizations would be necessary.

Based on review of the project information and the above analysis, DOE has determined the research, development and testing activities would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusions A9 "information gathering, analysis and dissemination," B3.6 "small-scale research and development, laboratory operations and pilot projects and is 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:

Task 1: Establish systematic baselines using current integrated pest management (IPM) methods at all scales

Task 2: Characterize volatile organic compounds (VOCs) and aerosols with gas chromatography mass spectrometry (MS)

Task 3: Identify soluble molecular signatures with liquid chromatography MS

Task 4: Quantitative polymerase chain reaction (qPCR) with high-resolution melting analysis (HRMA)

Task 5: Integrated early detection and identification system

This restriction does not preclude you from:

Task 0: Process and Data Validation

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 :

This NEPA determination requires a tailored NEPA provision.

Bioenergy Technologies Office

Review completed by Diana Heyder 09/01/2015.

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

NEPA Compliance Officer Signature: \_\_\_\_\_

Electronically  
Signed By:

Lori Gray *Lori Gray*  
NEPA Compliance Officer

Date: 9/1/2015

**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: \_\_\_\_\_