

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** Crop Protection Utilizing Integrated Pest Management through Early Detection and Identifications of Pathogens and Predators

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001162	DE-EE0007094	GFO-0007094-002	GO7094

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 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.

A previous NEPA review has been completed (GFO-0007094-001; CX A9, B3.6; 9/1/2015) that applied to Task 0: Process and Data Validation. This NEPA review is for Tasks 1 through 5.

The proposed project activities in Tasks 1 through 5 would include the design, development, fabrication, and field testing of an early detection system for contaminants of algal biomass growth cultures produced at the flask, tank, bag, and outdoor pond scales for the purposes of advancing algal crop protection. Design, development, and fabrication activities would only be performed indoors at research laboratories on the campus of UCSD throughout the duration of the proposed project. Field testing would occur at both the field station on the campus of UCSD and at commercial algae growing facilities.

Field testing would consist of growing algae in outdoor ponds, introducing a contaminant to the ponds, and testing the ability of the early detection system to identify the contaminant. The early detection system equipment would be portable and sized at approximately one cubic meter and would be co-located with the algae ponds. All contaminants introduced would be naturally occurring, wild-type organisms already found in algae ponds throughout the region. All field testing would occur at facilities with existing growing operations and would not necessitate physical modifications to the infrastructure; therefore, no impacts to sensitive resources are expected. The proposed project would not require any change in the use, mission or operation of the existing facilities. The facilities are designed for the type of work being proposed; therefore, no modifications or new permits, additional licenses and/or authorizations would be necessary as a result of the proposed project.

The proposed project would involve the use and handling of various hazardous materials, such as solvents, for the initial research-based extraction of molecules from healthy and sick algal cultures. All hazardous material handling would occur in-lab and would be handled and disposed of according to the Environmental Health and Safety policies

required by UCSD policies as well as federal, state, and local environmental regulations. Growth pond wastewater and biological waste from growth cultures would be produced. These wastes would be processed according to standard UCSD, federal, state, and local regulations and released into the field station sewage, evaporation pond or soils. Standard laboratory solid and non-hazardous liquid and biological waste would be produced through research experimentation. These would be appropriately handled and disposed of according to UCSD, federal, state, and local regulations. Existing commercial algae growing operations would have health and safety plans and waste disposal plans in place and would operate in accordance with federal, state and local regulations. There would be no use of genetically modified organisms in outdoor grow operations.

Based on review of the project information and the above analysis, DOE has determined the proposed project 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 exclusion A9 "information gathering, analysis and dissemination," and 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 final NEPA determination for this award

Insert the following language in the award:

If the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

Bioenergy Technologies Office
This NEPA determination does not require a tailored NEPA provision.
Review completed by Logan Sholar on 2/18/2016

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 2/25/2016
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