

PMC-ND

(1.08.09.13)

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



RECIPIENT: Global Algae Innovations, Inc.

STATE: CA

PROJECT TITLE : Pilot-Scale Algal Oil Production

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0001232	DE-EE0007965	GFO-0007965-001	GO7965

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.
<b>B5.15 Small-scale renewable energy research and development and pilot projects</b>	Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

## Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Global Algae Innovations, Inc. to plan and design a new pilot-scale algae cultivation and processing facility that would produce algal oil for conversion to biofuel at an off-site, existing refinery. This NEPA determination is for Phase 1 including both Budget Periods 1 and 2. If the recipient is selected to move forward into Phase 2, further NEPA review will be necessary once Phase 2 tasks are defined.

Phase 1 of the proposed project would consist of product validation and preliminary planning/design for scale-up of the production process. Associated activities would include data analysis, small-scale research and development, conceptual design, document preparation, project management, and business planning including permitting and regulatory compliance. Desktop planning, design, and management activities would occur at the offices of Global Algae Innovations in Santee, CA and the University of California, San Diego (UCSD) in La Jolla, CA. Algal strain isolation and characterization at laboratory scale (~60 kg algae) would take place within dedicated University research facilities at UCSD. These activities would not require any new permits, additional licenses and/or authorizations. No change in the use, mission or operation of existing facilities would arise out of this effort.

Validation of algae cultivation and processing would be conducted at the recipient's established Kauai Algae Farm in Lihue, Hawaii. Outdoor work would involve reproducing algal biomass at pilot scale (~1 metric ton) in existing open pond raceways. The proposed project would not utilize genetically engineered algae species. This facility would not require any modifications and is already fully permitted for the proposed activities. No new equipment would be purchased during Phase 1 of the proposed project. Kauai Algae Farm was purpose-built for the type of activities being proposed; therefore, no adverse impacts to sensitive resources are expected as a results of the proposed activities at this location.

The proposed project would involve the use and handling of various hazardous fertilizer chemicals and sodium

bicarbonate. These are routinely used to prepare algae growth media. Existing corporate and University health and safety policies and procedures would be followed such as employee training, proper protective equipment, monitoring, and internal assessments. Non-hazardous wastewater and solid waste would be disposed of following standard treatment actions and methods, including the use of existing evaporation ponds and waste management services to comply with applicable federal, state and local regulations. At UCSD, bio-hazard waste collection is provided by the Dept. of Environmental Health and Safety as per state law. Algae produced at Kauai Algae would be stored for market development activities or disposed of as non-hazardous solid waste.

Based on the review of the proposal, DOE has determined the tasks in Phase 1 fit within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410 (2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. Phase 1 tasks are 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:

**Phase 2**

This restriction does not preclude you from:

**Phase 1 (includes all tasks and subtasks in Budget Periods 1 and 2)**

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 :

Bioenergy Technologies Office  
This NEPA determination requires a tailored NEPA Provision.  
NEPA review completed by Whitney Doss, 06/28/2017

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

NEPA Compliance Officer Signature:  Casey Strickland Date: 6/29/2017  
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