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(1.08.09.13)

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



RECIPIENT: Hawaii BioEnergy, LLC

STATE: HI

**PROJECT TITLE :** Development of Algal Biomass Yield Improvements in an Integrated Process

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-EE0006314	GFO-0006314-002	GO6314

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 Hawaii Bioenergy, LLC to accelerate the development of a commercial industry for algae-derived transportation fuels suitable for petroleum replacement. DOE completed a previous NEPA review (GFO-0006314-001 CX A9 08/01/2013) for Task 1.0 which included validation of support processes, data, and risk management. This NEPA determination applies to the remaining Tasks 2.0-6.0, including outdoor test support, strain improvement, control optimization, preprocessing unit operations and integration.

Hawaii BioEnergy LLC seeks to produce algal biomass in their outdoor, open raceways. These raceways are no larger than .25 acres of wetted area each and are located in Lihue, Kauai. The production activities would include cultivation, harvesting, and drying at the Kauai Algae Farm located at 4941-J Maalo Road in Lihue. Strain development would take place in a dedicated lab at Global Algae Innovations located at 3-3367 Kuhio Hwy in Lihue. Strain development and testing would also occur at Scripps Institute of Oceanography at 8622 Kennel Way in La Jolla, California. Kuehnle Agrosystems would be tasked with preparing inoculum, working on strain development and testing at their facilities at 2800 Woodlawn Dr. in Honolulu, Hawaii. The facilities where the proposed project would occur have been previously used for work that is similar to the activities included in the proposed project, therefore, no new or modified permits would be required, and no construction of new facilities or physical modifications to existing facilities would occur as a result of the proposed project.

Each facility where proposed project activities would occur has existing health and safety policies as well as a risk management plan in place. All work would follow the guidelines set forth in those policies and pose no threat to statutory, regulatory or permit requirements for environment, health and/or safety. One risk currently identified is the handling of solvents (Ammonium Hydroxide 30%: 1.5 Liters, Hexane: 55 gal) used for lipid extraction. All extraction-related activities would be conducted in lab facilities where appropriate safety measures would be taken according to the Manufacturer's Material Safety Data Sheet with regards to the solvent's storage, handling, and disposal. No siting, construction or major expansion of waste storage, disposal, recovery, or treatment actions/facilities would be required and no pre-existing hazardous substances, pollutants, or contaminants would be disturbed.

The U.S. Fish and Wildlife Service Endangered Species Program website identifies over 100 threatened, proposed threatened or endangered species that are known to, or are believed to occur on the island of Kauai in Hawaii. However, due to the lack of potential habitat for any of these species at the project site and the previously disturbed and developed condition of the site; DOE has determined that the proposed project would not adversely affect threatened and endangered species in the area. Additionally, the National Register of Historic Places does not identify any historic or cultural resources at the proposed project site. The entire chain of Hawaiian Islands has been designated as wetlands; however, this project site is previously disturbed and would experience no new construction or modification. Therefore any disturbance to the wetlands in this area has already occurred at a previous date. There are no floodplains or prime farmland are designated in this area and the strain development involved in this project would not include genetically modifying organisms as the process is defined by the EPA and 40CFR725.

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 B5.15 "small-scale renewable energy research and development, 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:

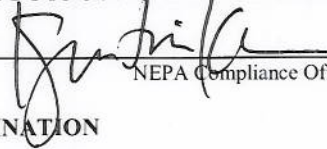
If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing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

Note to Specialist :

This NEPA determination does not require a tailored NEPA provision.

Review completed by Rebecca McCord 07/16/2014.

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

NEPA Compliance Officer Signature:   
NEPA Compliance Officer

Date: 7/17/2014

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