PMC-EF2a

(2.06.02)

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

**RECIPIENT:** Ocean Engineering and Energy Systems International, Inc. (OCEES) **STATE:** HI

**PROJECT TITLE:** The Potential Impacts of OTEC Intakes on Aquatic Organisms at an OTEC Site under Development on Kauai, HI

| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
|---|---|---|---|
| DE-FOA-0000069 | EE0002653 | GFO-0002653-002 | EE2653 |

**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:

**B3.1** Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:

**B3.3** Field and laboratory research, inventory, and information collection activities that are directly related to the conservation of fish or wildlife resources and that involve only negligible habitat destruction or population reduction

**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:

Ocean Engineering and Energy Systems International, Inc. (OCEES) is proposing to use DOE funding to evaluate the potential impact of an ocean thermal energy conversion (OTEC) facility on aquatic organisms. The purpose of this project is to determine the effectiveness of two pilot scale mesh screens in protecting larvae and eggs from entrainment in the intake system.

Tasks include:

Task 1.0 - Preliminary Baseline Biological Sampling
Task 2.0 - Site-Specific Intake Assessment
Task 3.0 - Design of Biological Field Sampling Program
Task 4.0 - Procurement and Construction of Field Sampling Equipment
Task 5.0 - Biological Field Sampling Program with a Pilot-Scale Intake Screen
Task 6.0 - Sample Processing
Task 7.0 - Data Analysis of Biological Sampling Data
Task 8.0 - Project Management and Reporting

A previous NEPA determination (GFO-10-151) was made on May 13, 2010 for tasks 2, 3, 4, 7 and 8. These tasks comprised desktop research and literature review of different intake technologies, the purchase and assembly of plankton sampling equipment, and a floating laboratory to test in an indoor facility, sampling processing in a designated plankton lab, and project management activities. These tasks were determined to qualify for DOE categorical exclusions A9 and B3.6. These tasks have been completed.

Tasks 1 and 6 involve the collection and processing of plankton species. Task 5 involves performing biological testing in Hanapepe Bay from a floating laboratory consisting of two aluminum barges pinned together to make a 15 by 20 foot testing platform. The testing protocol will involve pumping water through a pilot-scale screen and un-screened control port several days a week over a four to five week period.

Tasks 1, 5, and 6 were prohibited pending further information in the first NEPA review conducted. These activities required the coordination and permitting by the National Marine Fisheries Service (NMFS), the US Army Corps of Engineers, and the Hawaii Division of Aquatic Resources. Specific activities for task 5 are dependent on the data and results gathered under task 1. Additional permits and consultations for deploying a mock OTEC system into Hanapepe Bay to test prototype intake screens will also be necessary; therefore task 5 activities continue to prohibited under this award and will need an additional NEPA review.

Task 1 activities would involve biological sampling at the proposed intake location at Port Allen and an alternative location inside Hanapepe Bay. The sampling will be conducted by towing conical bongo plankton nets of 335-µm mesh behind a boat. The net mouth rings will be .25 to .5 meters in diameter and will be attached to a 1-liter collection jar at the end of the net. Samples will be collected during various times of day and at three depths to determine depth and vertical variation of species. Approximately 75 to 100 cubic meters of water will be collected for each sample to obtain a meaningful number of organisms.

Consultation by OCEES and Alden labs (OCEES partner) with various State and Federal agencies has been ongoing since January of 2011. Consultation has been completed for tasks 1 and 6 and following permits and approvals have been received:

•The Hawaii Department of Aquatic Resources issued Alden Research Laboratory a Special Activity Permit that authorizes the use of fine mesh plankton nets for the collection of live marine life offshore of Port Allen Harbor and inside Hanapepe Bay, Kauai.

• NOAA/NMFS was consulted regarding the Marine Mammal Protection Act (MMPA). In an email dated February 1, 2011, Michelle Magliocca from NOAA/NMFS stated that based on her review of the SOPO they do not have any concerns regarding marine mammals.

• On March 28, 2011, DOE initiated informal consultation under Section 7 of the Endangered Species Act (ESA) and submitted a consultation letter to NMFS. A NMFS letter dated April 25, 2011 concurred with DOE's determination that funding OCEES (and their partners, Alden Labs) to conduct ichthyoplankton sampling off Kauai is not likely to adversely affect ESA listed marine species or their designated critical habitat and that DOE's consultation responsibilities under the ESA for species under NMFS's jurisdiction was complete.

• In an email correspondence dated March 4, 2011, the State of Hawaii Coastal Zone Management Program stated that a federal consistency review in accordance with Section 307(d) of the Coastal Zone Management Act is not necessary or required for this project.

• The US Army Corps of Engineers was consulted and during a conference call on Jan. 24, 2010 their representative stated that the sampling and the additional project activities are not subject to permits or consultations required under the Clean Water Act (section 404) or Rivers & Harbors Act (section 10).

Based on the above discussion, acquisition of all necessary permits and approvals from additional governmental agencies, and the and small size of the sampling specimens collected, DOE has determined that the impacts related to Tasks 1.0 and 6.0 are anticipated to have negligible or no affects on the human and natural environment. These two tasks are consistent with actions outlined in DOE's CXB3.3 (field research, inventory, and information collection activities that are directly related to the conservation of fish or wildlife resources), B3.1 (site characterization and environmental monitoring) and B3.6 (indoor bench-scale research projects and conventional laboratory operations) and are, therefore, categorically excluded from further NEPA review.

This NEPA determination does not apply to task 5.0. This task is unallowable pending additional governmental consultations, permits and approvals, and further DOE NEPA analysis.

**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 5.0 - Biological Field Sampling Program with a Pilot-Scale Intake Screen
This restriction does not preclude you from:
Previously CX'd tasks 2.0, 3.0, 4.0, 7.0 and 8.0

Tasks 1.0 and 6.0

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.

Insert the following language in the award:

You are required to:
Adhere to the General Conditions A – M and the Special Conditions A- G of the Special Activity Permit No.211-49 as issued by the Hawaii Department of Land and Natural Resources on April 25, 2011.

Apply the comprehensive best management practices (BMP), as recommended by the Protected Resources Division of the National Marine Fisheries Service's Pacific Islands Regional Office, as stated in the applicant prepared Biological Evaluation supplied to NOAA as part of DOE's Section 7 consultation required under the Endangered Species Act.

Submit an additional EF1 on specific activities related to task 5 of the project SOPO. Include all relevant State, local and Federal agency consultations and permits specific to these activities, including but not limited to: Coast Guard notifications, US Army Corps Clean Water Act and Rivers and Harbors Act permits, HI

Note to Specialist :

This project has NEPA conditioned tasks and should remain on ASAP approval. Additional NEPA review will need to occur for the remaining activities under task 5.0 of the project's current SOPO.

NEPA review completed by: Laura Margason 4.27.2011

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

NEPA Compliance Officer Signature: _____ Date: 5/2/2011
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