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	DE-EE0002653	GFO-10-151	0

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 (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.

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. In addition to conducting field sampling at two sites, activities would include a literature review and desktop analysis of different intake technologies, the purchase and assembly of plankton sampling equipment and a floating laboratory, sampling processing in a designated plankton lab, and project management activities.

Project tasks include:

Task 1 (All Activities Prohibited): Preliminary Baseline Biological Sampling - OCEES will conduct preliminary baseline biological sampling at the proposed intake location at Port Allen and an alternative location inside Hanapepe Bay. The purpose of this task is to assure that the species composition and abundance at the alternative sampling site in Hanapepe Bay is representative of the Port Allen site, and can be used for phase 2 testing in lieu of the Port Allen site due to logistical and safety concerns of testing at the Port Allen site. 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 diel 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. The species likely to be impacted by the preliminary field sampling is currently unknown, and therefore a NEPA determination cannot be made at this time.

Task 2 (A9): Site-specific Intake Assessment – OCEES will conduct a thorough desktop evaluation and screening of technologies available for the warm water intake system. This will be a desktop engineering review of the site specific requirements for the intake design and will examine biological efficacy of each potential intake system. Additionally, OCEES will prepare conceptual designs and cost estimates for the warm water intake system for the Port Allen Site.

Task 3 (A9): Design of Biological Field Sampling Program– OCEES will design a comprehensive field sampling program for both the preliminary sampling conducted in task 1 and the field sampling conducted from the floating laboratory in task 5. OCEES will assemble a Technical Working Group and work with NOAA, relevant state agencies such as the Hawaii Division of Aquatic Resources and the Hawaii Department of Health, and other stakeholders in the design of this program.

Task 4 (B3.6): Procurement and Construction of Field Sampling Equipment – The OCEES Team will design, procure,

and construct the field sampling equipment and floating lab for use during task 5. The floating laboratory sampling equipment will be tested in the Alden Laboratory Test Flume in Holden, MA prior to being shipped to Port Allen. The laboratory has well defined safety procedures in place and no emissions or liquid effluent would be produced during this testing.

Task 5 (All Activities Prohibited): Biological Field Sampling Program with a Pilot Scale Intake Screen – OCEES will perform biological testing in Hanapepe Bay from a purpose built 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. The intent is to determine the ability of the screens to prevent entrainment of larvae and eggs over a set of variable conditions. It is unclear what species will be captured, but testing would occur during periods of time when species of commercial, recreational, ecological, and cultural importance are expected to be present. OCEES plans to consult or obtain permits with NOAA, Army Corps of Engineers and the HI Division of Aquatic Resources, but no inquiries have been submitted yet for these permits. Due to the fact that the volume and type of species likely to be impacted by this sampling are unknown, a NEPA determination cannot be made at this time.

Task 6 (All Activities Prohibited): Sample Processing – OCEES will transfer the biological samples collected during the field sampling efforts to a dedicated plankton processing laboratory in San Luis Obispo, CA. This activity is currently prohibited until more information is received regarding the biological sampling in tasks 1 and 5.

Task 7 (A9): Data Analysis of Biological Sampling Data – The OCEES Team will statistically analyze the data collected during the sample processing to determine the effectiveness of the intake screen.

Task 8 (A9): Project Management and Reporting – OCEES will produce quarterly progress reports and other deliverables required by DOE over the course of the project.

Rational:

Task 4 involves the procurement and construction of sampling equipment and a floating laboratory which would be deployed for a period of 4 to 5 months. The equipment will be tested in an existing laboratory test flume prior to deployment. The laboratory has well established safety procedures and no waste or effluent will be produced during testing.

Task 4 comprises conventional laboratory operations in the development and operation of a small-scale research project; therefore CX B3.6 applies.

Task 2, 3, 7, and 8 involve data analysis, paper studies, and project management activities related to administrative actions; therefore CX A9 applies.

Task 1, 5, and 6 involve the collection and processing of species that are currently unknown at this time. These activities also require the coordination and possible permitting by the National Marine Fisheries Service (NMFS)/NOAA, US Fish and Wildlife Service, the US Army Corps of Engineers, and the Hawaii Division of Aquatic Resources. Impacts related to these activities are currently unknown and therefore a NEPA determination cannot be made at this time. These tasks are currently prohibited until more information is submitted for 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, 5, and 6 activities.
This restriction does not preclude you from:
Preliminary work to facilitate and complete the permitting and coordination requirements by the USFWS, US ACE, NMFS/NOAA, HI Division of Aquatic Resources, or any other permits or consultations necessary for task 1, 5, and 6 activities.

Tasks 2, 3, 4, 7 and 8

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:
Submit an additional EF1 pertaining to all activities being performed under tasks 1, 5, and 6. Include all applicable information and appropriate documentation relating to permitting and consultation.

Coordinate DOE involvement with US ACE, USFWS, NMFS/NOAA, and HI Division of Aquatic Resources to fulfill the requirements of Section 7 of the Endangered Species Act.

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 5/13/10
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