PMC-ND
(1.08.09.13)

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

RECIPIENT: Oscilla Power, Inc.

STATE: WA

PROJECT TITLE: Survivability Enhancement of a Multi-Mode Point Absorber

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001310	DE-EE0007346	GFO-0007346-001	

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 US Department of Energy (DOE) is proposing to provide funding to Oscilla Power Inc. (Oscilla) to design and validate a survival mode for the Triton Wave Energy Conversion (WEC) device. The proposed project would be composed of five tasks, plus project management and reporting.

The five tasks would be:
Task 1: Survivable Design Development (including fabrication and tank testing)
Task 2: Numerical Modeling
Task 3: Optimization of Design
Task 4: Physical Model Validation
Task 5: Determination of Further Design Enhancements

Task 1 would include baseline design work. This would include information gathering, analysis, and computer modeling to establish an initial design. Under Task 1 Oscilla would then fabricate a 1/60th model scale of the design and test the design in a still water tank. Fabrication would occur at the Oscilla facility in Seattle, Washington, which is a pre-existing lab facility that is designed for such fabrication processes. The 1/60th scale model would be fabricated from aluminum, stainless steel, steel, foam, and plastics, and would include electrical instrumentation. The 1/60th scale model would include a foam float which would be approximately ½ meter in diameter and ½ meter in height, as well as a heave plate underneath the float, which will be approximately ½ meter in diameter and .1 meter in height. All material handling would be conducted pursuant to existing lab safety procedures. Once fabricated the model would be float-tested in an existing still tank designed for testing similar devices. The goal of the float-test is to test the hydrodynamic design of the heave plate. The still tank, which would be filled with water, is approximately 3 meters in diameter and 1 meter deep.

Tasks 2 and 3 would involve design and modeling work. This work would occur at the Oscilla facility, as well as at the National Renewable Energy Lab (NREL) in Golden, Colorado and Sandia National Lab (SNL) in Albuquerque, New Mexico. In addition, these tasks would involve third-party validation of the design work. Validation would be analysis work and would occur at Glosten associates in Seattle, as well as DNV-GL in San Diego, California. All work in Tasks

2 and 3 would consist of information gathering, data analysis and computer modeling.

Task 4 would include the fabrication and testing of a 1/30th scale device. Fabrication would take place in the lab at Oscilla; as in Task 1. Materials used, and lab procedures, would be the same as in Task 1, though the scale model would be slightly larger. The 1/30th scale model would contain a float approximately 1 meter by .75 meters and a heave plate approximately 1.1 meter by .2 meters . The model would then be tested in the Oregon State University Hinsdale test facility. The Hinsdale test facility is a purpose built water and wave testing facility designed for testing WEC models such as the model proposed here.

Task 5 would include analysis of the information gathered in the previous tasks, and design modifications based on that analysis. All work in Task 5 would be information gathering, data analysis, and computer modeling in nature.

Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Based on a review of the proposed project information and the above analysis, DOE has determined that 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 exclusions A9 "information gathering, data analysis and computer modeling", 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.

Insert the following language in the award:

You are required to:
Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Note to Specialist :

This determination does require a tailored NEPA provision
Water Program
NEPA review completed by Roak Parker 3/8/2016

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Kristin Kerwin Date: 3/10/2016

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