PMC-ND
(1.08.09.13)

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

RECIPIENT: AQUAHARMONICS INC **STATE:** OR

PROJECT TITLE : OPEN WATER TESTING OF A SCALED NEXT GENERATION POINT ABSORBER WAVE ENERGY DEVICE WITH PHASE CONTROL

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001663	DE-EE0008098.0001	GFO-0008098-001	

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 U.S. Department of Energy (DOE) is proposing to provide funding to AquaHarmonics, Inc. to design, fabricate, conduct laboratory testing, and then field test in an ocean environment a 1:7 scale Wave Energy Conversion device (WEC).

The proposed project is divided into 2 Budget Periods (BP) with a total of 5 tasks. Tasks 1-3 would occur in BP1, Tasks 4-5 would occur in BP2. This NEPA review is for BP1 tasks only.

In task 1 AquaHarmonics would make minor modifications to their existing 1:20 scale WEC and the test the device in a Wave Tank. The 1:20 scale WEC was previously fabricated and tested as part of the DOE Wave Energy Prize. Modifications would include adding new sensors and an accelerometer to the device. The device would then be tested at the University of Oregon Hinsdale wave tank testing facility. The addition of new sensors would be completed by Miles Fiberglass and Composites. Both the addition of sensors and testing of the modified device would occur in facilities that normally engage in those types of activities. Task 1 would also include analysis of the results from the testing.

In task 2 AquaHarmonics would develop plans for the manufacturing of system components. AquaHarmonics would also fabricate and bench test a 1:7 scale Power Take-Off (PTO) assembly. This fabrication would be completed by Composite Technologies Development and Saddle Point Machine. The PTO would be constructed from steel, aluminum, fiberglass and epoxy. The PTO would be approximately 8 feet in length, 4 feet wide and 4 feet tall. The PTO would be bench tested at Saddle Point Machine with adjustments made to ensure proper functioning. The PTO would then be shipped to Sandia National Lab for additional testing to be completed in BP2.

In task 3 AquaHarmonics would develop deployment, testing, recovery and risk management plans, as well as begin the process of obtaining any necessary permits for field testing. This could include identifying a specific testing location and any necessary research needs, such as site specific environmental studies, but would not include conducting any of those studies.

No modifications to existing facilities or new permits would be required for any of the proposed work in BP1. No hazardous materials would be used in BP1. All waste generated during PTO fabrication would be recycled or disposed of appropriately.

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 the review of the proposal, DOE has determined that activities associated with BP1 of the proposal 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. All activities associated with BP1 of this proposal 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:
All BP2 Tasks
Task 4:Device Manufacture
Task 5:Open Water Testing

This restriction does not preclude you from:
All BP1 Tasks:
Task 1: PTO - Control model development
Task 2: 1:7 scale prototype design
Task 3: System fabrication and assembly, deployment, testing, and recovery plans
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:
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 NEPA determination does require a tailored NEPA provision
Water Power Program
NEPA determinatio0n completed by Roak Parker 8/15/17

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Kristin Kerwin Date: 8/22/2017
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