

PMC-ND
(1.08.09.13)

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



RECIPIENT: Northwest Energy Innovations

STATE: OR

PROJECT
 TITLE : Advanced Control of the Azura Wave Energy Device

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001182	DE-EE0007693	GFO-0007693-001	GO7693

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 federal funding to Northwest Energy Innovations (NWEI) to design and validate the performance for an advanced controller for the Azura wave energy device.

The Azura device was developed, in part, through a previous DOE grant. In DOE grant #DE-EE0006923, NWEI fabricated a 1/40th scale model of the Azura device. That model is approximately 1 meter long by ½ meter wide and contains an electric motor PTO. That model was then tested, as part of the previous grant, at the Hinsdale wave tank testing facility at Oregon State University. The Hinsdale facility is a purpose built wave tank testing facility that regularly tests wave energy device models such as the Azura.

In the current grant, NWEI is proposing to develop an advanced controller for the Azura system. NWEI would couple the advanced controller to the previously existing 1/40th scale model device and test the modified system at the Hinsdale facility.

NWEI is proposing to complete five Tasks:

- Task 1 – PTO Design Optimization
- Task 2 – Hydraulic Simulation Model Development
- Task 3 – Model Predictive Controller Development
- Task 4 – Wave Tank Testing
- Task 5 – Project Management and Reporting

All work in tasks 1, 2 and 5 would be limited to information gathering, data analysis and computer modeling.

In task 3 NWEI will develop real time simulation software which will be loaded into a physical controller/computer unit developed by Speedgoat. Speedgoat is a company that makes real time simulation controllers in their regular course of business.

In task 4, NWEI would connect the pre-existing 1/40th scale model Azura device to the new controller system and then test the device in the Hinsdale wave tank. For all tasks, no new construction, permits, licenses, or authorizations,

or modifications to existing facilities or permits, would be required.

Based on the review of the proposal, DOE has determined the proposal fits within the class of actions and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusions 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. This proposal 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.

Note to Specialist :

This NEPA determination does not require a tailored provision.
Water Power Program
NEPA review completed by Roak Parker 12/15/16

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Casey Strickland Date: 12/15/2016
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