

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



**RECIPIENT:** Oregon State University

**STATE:** OR

**PROJECT TITLE:** Co-Design of Marine Energy Converters for Autonomous Underwater Vehicle Docking and Recharging

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0002234	DE-EE0009449	GFO-0009449-002	G09449

**Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), I have made the following determination:**

**CX, EA, EIS APPENDIX AND NUMBER:**

Description:

<b>A9 Information gathering, analysis, and dissemination</b>	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.)
<b>B3.6 Small-scale research and development, laboratory operations, and pilot projects</b>	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 Oregon State University (OSU) to design, fabricate, and test an autonomous underwater vehicle dock which could utilize wave energy to provide both power and communications to an autonomous underwater vehicle (AUV). The dock would be a wave energy converter-autonomous underwater vehicle dock (WEC-AUV docking system).

DOE previously completed a NEPA Determination (ND) (GFO-0009449-001, 08/03/2021: A9, B3.6) which applied only to Budget Period (BP)1 activities. This ND applies to BP2 activities. Milestones 5.1.2, 5.2.2, and 5.3.2 (finalization and integration of trajectory optimization algorithms) would carry over from BP1 to Task 13 of BP2.

Proposed project activities by location are:

- O.H. Hinsdale Wave Research Laboratory (OSU), Corvallis, OR
  - Annual testing of autonomous docking algorithms; hydrodynamic model validation; planning and design activities.
- Dixon Recreation Center (OSU), Corvallis, OR
  - Preliminary testing of AUV prior to annual testing in wave lab; planning and design activities.
- Natural Energy Institute (HNEI) University of Hawai'i at Manoa, Honolulu, HI
  - Hardware and software design for autonomous docking system; planning and design activities.
- Applied Physics Laboratory, University of Washington (UW), Seattle, WA
  - Fabrication of WEC-AUV; planning and design activities.

Project activities would involve the use of machinery to fabricate the docking station and risks associated with electrical components and poolside slips or falls. These risks would be mitigated through adherence to established UW Environment Health and Safety policies and procedures. Risks associated with work conducted in and around water would be mitigated by following existing OSU safety procedures. Water discharged from O. H. Hinsdale Wave Research Laboratory would be pre-treated to remove excess chlorine and released to a nearby creek. Water from the Dixon Recreation Center swimming pool is discharged into the existing OSU wastewater system. All waste products would be disposed of by licensed waste management service providers. OSU and its project partners would observe all applicable federal, state, and local health, safety, and environmental regulations.

No modifications to existing facilities, ground disturbing activities, or changes to the use, mission, or operation of

existing facilities would be required. No additional permits, licenses, or authorizations would be required. DOE does not anticipate any impacts to resources of concern due to the proposed award activities.

## NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Water Power Technologies Office (WPTO)  
NEPA review completed by Melissa Parker, 03/14/24

## FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

The proposed action is categorically excluded from further NEPA review.

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

NEPA Compliance Officer Signature:  \_\_\_\_\_ Date: 3/14/2024  
NEPA Compliance Officer

## FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required  
 Field Office Manager review required

## BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Field Office Manager