

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



RECIPIENT: Pacific Ocean Energy Trust

STATE: OR

PROJECT TITLE : Network Director for the TEAMER Program

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002012	DE-EE0008895	GFO-0008895-024	GO8895

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:

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.)

A11 Technical advice and assistance to organizations

Technical advice and planning assistance to international, national, state, and local organizations.

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 the Pacific Ocean Energy Trust (POET) to administer the Testing and Access for Marine Energy Research (TEAMER) program. POET would collaborate with a Technical Board (TB) which would include representatives from DOE, DOE National Laboratories, and National Marine Renewable Energy Centers. The primary objective of TEAMER is to provide marine energy (ME) technology developers access to a network of facilities within the U.S. which provide testing and modeling assistance for ME technologies. Developers would apply for assistance through a competitive process.

DOE previously completed NEPA reviews which apply to all tasks. However, under Subtask 3.3.1, POET would conduct periodic rounds of funding, specifically identifying facilities offering assistance for which developers could apply. Applications would be reviewed and selected by POET and the TB. Prior to releasing funds to support any selected application, each application would be subject to NEPA review. Applications would include scope of work, where work would be completed, and who would be responsible for completing work (including assistance provided by TEAMER facilities.)

For this review, POET has identified ten Technical Support Recipients (TSRs) to receive support through the TEAMER program:

1. Accumulated Ocean Energy Inc. (AOE)

For this project, AOE would receive technical assistance from the O.H. Hinsdale Wave Research Laboratory (HWRL) at Oregon State University. Support activities would include modeling and testing of a scaled version of AOE's wave energy converter (WEC). Once the scaled device has been optimized and previously collected data has been validated, the testing program would be completed in the HWRL large wave flume tank.

2. Carnegie Clean Energy Ltd.

For this project, Carnegie Clean Energy Ltd. would receive technical assistance from the National Renewable Energy Laboratory (NREL). Support activities would include extreme wave Computational Fluid Dynamics (CFD) modeling of a WEC to validate the model predicting WEC hydrodynamics in specified extreme wave events identified from an

experimental campaign. NREL would also identify critical stress concentrations using a finite element analysis.

3. Columbia Power Technologies, Inc. (C-Power)

For this project, C-Power would receive technical assistance from Cardinal Engineering. Support activities would include numerical modeling of appropriate disciplines (e.g., strength, stability, and cost of hybrid material design concepts) to optimize structure and conformance to standards for C-Power's investigation into two areas of cost reduction in wave power systems.

4. Dehlsen Associates, LLC

For this project, Dehlsen Associates, LLC would receive technical assistance from Sandia National Laboratories (SNL). Support activities would include modeling and simulation of the behavior of a WEC at full-scale and under expected oceanic conditions using the open-source software OpenFOAM. SNL would configure the full-scale model of the WEC using information gained from previous test scale modeling, make any necessary adjustments, and develop scripts to post-process force, displacements, and mooring line tensions.

5. Future Island Impact (FII)

For this project, FII would receive technical assistance from Integral Consulting, Inc. (Integral). Support activities would include completion of a desktop study of Long Island Sound (LIS) to help define its tidal energy capacity and physical and environmental constraints. In addition, Integral would compile a geodatabase, provide a generalized power estimate based on publicly available power matrices, and create the visualization to showcase the viability of tidal energy along the Connecticut coastline in LIS.

6. Lancaster University

For this project, Lancaster University would receive technical assistance from a WEC-Sim facility. Support activities would include modeling and optimizing the efficiency of a WEC by leveraging the integration of advanced numerical methods and optimization techniques. Activities would also include development of a customizable 'design recipe' template that details the WEC's geometry, mass allocation, and power take-off specifics.

7. SRI International (SRI)

For this project, SRI would receive technical assistance from NREL. Support activities would include performing high-fidelity simulation studies for underwater kite turbines developed by SRI's Manta team and conducting 3D CFD simulations for provided lifting surfaces under different current speeds and kite orientations.

8. UH Manoa

For this project, UH Manoa would receive technical assistance from HWRL at Oregon State University. Support activities would include testing a large-scale model WEC in the HWRL large wave flume and comparing the results to a small-scale model from UH Manoa's wave flume. HWRL would operate the flume and deploy, connect, calibrate, and survey the necessary instrumentation. Additional activities would include safety training of personnel and data acquisition, synchronization, post-processing, and upload.

9. Verdant Power, Inc.

For this project, Verdant Power, Inc. would receive technical assistance from NREL. Support activities would include conducting a controlled static test to failure of an epoxy turbine blade design. NREL would design the test setup, perform the necessary design review, build the test frame, set up equipment, perform the test, analyze the data, and provide a final report.

10. Wavewatts Inc.

For this project, Wavewatts Inc. would receive technical assistance from a WEC-Sim facility. Support activities would include development of a baseline WEC-Sim model for a Wavewatts Inc. WEC, completion of sensitivity analyses, post-processing of WEC-Sim results, data sharing, and hosting periodic tech-transfer meetings.

All TSRs would receive support from one or more facilities within the TEAMER facility network. Prior to admitting a new facility into the network, the facility and its capabilities would be reviewed by POET and the TB. All selections of additional facilities, facility capabilities (i.e., type of support offered,) activities, and TSRs would be subject to additional NEPA review.

DOE has considered the scale, duration, and nature of proposed activities to determine potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate impacts on these resources which would be considered significant or require DOE to consult with other agencies or stakeholders.

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

DOE has made a conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

All tasks are approved; however, selection of additional facilities, scope of work, and Technical Support Recipients (TSRs) are subject to additional NEPA review.

The following TSRs are approved to receive technical support for activities proposed in the applications that were part of this review:

1. Accumulated Ocean Energy Inc.
2. Carnegie Clean Energy Ltd.
3. Columbia Power Technologies, Inc.
4. Dehlsen Associates, LLC
5. Future Island Impact
6. Lancaster University
7. SRI International
8. UH Manoa
9. Verdant Power, Inc.
10. Wavewatts Inc.

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

All selections of additional facilities, scope of work, activities, and TSRs which this or previous NEPA Determinations do not apply to. Such additions are subject to additional NEPA review. All technical support activities must be completed by pre-approved facilities and must be the type of work which a signed NEPA Determination applies to.

Notes:

Water Power Technologies Office (WPTO)
NEPA review completed by Melissa Parker, 04/04/24

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.

A portion of the proposed action is categorically excluded from further NEPA review. The NEPA Provision identifies Topic Areas, Budget Periods, tasks, and/or subtasks that are subject to additional NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:

Electronically
Signed By: Andrew Montano

NEPA Compliance Officer

Date: 4/8/2024

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: _____
Field Office Manager

Date: _____