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(1.08.09.13)

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



**RECIPIENT:** Oregon State University - PacWave

**STATE:** OR

**PROJECT TITLE:** Enabling Cost Effective Electricity from Ocean Waves: PMEC-SETS

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0001419	DE-EE0007899	GFO-0007899-002	G07899

**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.)

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Oregon State University (OSU) to advance development of the Pacific Marine Energy Center South Energy Test Site (previously PMEC-SETS, now referred to as PacWave), a proposed open-ocean, grid-connected wave energy conversion device (WEC) testing center. Proposed activities would include siting and design of the proposed facility, development of operational plans, obtaining state and federal permits, development of bid packages for major elements of the project, and construction and certification of the proposed PacWave facility.

PacWave would be an open ocean wave energy test center comprised of four test berths that could support the testing of up to 20 utility scale WECs, moorings, anchors, undersea power and communication cables, and onshore facilities. The facility would have a maximum 20 megawatt capacity. PMEC-SETS would occupy 2 square nautical miles in federal waters approximately 6 nautical miles off the coast of Newport, Oregon. Water depths at the proposed site range from 58 to 78 meters.

The proposed project would be divided into three Budget Periods (BP) with a Go/No-Go decision between each Budget Period. DOE completed one previous NEPA determination which found that an Environmental Assessment (EA) was needed, but approved BP1 activities as allowable interim actions. (GFO-0007899-001; C-12; 5/17/2017). The Federal Energy Regulatory Commission (FERC) is currently completing an EA for this project. DOE, along with the US Army Corp of Engineers, the Bureau of Ocean Energy Management, and the US Coast Guard, is a cooperating agency on the FERC EA. The proposed project is now moving into BP2.

This NEPA determination applies to BP2 only. DOE is reviewing BP2 activities to determine which activities would be considered allowable interim actions that could be completed prior to the conclusion of the EA.

Task 1 would include two subtasks, 1.3 and 1.4. Subtask 1.3 would be limited to providing a lessons learned report. This subtask is limited to information gathering. Subtask 1.4 would involve obtaining final permits and licenses. This subtask would be limited to information gathering. Both subtasks 1.3 and 1.4 would be allowable interim subtasks. These subtasks would be completed by OSU and their project partners.

Task 2 would include four subtasks. Subtask 2.6 would include a review of the subsea cable and procurement process. Under this subtask OSU would develop appropriate RFP's for subsea cable work. This subtask would be limited to information gathering and would be an allowable interim action. Subtask 2.7 would be cable connector acquisition and delivery. This subtask would include signing a contract and taking delivery of the subsea cable. Subtask 2.8 would include subsea cable installation. These two subtasks (2.7 and 2.8) could limit the choice of reasonable alternatives prior to completion of the EA and thus would not be allowable interim tasks. These subtasks will be restricted until further review after completion of the EA. Subtask 2.9 would include addressing recommendations made by DOE in the Go/No-Go decision memo. This subtask would be limited to information gathering and design work and would be an allowable interim action.

Task 3 would include three subtasks. Subtask 3.3 would include a review of the Beach Manhole (BMH) and Horizontal Directional Drilling (HDD) procurement process. Under this subtask OSU would develop appropriate RFP's for this work. This subtask would be limited to information gathering and would be an allowable interim action. Subtask 3.4 would involve the installation of the BMH and HDD conduits. This subtask could limit the choice of reasonable alternatives prior to completion of the EA and thus would not be an allowable interim task. This subtask will be restricted until further review after completion of the EA. Subtask 3.5 would include addressing recommendations made by DOE in the Go/No-Go decision memo. This subtask would be limited to information gathering and design work and would be an allowable interim action.

Task 4 would include two subtasks. Subtask 4.3 would involve include a review of the terrestrial cable procurement process. Under this subtask OSU would develop appropriate RFP's for this work. This subtask would be limited to information gathering and would be an allowable interim action. Subtask 4.4 would involve the acquisition and installation of the terrestrial cable. This subtask could limit the choice of reasonable alternatives prior to completion of the EA and thus would not be an allowable interim task. This subtask will be restricted until further review after completion of the EA.

Task 5 would include five subtasks. Subtask 5.3 would involve include a review of the Utility Connection and Monitoring Facility (UCMF) procurement process. Under this subtask OSU would develop appropriate RFP's for this work. This subtask would be limited to information gathering and would be an allowable interim action. Subtask 5.4 would include construction of the UCMF. Subtask 5.5 would include procurement of equipment for use in the UCMF. Subtask 5.6 would include installation and testing of equipment within the UCMF. These three subtasks (5.4, 5.5, and 5.6) could limit the choice of reasonable alternatives prior to completion of the EA and thus would not be allowable interim tasks. These subtasks will be restricted until further review after completion of the EA. Subtask 5.7 would include addressing recommendations made by DOE in the Go/No-Go decision memo. This subtask would be limited to information gathering and design work and would be an allowable interim action.

Task 6 would include four subtasks. Subtask 6.3 would include final grid connection of the UCMF. This subtask could limit the choice of reasonable alternatives prior to completion of the EA and thus would not be an allowable interim task. This subtask will be restricted until further review after completion of the EA. Subtask 6.4 would include pursuing a Power Purchase Agreement. Subtask 6.5 would include completing a grid integration study. Subtask 6.6 would include addressing recommendations made by DOE in the Go/No-Go decision memo. These three subtasks are limited to information gathering and design work and would be allowable interim actions.

Task 7 would include four subtasks. Subtask 7.4 would include procurement of environmental monitoring equipment. Subtask 7.5 would include installation of environmental monitoring equipment. Subtask 7.6 would include construction of a Local Area Network at the UCMF. These three subtasks (7.4, 7.5, and 7.6) could limit the choice of reasonable alternatives prior to completion of the EA and thus would not be allowable interim tasks. These subtasks will be restricted until further review after completion of the EA. Subtask 7.7 would include addressing recommendations made by DOE in the Go/No-Go decision memo. This subtask would be limited to information gathering and design work and would be an allowable interim action.

Task 8 would include 4 subtasks. Subtask 8.1 would include finishing the development an accreditation plan; this subtask would be completed, in part, by the National Renewable Energy Lab. Task 8.4 would include finalizing accreditation preparations. These two subtasks are limited to information gathering and would be allowable interim actions. Subtask 8.5 would include completion of accreditation. This task may include in water field work. The proposed site for the field work has not yet been determined. As such, there is not enough information available to meaningfully evaluate this subtask and it will be restricted until additional information is provided. Subtask 8.6 would include addressing recommendations made by DOE in the Go/No-Go decision memo. This this subtask would be completed, in part, by the National Renewable Energy Lab would be limited to information gathering and design work and would be an allowable interim action.

Task 9 would include three subtasks. Subtasks 9.4 and 9.5 would include producing a final site preparation report and operation and maintenance SOPs. These two subtasks would be limited to information gathering and would be allowable interim actions. Subtask 9.6 would include addressing recommendations made by DOE in the Go/No-Go decision memo. This subtask would be limited to information gathering and design work and would be an allowable interim action.

Task 10 would include one subtask. Subtask 10.3 is limited to developing a marketing plan including determining cost structures, potential clients, and a developer handbook. This subtask would be limited to information gathering and design work and would be an allowable interim action.

Task 11 is limited to project management and would be an allowable interim action.

At this time DOE is only proposing to provide funding for some Budget Period 2 activities. All approved BP 2 activities

are limited to information gathering, data analysis, and design. Budget Period 2 activities are considered by DOE to be connected actions to the construction, installation and operation of PacWave.

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.

## NEPA PROVISION

DOE has made a conditional NEPA determination.

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

BP 1 all tasks

BP2:

Subtask 1.3 Regulatory Lessons Learned  
 Subtask 1.4 Final Permits and Licenses  
 Subtask 2.6 Develop Subsea Cable and Connector Procurement Process  
 Subtask 2.9 Investigate and address design recommendations from the BP1  
 Subtask 3.3 BMH and HDD Procurement Process  
 Subtask 3.5 Investigate and address design recommendations from the BP1  
 Subtask 4.3 Develop Terrestrial Cable Procurement Process  
 Subtask 5.3 UCMF Procurement Process  
 Subtask 5.7 Investigate and address design recommendations from the BP1  
 Subtask 6.4 Power Purchase Agreements  
 Subtask 6.5 Grid Integration Study of Transient and Dynamic Conditions  
 Subtask 6.6 Investigate and address design recommendations from the BP1  
 Subtask 7.7 Investigate and address design recommendations from the BP1  
 Subtask 8.1 Complete final preps to deliver accredited services during BP3 via NREL and EMEC extending their ISO accreditations. Develop an Accreditation Plan  
 Subtask 8.4 Accreditation Preparations  
 Subtask 8.6 Investigate and address design recommendations from the BP1  
 Subtask 9.4 Test Instrumentation Preparation  
 Subtask 9.5 Site Operations and Maintenance – Ramp up to Testing  
 Subtask 9.6 Investigate and address design recommendations from the BP1  
 Subtask 10.3 Marketing  
 Task 11. Project Management

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

BP2:

Subtask 2.7 Cable and Connector Acquisition and Delivery  
 Subtask 2.8 Subsea Cable Installation  
 Subtask 3.4 Underground Construction Operations  
 Subtask 4.4 Terrestrial Cable Acquisition and Installation  
 Subtask 5.4 UCMF Construction  
 Subtask 5.5 Procurement of UCMF Equipment  
 Subtask 5.6 Equipment Installation and System Testing  
 Subtask 6.3 Final Connection of UCMF to CLPUD and BPA System  
 Subtask 7.4 Procurement of Environmental Monitoring Equipment  
 Subtask 7.5 Pre-installation Monitoring  
 Subtask 7.6 Construction of UCMF Local Area Network (LAN)  
 Subtask 8.5 Deliver Accreditation Extension for ISO 17025 and 17020

All BP 3 Tasks and Subtasks

Notes:

This NEPA determination does require a tailored NEPA provision  
 Water Power Technology Office  
 Roak Parker 2/27/2020

## 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: **Roak Parker**

NEPA Compliance Officer

Date: 2/27/2020

**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: \_\_\_\_\_