

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



RECIPIENT: Columbia Power Technologies, inc.

STATE: OR

PROJECT TITLE : Reduction of System Cost Characteristics Through Innovative Solutions to Installation, Operations, and Maintenance

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001310	DE-EE0007347	GFO-0007347-005	G07347

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.)

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.

B5.25 Small-scale renewable energy research and development and pilot projects in aquatic environments

Small-scale renewable energy research and development projects and small-scale pilot projects located in aquatic environments. Activities would be in accordance with, where applicable, an approved spill prevention, control, and response plan, and would incorporate appropriate control technologies and best management practices. Covered actions would not occur (1) within areas of hazardous natural bottom conditions or (2) within the boundary of an established marine sanctuary or wildlife refuge, a governmentally proposed marine sanctuary or wildlife refuge, or a governmentally recognized area of high biological sensitivity, unless authorized by the agency responsible for such refuge, sanctuary, or area (or after consultation with the responsible agency, if no authorization is required). If the proposed activities would occur outside such refuge, sanctuary, or area and if the activities would have the potential to cause impacts within such refuge, sanctuary, or area, then the responsible agency shall be consulted in order to determine whether authorization is required and whether such activities would have the potential to cause significant impacts on such refuge, sanctuary, or area. Areas of high biological sensitivity include, but are not limited to, areas of known ecological importance, whale and marine mammal mating and calving/pupping areas, and fish and invertebrate spawning and nursery areas recognized as being limited or unique and vulnerable to perturbation; these areas can occur in bays, estuaries, near shore, and far offshore, and may vary seasonally. No permanent facilities or devices would be constructed or installed. Covered actions do not include drilling of resource exploration or extraction wells, use of large-scale vibratory coring techniques, or seismic activities other than passive techniques.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Columbia Power Technologies, Inc. (C-Power) to demonstrate the Columbia Power Wave Energy Converter in an open ocean environment.

The C-Power project is one of three proposed projects that were selected under the Funding Opportunity Announcement DE-FOA-0001310: Next Generation Marine Energy Systems – Durability and Survivability. This proposed project would consist of three budget periods (BP). DOE previously completed NEPA reviews for BP1, BP2, and Tasks 18-21 of BP3 of the proposed project (GFO-0007347-001; CX A9; 3/18/2016, GFO-0007347-002; CX A9; 7/19/2017, GFO-0007347-003; CX A9, B3.6; 8/1/2019, GFO-0007347-004; CX A9, B3.6; 6/16/2021). C-Power has made changes to the proposed SOPO for BP3 tasks. Tasks 18-24 are no longer being pursued as part of this award. This NEPA determination applies to BP3 Tasks 25-28, Subtasks 29.1 and 29.2, and Tasks 30-31 in the modified SOPO. Subtasks 29.3 and 29.4 are excluded from this review due to pending environmental review by the U.S. Navy.

The previous project scope involved design, build, and test of a 20kW Wave Energy Converter (WEC) at the U.S. Navy's Wave Energy Test Site (WETS) in Kaneohe Bay, Oahu, HI. This 20-kilowatt (kW) WEC is no longer being pursued as design and modeling efforts showed it would not be feasible from a cost perspective. This award has been rescope to conduct in water testing of a 2kW WEC at WETS. An autonomous offshore power system (AOPS) would be used for deployment and testing. The AOPS is comprised of three primary, fully integrated components: the 2kW WEC, an electromechanical mooring line, and a seafloor base unit (SBU).

The rescope of this award also includes the design, fabrication, and testing of a Sea Floor Base Unit Deployment and Recovery Vessel (SBU DRV), a towed "barge" that would allow the sea floor battery pack to be towed on the ocean's surface. Additional NEPA review would be required for deployment and testing of the SBU DRV at WETS.

Task 25 would include project management activities such as planning, reporting, budgeting, vendor contracting, and finalization of permits and approvals. Task 26 would include risk management activities such as updating the Risk Register and Risk Management Plan. Task 31 would include project closeout activities such as preparation of the public data set and the final technical report. These tasks are academic in nature and would take place at C-Power's corporate offices in Corvallis, Oregon and in office space at the Marine Corps Base Hawaii (MCBH) in Oahu.

Task 27 would involve the upfit and preparation of the 2kW WEC for deployment at WETS. In preparation for the deployment, AOPS components would be upfit at C-Power's Corvallis, Oregon facility. EOM Offshore, LLC (Pocasset, MA) would replace the AOPS umbilical. The full unit would be prepared for ocean transport and shipped by common carrier service from the U.S. Mainland to Oahu, HI. Upon arrival in Oahu, all equipment would be unloaded and transported to C-Power's staging area at the Port of Honolulu. The equipment would be inspected, checked, test fitted, and prepared for ocean deployment, along with any required final assembly and pre-deployment commissioning activities. Post-commissioning, the AOPS would be transported by road from the Port facility to MCBH.

Task 28 would involve installation (deployment), operation maintenance, and decommissioning (removal) of the 2kW WEC at WETS. This would primarily be conducted by Sea Engineering (Honolulu, HI) and MCBH with technical support from the National Renewable Energy Laboratory (NREL, Golden, CO). Deployment would involve transporting the AOPS from MCBH to WETS and decommissioning would involve transporting it from WETS to MCBH. Operation maintenance could include visual inspection via boat, charging of the batteries, and the 2kW WEC being brought onto a pier/dock/boat deck to open the hatch for servicing.

Subtask 29.1 would involve design of the proposed SBU DRV. Design work would be done by C-Power with 3rd party review by Cardinal Engineering, LLC in Annapolis, MD. Burchett Marine (Ladysmith, British Columbia, Canada) would provide technical assistance during design activities.

Subtask 29.2 would involve fabrication of the proposed SBU DRV. The unit would be manufactured by Sause Bros in Coos Bay, OR.

Task 30 would involve the design and laboratory testing of a supervisory control and data acquisition (SCADA) system capable of low hotel load consumption, standby power reduction, and proper fidelity of data acquisition and computing power. SCADA software work would be completed by Quartis Engineering (San Diego, CA) and C-Power (Corvallis, OR), with assistance from NREL.

All facilities at onshore locations are preexisting purpose-built facilities for the type of work to be conducted for this award. Onshore facility modifications would not be required. Award activities would involve hazards associated with engineering, transport, and open water testing of a WEC. Such hazards include drowning, collisions, and injuries associated with engineering and handling of heavy machinery and materials. Award activities would involve the handling and use of hazardous materials, including lithium batteries and electronic components. All such handling and storage would occur within controlled settings and would follow existing policies and procedures for handling and disposal of these materials. Existing corporate and government health, safety, and environmental policies and procedures would be followed at all locations, including personnel training, proper personal protective equipment, engineering controls, monitoring, and internal assessments.

Deployment and testing activities would occur at WETS, an open-water marine energy test site. Prior to this award, in accordance with the Endangered Species Act (ESA) and Magnuson-Stevens Fishery Conservation and Management Act, the U.S. Navy and the National Marine Fisheries Service (NMFS) completed programmatic consultations concerning deployment activities at WETS. NMFS issued a letter of concurrence (01/21/2022) with the determination that the proposed award activities were not likely to adversely affect (NLAA) critical habitats or federally listed species. Subsequently, the U.S. Navy issued a Categorical Exclusion (CATEX) determination for the proposed award activities (05/16/2022). In their determination, the U.S. Navy stated they had also consulted with NMFS regarding potential impacts on Essential Fish Habitats (EFHs) and that NMFS determined the proposed activities conform to the relevant programmatic consultation. Conservation measures would be implemented during award activities to minimize potential impacts to federally listed species, critical habitats, and EFHs. The Navy's CATEX determination also stated that the proposed action was listed among the de minimis activities agreed upon between the Navy and the State of

Hawaii Coastal Zone Management (CZM) Program and was not subject to further review by the State CZM Program. DOE has determined the proposed activities would have no effect on species solely under U.S. Fish and Wildlife Service jurisdiction.

DOE has considered potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate adverse impacts to any resources.

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.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

Tasks 25-28 (All Subtasks)
Subtasks 29.1 and 29.2
Tasks 30-31 (All Subtasks)

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

Subtasks 29.3 and 29.4

Notes:

Water Power Technologies Office (WPTO)
NEPA review completed by Melissa Parker, 05/24/24

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.

DOE has determined that work to be carried out outside of the United States, its territories and possessions is exempt from further review pursuant to Section 5.1.1 of the DOE Final Guidelines for Implementation of Executive Order 12114; "Environmental Effects Abroad of Major Federal Actions."

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: 5/24/2024

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: _____