

PMC-ND
(1.08.09.13)

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

**RECIPIENT:** Ocean Renewable Power Company**STATE:** ME**PROJECT TITLE** Advanced TidGen Power System

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Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001418	DE-EE0007820	GFO-0007820-003	GO7820

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 funding to Ocean Renewable Power Company (ORPC) to design, develop, and demonstrate a commercially viable tidal power system. The project would seek to improve the hydrodynamic and fatigue performance of the turbine, as compared to existing technologies.

The proposed project is divided into three Budget Periods, with a Go/No Go decision point between each Budget Period. DOE previously completed a NEPA review for Budget Period 1 (BP1) (GFO-0007820-001 CX A9 and B3.6, 11/29/2016). BP1 included 7 proposed tasks (Tasks 1-7), involving design, engineering, modeling, composite testing, and project management. Subsequently, DOE completed a NEPA review for modifications made to Task 5 – Field Demonstration Planning (GFO-0007820-002 CX A9 and B3.16, 10/26/2017). This NEPA review is for Budget Period 2 ('BP2' – Tasks 8, 9 and 14) only. Budget Period 3 (BP3) will be reviewed at a future date, if a 'Go' decision is reached upon completion of Budget Period 2 activities.

Task 8 would consist of performance testing on composite materials to be used in the turbine. Material coupons and joint sections would be fabricated and then submitted to accelerated life and structural testing, in order to inform composite optimization and characterization. Material testing and fabrication would be completed by the U.S. Army Corp of Engineers' Construction Engineering Research Laboratory ('CERL' -- Champaign, IL) in existing facilities, adhering to all applicable local, state, and Federal health, safety and environmental standards.

Task 9 would involve turbine fabrication and validation. A single turbine would be fabricated via a vacuum infusion process, based on the results of testing conducted during Task 8. The turbine would measure 6.25 m (length) x 2.2 m (diameter), and would weigh 1,244 kg. It would be composed of steel (shaft), carbon fiber and epoxy resin (hydrofoils), and fiberglass and epoxy resin (struts). Validation of the production process would also be carried out as part of this task. Fabrication of the turbine would be fully carried out by a qualified vendor, following specifications provided by ORPC. All fabrication activities would be completed in existing facilities, adhering to all applicable local, state, and Federal health, safety and environmental standards.

Tasks 10-13 would involve deployment and testing activities in Cobscook Bay and Western Passage, Maine. There is not sufficient information available at this time for DOE to complete a meaningful NEPA review of Tasks 10-13. Prior to initiating Tasks 10 -13, ORPC needs to complete a Biological Evaluation that provides sufficient information about the proposed activities so that DOE can complete the NEPA review and any required consultations.

Task 14 would consist of project and technical management activities. Included in these activities would be the development of a preliminary Installation, Operations & Maintenance plan, an environmental monitoring technology plan, and a monitoring and risk retirement plan; review and finalization of design changes; verification of a control system and power electronics package; and completion of consultation and permitting.

All facilities in which work would be conducted are pre-existing, purpose built facilities that have conducted work similar to that included as part of this award. No change in the use, mission, or operation of existing facilities would result from any of the proposed project activities. Neither ORPC nor any of its project partners would need to obtain any additional permits in order to conduct the activities reviewed as part of this NEPA determination (Tasks 8, 9, and 14).

Any health and safety risks associated with the activities carried out under the tasks reviewed here would be mitigated by adherence to all relevant corporate health and safety policies and protocols. For ORPC, these include employee training, the use of proper protective equipment, monitoring, and internal assessments. Both CERL and the vendor selected for fabrication of the turbine would also be required to adhere to local, state and Federal health, safety and environmental standards, when completing any of the work associated with these tasks.

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.

Based on the review of the proposal, DOE has determined Tasks 8, 9 and 14 of the proposal fit within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) 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. Tasks 8, 9 and 14 of this proposal are categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

Task 10: Advanced Hydrodynamic Turbine Subsystem Verification Testing
Task 11: Deployment and Mooring Subsystem Verification Testing
Task 12: System Design Refinement and Deployment Preparation
Task 13: Technology Certification

All Budget Period 3 Tasks:

Task 15: Cobscook Bay System Verification Deployment
Task 16: Western Passage Deployment Preparation
Task 17: 12-Month Field Validation Test and Decommissioning
Task 18: Technology Certification
Task 19: Project and Technical Management

This restriction does not preclude you from:

Task 8: Composites Accelerated Life and Structural Testing
Task 9: Composites Turbine Build and Production Qualification
Task 14: Project and Technical Management

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the

final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

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.

Note to Specialist :

Water Power Technologies Office

This NEPA determination does requires a tailored NEPA Provision.

NEPA review completed by Jonathan Hartman, 07/25/2018

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

 Electronically
Signed By: Kristin Kerwin
NEPA Compliance Officer

Date: 7/26/2018

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: _____

Field Office Manager

Date: _____