

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 Energy Harvesting Control Schemes for Marine Renewable Energy Devices

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000848	DE-EE0006397	GFO-00006397-001	

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.)

Rationale for determination:

DOE is proposing to provide funding to Ocean Renewable Power Company (ORPC) to investigate, analyze and model advanced turbine control schemes with the objective of increasing the energy produced by hydrokinetic turbines.

ORPC would apply these studies to their existing family of cross-flow turbine power systems—RivGen®, TidGen®, and OCGen®. ORPC would begin by testing the RivGen® turbine generator unit in Igiugig, Alaska.

Proposed Tasks include:

- Task 1.0 Project Planning
- Task 2.0 Development and Simulation of Control Algorithms
- Task 3.0 Field Campaign for Turbulence Measurements and Turbine Response
 - * Subtask 3.1 Field Campaign Planning
 - * Subtask 3.2 Field Measurements
 - * Subtask 3.3 Data Analysis
- Task 4.0 Control System Implementation and Verification
- Task 5.0 System Refinement and Integration Plan
- Task 6.0 Impact Analysis (reporting)

Throughout tasks 1.0, 2.0 and 3.1, ORPC would refine project parameters, conduct desktop studies, and complete computer simulations in order to develop the necessary control algorithms that would then be tested during their field campaign proposed in Tasks 3.2, 3.3 and 4.0.

ORPC is proposing to apply the developed control schemes on their RivGen turbine generator at a facility in Igiugig Village, Alaska. This testing site is currently in the Federal Energy Regulatory Commissions' pilot licensing process. The Igiugig Village Council is currently reapplying for a U.S. Army Corps permit that expired in 2013. DOE has determined that a NEPA determination for these tasks cannot be made at this time because this site has yet to complete necessary federal regulatory processes, the specifics on ORPC's RivGen and fiber optic deployment are not known, and therefore potential impacts cannot be assessed.

Tasks 1.0, 2.0, 3.1, 5.0, and 6.0 involve planning, desktop studies and computer modeling activities. DOE has determined that these tasks are consistent with actions covered under DOE CX A9 (Information gathering, computer modeling, information dissemination); and 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:

- Subtask 3.2 Field Measurements
- Subtask 3.3 Data Analysis
- Task 4.0 Control System Implementation and Verification

Prohibited actions also include capital equipment purchases, in-river deployments and operations, and all site characterization activities.

This restriction does not preclude you from:

Project planning, desktop studies and computer simulations planned in the following tasks/subtasks:

- Task 1.0 Project Planning
- Task 2.0 Development and Simulation of Control Algorithms
- Task 3.0 Field Campaign for Turbulence Measurements and Turbine Response
- Subtask 3.1 Field Campaign Planning
- Task 5.0 System Refinement and Integration Plan
- Task 6.0 Impact Analysis

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.

Note to Specialist :

NEPA review completed by Laura Margason on December 17, 2013.

This NEPA Determination requires a tailored NEPA provision.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 12/17/2013
NEPA Compliance Officer

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: _____ Date: _____
Field Office Manager