

PMC-EF2a

(20102)

**U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION**



RECIPIENT: Shift Power Solutions Inc

STATE: CA

PROJECT TITLE : Protective, Modular Wave Energy Generation System

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000293	DE-EE0004570	GFO-0004570-002	0

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.

Rational for determination:

This project was originally categorically excluded by DOE on 11/16/2010 (GFO-10-586 CX A9 and B3.6).

Due to schedule delays at the originally proposed laboratory (Oregon State University), Shift Power is now proposing to complete lab work at the Hydraulics Laboratory at Scripps Institute of Oceanography. The only change in the project is the change in the location for the wave testing. However, as the testing is integrated into several of the tasks in the Statement of Project Objectives, the entire project is addressed in this NEPA determination. Dry dock testing has already occurred at the OSU facilities.

Shift Power Solutions is proposing to use DOE funding to design and build a protective, modular wave power generation system. The purpose of this system is two-fold: 1) to harness wave energy as a power source and 2) to protect the structural integrity of breakwaters, embankments and other marine structures. Designing and building a modular wave power generation system and assessing the feasibility and risks associated with the technology are the main goals of the proposed project.

Wave testing lab work would be conducted at the Hydraulics Laboratory at Scripps Institution of Oceanography. An R&D questionnaire has been filled out for this facility. The Hydraulics Laboratory is equipped with the appropriate tools, fire alarms, lifesaving equipment, first aid equipment and supplies. The facility complies with the standard safety protocols established for UCSD and OSHA requirements. The Wind Wave Channel is filled with tap water and will be discharged in compliance with UCSD's Environmental Protection Policy.

The proposed project involves information gathering and indoor bench-scale research and conventional laboratory operations – no deployments would occur under this project. The proposed project is consistent with actions outlined in A9 (information gathering) and B3.6 (indoor bench-scale and research and conventional laboratory operations in an existing indoor facility); and therefore is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

Review completed by Laura Margason on November 16, 2011.

Total project funding = \$391,356
DOE funding = \$240,000
Cost share funding = \$151,356

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 11/17/2011
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

The project was originally categorically excluded by DOE on 11/18/2010 (BFOC-10-586 CX AB and 53.6). Due to activities during the originally proposed laboratory (Oregon State University) Shift Power is now proceeding to complete the work at the Hydrologic Laboratory at Oregon Institute of Oceanography. The only change in the project is the change in the location for the wave testing. However, as the testing is integrated into several of the tasks in the Statement of Project Objectives, the same project is addressed in this NEPA determination. No new testing is already occurred at the OSU facilities.

Shift Power Solutions is proposing to use DOE funding to design and build a protective, modular wave power generation system. The purpose of the system is two-fold: (1) to harness wave energy as a power source and (2) to protect the structural integrity of breakwaters, embankments and other marine structures. Designing and building a modular wave power generation system and assessing the feasibility and risks associated with the technology are the main goals of the proposed project.

Wave testing lab work would be conducted at the Hydrologic Laboratory at Oregon Institute of Oceanography. An R&D questionnaire has been filed out for this facility. The Hydrologic Laboratory is equipped with the appropriate local, the storm, measuring equipment, lift and equipment and supplies. The facility complies with the standard safety protocols established for USCD and OSHA regulations. The Wind Wave Channel is filled with tap water and will be designed in compliance with USCD's Environmental Protection Policy.

The proposed project involves information gathering and indoor, bench-scale research and conventional laboratory operations - no deployments would occur under this project. The proposed project is consistent with actions outlined in the Information Gathering and B&E (indoor bench-scale and research and conventional laboratory operations in an existing indoor facility) and therefore is categorically excluded from further NEPA review.