

PMC-ND
(1.08.09.13)

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



RECIPIENT: Re Vision Consulting

STATE: CA

PROJECT TITLE : Wave Prediction Leveraging Multiple Measurement Sources – A Sensor Fusion Approach

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-EE0008099	GFO-0008099-002	GO8099

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:

B3.16 Research activities in aquatic environments Small-scale, temporary surveying, site characterization, and research activities in aquatic environments, limited to: (a) Acquisition of rights-of-way, easements, and temporary use permits; (b) Installation, operation, and removal of passive scientific measurement devices, including, but not limited to, antennae, tide gauges, flow testing equipment for existing wells, weighted hydrophones, salinity measurement devices, and water quality measurement devices; (c) Natural resource inventories, data and sample collection, environmental monitoring, and basic and applied research, excluding (1) large-scale vibratory coring techniques and (2) seismic activities other than passive techniques; and (d) Surveying and mapping. These activities would be conducted in accordance with, where applicable, an approved spill prevention, control, and response plan and would incorporate appropriate control technologies and best management practices. None of the activities listed above would occur 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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Re Vision Consulting LLC (Re Vision) to design and test a wave prediction system that will improve wave prediction accuracy and that can be readily deployed in conjunction with Wave Energy Converters. . The proposed project would be divided into 7 tasks. DOE completed one previous NEPA review covering Tasks 1-3, and 5-7. (GFO-0008099-001 CX A9 08/11/). This review is for the remaining task, Task 4.

In Task 4, Re Vision would validate wave prediction algorithms and real time wave prediction using up to eight wave measurement buoys and one controls oriented buoy. Task 4 would involve the deployment of up to 9 buoys in the Pacific Ocean at a location near Santa Cruz, CA. Deployment would include 6 separate deployments of one week each, conducted over a 12 month period, though buoys would not be deployed between December 1 and April 30 to avoid crab season. Buoys would be deployed and retrieved from a small vessel. A wave radar would be deployed from a small vessel from time to time during each deployment to measure and synchronize the spatial evolution of the wave field. During each deployment buoys would be placed in an area no larger than 2.6 square kilometers and spaced no closer than 50 meters apart. The buoys would be small spherical buoys of 32 centimeter diameter, weighing nine pounds each. The buoys will be affixed to the seafloor using an inverse catenary mooring design that consists of a 11-kilogram Danforth anchor bottom weight, approximately 20 feet of chain attached to the anchor, 5/16th polypropylene line, swivels, and a subsurface float-weight-float using approximately 3 feet of chain attached to the surface buoy. The angle or scope of the mooring system will be minimized such that the tension on the line

will be maintained by using the weight of the chain on the bottom to keep the line taut running up to the chain attached to the surface buoy to avoid the formation of a bight or loop in the line.

The deployment in Task 4 of this award would be the same deployment described in Task 6.8 of award GFO-0007173. The deployment would collect data which would be used to support analysis for both awards. DOE completed a previous NEPA review for Task 6.8 of award GFO-0007173 (see, GFO-0007173-004 CX B3.16, 06/15/2018).

Re Vision prepared a biological evaluation for DOE regarding the activities associated with Task 4, and DOE determined that the proposed project may affect, but is not likely to adversely affect the following threatened or endangered (listed) species: leatherback sea turtle, humpback whale, blue whale, fin whale, killer whale, gray whale, and Guadalupe fur seals. DOE determined the proposed action would have no effect on critical habitat or essential fish habitat.

On April 11, 2018, DOE initiated informal consultation with the National Marine Fisheries Service (NMFS) regarding DOE's determination that the proposed activities would not likely adversely affect listed species. On June 6, 2018, NMFS concurred with DOE's determination.

Based on the review of the proposal, DOE has determined the proposal fits within the class of actions and the integral elements of 10 CFR 1021 subpart B outlined in the DOE categorical exclusion 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. This proposal 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 the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

Water Power Program

This NEPA determination does not require a tailored NEPA provision.

NEPA review completed by Roak Parker 9/18/18.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____



Kristin Kerwin

NEPA Compliance Officer

Date: 9/20/2018

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: _____