

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** Oregon State University**STATE:** OR

**PROJECT TITLE :** Measuring changes in ambient noise levels from the installation and operation of a wave energy converter in the coastal ocean.

|  |                                      |                            |                   |
|--|--------------------------------------|----------------------------|-------------------|
| <b>Funding Opportunity Announcement Number</b> | <b>Procurement Instrument Number</b> | <b>NEPA Control Number</b> | <b>CID Number</b> |
| DE-FOA-0000816                                 | DE-EE0006387                         |                            | GO6387            |

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:

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| <b>B3.3 Research related to conservation of fish, wildlife, and cultural resources</b> | Field and laboratory research, inventory, and information collection activities that are directly related to the conservation of fish and wildlife resources or to the protection of cultural resources, provided that such activities would not have the potential to cause significant impacts on fish and wildlife habitat or populations or to cultural resources. |
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**Rationale for determination:**

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Oregon State University to measure changes in ambient noise levels from the installation and operation of a wave energy converter (WEC) in coastal waters. DOE funding would be used to deploy both temporary seafloor mounted and drifting hydrophones at the Northwest National Marine Renewable Energy Center's (NNMREC) ocean test facility before, during and after the installation and operation of a previously approved WEC device. The test facility is an open ocean wave energy test site about 3.4-km<sup>2</sup> (1-square-nautical-mile) centered about 3 km (2 miles) off the Oregon coast near the city of Newport, Oregon.

In August 2012, DOE completed an Environmental Assessment (DOE/EA 1917) and a Mitigated Finding of No Significant Impact (FONSI) was signed for the NNMREC test site. The EA analyzed impacts of OSU's Wave Energy Test Project including the design, construction, deployment, operation, removal, and decommissioning of up to two Ocean Sentinel instrumentation buoys; various WEC devices; a TRIAXYS™ wave measurement buoy; and other supporting instrumentation, including OSU owned vessels.

The proposed project would deploy four, seafloor mounted calibrated hydrophones. The acoustic recording packages would be mounted on custom, trawl protected and ballasted platforms outfitted with pop-up acoustic release recovery systems enabling no surface structures, such as buoys, during the duration of the deployment. The hydrophone instrument would conduct passive recording. Deployment of equipment would be conducted on a four month deployment/recovery schedule due to sedimentation concerns and memory limitations.

The proposed project would also deploy an autonomous drifting hydrophone system for two to three hours at a time. The drifting hydrophone would be equipped with a GPS tracking system and would record acoustic data continuously while drifting with currents through the project site. The hydrophone would be attached to the surface GPS system by a stretchable shock cord. None of the devices would require any lighting.

Placement of the seafloor mounted hydrophones could result in the displacement of benthic habitat. The effects are considered minimal because the area lost would be small compared to the large area of Oregon coastal zones that provide suitable habitat for benthic infaunal communities. In addition, the high-energy marine environment of the project site is adapted to frequent physical disturbance and can be expected to quickly repopulate the area of bottom habitat after the hydrophones are removed.

Noise levels of support vessels during device installation, removal and drifting deployment are below those that have been shown to affect health or behavior of fish and diving seabirds. These noise levels have the potential to affect the behavior of marine mammals; however, these noise conditions would only occur for a short period of time during

installation, removal and drifting deployment of the devices and would, therefore, have only brief impacts of a negligible magnitude. Noise produced from boating is the same as normal boating activities that occur in the area, which is a fishing community. OSU will follow Best Management Practices for boating as defined by NOAA.

In a Biological Opinion produced for DOE EA/1917 in August 2012 for the same site, the National Marine Fisheries Service (NMFS) indicated that there are 17 threatened or endangered species, listed under the Endangered Species Act that could be affected by actions taking place within the NNMREC test site. These species include the Lower Columbia River, Upper Willamette River, Upper Columbia River spring-run, Snake River spring/summer, Snake River fall, California Coastal, Sacramento River winter-run, or Central Valley spring-run Chinook salmon ESU's; Lower Columbia River, Oregon Coast, Southern Oregon/Northern California Coast, or Central California's Coast coho salmon ESUs; Southern DPS of North American green sturgeon; Southern DPS eulachon; humpback whale; Southern Resident killer whale; or Steller Sea Lion. The only species for which critical habitat is designated within the action area are the Southern DPS North American green sturgeon and the leatherback sea turtle. Due to the short deployment periods of both types of hydrophones, the passive acoustic nature of the devices, minimal boat activity, and the use of Best Management Practices, DOE has determined the proposed activities would have no effect on listed threatened or endangered species.

Deployment of the seafloor and drifting hydrophones has the potential to cause entanglement or collision. The sea floor mounted device would be comprised of permanently attached structures, has a low mounted profile and no mooring lines that would further reduce impacts to entanglement. The drifting hydrophone would be deployed for 20 minute increments with almost constant visual observation and was designed with a stretchable shock cord. Due to these factors, DOE has determined there would be no risk of entanglement or collision of marine mammals for hydrophone deployments.

Because no historic properties, archaeological resources, or cultural resources are known to exist within the project area, the project would not affect historical and cultural resources.

Data analysis work would be completed at the Hatfield Marine Center at OSU located at 2030 SE Marine Science Drive, Newport, Oregon.

Based on review of the project information and the above analysis, DOE has determined the installation of seafloor mounted and drifting hydrophones at the NNMREC test site would not have significant individual or cumulative impact to human health and/or environment. DOE has determined that the proposed project is consistent with the actions identified in categorical exclusion B3.3 "research related to conservation of fish, wildlife, and cultural resources" and 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 :

Kelly Daigle 12/17/2013

This NEPA determination does not required 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.