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

RECIPIENT: Joseph Haxel and Sarah Henkel/ 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.

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000816	DE-EE0006387	GFO-0006387-002	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:

B3.3 Research related to conservation of fish, wildlife, and cultural resources

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.

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 a drifting hydrophone just offshore of the Oregon Military Department's Camp Rilea facility. DOE funding would not used to deploy the WEC devices. Devices would be deployed by Resolute Marine Energy, independent of this project.

A previous NEPA determination was completed for this award (GFO-0006387-001; December 17, 2013). That determination reviewed this project, but was completed for a different site. Originally this project was to be performed at the Northwest National Marine Renewable Energy Center (NMREC) site. The project location has now moved to the Camp Rilea site, approximately 100 miles to the north. In the original review a Biological Evaluation was conducted. Through that evaluation it was determined that the project would have no effect on threatened and/or endangered species, or their habitat. Because the project location has changed, a new Biological Evaluation has been completed for the new site, and to support this review.

The proposed project would deploy two, passive acoustic seafloor mounted hydrophones at 10 and 15 meter water depths separated by a cross-shore distance of approximately 500 meters. (The previously reviewed project would have deployed four hydrophones. In all other aspects, except site location, this project is identical to the previously reviewed project). The framing which will hold the instruments consists of hollow aluminum tubing weighted with lead ballast and with an estimated footprint of roughly 30 square feet. A single vessel would be used for each deployment and recovery operation, with up to 20 deployment recovery operations over the two year project duration. The duration of each deployment would be for 4-6 weeks. Best Management Practices for vessel operations will be utilized during deployment and recovery. Deployment will occur on the sandy bottom just outside of the high energy wave area. The hydrophone instrument would conduct passive recording. These instruments would not emit sound or other disturbance.

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 (30 square feet per device) 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. Because the project is very close to shore, there will also be high levels of surf generated sounds. Noise produced from boating is the same as normal boating activities that occur in the area. The project site is near the mouth of the Columbia River, which is the site of Oregon's largest commercial and industrial ports, and thus is already subject to heavy marine traffic. In addition, marine mammals and turtles, while present in the project area, are generally found further offshore.

Deployment of the seafloor and drifting hydrophones has minimal to no potential to cause entanglement or collision. The sea floor mounted devices would be comprised of permanently attached structures, have a low mounted profile, and no mooring lines within which entanglement could occur. The drifting hydrophone would be deployed for short 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.

A Biological Evaluation produced for this project at this site states the following threatened or endangered species, listed under the Endangered Species Act which have been found near the test site: Lower Columbia River, Upper Willamette River, Upper Columbia River spring-run ESU, Snake River spring/summer run, Snake River fall-run, Central Valley spring-run, Sacramento River winter-run, California coastal ESU Chinook salmon; Southern Oregon/ Northern California coast, Oregon coast, Lower Columbia River coho salmon; Southern DPS green sturgeon; Southern DPS eulachon; Leatherback sea turtle; Green sea turtle; Pacific DPS loggerhead sea turtle; Olive (Pacific) ridley sea turtle; Southern Resident DPS Killer whale; Humpback whale; Blue whale; Fin whale; Northern Pacific right whale; sei whale; and, Sperm whale. Species for which critical habitat is designated within the action area are the Southern DPS North American green sturgeon, the leatherback sea turtle, the coho salmon, the eulchon, and the western snowy plover.

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, or their critical habitat.

Based on review of the project information and the above analysis, DOE has determined the installation of seafloor mounted and drifting hydrophones at the project 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 :

Water Power Program
This NEPA Determination does not require a tailored NEPA provision.
NEPA review completed by Roak Parker on 6.3.2015

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Kristin Kerwin Date: 6/4/2015