

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** INTEGRAL CONSULTING INC**STATE:** CA

PROJECT TITLE: Rapidly deployable acoustic monitoring and localization system based on a low-cost wave buoy platform

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001418	DE-EE0007822	GFO-0007822-004	

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), 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 Integral Consulting Inc. (Integral) to develop and field test an array of acoustic vector sensors (named the NoiseSpotter) that characterizes, classifies, and provides accurate location information for anthropogenic and natural sounds for environmental monitoring of marine and hydrokinetic energy devices.

The proposed project would be divided into three Budget Periods, with a Go/No Go decision point between each Budget Period. DOE previously completed three NEPA reviews. (BP1, Tasks 1-3, GFO-0007822-001 CX A9 and B3.16, 12/02/2016; BP2 Tasks 4 and 6 GFO-0007822-002 CX A9 and B3.16, 12/27/2017; BP3 Tasks 7, 8.1 and 8.2 GFO-0007822-003 CX A9 and B3.16, 01/14/2019). Not yet reviewed are Tasks 5, Task 8.3, and Task 9. Integral now proposes to modify Task 7 to add an additional test of a single vector at additional testing locations.

This review is only for those modifications proposed to Task 7.

As previously reviewed, in Task 7 Integral would test and analyze a Vector Sensor Array (VSA) at the Pacific Northwest National Lab (PNNL) Marine Science Laboratory (MSL), specifically in Sequim Bay, WA. The VSA is comprised of a 2 meter x 0.5 meter x 0.5 meter aluminum cage housing three sensors. The device is a passive acoustic device which would weight approximately 30 pounds. Integral now proposes, in addition to the work

described above, to remove one of the passive vector sensors and attach it to the University of Washington Acoustic Surface Wave Instrumentation Float with Tracking (A-SWIFT). Further, it is proposed that the A-SWIFT, with the Integral vector sensor attached, would be tested in Clallam Bay and/or Admiralty Inlet. Integral and UW propose this joint test of the modified A-SWIFT. Project work involving the UW A-SWIFT is funded under DOE grant DOE-EE00007823 and is reviewed separately.

The A-SWIFT is a passive acoustic hydrophone system that consist of a spar buoy approximately 2 meters in length with a hydrophone at the base and instrumentation at the surface. For the proposed project a passive vector sensor would also be attached at the base. The A-SWIFT is a passive acoustic device and generates no sound.

During the newly proposed testing the A-SWIFT would be lowered into the water from a small vessel, allowed to float, and then retrieved. At no time would the benthic zone in the project area be disturbed. Testing (floatation time) in Clallam Bay would be approximately 4 hours. Testing (floatation time) in Admiralty Inlet would be approximately 30 minutes. One test would be conducted in each location, though the test may be repeated a second time if data quality received during the first test is poor.

During testing in Clallam Bay it is expected that a benchmark signal qualitatively similar to a marine energy converter with a broadband source level < 130 dB re 1uPa would be emitted for up to two hours. While it is not currently part of the testing plan, it is possible that the broadband source level could be increased to up to < 190 dB re 1uPa. During testing in Admiralty Inlet no sound source would be emitted.

There are 15 listed endangered or threatened species, and 4 non-listed marine mammals, which could occur within the project area. The project area contains critical habitat for 7 species. A broadband source level of < 130 dB re 1uPa would be below all hearing, barotrauma, and behavioral thresholds associated with all 19 of these species and thus would have no effect on those species. However, a broadband source level of < 190 dB re 1uPa would be within the hearing range of all species, up to a maximum of 32 meters from the source. A sound emitted at < 190 dB re 1uPa would likely cause temporary modification of behavior of listed animals, including temporary avoidance of an area. However, it would not be likely to injure or kill any animal. Any displacement effect would be short term (limited to a total of two hours per test) and would spatially limited to the area up to 32 meters around the source. Thus, DOE determined that a broadband sound source level of < 190 dB re 1uPa may affect but is not likely to adversely affect any endangered or threatened species or their critical habitats in the project area.

On December 3, 2018 DOE, though PNNL, completed a Biological Assessment regarding the proposed actions, including the potential use of a broadband source < 190 dB re 1uPa, and initiated informal consultation with the National Marine Fisheries Service (NMFS). On February 25, 2019, NMFS concurred with the DOE determination that the proposed action may affect but is not likely to adversely affect any endangered or threatened species or their critical habitats in the project area. Further, NMFS determined that the proposed project would have no adverse effect on any Essential Fish Habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act.

NEPA PROVISION

DOE has made a conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

Task 7: Finalize and validate VSA design

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

Task 5 - Second Round Testing

Task 8.3 - Energetic Environment Field testing

Task 9 - Final Technical and Cost Performance evaluation

Include the following condition in the financial assistance agreement:

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

Notes:

Water Power Technology Office

This NEPA determination requires a tailored NEPA provision.

NEPA review completed by Roak Parker 2/26/2019

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

A portion of the proposed action is categorically excluded from further NEPA review. The NEPA Provision identifies Topic Areas, Budget Periods, tasks, and/or subtasks that are subject to additional NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

 Electronically Signed By: Kristin Kerwin

NEPA Compliance Officer

Date: 3/11/2019

FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required
 Field Office Manager review required

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____

Field Office Manager

Date: _____