PMC-ND
(1.08.09.13)

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

RECIPIENT: BioSonics Inc **STATE:** WA

PROJECT TITLE: Long-Range Target Detection and Classification System for Environmental Monitoring at MHK Sites

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001418	DE-EE0007824	GFO-0007824-003	GO7824

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:

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.)
B3.16 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 BioSonics Inc. to develop and field test a purpose built perimeter active acoustic monitoring system to detect targets at long range as they approach marine hydrokinetic devices. The device would include hydrophones, vector sensors, acoustic sensors, and a perimeter detector.

The proposed project would be divided into three Budget Periods, with a Go/No Go decision point between each Budget Period. DOE previously completed two NEPA reviews for Budget Period 1 (BP1) and BP2 (GFO-0007824-001 CX A9 and B3.16, 12/08/2016; GFO-0007824-002 CX A9 and B3.16, 12/21/2017). In BP1, BioSonics conducted design, fabrication, and in water testing of the device. In BP2, BioSonics analyzed the results of the BP1 testing, made modifications to their device, and conducted additional resting. This review is for BP 3 only.

In BP3, BioSonics would analyze results from BP2, re-design and fabricate necessary modifications to the device, bench and tank test the modified device, conduct limited in water testing at the Pacific Northwest National Lab, and conduct in water testing of the fully integrated device in Kaneohe Bay, Hawaii.

BP 3 would include 11 subtasks.

In subtask 2.8 BioSonics would make minor modifications to hydrophone system and test the modifications at the Pacific Northwest National Lab (PNNL) Marine Science Laboratory (MSL), specifically in Sequim Bay, WA. The device would include active acoustic sensors and would emit audible sounds into the marine environment.

In subtasks 3.2, 3.3, and 3.4 and 5.3 BioSonics would make minor modifications to the perimeter detection sensors and the chirp system and then bench and tank test those modifications at the BioSonics' laboratory test facility and test tank.

In subtasks 4.1 and 5.2 Biosonics would make software improvements to the device.

In subtask 6.3 BioSonics would make minor modifications to the mounting platform and then bench and tank test those modifications at the BioSonics' laboratory test facility and test tank.

In subtask 6.4 BioSonics will finalize their in water testing plan.

In subtask 6.5 BioSonics would test the integrated device at the Wave Energy Test Site (WETS) located in Kaneohe Bay, Hawaii.

In subtask 7.1 BioSonics would analyze data from the WETS testing.

All design and modification work, and all bench and tank testing would occur at BioSonics offices in Seattle, WA. The design, modification, bench testing and tank testing work would occur in facilities purpose built for that type of work, requiring no modifications to those facilities. Testing of the device to occur in subtask 2.8 would occur at the Pacific Northwest National Lab (PNNL) Marine Science Laboratory (MSL), specifically in Sequim Bay, WA.

In October 2015, DOE, through PNNL, completed a Biological Assessment (BA) and Essential Fish Habitat Assessment, and consulted with SHPO, NMFS, and USFWS regarding a five year scientific research plan for the MSL (which includes the area in and around Sequim Bay). The five year plan covers the period from January 2016 through September 2020.

PNNL completed a Section 106 cultural resource review of the proposed project areas and concluded that there would be no adverse effects to cultural resources as a result of the proposed activities. In January of 2016, the State Department of Archaeology and Historic Preservation concurred with that conclusion.

The BA identified and analyzed eight different types of research that could occur at the site. These include: installation of equipment or cables on the seabed; installation of floating platforms or moored buoys; installation of equipment on the existing dock/pier; deployment and operation of autonomous underwater vehicles; habitat and species survey and sediment sampling; vessel use; operation of acoustic detection or emitting devices including light and sound emission; and electromagnetic field emissions. The BA examined the impacts of these potential activities in five distinct research areas in and around Sequim Bay. These areas are: Sequim Bay 1 (SB1), the area near the inlet just south of Travis Spit and comprising of 6.88 acres; Sequim Bay 2 (SB2), an area located in the middle of the bay comprising of 2.47 acres; Sequim Bay general area (SBa), which is an area from the mouth of the bay from shore to shore down the bay being approximately 46% of the bay and comprising of 2258 acres; Marine Science Laboratory dock and channel (MSL dock), an area at the entrance to the bay that includes the MSL dock and pier and comprising of 3 acres; and, Gibson Spit (GSa), a general ocean area outside of Sequim Bay and comprising of 1900 acres. Together, these five research areas are known as MSL. Finally, the BA examined impacts the proposed research activities would have to the thirteen threatened or endangered (T&E) species, to protected marine mammals, and to essential fish habitat (EFH) found in the MSL area.

The BA found that the proposed research activities would not likely adversely affect (NLAA) all T&E and protected species, except two species for which there would be no effect, and that there would be no or minimal adverse impacts to EFH. On January 27, 2016, NMFS concurred with PNNL that the proposed research activities that would occur during the five year period would not likely adversely affect EFH, marine mammals, and T&E species under their jurisdiction. On February 18, 2016, the USFWS concurred that the proposed research activities that would

occur during the five year period would not likely adversely affect T&E species under their jurisdiction. Both NMFS and USFWS concluded that no further consultation would be needed for any additional research conducted within the five year period if PNNL determines it fits within the bounds of the BA. If PNNL were to determine that research would not fit within the bounds of the BA, then further consultation with NMFS and USFWS would be required.

In March of 2016, DOE/EERE contacted both NMFS and USFWS regarding the completed consultations. DOE/EERE concurred with the analysis and finding in the previously submitted BA. On March 21, 2016, both NMFS and USFWS notified EERE that the analysis and concurrence previously provided to PNNL regarding projects under the scope of the BA would apply to EERE in the same manner as it applies to PNNL.

The subtask 2.8 testing for this proposed project would be within the parameters of the consultations previously conducted. As such, those activities would not likely adversely affect any T&E species and thus no new consultations would be required.

Subtask 6.5 would include testing at the WETS site in Kaneohe Bay, Hawaii. There is not enough information available at this time to meaningfully evaluate the potential impacts of testing at this location as informal consultation is currently ongoing with the National Marine Fisheries Service. As such, this subtask cannot be evaluated until consultation is completed.

Subtask 7.1 is dependent upon testing in subtask 6.5 and thus cannot be evaluated at this time.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

All Budget Period 1 Tasks
All Budget Period 2 Tasks
Subtask 2.8: Review and verify whether the spurious off-frequency amplitude spikes
Subtask 3.2: Chirp implemented into Perimeter Detection component
Subtask 3.3: Test Perimeter Detector in a laboratory/tank environment
Subtask 3.4: Chirp implemented into Directed Classifier component
Subtask 4.1: Implement and test noise removal algorithms
Subtask 5.2: Transition short pulse classifiers
Subtask 5.3: Bench test chirp system, analyze chirp pulse data to identify new classifiers
Subtask 6.3: Final evaluation of desired mounting platform
Subtask 6.4: Final collaboration on platform mounting devices

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

Subtask 6.5: Target Detection Range Measurements
Subtask 7.1: Complete system planning

Include the following condition in the financial assisstance 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 3/20/19

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 Date: 3/20/2019

NEPA Compliance Officer

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: _____ Date: _____

Field Office Manager