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

**RECIPIENT:** Scientific Solutions, Inc. **STATE:** NH

**PROJECT TITLE:** Drifiting Noise Measurement System and Integrated Data Products

| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
|---|---|---|---|
| | DE-EE0006786 | GFO-0006786-003 | GO6786 |

**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:

| | |
|---|---|
| **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.) |
| **B5.25 Small-scale renewable energy research and development and pilot projects in aquatic environments** | Small-scale renewable energy research and development projects and small-scale pilot projects located in aquatic environments. Activities would be in accordance with, where applicable, an approved spill prevention, control, and response plan, and would incorporate appropriate control technologies and best management practices. Covered actions would not occur (1) within areas of hazardous natural bottom conditions or (2) 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, use of large-scale vibratory coring techniques, or seismic activities other than passive techniques. |

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Scientific Solutions, Inc. (SSI) to develop a robust, commercialized, affordable, and readily available drifting noise measurement system (DNMS) for use by the marine hydro-kinetic (MHK) community during development, installation, operation, and maintenance of MHK devices.

This award previously received NEPA determinations (GFO-0006786-001, 9/04/2014; GFO-0006786-002, 8/13/2015) for all activities except for those associated with Subtask 2.1.9 (Prototype Field Test) and Subtask 2.2.5 (Mature System Integration and Field Testing). The purpose of this NEPA determination is to review only those activities associated with Subtask 2.1.9.

Subtask 2.1.9 of the proposed project would involve approximately two weeks of field work to be conducted in Sequim Bay and Gibson Spit, Washington. Sequim Bay and Gibson Spit are research areas managed by the DOE Pacific Northwest National Laboratory (PNNL), generally known as the Sequim Bay Marine Science Laboratory (MSL). The field work would include twelve distinct tests. All tests would utilize SSI's data acquisition payload (DAQ POD). The DAQ POD would be constructed from aluminum tubing and would be approximately 4½ feet in height and 1 foot in diameter. The DAQ POD would house 4 measurement hydrophones and 4 non-acoustic sensors. For proposed testing, the DAQ POD would be attached to one of two buoy designs. For floating and drift testing, it would be

attached to a spar buoy; a long and narrow, pole-shaped buoy of approximately 20 feet in length, the top few feet of which would be out of the water and would house a gps tracking device. The spar buoy would be deployed into Sequim Bay and Gibson Spit from PNNL's research vessel and left to drift in the current until recovered several hours later. For permanent location testing, the DAQ POD would be attached to a moored buoy. The moored buoy would be similar to the spar buoy, but would be attached to the ocean floor with an anchor, and would not extend above the water line, since no tracking gps would be needed. The moored buoy testing would occur at the MSL dock, near the entrance to Sequim Bay. The tests would consist of systems testing and calibration using the spar configuration (testing to insure that the gps, communication systems, acoustic systems, and recovery systems operate in the ocean environment), drift testing in Sequim Bay and the Gibson Spit area, and moored system testing at the MSL dock.

PNNL's MSL would be the testing site for the proposed project. In addition, it is proposed that MSL become the test site for future DOE/EERE-funded projects to be conducted over a five year period, from January, 2016 through September 2020. In an effort to streamline consultation for these projects, in October 2015, PNNL completed a Biological Assessment (BA) and Essential Fish Habitat Assessment and consulted with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) regarding potential research to occur at MSL in that five year time period.

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 comprising 6.88 acres; Sequim Bay 2 (SB2), an area located in the middle of the bay comprising 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 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 comprising 3 acres; and, Gibson Spit (GSa), a general ocean area outside of Sequim Bay comprising 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 were not likely to adversely affect (NLAA) all T&E and protected species with the exception of two, for which there would be no effect. The BA also concluded 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 were not likely to 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 were not likely to 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.

In 2015, PNNL also completed a Section 106 cultural resource review of the proposed project areas and found that there would be no impact to such resources. In January of 2016, the State Department of Archaeology and Historic Preservation concurred with that conclusion.

All activities associated with this proposed project would be within the parameters of the consultations previously conducted, and thus no new consultations would be required.

The proposed project may involve the use and handling of various hazardous materials, including metals and industrial solvents. All such handling would occur in-lab at SSI's NH facility. All hazardous materials would be managed in accordance with federal, state, and local environmental regulations. Existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments. Minimal waste may be generated in association with fabrication and assembly of the deployable noise measurement buoy prototype. Such waste will be disposed of in accordance with

SSI's normal operating procedures, as dictated by local and federal regulations. No siting, construction or major expansion of waste storage, disposal, recovery, or treatment actions/facilities would be required.

A final test plan has not yet been developed for Subtask 2.2.5 (Completion of Mature Candidate Field Test) as that test plan will be reliant upon findings from the Prototype Field Test. Thus Subtask 2.2.5 cannot be reviewed at this time.

Based on the information above, DOE has determined that Subtask 2.1.9: Prototype Field Test is consistent with actions outlined in DOE categorical exclusions A9 "Information gathering, data analysis, and information dissemination" and B 5.25 "small-scale renewable energy research and development and pilot projects in aquatic environments" and is therefore categorically excluded from further NEPA review.

**NEPA PROVISION**

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:
Task 2.2.5 Completion of Mature Candidate Field Test.
This restriction does not preclude you from:
All other tasks
If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are 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 requires a tailored provision
Review completed by Roak Parker on 3/29/2016

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature: Electronically Signed By: Kristin Kerwin Date: 4/4/2016
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.

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

Field Office Manager's Signature: _____ Date: _____
Field Office Manager