

PMC-ND
(1.08.09.13)

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



RECIPIENT: Florida Atlantic University

STATE: FL

PROJECT TITLE : Unobtrusive Multi-static Serial LiDAR Imager (UMSLI) for Wide-area Surveillance and Identification of Marine Life at MHK Installations

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000971	DE-EE0006787	GFO-0006787-001	

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.)
B3.6 Small-scale research and development, laboratory operations, and pilot projects	Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Rationale for determination:

DOE is proposing to provide funding to Florida Atlantic University (FAU) to develop and test an optical monitoring system suitable for marine and hydrokinetic (MHK) full project lifecycle observation capabilities for automated real-time classification of marine animals.

Task 1: UMSLI System Design, Specification and Assembly
Task 2: Prototype Demonstration in a Controlled Environment
Task 3: Prototype Demonstration in an Operational Environment
Task 4: Automated Video Classification
Task 5: Project Management

This NEPA review is being conducted for Budget Period 1 activities, Tasks 1, Task 2, Tasks 4.1-4.5, and Task 5 (per the current SOPO EE0006787.000). Task 3 and Tasks 4.6-4.9 activities are not well defined at this time, and would involve in-ocean field work. These tasks may require consultation under section 7 of the Endangered Species Act and permits. Further definition of the proposed activities is required prior to completing a meaningful NEPA review.

In task 1, FAU would design and assemble hardware components for an Unobtrusive Multi-static Serial LiDAR Imager (UMSLI) prototype. Hardware component testing would occur during this task at established FAU lab facilities. In task 2, FAU would perform prototype testing and validation in a controlled environment. This would take place via tank testing at FAU's HBOI Ocean Visibility and Optics Lab (OVOL) facility. All university facilities and laboratories are governed by FAU's Environmental Health & Safety departments. Protocols, training, and oversight are in place, including: laboratory and chemical safety, occupational safety, diving and boating, and lasers. No alterations to facilities would occur as part of this project.

Tasks 4.1-4.5 would involve the development of video imaging software and classification systems. This would involve desktop research and computer analyses.

DOE has determined that this project is consistent with actions covered under DOE CX A9 (Information gathering, analysis, and dissemination) and B3.6 (Small-scale research and development, laboratory operations, and pilot projects); and therefore is 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 3: Prototype Demonstration in an Operational Environment (all subtasks)
- Task 4.6: Software Integration
- Task 4.7: Software Validation and Enhancement Using Tank Data
- Task 4.8: Field Test and Software Hardening
- Task 4.9: Software and Algorithm Documentation

All field testing in open-water marine environments is conditioned upon further NEPA review.

This restriction does not preclude you from:

- Task 1: UMSLI System Design, Specification and Assembly (all sub-tasks)
- Task 2: Prototype Demonstration in a Controlled Environment (all subtasks)
- Task 4.1: Defining Overall Processing Framework
- Task 4.2: Image Enhancement using Spatial Bilateral Pulse Shaping
- Task 4.3: Developing Motion History Imaging
- Task 4.4: Developing Active Learning Classifier
- Task 4.5: Content Archiving and Retrieval Scheme
- Task 5: Project Management (all sub-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.

Insert the following language in the award:

You are required to:

Submit a new EQ1 specific to Task 3, and Tasks 4.6-4.9. Include a detailed description of in-ocean activities, relevant permits, approvals, and marine resource impact analyses.

Note to Specialist :

Water Power Program

This NEPA Determination requires a tailored NEPA provision.

NEPA review completed by Laura Margason on September 16, 2014

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: 
NEPA Compliance Officer

Date: 9/23/2014

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.