PMC-ND
(1.08.09.13)

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

RECIPIENT: University of Maine **STATE:** ME

PROJECT TITLE: Demonstrating a Reduced-Footprint Synthetic Rope Mooring System that Minimizes Fishing Impacts and Costs for a 10MW+ Floating Wind Turbine

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002236	DE-EE0009426	GFO-0009426-001	

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.)
B3.6 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:

The U.S. Department of Energy (DOE) is proposing to provide funding to the University of Maine (UMaine) to design, demonstrate, and validate a minimal-scope semi-taut synthetic rope mooring concept for floating offshore wind turbines.

The proposed project is divided into three Budget Periods (BP). This NEPA review is for BP1 only. In BP1 UMaine would design a synthetic rope mooring system for floating offshore wind turbines. Design work would include identification of design models, identification of synthetic rope types, cost comparisons, mooring system design, anchor design, and installation design. Design components would be verified through a third party review process. BP1 would also include outreach to stakeholders regarding impacts of the proposed project on the fishing community. All of the above activities would be limited to information gathering, design, education, and data analysis.

UMaine would also procure and test synthetic rope material. Typical testing would include break testing of small rope segments, and stiffness and elongation testing of segments which are approximately 15 feet in length. Testing would be completed by rope manufacturers as part of their ordinary course of business. Testing may also be completed by an independent tester that UMaine would hire for that purpose. Additional testing may be completed by UMaine at the University of Maine Advanced Structures and Composites Center. All rope testing would occur in existing laboratory and testing facilities which would follow existing health and safety protocols.

After design and testing, UMaine would fabricate a scale model system for testing at UMaine's wave basin. The wave basin is an existing indoor wave basin testing facility designed for in water testing like that proposed in this project. The scale model would be fabricated from steel plates and tubes, aluminum plates and tubes, glass and carbon reinforced fiber polymers, steel cables, synthetic ropes, and chains. The model would include a tower approximately 6 feet in height, a scale turbine with an approximate 9 foot rotor diameter, a floating foundation up to 6 feet across, and a mooring system. The model would be fabricated at the Advanced Structures and Composites Center. Fabrication and testing would include work with heavy machinery and tools, work around cranes, work over water, and work with electrical systems. Existing University health and safety procedures would be followed including proper training and utilization of PPE

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

Budget Period 1

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

Budget Period 2
Budget Period 3

Notes:

Wind Energy Technology Office
This NEPA determination does require a tailored NEPA provision.
Review completed by Roak Parker, 04/20/2021

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: Roak Parker Date: 4/20/2021

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