

**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

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0002236	DE-EE0009426	GFO-0009426-002	G09426

**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 (FOWT) and to conduct fishing impacts studies for FOWT in the North Atlantic region.

The proposed project is divided into three Budget Periods (BP). BP1 was previously reviewed on 4/20/2021 (GFO-0009426-001, CXs A9 and B3.6). During BP1, the front-end engineering design was completed. In BP2, design activities would continue and specifications would be finalized. The exact location of at-sea testing and anchor placement for BP3 has not been identified. The location is dependent upon the completion of separate DOE funded projects, therefore, this review only applies to BP2.

BP2 would include the detailed design and full-scale testing of the mooring system. A detailed design of the synthetic mooring system would be completed, including design of the synthetic rope, installation method, mooring components, and anchor design. A third-party review of the design would be performed and the design would be revised if necessary. A techno-economic study would be conducted to determine the suitability of the system for other water depths in the North Atlantic region. Participants from the National Renewable Energy Laboratory would conduct a fisheries impact study. Interviews would be conducted with the Monhegan Island fishing community to determine baseline effort patterns of fishery in the project site as well as expectations regarding displacement, safety, gear management, and ecological effects due to the installation and operation of a FOWT. Information from these interviews would be used to develop strategies to minimize the impact of offshore wind turbine deployment to local fisheries.

The full-scale rope testing of the synthetic mooring system would be conducted in a lab at one of four possible locations: Holloway Houston supply and testing facility in Houston, TX; Bridon-Bekaert, developer and producer of ropes and advanced cords in the United Kingdom; TTI Testing LTD's rope testing lab in the United Kingdom; or Stress Engineering Services Inc. testing facility in Houston, TX. All testing would occur in existing laboratory and testing facilities which would follow existing health and safety protocols. 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 personal protective equipment.

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.

## 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 - all tasks](#)

[Budget Period 2 - all tasks](#)

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

[Budget Period 3 - all tasks](#)

Notes:

[Wind Energy Technologies Office](#)

[Review completed by Shaina Aguilar on 5/8/23.](#)

## 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.

DOE has determined that work to be carried out outside of the United States, its territories and possessions is exempt from further review pursuant to Section 5.1.1 of the DOE Final Guidelines for Implementation of Executive Order 12114; "Environmental Effects Abroad of Major Federal Actions."

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: [Casey Strickland](#)

NEPA Compliance Officer

Date: [6/14/2023](#)

## 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: \_\_\_\_\_