

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** Oregon State University**STATE:** OR

PROJECT TITLE: Advanced Collision Detection and Site Monitoring for Avian and Bat Species for Offshore Wind Energy

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001924	DE-EE0008733	GFO-0008733-001	GO8733

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 Oregon State University (OSU) to design, build, and test a novel collision detection system for off-shore wind turbines that would seek to reduce avian and bat collisions. The system would be capable of providing visual confirmation of collisions in both daytime and nighttime conditions via on-blade visible light and infrared cameras, as well as relaying data from remote locations. Both laboratory and field testing would be conducted to validate system performance.

This NEPA Determination will review Tasks 1, 2 (excluding Subtask 2.5), 3, and 5 (BP1). Subtask 2.5 involves wind turbine blade testing (unattached, on the ground) at a yet-to-be determined location. Selection of the testing location would take place as part of the previous tasks/subtasks. Task 4 involves field testing of the prototype collision detection system using working wind turbines. Commencement of this task would require completion of all field test planning activities, which would be completed as part of the previous task. Because Subtask 2.5 and Task 4 are not fully defined, there is not enough information available to meaningfully complete NEPA review on these activities. Accordingly, Subtask 2.5 and Task 4 are restricted until further NEPA review is completed. Additional NEPA review will be completed once all relevant information has been provided by the Recipient.

Proposed project activities would include the following:

Task 1: Blade Impact Detection and Intellectual Property (IP) Management – This task would consist of the development of an IP Management Plan and select components of the collision detection system. The latter would include a multi-sensor module intended for mounting on the blade root of wind turbines, as well as wireless vibration sensors intended for installation along the blade length. This task would include component design work (e.g. development of functional/electrical specifications), software development, component housing hardware design, component fabrication (e.g. blade root modules, electronics, visible light/near-infrared imagers, and vibration sensors), software integration, and in-lab component testing.

Task 2: Nacelle Unit – This task would consist of design and testing of the components designed for installation in the turbine nacelle. These would include a specialized camera for monitoring and a microphone array. Activities would include architecture/electronic system design of the nacelle module (i.e. camera/microphone array), software development, housing/mounting hardware design and fabrication, and in-lab testing of the module (e.g. image and audio testing).

Task 3: Field Testing Planning – This task would consist of planning for field testing. Field testing itself would take place at a later date at the National Renewable Energy Laboratory's (NREL) Flatirons Campus in Boulder, CO. This would take place as part of Task 4, after further NEPA review is completed. As part of Task 3, OSU would coordinate with NREL-Flatirons personnel to plan for equipment installation, testing procedures, and protocols.

Task 5: Publications and reporting – This task would consist of reporting and dissemination activities (e.g. publications, conferences, workshops, etc.) that would be ongoing throughout the project.

OSU would lead and coordinate all project activities. Design, fabrication, and testing of components would be performed at existing, purpose-built laboratory facilities at its campus in Corvallis, OR. Established university health and safety policies and procedures would be adhered to throughout the project. OSU would observe all applicable Federal, state, and local health, safety, and environmental regulations.

NEPA PROVISION

DOE has made a conditional NEPA determination.

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

Task 1: Blade Impact Detection and Intellectual Property (IP) Management

Task 2: Nacelle Unit (excluding Subtask 2.5)

Task 3: Field Testing Planning

Task 5: Publications and reporting

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

Subtask 2.5: System field tests, static and dynamic

Task 4: Wind Turbine Testing

Include the following condition in the financial assistance 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:

Wind Energy Technologies Office

This NEPA determination requires a tailored NEPA Provision

NEPA review completed by Jonathan Hartman, 07/12/2019

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:  Kristin Kerwin Date: 7/12/2019
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