

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** University of Massachusetts Amherst**STATE:** MA**PROJECT****TITLE:**

A Biomimetic Ultrasonic Whistle for Use as a Bat Deterrent on Wind Turbines

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001181	DE-EE0007032	GFO-0007032-002	GO7032

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.)

B3.3**Research****related to****conservation****of fish,****wildlife, and****cultural****resources**

Field and laboratory research, inventory, and information collection activities that are directly related to the conservation of fish and wildlife resources or to the protection of cultural resources, provided that such activities would not have the potential to cause significant impacts on fish and wildlife habitat or populations or to cultural resources.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to the University of Massachusetts Amherst (UMass) to design a series of biomimetic whistles which produce pulses of high-intensity, frequency-modulated ultrasound, when placed on a turbine blade, and which successfully deter bats from approaching the sound source. Proposed project activities include both in-laboratory design, development, fabrication and testing of the biomimetic whistles, as well as field testing of the same devices.

The project was reviewed and received a NEPA Determination on 9/14/2015, at which time it was determined that activities proposed in the Statement of Project Objectives (SOPO) were consistent with CXs A9 'Information gathering, analysis, and dissemination gathering, analysis, and dissemination,' B3.3 'Research related to conservation of fish, wildlife, and cultural resources,' and B3.6 'Small-scale research and development, laboratory operations, and pilot projects.' Since that time, UMass has completed a revised biological study design and submitted it for DOE review, as was stipulated under Task 7 of the award. The biological study design details proposed activities for bat field testing (Task 4). These testing activities have been modified slightly from the activities reviewed as part of the original NEPA Determination. Accordingly, this NEPA Determination covers the proposed changes to Task 4. All other tasks are still covered by the original NEPA Determination.

Field testing would be performed on the rooftop of a designated Texas A&M facility where a population of Mexican free-tailed bats are known to frequently pass over at night. Testing would be carried out for one hour per evening during the first hour after sunset, over a ten night period between March and April of 2019. A stimulus sound field, measuring approximately 1000 m² (20 m wide x 50 m deep), would be established using an array of four speakers projecting pulsed ultrasonic sounds. Thermal imaging cameras and a four-channel microphone array would also be installed to evaluate the bats' responses to the stimuli (e.g. changes in flight trajectory, spatial avoidance, etc.).

U.S. Fish & Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) database shows no threatened/endangered species of bats or other mammals within range of the Texas A&M field study. However,

there are five threatened/endangered bird species and eight migratory bird species that may occur within range of the test site. The five threatened/endangered species are all migratory, coastal birds with no potential habitat in the test area. For their part, the migratory bird species are unlikely to be impacted by project activities as testing would be: 1) temporary, lasting only ten days; 2) restricted to a limited area on and around the rooftop of an existing building; and 3) performed without any intention to take, as defined by the Migratory Bird Treaty Act. Due to the analysis above, DOE has determined that the federally listed species identified are highly unlikely to occur in the project area during experiments and there would be no effect to the species as a result of the proposed project.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Wind Energy Technologies Office

This NEPA determination does not require a tailored NEPA Provision.

NEPA review completed by Jonathan Hartman, 03/04/2019

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.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:

 Electronically Signed By: Kristin Kerwin

NEPA Compliance Officer

Date: 3/6/2019

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: