

PMC-ND

(1.08.09.13)

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



RECIPIENT: NREL

STATE: CO

PROJECT TITLE: NREL-19-033 TSU Bat Ultrasonic Deterrent Study - San Marcos, TX

| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
|-----------------------------------------|-------------------------------|---------------------|------------|
| DE-FOA-0001924-1535 | DE-AC36-08GO28308 | NREL-19-033 | GO28308 |

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:

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's (DOE) Wind Energy Technology Office (WETO) proposes to provide federal funding to DOE's National Renewable Energy Laboratory (NREL) to partner with Texas State University (TSU), Texas A&M University-San Antonio (TA&M), NRG Systems, and Bat Conservation International to conduct research into an ultrasonic acoustic deterrent (UAD) to reduce collisions of bats with wind turbines. The purpose of the project is to investigate species-specific responses and identify UAD parameters that are most effective at deterring the greatest number of bat species to reduce bat fatalities.

Texas State University (TSU) is constructing an outdoor experimental flight cage at the Freeman Center located in San Marcos, Texas. The flight cage is owned and operated by TSU and is being built independent of this project and without DOE funding. NREL would enter into a rental service agreement with TSU to use the flight cage for this project. NRG Systems is the designer and manufacturer of the UAD. Bat Conservation International would serve as a technical advisor and has extensive experience testing UADs. TSU and Texas A&M University-San Antonio would conduct the field research.

The flight cage would measure 60 meters long, 9.8 meters wide, and 4.3 meters tall. It is an open-air structure that does not contain any obstacles and is surrounded by lightweight, plastic netting with a UAD located at each end. The flight cage includes a holding facility for the bats that is approximately the same width and height, but shorter in length.

Researchers would capture individuals from several species of bats, including Brazilian free-tailed bats, eastern red bats, big brown bats, hoary bats, and tri-colored bats, from various locations in central Texas. Specific locations have yet to be determined, but would be within an approximately 3 hour radius drive from TSU that are known areas of bat activity to ensure only bats are captured. Capturing bats and conducting tests at the flight cage would be aligned with their spring and fall migration periods, and would occur over an approximately 18-month period. Researchers that would capture and handle the bats would be experienced and trained to do so. Standard equipment, such as mist-nets, would be used to safely capture bats and cloth holding bags would be used to transport them to the study location. The bags are designed specifically for bats and are widely used in the field.

Once placed in the flight cage, researchers would assess the bats' responses to the UAD using a combination of bat acoustic detectors and thermal video cameras. Researchers would compare species-specific responses of bats between the default UAD settings, which would include sound pressure level, frequency, and signal patterns, to identify the configuration that is most effective across the bat species. Each individual bat would be subject to three iterations of the test with at least 2 hours between them to minimize stress. After the tests at the flight cage, all bats would be released approximately 12-36 hours after capture at the locations where they were taken. All releases would occur in the evening.

All testing activities would be conducted by wildlife professionals with the necessary training, experience, and permits to conduct such work. TSU researchers have obtained a Scientific Research Permit from the Texas Parks and Wildlife Department (Scientific Research Permit #SPR-1217-243), and a permit from TSU's Institutional Animal Care and Use Committee (IACUC #6224) for this project. All project activities shall be conducted in accordance with the terms, conditions, and reporting requirements outlined in the permits.

The U.S. Fish & Wildlife Service's IPaC tool was used to evaluate a broad area for endangered species and migratory birds. The collection area proposed for this project includes Freeman Ranch and a 3 hour drive radius from San Marcos, TX. There are a listed bird species and migratory birds present in the proposed area, however there are no listed bat species in the area. Adverse effects to listed or migratory birds from capturing the bats and testing the UAD are not anticipated. Mist-netting of bats would be done at times when bird species are not active, and it is not likely that birds would be caught in the nets. Should any birds be captured, trained researchers would safety release them and any other non-target species immediately. Noise impacts to birds are also not likely as birds cannot hear within the device's frequency range.

Individuals working on this project could be exposed noise hazards. The acoustic deterrents emit sound above the upper range of human hearing, approximately 20-50 kHz. The sound would only be emitted during select trials, and researchers would wear ear plugs when operating the deterrents. Researchers could also be exposed to diseases carried by bats. Researchers that would capture and handle bats would be experienced and trained to do so. They would have all required pre-exposure vaccinations and would wear gloves and other PPE to prevent injury, and have access to first aid kits. Existing health and safety policies and procedures will be followed.

NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

All project proponents shall comply with the terms, conditions, and reporting requirements outlined in all required permits.

Notes:

NREL
Nicole Serio 5/23/2019

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: 5/28/2019

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: _____