

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** American Wind Wildlife Institute**STATE:** IA

PROJECT TITLE: Developing and Evaluating a Smart Curtailment Strategy Integrated with a Wind Turbine Manufacturer Platform

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001924	DE-EE0008729	GFO-0008729-002	

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.)
- B3.1 Site characterization and environmental monitoring** Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools); (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer and underground reservoir response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes); (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources); (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.
- 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.
- 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 is proposing to provide funding to American Wind Wildlife Institute (AWWI) to develop and evaluate a smart curtailment strategy integrated with a wind turbine manufacturer platform. The goal of the project is to develop and independently evaluate a smart curtailment strategy based on bat activity (i.e., acoustics and thermal video), bat fatalities, and environmental variables using the Vestas Bat Protection System

(VBPS).

The project would be completed in two Budget Periods. In Budget Period 1, AWWI would develop a detailed study plan for activities in both budget periods and conduct field research to collect baseline bat mortality data. This project received one previous NEPA review for Tasks 1-2 of BP1 (GFO-0008729-001, CX A9, 6/17/2019). This NEPA review applies to the remaining BP1 tasks (Task 3 - 6). DOE will complete additional NEPA review when sufficient details are available to conduct a meaningful analysis of potential impacts for BP2 activities.

In Task 3 (Selection, installation and testing of environmental sensors) AWWI would purchase and install small passive environmental instruments and bat detection monitors. This would include bat detectors, two thermal imaging cameras, precipitation sensors, and additional small scale weather data collection instruments. All instruments are passive detectors and thus would not actively deter or impact bats or other species. Instruments would be installed on or around existing wind turbines. No ground breaking would occur for these installations. Once installed AWWI would monitor the performance of the instruments to verify that the VPBS system is successfully receiving and logging data.

In Task 4 (Bat Fatality Risk Model Study) AWWI would conduct a fatality study at the existing turbines. This would include recording bat activity using the sensors installed in Task 3, and conducting daily searches for bat carcasses. No changes to existing turbines, including changes to cut in speeds, would be implemented in this Task. This Task would be only collecting baseline data prior to any experimental studies which would be conducted in BP2.

In Task 5 (Development of the Bat Fatality Risk Model) AWWI would use data gathered in Task 4 to develop a bat fatality risk model for the site.

Task 6 (Preparation for Experimental Study Comparing the Smart Curtailment Algorithm to Blanket Curtailment and Control Treatments) AWWI would integrate the bat fatality risk model into the VBPS and develop a full experimental study plan, including developing programming for control and study turbines and training field personnel. The experimental study plan would not be implemented in BP1. Implementation of the experimental study plan would occur in BP2. Any implementation of the experimental study plan is restricted until further NEPA review is completed, including any required consultation with the US Fish and Wildlife Service.

All administrative and modeling work would take place at AWWI's office in Washington DC or Washington State University offices in Vancouver, WA. Field work would take place at Mid-American's Orient I facility in Greenfield, Iowa. Field work in BP1 would include installation of small pieces of monitoring equipment as well as bat carcass searches. All on site work will follow established safety protocols and regulations including wearing proper protective equipment. All on site personnel would be required to undergo Mid American's safety training.

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

Notes:

This NEPA determination does require a tailored NEPA provision
Wind Energy Technology Office
Roak Parker 1/24/2020

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**
NEPA Compliance Officer

Date: 1/24/2020

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: _____