

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



**RECIPIENT:** Stantec

**STATE:** ME

**PROJECT TITLE :** Activity-based Informed Curtailment: Using Acoustics to Design and Validate Smart Curtailment at Wind Farms

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0001924	DE-EE0008728	GFO-0008728-003	GO8728

**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.

**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 Stantec Consulting Services Inc. (Stantec) to undertake a field study on improving the technique of curtailment of wind turbines for reducing and avoiding impacts to rare and vulnerable bat species. Testing would be carried out using a tower/nacelle mounted acoustic monitoring system that would be installed on pre-existing wind turbines.

The project would be completed over two Budget Periods (BPs) with a Go/No-Go Decision Point in between each BP. This project previously received two NEPA determinations. BP1 (GFO-0008728-001, CX A9) was reviewed on 8/16/2019. BP2 (GFO-0008728-002, CXs A9, B3.3, and B3.6) was reviewed on 6/11/2020 and the project received a final NEPA determination. Since that time, Stantec received a no-cost time extension to enable field work to be completed through 2023. Stantec also proposed to expand the research to include up to 11 additional wind energy facilities, bringing the total to 13 MidAmerican Energy Company (MEC) facilities, ranging in size from 35 to 244 turbines. This NEPA determination is to review the activities at the expanded sites. The approach and methods of the expanded study would largely be the same as those proposed in the original study.

Proposed wind farm facilities are listed below:

- Arbor Hill, Adair County, IA
- Orient, Adair County, IA
- Beaver Creek I/II, Boone and Green Counties, IA
- Contrail, Taylor, IA
- Diamond Trail, Iowa County, IA
- North English, Poweshiek County, IA
- Prairie, Mahaska County, IA

- Southern Hills; Adair, Adams, and Union Counties, IA
- Ida Grove II, Ida County, IA
- Ivester, Grundy County, IA
- Palo Alto I/II, Palo Alto County, IA
- Plymouth, Plymouth County, IA
- Pocahontas Prairie, Pocahontas County, IA

Research would occur in two phases. Phase 1 began in 2021 at the Orient and Arbor Hill facilities and is continuing into 2023. 15 turbines at each site were equipped with acoustic detectors. Study turbines are being operated under three treatments: control, blanket curtailment, and smart curtailment.

Phase 2 would be conducted at the newly added 11 sites. At each study site, 15 turbines would be equipped with acoustic detectors. The study at the Phase 2 study sites would include two field seasons per study site, the first of which would document baseline bat fatality rates and acoustic exposure associated with two treatments including blanket curtailment and an operational control. The second season would test the effectiveness of a smart curtailment alternative based on acoustic data collected during the first year and would be designed to be equally protective of bats as the blanket strategy implemented at each site.

All equipment installation would be completed by trained personnel and would follow existing corporate health and safety policies and procedures including the use of proper protective equipment. Carcass handling would be completed only by trained personnel and would be in compliance with the requirements found below in this NEPA determination.

The proposed project would include installation and testing of passive instrumentation on existing wind turbines. No new ground clearing or ground disturbing activities would take place. There would be no change in visual or noise impacts. There would be no impacts to cultural resources.

The US Fish and Wildlife Service Information for Planning and Consultation (IPaC) website lists 12 Endangered Species Act listed species that could be present at the chosen study sites: Indiana bat, northern long-eared bat, piping plover, red knot, pallid sturgeon, Topeka shiner, scaleshell mussel, rusty patched bumble bee, eastern prairie fringed orchid, Mead's milkweed, prairie bush-clover, and western prairie fringed orchid. In addition, it names one candidate species, the monarch butterfly.

For the original study, DOE engaged in formal consultation with the US Fish and Wildlife Service (USFWS) on March 12, 2020, regarding the potential impacts to listed species. On April 23, 2020, USFWS issued a Biological Opinion (BO) which concurred with DOE's opinion, issued an Incidental Take Statement (ITS), and mandated Reasonable and Prudent Measures, Terms and Conditions, and Monitoring and Reporting Requirements. Upon the proposal to expand the study to 11 additional sites, Stantec prepared a revised Biological Evaluation (BE) analyzing potential impacts of the proposed study, this time also including the little brown bat and tricolored bat as they are being considered by USFWS for listing.

While the project does occur within Topeka shiner critical habitat (in Boone and Green counties, Iowa), the execution of the project does not involve any temporary or permanent modifications of any landscape. Therefore, no impact to critical habitat would occur. DOE has determined that the proposed project would have No Effect on the pallid sturgeon, Topeka shiner, scaleshell mussel, monarch butterfly, rusty patched bumble bee, eastern prairie fringed orchid, Mead's milkweed, prairie-bush clover, and western prairie fringed orchid, as no suitable habitat for these species would be affected. As operational adjustments have not been found to affect avian fatality rates, DOE has determined that the proposed project would have No Effect on the piping plover or the red knot. DOE has determined that the proposed project May Effect and is Likely to Adversely Affect the Indiana bat, northern long-eared bat, tricolored bat, and little brown bat and may result in an incidental take of 13.89 Indiana bats, 1.85 northern long-eared bats, 148.03 tricolored bats, and 174.24 little brown bats over the 2-year study. The proposed project would increase the estimated take of each species at the study sites, however the increase is minimal, therefore, DOE has further determined that neither direct, indirect, nor cumulative effects of the proposed project would jeopardize the continued existence of these four species.

DOE reinitiated consultation with USFWS on 6/27/2022 and on 7/11/2022 received a revised BO concurring with DOE's opinion, issuing an ITS, and mandating Reasonable and Prudent Measures, Terms and Conditions, and Monitoring and Reporting Requirements. USFWS issued an ITS finding that the action, over the two-year period of the study, is expected to take up to approximately 16 Indiana bats, 2 northern long-eared bats, 174 tricolored bats, and 190 little brown bats over the course of the two-year study. The BO also concurred with DOE's finding that the take is expected to have a negligible effect on the survival and recovery of these species in the wild. Because the northern long-eared bat is subject to a 4(d) rule, take is not prohibited. As such, the USFWS issued Reasonable and Prudent Measures and Terms and Conditions are in regard to the Indiana bat only. The prohibitions found in section 9 of the Act against taking species do not apply to the tricolored bat or little brown bat unless the species become listed. However, the Service advises the DOE and those acting on its behalf to consider implementing the following

reasonable and prudent measures for these potentially listed species. Monitoring and Reporting Requirements apply to both the Indiana bat and the northern long-eared bat.

The following measures, with their implementing terms and conditions, are non-discretionary requirements of the ITS. DOE is allowed to (and will) require that the grant recipient (Stantec) fulfill the mandated measures.

Reasonable and Prudent Measures:

- In order to reduce Indiana bat mortality at the site, study turbine blades must be feathered according to the feathering regimes described in the June 2022 BE.
- The DOE must report to the Service on whether or not the feathering of turbine blades was implemented successfully at the study turbines.

Terms and Conditions:

- The DOE must report to the Service on whether or not the feathering of turbine blades was implemented successfully at the study turbines.
- If fatality monitoring and other relevant bat activity data collected at the proposed project indicates that take of Indiana bats or northern long-eared bats may exceed the expected levels analyzed in this BO, the DOE and partners should reinitiate consultation and reevaluate the effects of the take on the species.
- If a carcass of an Indiana bat, northern long-eared bat, little brown bat, or tricolored bat is discovered in the project area, the Illinois – Iowa Field Office should be notified within one business day of suspected or positive identification. In addition, the carcass(es) should be preserved and made available to the Service, upon request.
- Results of the research, including statistical analyses, calculated fatality estimates, summaries of monitoring efforts, searcher efficiency calculations, and carcass removal times should be provided to the Service upon conclusion of the research. Should the results demonstrate conservation value to the Indiana bat, northern long-eared bat, or other wildlife, USFWS requests that the DOE, grantee, and/or partners allow for the dissemination of the research results and conclusions among Service personnel to enable others to apply the technique evaluated during the study as a wildlife conservation measure at wind facilities.

In addition, USFWS mandated specific Monitoring and Reporting Requirements as follows:

- After the first year of the study, the DOE and partners will discuss the results with the Service and the observed effectiveness of the research. If interim reports are prepared, a copy should be provided to the Service after the first year of study. Following the second year of study and the completion of the research, a copy of the final report should be provided to the Service.
- The DOE and partners shall process the results of fatality monitoring using Evidence of Absence Software, v2.0 or later (Dalthorp et al. 2017). An estimation of fatalities of Indiana bats, northern long-eared bats, little brown bats, or tricolored bats should be provided using an alpha level of 0.5 to calculate M\* and lambda outputs by the program. The take estimate should be conducted after the first year of the study, if possible. The Evidence of Absence results should be informed by the other bat activity and weather parameter data collected at the site to assess whether or not the levels of take analyzed in this BO are likely to have been exceeded.
- The DOE, grantee, and partners (those conducting the field research) are authorized under this BO to collect and handle covered bat species found incidentally or during fatality monitoring associated with the research. The collection and disposition of covered bat species, including non-living specimens (whole carcasses or body parts), injured live specimens, or grounded, uninjured live specimens shall be conducted by qualified individuals, as defined below:
  - i. Properly qualified for collection of non-living covered bat remains means that any surveyor must be properly trained by the DOE or partners in carcass handling and collection protocols, including data collection, recording, and protection. The surveyor must have knowledge of and take all reasonable precautions to prevent harm to the self and others as a result of handling non-living remains. Also, all applicable federal, state, and local laws relating to the collection and disposition of wildlife remains should be followed by the surveyor.
  - ii. Properly qualified for handling of living, but injured or grounded covered bat specimens means that any surveyor must be properly trained by a person holding a valid ESA section 10(a)(1)(A) recovery permit for bats from the Service. The surveyor must have knowledge of and take all reasonable precautions to prevent harm to the self, others, and the animal as a result of handling living covered bat specimens. Also, all other applicable federal, state, and local laws and guidelines relating to the collection and disposition of wildlife specimens should be followed by the surveyor.

iii. Properly qualified for the identification of the non-living remains or living specimens of covered bat species means that the person must hold an ESA section 10(a)(1)(A) recovery permit for bats from the Service that is valid in the State of Iowa.

As a condition of this NEPA determination DOE requires that the Recipient fulfill all of the Reasonable and Prudent Measures, Terms and Conditions, and Monitoring and Reporting Requirements listed above.

Reinitiation of formal consultation is required if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) DOE's action is subsequently modified in a manner that causes an effect to listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

## NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

The Recipient must comply with all Reasonable and Prudent Measures, Terms and Conditions, and Monitoring and Reporting Requirements found in sections 5.1.1, 5.1.2, and 5.1.3 of the USFWS Biological Opinion dated July 11, 2022, as identified below:

### Reasonable and Prudent Measures:

- In order to reduce Indiana bat mortality at the site, study turbine blades must be feathered according to the feathering regimes described in the June 2022 BE.
- The DOE must report to the Service on whether or not the feathering of turbine blades was implemented successfully at the study turbines.

### Terms and Conditions:

- The DOE must report to the Service on whether or not the feathering of turbine blades was implemented successfully at the study turbines.
- If fatality monitoring and other relevant bat activity data collected at the proposed project indicates that take of Indiana bats or northern long-eared bats may exceed the expected levels analyzed in this BO, the DOE and partners should reinitiate consultation and reevaluate the effects of the take on the species.
- If a carcass of an Indiana bat, northern long-eared bat, little brown bat, or tricolored bat is discovered in the project area, the Illinois – Iowa Field Office should be notified within one business day of suspected or positive identification. In addition, the carcass(es) should be preserved and made available to the Service, upon request.
- Results of the research, including statistical analyses, calculated fatality estimates, summaries of monitoring efforts, searcher efficiency calculations, and carcass removal times should be provided to the Service upon conclusion of the research. Should the results demonstrate conservation value to the Indiana bat, northern long-eared bat, or other wildlife, USFWS requests that the DOE, grantee, and/or partners allow for the dissemination of the research results and conclusions among Service personnel to enable others to apply the technique evaluated during the study as a wildlife conservation measure at wind facilities.

### Monitoring and Reporting Requirements:

- After the first year of the study, the DOE and partners will discuss the results with the Service and the observed effectiveness of the research. If interim reports are prepared, a copy should be provided to the Service after the first year of study. Following the second year of study and the completion of the research, a copy of the final report should be provided to the Service.
- The DOE and partners shall process the results of fatality monitoring using Evidence of Absence Software, v2.0 or later (Dalthorp et al. 2017). An estimation of fatalities of Indiana bats, northern long-eared bats, little brown bats, or

tricolored bats should be provided using an alpha level of 0.5 to calculate M\* and lambda outputs by the program. The take estimate should be conducted after the first year of the study, if possible. The Evidence of Absence results should be informed by the other bat activity and weather parameter data collected at the site to assess whether or not the levels of take analyzed in this BO are likely to have been exceeded.

- The DOE, grantee, and partners (those conducting the field research) are authorized under this BO to collect and handle covered bat species found incidentally or during fatality monitoring associated with the research. The collection and disposition of covered bat species, including non-living specimens (whole carcasses or body parts), injured live specimens, or grounded, uninjured live specimens shall be conducted by qualified individuals, as defined below.

i. Properly qualified for collection of non-living covered bat remains means that any surveyor must be properly trained by the DOE or partners in carcass handling and collection protocols, including data collection, recording, and protection. The surveyor must have knowledge of and take all reasonable precautions to prevent harm to the self and others as a result of handling non-living remains. Also, all applicable federal, state, and local laws relating to the collection and disposition of wildlife remains should be followed by the surveyor.

ii. Properly qualified for handling of living, but injured or grounded covered bat specimens means that any surveyor must be properly trained by a person holding a valid ESA section 10(a)(1)(A) recovery permit for bats from the Service. The surveyor must have knowledge of and take all reasonable precautions to prevent harm to the self, others, and the animal as a result of handling living covered bat specimens. Also, all other applicable federal, state, and local laws and guidelines relating to the collection and disposition of wildlife specimens should be followed by the surveyor.

iii. Properly qualified for the identification of the non-living remains or living specimens of covered bat species means that the person must hold an ESA section 10(a)(1)(A) recovery permit for bats from the Service that is valid in the State of Iowa.

Notes:

Wind Energy Technologies Office

This NEPA determination requires legal review of the tailored NEPA provision.

Review completed by Shaina Aguilar on 7/26/22.

#### 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: Casey Strickland

NEPA Compliance Officer

Date:

8/1/2022

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