

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



RECIPIENT: NREL

STATE: CO

PROJECT TITLE : NREL-22-001 Pecos Wind Power Turbine - Neodesha, KS

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-22-001	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:

**B5.18
Wind
turbines**

The installation, modification, operation, and removal of a small number (generally not more than 2) of commercially available wind turbines, with a total height generally less than 200 feet (measured from the ground to the maximum height of blade rotation) that (1) are located within a previously disturbed or developed area; (2) are located more than 10 nautical miles (about 11.5 miles) from an airport or aviation navigation aid; (3) are located more than 1.5 nautical miles (about 1.7 miles) from National Weather Service or Federal Aviation Administration Doppler weather radar; (4) would not have the potential to cause significant impacts on bird or bat populations; and (5) are sited or designed such that the project would not have the potential to cause significant impacts to persons (such as from shadow flicker and other visual effects, and noise). Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices. Covered actions include only those related to wind turbines to be installed on land.

Rationale for determination:

The U.S. Department of Energy's (DOE) National Renewable Energy Laboratory is proposing to provide federal funding to Pecos Wind Power, Inc. to develop, install, and operate a prototype distributed wind turbine. The proposed project is part of the DOE Wind Energy Technologies Office 2021 Competitiveness Improvement Project which seeks to support small businesses that design and manufacture small or medium wind turbine technology.

PROTOTYPE DEVELOPMENT AND INSTALLATION

Pecos Wind Power, Inc. would develop an 85kW prototype distributed wind turbine, and it would be installed at the Renewable Concepts site located at 1402 Main Street in Neodesha, Kansas. The PW85 prototype would be approximately 52 meters tall at the blade tip, have a 37-meter hub height, and a 30-meter rotor diameter. The prototype would be installed on a monopole tower, so no guy lines would be required.

A new concrete foundation would be poured to support the prototype. The foundation would be a circular concrete and rebar foundation that is approximately 40 feet in diameter and 4 feet 6 inches in depth. The area would be excavated, the foundation would be formed and reinforced, and bolts and fixtures would be embedded before the concrete is poured. Once complete, the area would be backfilled, graded, and reseeded and mulched as needed. The laydown area for excavated soils would be adjacent to the project area.

Manufacturing of the prototype would begin in December of 2021 and installation of the prototype would begin in March of 2022.

OPERATION AND TESTING

Testing of the prototype turbine would include internal safety and function testing and would quantify the behavior of design features that cannot be tested on a dynamometer. Testing would involve normal operation of the turbine and data analysis from the monitoring control system. An auxiliary data acquisition system would be installed at the tower base to log output data from strain gages mounted on the main shaft, bedframe, torque arms, and tower base of the prototype. Testing and operation of the prototype would occur over approximately 18 months.

DISSASSEMBLY

Once testing is complete, the wind turbine and tower would be disassembled. The foundation would remain in place for future turbine testing at the site.

CULTURAL RESOURCES

There are eight historic resource locations listed on the National Register of Historic Places within 15 miles of the proposed project, which are: Brown Hotel; Brush Creek Bridge; Dr. A. C. Flack House; Gold Dust Hotel; Neodesha City Hall Building; Norman No. 1 Oil Well Site; U.S. Post Office-Fredonia; and U.S. Post Office-Neodesha. The proposed project is unlikely to adversely affect these resources because the area is developed and intervening structures between the proposed location and these resources would obscure the turbine from view.

WILDLIFE

The US Fish and Wildlife Service's iPAC database was reviewed and there are 5 federally threatened, endangered, or candidate species that could be present in the project area, and there is no designated critical habit within the project area. The species include: the Northern Long-eared Bat; the Neosho Mucket; the Rabbitsfoot; the American Burying Beetle; and the Monarch Butterfly. The Neosho Mucket and Rabbitsfoot are both a species of clam and would not be present in the project area. The American Burying Beetle is unlikely to be present in the immediate project area as they are typically found in areas undisturbed by human influence; the project area is developed and used for industrial purposes. Similarly, it is unlikely that the Monarch Butterfly would encounter the project area as it does not contain suitable feeding, breeding, and overwintering habitat. The Northern Long-eared Bat is unlikely to encounter the project as they hibernate in caves and mines, swarm in wooded areas in the fall, and roost and forage in upland forests during late spring and summer; the proposed project location is not heavily wooded or forested. Of particular concern to the Northern Long-Eared Bat is white nose syndrome (WNS), and the USFWS 4(d) Rule outlines prohibitions to protect the Northern Long-eared Bat's sensitive life stages in areas affected by WNS; the proposed project location is not affected by WNS. For the reasons outlined above, DOE has determined that NREL's proposed project would have no effect on these species.

Two migratory bird species, the Bald eagle and the Red-headed woodpecker, could be present in the project area and are listed as birds of conservation concern. The Bald eagle has a high probability of presence in the area during one week in November, but very low probability of presence at other times of the year. The Red-headed woodpecker has a high probability of presence in the area during one week in August, but very low probability of presence at other times of the year. The risk of adverse impacts to these species resulting from the proposed project is low due to the narrow window in which these species could be found in the project area. Potential impacts to these and other species found in the project area include temporary displacement of wildlife during construction and bird collisions with the tower or turbine blades. Because the turbine tower is un-guyed, the risk of collision with the turbine is greatly reduced. Noise would be generated by the operation of the turbine, but the impact to wildlife from this level of noise is not expected to have an adverse effect as it is likely that wildlife have become habituated to noise in the area due to industrial and railroad operations in the immediate project vicinity.

PERMITS

The proposed project would require the following permits prior to installation/operation:

- Wilson County Zoning Permit;
- Completion of an environmental review with the Kansas Department of Wildlife, Parks, and Tourism; and an
- Interconnection agreement with the City of Neodesha Electric Department.

ADDITIONAL IMPACTS

The proposed project would not affect wetlands or floodplains. The proposed location is approximately 3 miles away from the Neodesha Municipal Airport. The FAA's Notice Criteria Tool was used and indicated that the proposed project would not exceed Notice Criteria; as such, filing with FAA would not be required. The NRSC Soil Survey Mapping Tool was used to determine that the project area qualifies as prime farmland, consisting of Dennis silt loam and Wilson silt loam. Because the area is used for industrial purposes and the total area of disturbance is approximately 0.03 acres, adverse impacts to prime farmland resulting from this proposed project are not anticipated.

All proposed testing activities would occur at facilities that perform such work. No change in the use, mission, or operation of existing facilities would result from the proposed project. All waste generated would be reused, recycled, or disposed of in accordance with local municipal solid waste disposal requirements. Mobile air emissions from construction equipment would be short-term and minor and are not anticipated to appreciably contribute to the local load of air pollutants. Construction-related noise would consist of a short-term, intermittent increase in ambient noise levels. Noise generated during operation would not affect sensitive human receptors or appreciably add to the local noise of the area as the proposed project area is primarily used for industrial purposes.

Individuals working on this project could be exposed to physical and electrical hazards during the project. Existing corporate health and safety policies and procedures would be followed including employee training, work/worker authorization, proper protective equipment, engineering controls, and monitoring.

NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

All required permits, notifications, and permissions shall be obtained prior to commencing work.

Notes:

NREL
Nicole Serio, 10/25/2021

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: Lisa Jorgensen
NEPA Compliance Officer

Date: 10/26/2021

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: _____