

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-20-009 QED Wind Turbine Testing - Pampa TX

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-20-009	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.
- 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.)

Rationale for determination:

The U.S. Department of Energy's (DOE) Wind Energy Technologies Office is proposing to provide federal funding to QED Wind to complete testing of a prototype wind turbine. DOE's National Renewable Energy Laboratory (NREL) would serve as the Technical Monitor for the contract and would perform engineering reviews of the prototype turbine design.

The purpose of the proposed project is to conduct certification testing of a prototype 20 kW wind turbine. NREL would first conduct an engineering review of the prototype wind turbine and would make a go/no go decision based on the review to determine if the turbine is ready for certification testing. The design review would occur at NREL's Flatirons Campus located in Jefferson County, CO and would not require the installation of equipment. Once the design is approved, the prototype would be subject to operational and non-destructive testing at the RenewTest facility in Pampa, TX.

The prototype wind turbine that would be tested is approximately 31 meters tall and has 3 blades with a rotor diameter of 6 meters. The turbine is a direct drive device and does not have a gearbox. The turbine would be installed on a new concrete foundation and monopole tower; guy wires would not be required.

QED Wind would excavate the test location to install a concrete foundation that is 17' long, 17' wide, and 4.5' deep. Once the concrete forms are removed and the area backfilled and graded as needed, the remaining disturbed areas would be reseeded and mulched. The soil laydown area would be adjacent to the excavated area. QED Wind would then install the turbine and tower using a portable hydraulic power unit on a handcart. The installation of the tower, turbine, and foundation would not change the use, operation, or mission of existing facilities as it would be installed

at a site that performs such work.

Sensors would be installed on the prototype turbine and would record data during operational and non-destructive testing. Data would be recorded during a variety of wind speeds. Additional testing would include duration testing, sound testing, and safety testing. RenewTest would install the sensors needed to support turbine testing. The testing period would last approximately 9 months.

At the conclusion of the testing period, the prototype turbine and its tower would be removed. The turbine would be inspected for noticeable wear and tear or other degradation, and then returned to QED Wind. The turbine foundation would remain on-site to support future turbine testing by RenewTest.

There are seven historical resource locations within 6 miles of the proposed project. No visual impacts to these structures are anticipated due to the temporary nature of the proposed project (approximately 9 months) and intervening structures between the test site and resource locations that would obscure the turbine from view.

There are four threatened or endangered species that could encounter the project area: the least tern, piping plover, red knot, and whooping crane. Two additional species, the bald eagle (recovering) and lesser-prairie-chicken (candidate), could also encounter the project area. The likelihood of these species encountering the wind turbine is low because the proposed project location does not contain suitable habitat for any of these species, these species would travel above the rotor swept area during active migration, and the proposed project location does not contain suitable stopover habitat for these species. For these reasons, DOE has determined that the proposed project would have no effect on the threatened and endangered species, nor does DOE anticipate any adverse impacts to bald eagles, lesser-prairie chicken, or migratory birds.

Project activities would not affect critical habitat, wetlands, floodplains, or prime farmland, and no permits would be required. The proposed project would not result in air emissions or additional noise impacts.

The site of the proposed project is not located near National Weather Service nor Federal Aviation Administration (FAA) Doppler weather radar detection systems. In addition, the FAA's Notice Criteria Tool was used and determined that the proposed project does not exceed notice criteria; as such, filing with FAA would not be required.

Individuals working on this project could be exposed to hazards during installation of the prototype turbine, tower, and foundation. Existing corporate health and safety policies and procedures would be followed.

## NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

NREL  
Nicole Serio, 11/18/2019

## 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:  \_\_\_\_\_ Date: 11/18/2019  
NEPA Compliance Officer

**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: \_\_\_\_\_ Date: \_\_\_\_\_  
Field Office Manager