

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; Appalachian State University and Sonsight Wind - Distributed Wind Turbine Competitiveness Improvement Project; NREL tracking No. 17-025

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-17-025	GO28308

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), 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 (DOE) is proposing to provide funding to the National Renewable Energy Laboratory (NREL) to install and test a prototype 3 kW wind generator at an existing wind test site located on Beech Mountain, Banner Elk, North Carolina.

The purpose of the proposed project is to test a prototype wind generator to better understand and tune the furling configuration (wherein the rotor turns out of the wind for protection during high winds), and to collect data on the rated power and rpm at rated power for use in preparing for certification loads calculations and structural analysis. NREL would first conduct an engineering review of the prototype wind generator to determine if it is ready for testing. The design review would occur at NREL's National Wind Technology Center and does not require any installation of equipment. Once the design is approved, the prototype would be subject to operational and non-destructive testing at Appalachian State University's Small Wind Research and Demonstration Site in North Carolina.

The prototype is 14 meters (45.9 feet) tall and has 3 blades with a rotor diameter of 5 meters (16.4 feet). The prototype is a direct drive device and does not have a gearbox. The wind generator would be installed on an existing tower at an existing wind test site. The tower tilts down with a gin pole and a battery-powered portable winch. A wind generator currently on the tower would be replaced by the prototype wind generator for the duration of the testing, approximately 18 months. At the conclusion of the testing period, the prototype would be removed. Because the prototype wind generator would replace the existing wind generator and use its existing tower, there would be no change to the height of the tower, the weight of the wind generator/tower combination (approximately 330 pounds), nor the use, operation, or mission of existing facilities.

There are three historical resource locations within 5 miles of the proposed project, which are: the site of the Banner Elk Hotel; Robert and Elsie Lowe House; and the Ward Family House. The proposed project is unlikely to adversely affect these resources due to the fact that the wind generator would replace an existing generator on an existing tower and would be temporary (lasting approximately 18 months).

The proposed project is unlikely to affect threatened or endangered species. The Northern Long-Eared Bat, a threatened species, has the potential to fly through the rotor swept area; however, the risk of collision is low due to the wind generator being un-guyed, the site location on a hilltop away from caves and near considerable development, and placement of the wind generator on an existing tower. Replacing an existing wind generator with a new wind generator would not introduce new collision risks and the incremental impacts of NREL's proposed project would be negligible. Therefore, DOE has determined that NREL's proposed project would have no effect on the Northern Long-Eared Bat.

Project activities would not affect critical habitat, wetlands, floodplains, or prime farmlands 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 the lifting of equipment onto the tower and to pinch points during assembly of equipment. Existing Appalachian State University health and safety policies and procedures would be followed.

Based on the review of the proposal, DOE has determined the proposal fits within the class of action and the integral elements of 10 CFR 1021 subpart B outlined in the DOE categorical exclusion selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410(2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. This proposal is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

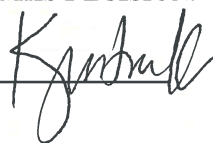
NREL

Prepared by Nicole Serio, November 6, 2017

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:

 Electronically Signed By: **Kristin Kerwin**
NEPA Compliance Officer



Date: 11/7/2017

FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____

Field Office Manager

Date: _____