

PMC-EF2a

(2.0 ef2)

**U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION**



RECIPIENT: NREL

STATE: CO

PROJECT TITLE : Installation and testing of a Gamesa G97 wind turbine at site 4.5; NREL Tracking No. 11-007

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
		NREL-11-007	0

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:

DOE/EA-1378	Final Site-Wide Environmental Assessment of the National Renewable Energy Laboratory's National Wind Technology Center
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Rational for determination:

This proposed project would consist of the execution of a Cooperative Research and Development Agreement (CRADA) with Gamesa Wind US, LLC, for the installation of a 2.0 megawatt (MW) wind turbine and associated infrastructure at the National Renewable Energy Laboratory's (NREL) National Wind Technology Center (NWTC), located southeast of the intersection of Colorado Highway (CO) 93 and CO-128 in Jefferson County, Colorado. The NWTC is a federally-owned facility that consists of 305 acres and is primarily used for wind energy research, development, and testing. The new turbine site would be constructed at Site 4.5, located within the southeast portion of the property.

Initially, the project would include developing the site for a temporary, meteorological tower with a height of 90 meters (295 feet) above ground surface. The installation of the meteorological tower would require minimum development including: a two-track road, installing a gate through the existing fence, and erecting the meteorological tower. The meteorological tower would have wind monitoring and weather recording equipment with three anchor points. The anchor points (one 3-foot block each) would each have three guy wires of increasing lengths that attach to successive heights on the tower. The total number of guy wires would be nine. A staging or laydown area of 1,000 square feet would be necessary. Utilities would be connected by laying conduit on ground surface, with no trenching required.

A large soil pile (approximately 3,000 cubic yards) currently exists on-site that has been used to stockpile soil. Prior to construction, this soil pile would need to be partially removed. The pile would either be moved west (preferred) of the proposed tower/turbine foundation location, to the north, or distributed along the access road as fill for the road, until the soil would be used for reclamation by the generator. All of these options would move soil into previously disturbed areas. The redistribution of the soil pile will create an area of disturbance of approximately 50 feet by 50 feet.

Fencing (three-strand barbed wire) would be moved to the NWTC property boundary, located west of Site 4.5. The fence would be moved approximately 300 yards to the west would be approximately 1,200 yard length. The only disturbance would be installing , an estimated, 120 fence posts which would create up to one square foot of disturbance, totaling approximately 120 square feet.

The meteorological tower would be on-site for two to eight months, depending on the length of time to acquire wind data. NREL's ESH&Q Office would use the meteorological tower to conduct and manage bat acoustic monitoring by placing monitoring equipment on the meteorological tower. The bat monitoring equipment (ultrasonic acoustic recorder) would be installed with one microphone at 2 meters and one at 80 meters above ground surface. This equipment would be mounted on the new Site 4.5 meteorological tower and/or the existing Site 4.4 tower. Bird and bat mortality surveys would be conducted during meteorological tower and turbine use, during appropriate weeks for a period of 3 years. NREL personnel or their subcontractors would conduct all surveys and monitoring and would

coordinate with turbine owner for access.

After the removal of the meteorological tower, the Gamesa G97 wind turbine would be installed and operated at the newly developed Site 4.5. A road would be constructed to the site (900 feet by 30 feet = 0.62 acres) consisting of crushed gravel or asphalt. The foundation would be excavated (80 feet by 80 feet = 0.15 acres). A staging or laydown area for crane and equipment would be needed (60,000 square feet = 1.4 acres). Utilities would be trenched to the site (3 feet by 700 feet = 0.05 acres). The total disturbed area would be approximately 2.2 acres. The southeast area, including Site 4.5, has been previously disturbed by gravel mining.

The Gamesa G97 turbine would be erected with a hub height of 90 meters (295 feet) and a blade tip height of 137.5 meters (451 feet). Blade sweep of the turbine would be 97 meters (318 feet); therefore, the swept area would be 7,390 square meters (1.8 acres). The turbine would be tested according to the CRADA agreement. The blades from the turbine would be contained within the NWTC property boundary. Once the turbine is removed, the site would be reclaimed.

Any excavated soils which are not able to be re-used onsite would be removed following completion of construction activities and the area revegetated, in accordance with NREL Procedure 6-2.16: Stormwater Pollution Prevention for Construction Activities. Construction contractors would conduct concrete washout activities in accordance with NREL Procedure 6-2.16. If the area of disturbance is greater than 1.0 acre, a Notice of Intent (NOI) under the US EPA General Construction Permit would be filed with Region VIII EPA for stormwater. A stormwater pollution prevent plan (SWPPP) would be developed by the contractor in accordance with NREL Procedure 6-2.16 and the US EPA General Construction Permit. Fugitive dust would be controlled in accordance with the existing land disturbance Air Pollutant Emission Notice (APEN) for the NWTC. Low impact installation techniques would be utilized to protect stormwater quality and control fugitive dust impacts. Per agency consultations conducted during the Site-Wide Environmental Assessment for the NWTC (DOE/EA-1378), no cultural resources, threatened or endangered species, wetlands, floodplains, or prime farmlands would be impacted by this proposed project.

Consultations with the FAA are ongoing and a FAA permit application has been submitted for the turbine. In addition, the meteorological tower would require consultation with FAA, due to the height of the tower (90 meters or 295 feet).

If any construction or construction-related activities (i.e., surveying, off road vehicle traffic, trenching, etc.) occurs between March 15th and September 1st, a survey for ground-nesting birds would be completed by NREL's ESH&Q Office before these activities are initiated per NREL policy. NREL and all contractors would follow all federal, state, local safety and security regulations.

The lifecycle of the test turbine is expected to be approximately three years, from installation to removal of the foundation. An option exists to extend for two additional years, via mutually executed written amendment.

The addition of five (5) "large scale" multi-megawatt wind turbines was analyzed as part of the long-term components of the proposed action in the May 2002 Final Site-Wide Environmental Assessment of National Renewable Energy Laboratory's National Wind Technology Center (DOE/EA-1378). The proposed action in this assessment also included the installation and removal of meteorological towers and instrumentation and associated facilities; maintenance and monitoring of atmospheric and wind turbine experiments, tests, and certifications; and upgrade and modifications of onsite roads. A Finding of No Significant Impact determination for DOE/EA-1378 was issued in May 2002. As this proposed project was analyzed as part of the proposed action in DOE/EA-1378 and with no extraordinary circumstances identified, the May 2002 FONSI determination applies to this proposed action.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:

NREL shall install bird diverters or other equivalent strike deterrence measures on the guy wires of the meteorological tower to minimize impacts to migratory birds and raptors.

If any construction or construction-related activities (i.e., surveying, off road vehicle traffic, trenching, etc.) occurs between March 15th and September 1st, a survey for ground-nesting birds shall be completed by NREL's ESH&Q Office before these activities are initiated per NREL policy.

Gamesa Wind US, LLC, shall support NREL EHS&Q with ongoing and future avian and bat surveys as necessary and

as directed by NREL, which includes allowing site access when surveys are needed and when data cards are to be retrieved.

Note to Specialist :

EF2a was prepared by Amy VanDercook on 3/2/11.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Lori Plummer *Lori Plummer* _____ Date: 3/2/2011
NEPA Compliance Officer

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: _____ Date: _____
Field Office Manager