PMC-EF2a
(2040)

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

RECIPIENT: NREL **STATE:** NY

PROJECT TITLE : Small Wind Turbine Regional Test Center - Otisco NY; NREL Tracking No. 10-028

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
		NREL-10-028	GO10337

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:

A9 Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.

A11 Technical advice and planning assistance to international, national, state, and local organizations.

B1.15 Siting, construction (or modification), and operation of support buildings and support structures (including, but not limited to, trailers and prefabricated buildings) within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible). Covered support buildings and structures include those for office purposes; parking; cafeteria services; education and training; visitor reception; computer and data processing services; employee health services or recreation activities; routine maintenance activities; storage of supplies and equipment for administrative services and routine maintenance activities; security (including security posts); fire protection; and similar support purposes, but excluding facilities for waste storage activities, except as provided in other parts of this appendix.

B3.1 Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:

B5.1 Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

Rational for determination:

This proposed project is for NREL/DOE funding and expertise to establish a Regional Test Center (RTC) in with Intertek, Inc. (Intertek) of Cortland, NY. The proposed RTC site location, depicted in the figure in the PMC, is located near the City of Otisco, County of Onondaga, State of New York. The approximate site location is latitude/longitude: 42.8420°N, -76.1692°W at an elevation of 1,800 feet. The proposed activities are part of an overall project to help establish self supporting RTCs that would offer small wind turbine certification testing to the industry by subsidizing the cost of testing the initial turbines and providing advice and mentoring to the RTCs. This effort is part of an industry effort to establish a small wind certification infrastructure to increase consumer confidence in small wind turbine technology.

Scope of the project would include the establishment of the infrastructure (facilities, staff & procedures, and equipment) necessary to conduct certification testing of small wind turbines; coordination with the manufacturer for pre-test inspection, installation, instrumentation, commissioning and post-test inspection of the wind turbine systems at the RTC test site; evaluation of the turbines through testing and other observations over a test period of up to eighteen (18) months (need to meet duration standard of 2500 hours of operation) per the IEC standard; and documentation of the test findings in written reports (1 report per turbine) and posting of that information on a publicly available web site upon NREL's review and consent.

The first two turbine designs proposed to be tested are the Fortis Wind Energy, Inc. Montana (5 kW) and Alize (10 kW), and their specification sheets are attached in the PMC. With its 7-meter rotor diameter, the Alize would have a

rotor-swept area of less than 40 m2, while the smaller 5-meter diameter Montana has a rotor-swept area of less than 20 m2. Given the nature of this project, testing and certification of third-party turbines, the exact specifications for each turbine design that would be subsequently tested are not known, but would be limited to small turbines that have a rotor swept area up to 200 m2 or a maximum turbine rating of 65 kW. The proposed Otisco RTC would be further limited in the size of turbines it could test by to the capacity of the 75kVA electrical transformer to be installed. The proposed small-scale wind turbines would be significantly smaller than the typical turbine size usually associated with commercial wind farms, which can have turbine tower heights up to 400 feet, blade lengths up to 200 feet, rotor swept area up to 7,300 m2, and maximum turbine ratings in the multi-megawatt range. The testing site would have a maximum of two small wind turbines and associated infrastructure constructed by the recipient. Turbines would be removed upon test completion, making the turbine test pad and infrastructure available for future testing.

The Otisco, NY small wind turbine RTC site would have a maximum of two small wind turbines and associated infrastructure constructed by the proponent. Small turbine site design/build would involve upgrading an existing access road, erection of two test sheds, trenching for cabling and sensor wire, installation of two turbine tower foundations and towers, and erection of two meteorological towers. A small access road consisting of minimal gravel and road-base would be built from the existing cellphone tower site, running north connecting to the data shed, parking/laydown area, the two turbine test pads, and the two meteorological towers. Approximate road dimensions would be 1,180 feet in length by 12-feet in width for a total disturbance of 14,160 SQFT. The two turbine test pad foundations would be installed per manufacturer's specifications, but would be less than 17 feet in diameter. Total area of disturbance for both turbine pads would be 454 SQFT. The two turbine towers would be installed per manufacturer's specifications, but typically 20 to 40m meters tall, and would be self-support lattice towers anchored by helical anchors. Turbines would be dismantled after completion of the testing period, which would last up 12 to 18 months. The two meteorological towers would be installed in a configuration of one per turbine testing pad and erected to same height as the turbine hub being tested. The met towers would be a tubular NRG Systems, Inc. tilt-up towers each anchored with three guy wires and anchor bolts. The met towers would be installed on a base plate (approximately 10 SQFT in area each), which does not require any excavation. Total area of disturbance would be 20 SQFT for the two base plates plus 6 SQFT for the six anchor bolts. Minimal underground data and electricity conduit would be installed from turbine test pads to the data shed and the offsite power supply. Trenching for cabling or sensor wire would require excavation, but the spoil would be used to backfill the trench. Revegetation in these small, narrow areas would occur naturally and all state weed control regulations would be followed. The anticipated area of disturbance for the data lines would be 900 feet in length and 4 feet in width (3,600 SQFT) and 950 feet in length and 1.5 feet in width (1,425 SQFT) for the utility lines. The data shed would consist of a prefabricated structure, no greater in size than 30-feet by 30-feet, would be placed onsite to house the data acquisition system, wind turbine inverters, and electrical equipment. A gravel parking and laydown area would be constructed adjacent to the data shed and would be approximately 40 feet by 60 feet in dimensions. Based upon the information above, total land disturbance and area of excavations would be approximately 22,965 SQFT or 0.53 acres.

Since the total area of land disturbance is less than one acre, a storm water associated with construction activity permit (SPDES General Permit for Stormwater Discharges from Construction Activity - GP-0-10-001) from New York State Department of Environmental Conservation (NYSDEC) would not be required. Small amount of emissions or dust (particulates) is typical from mechanical construction equipment used to construct/upgrade access roads, excavate tower foundations, or for trenching for cabling. Given the limited size and duration of the construction activity, potential fugitive air emissions are de minimis and would be further reduced by standard construction industry best management practices to control erosion and minimize fugitive dust. This proposed project would not be subject to any FAA restrictions or lighting requirements, as the turbine tower would not exceed 150 feet nor is the site within an airport approach zone.

Over 95 percent of the proposed project site is comprised of soil types rated as Farmland of a Statewide Importance, and therefore NREL/DOE consulted with USDA NRCS pursuant with Farmland Protection Policy Act and submitted a Farmland Conversion Impact Rating form (AD-1006). As the permanent impact of this action comprises less than an acre rated Farmland of a Statewide Importance and no acreage rated Prime Farmland, NREL/DOE received NRCS concurrence on 07/29/2010. NREL/DOE began informal consultation with U.S. Fish & Wildlife Service for compliance with Section 7 of the Endangered Species Act, the Migratory Bird Treaty Act, and the Golden and Bald Eagle Protection Act on 06/15/2010. On 09/17/2010 after reviewing the initial DOE effect determinations and supporting documentation, the USFWS requested additional biological information as well as requested that the proposed Intertek post-construction monitoring protocol be reviewed by New York State Department of Environmental Conversation (NYSDEC). DOE/NREL and the recipient consulted with NYSDEC, New York Audubon, and others, and furnished USFWS with a revised effect determination and supporting documentation, which is uploaded into the PMC, on 12/02/2010. USFWS concurred on 12/03/2010 that the proposed project would not likely to adversely effect the Indiana bat and not affect the American Hart's-Tongue fern (Asplenium scolopendrium americanum) and the Bog turtle (Clemmys muhlenbergii). Wildlife habitat is marginal at this site given the existing plowed agricultural fields and no large water bodies or wetlands are adjacent to the site that would attract migratory birds. However, bird diverters would be installed on the guy wires to the met towers to further reduce the project's potential impact to migratory birds. Additionally, Intertek would voluntarily conduct post-construction monitoring in accordance with their protocol (attached in PMC), which was reviewed by NYSDEC.

It is not anticipated that this project would impact cultural resources or historic structures. This site has been completely plowed for decades and therefore is considered a disturbed site from a cultural and historic resource perspective. There are no known cultural resource sites in the vicinity nor any structures or districts listed or eligible for inclusion into the National Register of Historic Places. The project site is not located within a floodplain, and does not contain nor is adjacent to any wetlands. Utilization of hazardous materials or generation of hazardous waste is not anticipated.

Based upon the information above, this proposed action would qualify for Categorical Exclusions A9, A11, B1.15, B3.1 (h), and B5.1.

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:
Intertek will install bird diverters or equivalent bird strike deterrent measures on the guy wires of the proposed met towers. Intertek will also conduct post-construction mortality monitoring in accordance with their approved monitoring protocol.

Note to Specialist :

EF2a completed by Rob Smith on 12/06/2010

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Lori Plummer Date: 12/6/2010
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