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-20-011 Eocycle Xant Turbine - Flatirons Campus

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-20-011	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:

DOE/EA 1914 (NREL NWTC) Final Site-Wide Environmental Assessment of the Department of Energy's National Wind Technology Center at the National Renewable Energy Laboratory

Rationale for determination:

The U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) proposes to remove an existing turbine and install a new turbine located at Site 1.2 at the NREL Flatirons Campus (FC) in Boulder, Colorado. The purpose of the proposed project is to support expanded research to understand how smaller scale distributed wind technologies can support future distributed energy systems.

The proposed project would involve the following tasks:
a. Removal of the existing turbine;
b. Installation of the new turbine; and
c. Operation of the new turbine.

Removal of the existing turbine
The existing turbine at Site 1.2 is a Northern Power Systems NW100, a 100kw, approximately 100-foot-tall turbine that weighs approximately 35,000 pounds. The turbine would be removed using a truck mounted boom crane. Once removed, the turbine would be disassembled in place and all metal components would be recycled. Other components would be maintained on site to be reused, excessed, or disposed of as municipal solid waste.

Installation of the new turbine
The new turbine that would be installed is an Eocycle America Corporation Xant M-26 100kw, 26-foot diameter wind turbine. Design engineers would determine if the existing concrete pad at Site 1.2 could be reused to support the new turbine. If the existing foundation can be used, a new gravel access area approximately 15 feet in radius around the turbine base would be installed.

If the foundation cannot be used, the design engineers would design and install a new concrete pad foundation to be installed to the east of the existing foundation, measuring approximately 8 feet in diameter. An area of approximately 8 feet in diameter and up to 8 feet deep (15 cubic yards) would be excavated and concrete would be poured for the new foundation. Approximately 10 yards of gravel would be added around the existing foundation and extended to the new foundation. The existing foundation would be abandoned in place.

The integrity of existing buried electrical conductors would be tested and replaced if needed. If new conductors are needed, a trench of up to 18 inches in depth between Site 1.2 and the DERFT/ROF Building would be excavated. Electrical conduit would then be installed underground and buried once complete.

The turbine would be installed on a 32-meter (105 foot) tubular stand-alone tower. A subcontractor would install the turbine on the existing or new foundation by bolting the tubular tower to the embedded steel base plate. A truck-mounted crane would be used to install the tower and turbine at the site.

Operation of the new turbine
Once installed, the new turbine would be subject to various testing activities. The turbine would be operated over a variety of conditions and wind speeds to collect data, evaluate turbine performance, and integrate it into external hybrid power systems. NREL and Eocycle technicians would perform maintenance of the turbine and its instruments

as needed. Technicians would access the turbine using on site manlifts. The turbine would remain on site and be operated for an indefinite amount of time.

Installation would begin between October 2021 and February 2022. Ground disturbance would occur in areas that have been previously disturbed, and erosion control measures would be used and maintained during and after the project period as needed. All ground disturbing activities would be conducted in accordance with existing NREL policies and procedures that guide such work. If a new concrete foundation is needed, concrete washout would occur either offsite or onsite using EcoPans for offsite removal and recycling. Waste materials would be recycled where possible or disposed offsite and the disturbed areas would be backfilled, regraded, and revegetated.

Air emissions resulting from vehicles and equipment operation would be de minimis. Project activities would not affect cultural resources, threatened or endangered species, wetlands, floodplains, or prime farmlands, and no permits would be required. A migratory bird nesting survey shall be completed if project activities involving ground disturbance occur between March 15 and September 15. If nests or eggs are found, the area would be cordoned off with a proper buffer until nestlings fledge.

Individuals working on this project could be exposed to physical and electrical hazards, as well as potential silica exposure from excavation, earthwork, and concrete work. Existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, and monitoring, as well as obtaining a Safe Work Permit. Additional policies and procedures would be implemented as necessary if new health and safety risks are identified.

Based on the review of the project, DOE has determined that the proposed project fits within the scope of activities that were analyzed in Section 2.1.2 “Increasing Site Use and Density (Zone 2)” of the 2014 Final Site-Wide Environmental Assessment of the NREL NWTC (DOE/EA-1914). DOE has determined that the proposed project is bound by the environmental impact analysis contained in this EA and its respective FONSI, and no further NEPA review is required.

NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assisstance agreement:

A migratory bird nesting survey shall be completed if project activities involving ground disturbance occur between March 15 and September 15. If nests or eggs are found, the area would be cordoned off with a proper buffer until nestlings fledge.

Notes:

NREL
Nicole Serio, 9/9/2021

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Lisa Jorgensen Date: 9/14/2021
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