

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: [Flatirons CART 3 Turbine Decommission - Underground Infrastructure; NEPA Tracking No. 20-037b](#)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL- 20-037b	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 \(NREL NWTTC\)](#) 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 decommission the CART3 wind turbine located at Site 4.2 at the NREL Flatirons Campus (FC) in Boulder, Colorado. The purpose of the proposed project is to disassemble the wind turbine and its components, including the foundation and underground infrastructure. The proposed project would proceed in two phases: (a) Phase 1, removal of the nacelle, turbine tower, and meteorological (met) tower; and (b) Phase 2, recycling of the turbine tower, removal of the concrete base, and removal of other in-ground infrastructure, such as electrical conduits.

DOE completed a NEPA Determination (ND) for Phase 1 of the project titled "Flatirons CART 3 Turbine Decommission", NEPA Control No. 20-037a, which was signed by the DOE NEPA Compliance Officer on September 18, 2020. The ND reviewed Phase 1 activities only because, at that time, specific details for removing the foundation and underground infrastructure were not available. Because Phase 1 activities have been completed and project details for Phase 2 have been identified, NREL is proposing to complete Phase 2 activities.

Phase 2 would consist of the following tasks:

- a. Disassembly of the CART 3 tower;
- b. Excavation of the concrete foundation; and
- c. Removal of underground electrical infrastructure.

Disassembly of the CART 3 Tower

The tower, primarily composed of 106,000 pounds of steel, would be broken down using an oxy-acetylene torch and the steel would be recycled offsite.

Excavation of the Concrete Foundation

Excavation of the foundation would be conducted by an external third party that performs such work. The in-ground foundation would be broken up using excavators with a jackhammer, crusher, and load bucket attachments. If needed, a concrete crusher may be used to further crush the concrete if the pieces are still too large. The crushed concrete would be loaded onto a dump truck for removal offsite. Approximately 177 cubic yards of waste concrete and rebar (weighing approximately 720,000 pounds) would be removed.

Removal of Underground Electrical Infrastructure

To remove the underground electrical conduit and cables, a trench would be excavated measuring 200 feet by 6 feet and the excavated soil would be placed in a spoils pile next to the trench. Approximately 400 linear feet of in-ground electrical infrastructure would be removed.

Once the foundation and underground electrical infrastructure are excavated, the waste materials would be recycled where possible or disposed offsite and the disturbed areas would be backfilled, regraded, and revegetated. The trench would be backfilled using the same soil that was removed to excavate the trench. To backfill the foundation, native soil from previous onsite excavations, as well as from a berm at the southwest corner of the FC or from Site 4.5, would be used. A maximum of 250 cubic yards of soil would be needed to backfill the foundation hole and trenching area, and additional soil would be needed for compaction and settling. Any gravel roads that were disturbed from project

activities would be restored.

All demolition activities would be conducted in a controlled manner, including wetting the concrete with water to reduce airborne dust production and to reduce silica exposure to workers. A storage tank for water, with a storage capacity of approximately 10,500 gallons, would be located at the project site to supply a water truck for dust suppression activities. The water would be spread using the water truck sprayers or a handheld hose from the truck and would be applied at a rate of approximately 105 gallons per hour over a 10-hour day.

The proposed project would take approximately 3 or 4 weeks and would be completed in Spring 2021. The total area of disturbance from project activities would be approximately 16,254 square feet (0.37 acres). A laydown area, measuring approximately 200 feet by 10 feet (2,000 square feet), would be located south of the existing access road to the foundation and would include parking and equipment and material storage. If a Connex box is needed, it would be located to the north of the existing access road.

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. An area designated as ancient soils is located approximately 140 feet from the CART3 project area and would be avoided to ensure they are not disturbed.

Air emissions resulting from vehicles and equipment operation would be de minimis. Fugitive dust from excavation activities would be generated but would be limited by using water. Breaking down the concrete foundation could result in elevated noise levels. If needed, noise barriers would be installed to reduce noise carrying to the surrounding areas of the FC and the Rocky Flats National Wildlife Refuge to ensure local requirements are met.

Phase 1 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. The concrete would be wetted to reduce airborne dust production and to reduce silica exposure to workers. 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 Phase 2 fits within the scope of activities that were analyzed in Section 3.4.3.2 "Increasing and Enhancing Research and Support Capabilities (Zone 1 and Zone 2)" of the 2014 Final Site-Wide Environmental Assessment of the NREL NWTC (DOE/EA-1914). DOE has determined that Phase 2 of the 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 assistance 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, 2/2/2021

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

 Electronically
Signed By: [Lisa Jorgensen](#)
NEPA Compliance Officer

Date: 2/2/2021

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: _____
Field Office Manager

Date: _____