

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:** NWTC Near Vertical Sound Propagation: NREL-18-020

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-18-020	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:

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
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Rationale for determination:

The U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL), in partnership with the University of Colorado, is proposing to install and operate a loudspeaker, power amplifier, and series of microphones at an onsite meteorological (met) tower to measure and study statistical characteristics of acoustic signals using a near vertical and a slanted sound propagation technique.

The system installation and research would be conducted at the National Wind Technology Center (NWTC). The NWTC is a federally-owned facility that consists of 305 acres and is primarily utilized for wind energy research, development, and testing. The site is located southeast of the intersection of Colorado Highway 93 and CO-128, in Jefferson County, Colorado. NREL proposes to install the equipment at the met tower located at Site 4.0.

The system would consist of a Community Professional PC394F or PC364 speaker, a power amplifier, and a set of microphones.

Two geometries of sound propagation would be used: 1) near vertical sound propagation with a speaker placed close to the tower base (within 3-5 m), and 2) slanted propagation with a speaker placed 100 m northeast of the tower. Microphones would be placed at various heights along the tower. Speaker operation and data collection would occur intermittently for up to 5 hours per day for 5 days at a maximum power of 121 dB.

For 75% of the activity, researchers would transmit a set of harmonics between 0.6 and 3.5 kHz with about the same amplitude (within the audible range for humans and most animals). The duration of each transmission would be between 30 min and 2 hours, transmitting 12 harmonics simultaneously. For 25% of the activity, researchers would transmit a chirp with a duration of about 6 milliseconds and with the frequency range from about 0.8 kHz to 3.2 kHz.

Two to four researchers would be onsite conducting the work. Most of the experiments would start at about 1 pm and some of the experiments would start at about 4 am – each running a maximum of up to five hours. NREL is proposing to start the project the week of September 23rd, with equipment setup being completed a few days prior. The project is expected to run for a total of five days after which all equipment would be removed from the met tower.

Potential impacts from research activities could include nuisance sound levels and hearing damage. Workers would

wear appropriate PPE (ear protection) within 65 meters of the experiment area during project operations. The closest building is 128 meters away from proposed project location. At this distance, sound levels would be below thresholds considered harmful to humans. Existing NREL health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, and monitoring.

Wildlife is not likely to be in or around the project area or within the 65 meter sound safety zone. Additionally, due to the temporary nature of the activity, DOE does not anticipate any adverse impacts to wildlife (including protected species).

Based on the review of the proposed activities, DOE has determined that this project falls into the category of "Routine Technical Tasks for Research Activities", which is discussed in section 1.4.3.2 and analyzed in DOE's 2014 Final Site-Wide Environmental Assessment of the NREL NWTC (DOE/EA-1914). DOE has determined that this activity is bound by the environmental impact analysis contained in this EA and the respective FONSI, and no further NEPA review is required.

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 :

NEPA review completed by Laura Margason on September 17, 2018

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

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

Date: 9/17/2018

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: _____