

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 Thermal Imaging UAS Flight NREL-18-017

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
	DE-AC36-08GO28308	NREL-18-017	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:

<b>B3.2 Aviation activities</b>	Aviation activities for survey, monitoring, or security purposes that comply with Federal Aviation Administration regulations.
---------------------------------	--

## Rationale for determination:

The U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL), in collaboration with Red Mountain Scientific (RMS), propose to fly a small unmanned aerial system (sUAS) to conduct thermal and visual imaging inspections of a ground-based solar array. The inspections are being conducted to identify potential system and equipment anomalies. NREL's role would be to provide the testing location and RMS would provide the operators and equipment.

Project activities would be conducted at NREL's 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 utilized for wind energy research, development, and testing. RMS would conduct the sUAS imaging around the First Solar array adjacent to the NWTC CoMet facility. Flights would occur in the Rocky Mountain Metropolitan Airport class D airspace under an approved FAA exception (request number 2017-P107-WSA-19950). All flight activities would be in accordance with FAA and DOE requirements.

The sUAS they propose to use is less than 55 lbs. Flights would be conducted by RMS operators/pilots under the supervision of a FAA Part 107 certificated pilot and in accordance with FAA Part 107 regulations. The Pilot-In-Command would direct a team of at least one visual observer and one remote pilot. Flights would occur at heights varying from 120 feet to 360 feet above ground level during multiple over-lapping passes along the long axis of the solar array. Flights are anticipated to be conducted on one day during the month of May during regular business hours. No direct or indirect impacts to safe aviation activities are expected due to the activity.

A risk assessment would be completed for each flight-day considering mission intent and current/forecast weather conditions, and operational parameters would be identified and set forth in a Safe Work Permit. Flight staff would wear hard hats, safety glasses, and long-sleeved clothing.

The noise level of the drone is approximately 77dB. At 100 feet from the drone the noise level is approximately 46 dB. These levels are significantly less than the OSHA TLV of 90 dB and the DOE/ACGIH limit of 85 dB. Due to the short duration of each flight and distance of receptors (people or wildlife) to the drone, adverse impacts related to noise are not anticipated.

Project activities would not affect cultural resources, threatened or endangered species, wetlands, floodplains, or prime farmlands. No construction or ground disturbing activities are being proposed.

NREL will comply with the following conditions applicable to project activities, personnel and associated project

**activities:**

\* DOE Office of Aviation Management has issued a 60-day approval for UAS activities to take place at the NWTC. Flights are prohibited past June 20, 2018.

\* NREL and RMS personnel must comply with all provisions of the FAA Certificate of Waiver Authorization and FAA Part 107.

\* During sUAS operations for on-site communication/recall, the person responsible for operations must contact and provide a flight plan to the Aviation Manager and the office of Aviation Management prior to each flight.

Based on the review of the proposal, DOE has determined the proposal fits within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410(2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. This proposal is categorically excluded from further NEPA review.

**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 :

Completed by Laura Margason on May 8, 2018

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature: \_\_\_\_\_

 Electronically  
Signed By: Kristin Kerwin  
NEPA Compliance Officer

Date: 5/9/2018

**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: \_\_\_\_\_