

**U.S. DEPARTMENT OF ENERGY  
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY  
NEPA DETERMINATION**



RECIPIENT: **NREL**

STATE: **MA**

PROJECT TITLE : **NREL-25-024 UAS Flights for WHOI Pioneer WEC**

Notice of Funding Opportunity Number

Procurement Instrument Number

NEPA Control Number

CID Number

**DE-AC36-08GO28308**

**GFO-NREL-25-024**

**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:

**B3.2 Aviation activities**

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) is proposing to partner with the DOE Water Power Technologies Office (WPTO) to use uncrewed aircraft systems (UAS) to capture high-definition video and photographs of the Pioneer Wave Energy Converter (WEC) project located in Woods Hole, Massachusetts.

The purpose of the proposed project is to obtain high-definition videography and photography of the lifecycle of the Pioneer WEC during key stages of project development at the Woods Hole Oceanographic Institution (WHOI). The UAS would also document WHOI's facilities and highlight the institute's role in the WEC deployment.

The UAS that would be used for aerial survey is a Department of Energy (DOE) owned Parrot Ai. Flights would be conducted with a minimum flight crew of two. The minimum essential flight crew is the pilot in command (PIC) and one visual observer.

Following a set flight plan, the UAS would be deployed in the immediate area surrounding the WHOI Laboratory for Ocean Sensors and Observing Systems (LOSOS) and Dock facilities. Flights would consist of ascents, descents, hovering, and horizontal travel. The launch and landing areas would be determined by the PIC prior to each flight. Flights would be conducted within the visual line of sight with the UAS. A visual observer would be present to assist the pilot to identify air traffic, ground hazards, birds, and situational awareness.

All flights would be conducted during daylight hours only. Flights would maintain a minimum distance of 15 feet from all structures. The UAS speed would be limited to a maximum speed of 15 miles per hour (mph) and would not operate at wind speeds higher than 20 mph. Flights over water would maintain a safe horizontal and vertical separation from vessels, docks, and other marine infrastructure. Workers are required to maintain a minimum of 15 feet of separation from the UAS when it is powered on. There are no airspace restrictions in the vicinity of the facility and UAS flights would be allowed to ascend to a maximum of 399 feet above sea level. After completion of each day's activities, the UAS system and any associated equipment would be removed.

**Impacts**

Within the project area of the WHOI, there are five endangered species, bald eagles, and 22 migratory birds listed by the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) report. The threatened and endangered species include the Northern Long-eared Bat, Roseate Tern, Sandplain Gerardia, and proposed threatened Monarch Butterfly. There are no critical habitats present at the project location.

A visual observer would be present during all flights to ensure there are no collisions with birds they might encounter at the project location. If bats, birds, or flocks of birds enter the takeoff area prior to deployment of the UAS, the flight would not occur. The UAS would be moved away and grounded when bats, birds, or flocks of birds are present, and any birds moving into the landing zone after takeoff would be monitored and an alternate landing location would be selected. If active nests are in the takeoff or landing areas, an alternate location would be selected. The UAS may emit low levels of noise but due to the short duration of the flights and the ambient noise generated by the surrounding area, adverse impacts due to noise are not anticipated. Due to the short duration of the flights, the presence of a visual observer before and during each flight, and that flights would only occur during daylight hours, DOE has determined there would be no effect on special status species as a result of project activities.

Flight activities would be conducted by NREL staff as authorized in accordance with NREL policies, procedures, and safety requirements under FAA Part 107 regulations. This proposed flight resides within the Class G airspace, for which no notifications, authorization, or permits are required. Based on the location of the flights and planned safety measures, no adverse impacts are expected.

A risk assessment would be completed for flights at WHOI. Operational parameters, hazards, and controls would be identified in an Aviation Safety Plan prepared in consultation with NREL Environment, Safety, and Health staff and the UAS Steering Committee.

For Categorical Exclusion Determinations:

- The proposal fits within a class of actions that is listed in Appendix B to 10 CFR Part 1021 or Appendix B and C of DOE's NEPA Implementing Procedures (June 30, 2025). To fit within the classes of actions listed in Appendix B to 10 CFR Part 1021, or Appendix B of DOE's NEPA Implementing Procedures, a proposal must satisfy the conditions that are integral elements of the classes of actions in Appendix B of both 10 CFR Part 1021 and DOE's NEPA Implementing Procedures.
- There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.
- The proposed action has not been segmented to meet the definition of a categorical exclusion.
- The proposed action is categorically excluded from further NEPA review.

## NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

An approved Aviation Safety Plan shall be obtained prior to conducting flight activity.

All required permits and permissions shall be obtained as required prior to conducting flight activity.

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

NEPA Compliance Officer Signature:

 Electronically  
Signed By: Nicole Serio  
NEPA Compliance Officer

Date: 9/4/2025

## 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: \_\_\_\_\_