OFFICE OF INSPECTOR GENERAL

U.S. Department of Energy

INSPECTION REPORT

DOE-OIG-19-27

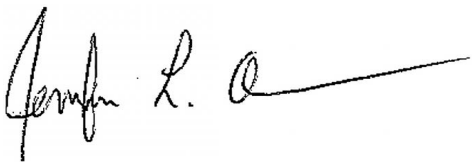
April 2019

LOW ALTITUDE AIRSPACE SECURITY OVER SELECT DEPARTMENT OF ENERGY SITES

Department of Energy
Washington, DC 20585

April 19, 2019

MEMORANDUM FOR THE ASSOCIATE UNDER SECRETARY FOR
ENVIRONMENT, HEALTH, SAFETY AND SECURITY



FROM: Jennifer L. Quinones
Assistant Inspector General for Eastern
Audits and Inspections, and Administration
Office of Inspector General

SUBJECT: Inspection Report on "Low Altitude Airspace Security over Select Department of Energy Sites"

BACKGROUND

In recent years, Unmanned Aerial Systems (UAS), commonly known as "drones," are becoming increasingly popular. UAS with specifications such as high definition cameras, "auto pilot" Global Positioning System navigation, and the ability to carry and remotely release payloads are available on the commercial market and are relatively affordable. The increasing availability and improved capabilities of small UAS enhances the potential for use in illicit operations, including surveillance, disruption, and weaponization. Department of Defense, Department of Homeland Security, and Federal Bureau of Investigations officials have expressed concern that terrorists will be using UAS against United States assets in the near future. When Congress passed the *National Defense Authorization Act for Fiscal Year 2017*, it acknowledged the increased risk of UAS encounters by including authorizations for the Department of Energy to use the same methods as the Department of Defense to protect against UAS encounters. These methods include: seizing control of UAS; confiscating UAS; and using reasonable force to disable, damage, or destroy UAS.

The Office of Environment, Health, Safety and Security (Health and Safety) is the author of the Department's security directives, which are overseen by Federal personnel and implemented by the Department's security contractors (Protective Force). Per Department Order 473.3A, Change 1, *Protection Program Operations*, the Protective Force has the mission to protect the Department's facilities, equipment, and employees in the event of a threat. We conducted this inspection to determine whether the Department has effective controls to address UAS encounters.

RESULTS OF INSPECTION

We determined that the Department has not made a threat determination on UAS utilizing the most current information pertaining to UAS capabilities; therefore, the Department may not have effective controls in place to address such encounters. Health and Safety stated that only one directive was issued that briefly addresses security controls over UAS, Department Order 470.3C, *Design Basis Threat*.[1] Department Order 470.3C, a classified security directive, states what level of security the Protective Force must use in protecting Department interests, as well as the adversary capabilities for scenario-based performance testing.

Based on information available as of 2016, the Department does not deem UAS as an attack platform in Department Order 470.3C. Specifically, Health and Safety utilized information available and determined that UAS were not likely to be used in an attack against Department assets. Department Order 470.3C states that in Protective Force training scenarios, the adversary will only use UAS for pre-attack surveillance activities and not as a weapon. However, Health and Safety obtained current information[2] that has heightened Health and Safety's concerns regarding the rapid increase in technology, opportunity, and availability of UAS that may contradict this determination. This is significant because it is essential that effective security controls are in place at Department sites to protect against UAS, and ultimately, to protect the overall security of the Department's interests.

Actions Taken and Path Forward

Although the Department does not deem UAS as an attack platform in Department Order 470.3C, we noted that the National Nuclear Security Administration, including the Y-12 National Security Complex, has been proactive in establishing limited internal controls that include observing and reporting UAS, as well as using deadly force if hostile intent is determined. Further, although the Office of Nuclear Energy has not established UAS internal controls, Idaho National Laboratory's internal controls are similar to the National Nuclear Security Administration's and Y-12 National Security Complex's internal controls. While leadership from the Y-12 National Security Complex and Idaho National Laboratory security contractors stated that the Protective Force will take appropriate actions if UAS encounters occur, security contractor leadership generally will only conduct training and performance testing if the Department issues guidance identifying UAS as an attack platform.

A senior Health and Safety official stated that during the development process of Department Order 470.3C, UAS were identified as a concern that would require a constant level of attention. On October 18, 2017, the Intelligence Community provided Health and Safety information regarding a potential change in the UAS threat environment. Health and Safety requested that the Department's Office of Intelligence and Counterintelligence provide an analysis on this new information. Health and Safety prepared a proposed change to Department Order 470.3C based on this new information, and once the Office of Intelligence and Counterintelligence finalizes its

[1] Department Order 470.3C, *Design Basis Threat*, superseded Department Order 470.3B, *Graded Security Protection Policy*.

[2] Health and Safety utilizes multiple sources of information for security controls development, which include the Department of Energy's Office of Intelligence and Counterintelligence, the Department of Homeland Security, the Department of Defense, the Federal Bureau of Investigations, and inter-agency working groups.

analysis, Health and Safety will update the proposed change and initiate the directive modification process via the Department's Directive Review Board, as appropriate. A senior Health and Safety official stated that a typical moderate change to a Department Order takes 4 to 7 months from the initiation date. However, security officials at the Y-12 National Security Complex and Idaho National Laboratory have stated that it will take several years for Department Order 470.3C to be fully implemented at their respective sites. Alternatively, a senior Health and Safety official stated that, if warranted, the Department has the ability to issue a Secretary or Deputy Secretary Policy Memorandum that could significantly reduce the time to increase security controls over UAS encounters.

Further, while the Department is still in the process of completing its plan of action concerning UAS, the National Nuclear Security Administration distributed *Enterprise Counter Unmanned Aerial System Concept of Operations* on June 22, 2018, during the course of our inspection. This document was issued to provide National Nuclear Security Administration sites with implementing guidance for responding to a UAS threat, as well as a framework by which to develop a decision matrix and rules of engagement to support documentation and procedures for the integration and employment of a counter UAS platform.

RECOMMENDATION

It is essential that effective security controls are in place at Department sites to protect against UAS, and ultimately, to protect the overall security of the Department's interests. Accordingly, to ensure that the potential risks from UAS are adequately addressed, we recommend that the Associate Under Secretary for Environment, Health, Safety and Security:

1. Make a determination on the criticality of UAS threats and ensure that the Department uses the appropriate process to update security controls based on the most recent information available concerning UAS capabilities.

MANAGEMENT RESPONSE

Management concurred with the recommendation and indicated that Change 1 of Department Order 470.3C was under development, with an expected completion date of September 30, 2019. Management stated that the draft revision reflects recent intelligence assessments regarding UAS threats and proposes policy requirements to address the threats identified.

INSPECTOR COMMENTS

Management's proposed action is responsive to our recommendation.

Attachments

cc: Deputy Secretary
Chief of Staff
Principal Deputy Assistant Secretary, Office of Nuclear Energy
Administrator, National Nuclear Security Administration

OBJECTIVE, SCOPE, AND METHODOLOGY

OBJECTIVE

We conducted this inspection to determine whether the Department of Energy has effective controls to address Unmanned Aerial Systems encounters.

SCOPE

We conducted the inspection between August 2017 and January 2019. We conducted fieldwork on Unmanned Aerial Systems security controls at the Department of Energy's Office of Environment, Health, Safety and Security, the National Nuclear Security Administration's Y-12 National Security Complex, and the Office of Nuclear Energy's Idaho National Laboratory. The inspection was conducted under Office of Inspector General project number S17IS010.

METHODOLOGY

To accomplish the inspection objective, we:

- Interviewed Department of Energy officials at the Office of Environment, Health, Safety and Security, the National Nuclear Security Administration, and the Office of Nuclear Energy;
- Reviewed applicable directives and guidance regarding Unmanned Aerial Systems;
- Reviewed training and testing at the National Nuclear Security Administration's Y-12 National Security Complex and the Office of Nuclear Energy's Idaho National Laboratory;
- Reviewed Office of Enterprise Assessment reports;
- Reviewed the management and operating contracts for the National Nuclear Security Administration's Y-12 National Security Complex and the Office of Nuclear Energy's Idaho National Laboratory;
- Interviewed contractor officials involved with Unmanned Aerial Systems; and
- Interviewed Protective Force personnel at the National Nuclear Security Administration's Y-12 National Security Complex and the Office of Nuclear Energy's Idaho National Laboratory.

We conducted this inspection in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*. Those standards require that we plan and perform the inspection to obtain sufficient, appropriate evidence to provide a reasonable basis for our conclusions and observations based on our inspection

objective. We believe that the evidence obtained provided a reasonable basis for our conclusions and observations based on our inspection objective. Accordingly, the inspection included tests of controls and compliance with laws and regulations to the extent necessary to satisfy the inspection objective. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our inspection. Additionally, we considered *GPRA Modernization Act of 2010*, as necessary, to accomplish the objective of our inspection, and determined that the Department of Energy's strategic goals and objectives were not applicable to our inspection. We did not rely on computer-based data to materially support our finding or conclusion.

Management waived an exit conference on March 7, 2019.

MANAGEMENT COMMENTS

Department of Energy
Washington, DC 20585

March 5, 2019

MEMORANDUM FOR TERI L. DONALDSON
INSPECTOR GENERAL

FROM: MATTHEW B. MOORY
ASSOCIATE UNDER SECRETARY
FOR ENVIRONMENT, HEALTH, SAFETY AND SECURITY

SUBJECT: COMMENTS FOR IG DRAFT INSPECTION REPORT:
Low Altitude Airspace Security over Select Department of Energy Sites. (S17IS010)

Thank you for the opportunity to comment on the Draft Audit Report, "*Low Altitude Airspace Security over Select Department of Energy Sites.*" The Office of Environment, Health, Safety and Security has completed its review of the report and provide the following comments:

Recommendation 1: It is essential that effective security controls are in place at Department sites to protect against Unmanned Aerial Systems (UAS), and ultimately, to protect the overall security of the Department's interests. Accordingly, to ensure that the potential risks from UAS are adequately addressed, we recommend that the Deputy Associate Under Secretary for Security, Office of the Associate Under Secretary for Environment, Health, Safety & Security make a determination on the criticality of UAS threats and ensure that the Department uses the appropriate process to update security controls based on the most recent information available concerning UAS capabilities.

Management Response: Concur

Action Plan: DOE O 470.3C, Change 1, *Design Basis Threat*, is under development. The draft revision reflects recent intelligence assessments regarding Unmanned Aerial Systems threats and proposes policy requirements to address the threats identified.

Estimated Completion Date: September 30, 2019

If you have any questions, please contact me at (202) 586-1285 or have a member of your staff contact Sam Callahan, Director, Office of Security, at (301) 903-3898.

FEEDBACK

The Office of Inspector General has a continuing interest in improving the usefulness of its products. We aim to make our reports as responsive as possible and ask you to consider sharing your thoughts with us.

Please send your comments, suggestions, and feedback to OIG.Reports@hq.doe.gov and include your name, contact information, and the report number. You may also mail comments to us:

Office of Inspector General (IG-12)
Department of Energy
Washington, DC 20585

If you want to discuss this report or your comments with a member of the Office of Inspector General staff, please contact our office at (202) 586-1818. For media-related inquiries, please call (202) 586-7406.