FINDING OF NO SIGNIFICANT IMPACT
FOR
Counter-Unmanned Aircraft Systems Testing at Multiple Sites

Introduction: The Science and Technology Directorate (S&T), a Component within the U.S. Department of Homeland Security (DHS), provides sound, evidence-based scientific and technical perspectives to address a broad spectrum of current and emerging threats. S&T prepared an Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969, 42 United States Code [USC] §§ 4321 *et seq.* (NEPA), the Council on Environmental Quality (CEQ) *Regulations Implementing the Procedural Provisions of NEPA* (40 Code of Federal Regulations [CFR] Parts 1500-1508), other relevant federal and state laws and regulations, DHS Directive 023-01, Revision 01, and DHS Instruction Manual 023-01-001-01, Revision 01, *Implementing the National Environmental Policy Act* to evaluate the potential impacts resulting from the Proposed Action and this Finding of No Significant Impact (FONSI) documents the reasons why the Proposed Action does not have a significant effect on human health and/or the environment.

Purpose and Need: The purpose of the Proposed Action is to identify technological capabilities to support the Congressionally mandated requirement under *The Preventing Emerging Threats Act of 2018* (Public Law 115-254) to protect the nation through research, development, testing, and evaluation (RDT&E) of best-in-class counter unmanned aircraft systems (C-UAS) technologies against various small unmanned aircraft systems (sUAS) in operationally relevant environments. S&T developed a proposal that identified five geographic areas that provide suitable conditions to systematically test C-UAS capabilities against various sUAS.

The need for the Proposed Action is to enhance S&T's C-UAS capabilities in an operational and environmentally diverse context to comply with Public Law 115-254 and ultimately employ technologies so that DHS can effectively protect the Homeland against sUAS threats.

Alternatives: Two alternatives were addressed in the EA.

1. Counter-Unmanned Aircraft Systems Testing at Multiple Sites

Proposed Action: The Proposed Action is testing by S&T of C-UAS capabilities to detect, track, identify, and mitigate sUAS in five separate geographic areas. The five geographic areas are Niagara Falls and Buffalo, New York (NY); the greater Philadelphia, Pennsylvania (PA), area; Northeastern West Virginia (WV); National Capital Region (NCR)/Greater Washington, District of Columbia (D.C.); and Richmond, Virginia (VA). Testing would occur in one or more locations within these identified geographic areas, with the breadth of testing dependent on distance, equipment set-up locations, and sUAS target flights limited to line of sight, FAA approvals, and test team capabilities. The Proposed Action includes the utilization of commercially available off the shelf (COTS) sUAS and five types of third-party C-UAS technological capabilities.

The C-UAS systems being tested may be mounted on a tripod, which could be placed on the ground or on a vehicle; affixed to a stationary location like a building; or handheld for mobile or man-portability. The C-UAS systems would have a detection range of up to approximately 1.2 miles. C-UAS technologies may be tested against one or more sUAS flown in distance and mission profiles designed to test specific systems and against individual test objectives. For the Proposed Action, sUAS would be remotely operated by S&T during one or more daylight hours in multiple locations with short flight times (regularly scheduled, long flight times are not anticipated) for the purpose of testing the effectiveness of the C-UAS technology. The sUAS would fly at altitudes up to 400 feet above-ground level (AGL), within line of sight of operators or

designated visual observers and would comply with 14 CFR Part 107 Federal Aviation Administration (FAA) regulations.

All C-UAS test events would be conducted by S&T-authorized personnel in conjunction with a participating DHS Component, State, or Local partner and may be attended by other DHS Components, and other government, state, or local agencies.

2. The No Action Alternative

No Action Alternative: The No Action alternative does not meet the purpose and need for the Proposed Action, but was carried forward for analysis, as required by CEQ regulations. Under the No Action alternative, the proposed project activities would not occur, and DHS would not be able to meet legislative authorities and obligations.

Other Alternatives Considered: No other alternatives would meet the purpose and need for the Proposed Action; therefore, no alternatives other than the Proposed Action and No Action Alternatives were analyzed in the EA.

Environmental Effects: The EA documents that the Proposed Action will result in no direct, indirect, or cumulative, significant environmental impacts.

The Proposed Action has no mechanism to directly or indirectly impact land use; air quality and climate change; noise; geology, topography, and soils; water resources; and environmental justice therefore, a detailed analysis of these topics was not warranted in the EA. The four resources for which impacts were further analyzed include: visual aesthetics, cultural resources, biological resources, and public health and safety.

Visual Aesthetics — The existing visual aesthetics of testing areas are dominated by land uses that range from rural and agricultural areas to highly urbanized and developed areas. Areas that are highly developed would be desensitized to testing activities as recreational sUAS flights are common within the viewshed. Impacts on aesthetics and visual resources would be associated with the temporary presence of systems mounted on buildings and/or in-flight sUAS in a given test area, as well as the presence of motor vehicles used to transport the C-UAS equipment and personnel. No significant impacts are anticipated on visual resources; therefore, the Proposed Action would have a short-term, negligible adverse impact on visual aesthetics.

Cultural Resources — In compliance with Section 106 of the National Historic Preservation Act [36 CFR 800], S&T identified historic properties within each test area and determined that the temporary presence of sUAS and supporting motor vehicles would have no adverse impact on these properties. C-UAS technology or supporting infrastructure would not be utilized on tribal lands, traditional cultural properties, sacred sites, and sites of traditional and cultural significance. The State Historic Preservation Officer (SHPO) in each test area concurred with this determination of no adverse finding. Two federally recognized Native American Tribes in the test areas concurred with this determination of no adverse finding. To further ensure the Proposed Action avoids impacts on cultural resources, S&T would avoid flying sUAS within 200 feet horizontally or vertically from any historic property or culturally significant site. No impacts on cultural resources are anticipated; therefore, the Proposed Action would not have an adverse effect on historic properties or tribal resources.

Biological Resources — The Proposed Action would not involve ground disturbance and would not affect vegetation, wildlife habitat, or fish. The Proposed Action includes C-UAS radar technologies that utilize radiofrequencies in the range of 0.3-300 MHz and with energies no greater than 10 watts per square meter. This energy is lower than high-power radars that have been studied and determined unlikely to cause

thermal heating or interfere with the navigation of migratory birds. Additionally, C-UAS radar technology would have a narrow beam that would only remain in one area of space for less than 0.02 seconds. As a result, operation of the C-UAS active radar systems would have a short-term, negligible adverse direct impact on terrestrial mammals, birds, and bats from exposure to non-ionizing radiation. The presence of in-flight sUAS may temporarily disturb avian wildlife unaccustomed to airborne equipment, but individual animals would return to their habitat once the sUAS has left the area. The use of sUAS during daylight hours would avoid impacts to nocturnal wildlife, including bats. Noise associated with C-UAS test events may temporarily disturb birds, however testing events would be temporary (testing events may take several hours), and there is an abundance of adjacent habitat, and some species may become acclimated. Therefore, the Proposed Action would have a short-term, negligible adverse impact on biological resources.

In compliance with Section 7 of the Endangered Species Act (ESA), S&T identified seven federally threatened species identified in the EA. No critical habitat is present in the test areas and therefore no direct or indirect impacts on critical habitat are anticipated. While suitable habitat is present for federally listed species, no ground disturbance, including clearing, would occur as part the Proposed Action. S&T would conduct pre-flight checks to avoid impacts on migratory birds and bald eagles. Therefore, the Proposed Action would have *no effect* on federally threatened and endangered species and would not adversely affect migratory birds or eagles. No further consultation under Section 7 of the ESA is required.

Public Health and Safety — The C-UAS radio frequency (RF) energy levels are below the maximum permissible exposure limits for occupational/controlled exposures described by the Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.97 and for public exposure described by the Federal Communications Commission under 47 CFR 1.1307(b). Furthermore, radar energies would be below the recommended maximum exposures described by Institute of Electrical and Electronics Engineers Standards Associates C95.7-214, *Recommended Practice for Radio Frequency Safety Programs, 3 Kilohertz to 300 Gigahertz,* and the International Commission of Non-Ionizing Radiation Protection *RF electromagnetic field Guidelines 2020*. The radiation hazard from the radar and RF systems would not exceed the permissible exposure limit guidelines (defined by the Department of the Navy) for Hazards of Electromagnetic Radiation to Personnel; Hazards of Electromagnetic Radiation to Ordnance; and Hazards of Electromagnetic Radiation to Fuel. Proposed sUAS activities would not require the use of hazardous materials and would not generate hazardous or toxic waste. Therefore, the Proposed Action would have a short-term, negligible adverse impact on public health and safety.

Impact Minimization Measures: S&T incorporated impact minimization measures into the Proposed Action to ensure that potential impacts associated with performing test activities remain at less-than-significant levels. S&T is responsible to ensure full compliance with the impact minimization measures listed below.

Visual Aesthetics

1. Ensure all C-UAS tests would be conducted during daylight hours for one to several hours during test days.
2. Ensure the maximum altitude attained by sUAS during C-UAS testing would be 400 feet AGL unless higher flight elevations are required and approved by FAA in advance.
3. For NCR, Greater Washington D.C., S&T will coordinate with the National Park Service and the National Capital Planning Commission (NCPC) to minimize adverse impacts on the viewscape.
4. Any C-UAS equipment mounted on buildings will be placed away from the edge of a roof at a distance equal to or greater than its height above the roof to reduce its visibility. Any permanent

installations, if proposed in the future, will be subject to NCPC review. As such, DHS will photo-document equipment set-up/installation during testing as this will help NCPC understand the potential visual impacts of any installations.

Cultural Resources

1. Confirm locations of above-ground historic properties through pre-coordination with SHPOs, Tribal Historic Preservation Offices, Components, and other stakeholders.
2. Avoid flying sUAS within 200 feet both vertically and horizontally from any historic building, district, cemetery, park, monument, or any other culturally significant area, historic property, sacred site, or traditional cultural property.
3. Initiate government-to-government consultation with the federally recognized Native American Tribes to determine if sensitive areas reside within the proposed testing geographic areas prior to activities occurring. S&T will keep information confidential upon request. Based on information provided by Native American Tribes, avoid these areas and/or perform other avoidance measures requested by the Tribe(s).

Biological Resources

1. Conduct a pre-flight check for migratory birds, including bald eagles, in the flight area immediately before launch. Should S&T personnel observe a migratory bird or bald eagle within approximately 100 feet of the sUAS launch site or flight area, the sUAS flight will be delayed or relocated to another location until the bird leaves the area on its own accord.
2. To avoid impacts on bald eagles, maintain a 330-foot "primary buffer" from eagle nests in areas where human activities are considered to be detrimental to breeding pairs (e.g., residential/commercial development), and a larger 660-foot "secondary buffer" where human activities are considered to impact the integrity of the "primary buffer" (e.g., construction, multi-story buildings, and new roadways).
3. During test events, if migratory birds, including bald eagles, exhibit signs of distress (e.g., wing flapping, crouching, fleeing, or flushing) in response to the presence of an sUAS, increase the altitude of the sUAS (but not above FAA-approved heights) and move the sUAS away from the disturbed animal. Should S&T personnel observe migratory birds or bald eagles, cease activities until either the species has moved away from the area of operation, or the sUAS flight path is relocated to an area where migratory bird or bald eagle would not be disturbed.
4. During test events, should S&T personnel observe a federally listed terrestrial animal, delay the test until either the listed species has moved away from the area of operation, or the sUAS flight path is relocated to an area where the listed species would not be disturbed.
5. Avoid flying sUAS within 150 feet of a known Northern long-eared bat maternity roost tree or within 0.25 miles of a known hibernaculum. If avoidance cannot be ensured, S&T will contact the U.S. Fish and Wildlife Service (USFWS) to identify required avoidance measures.
6. In areas that are known to contain bird nesting colonies, or areas that are known to contain federally listed species during their breeding season, as identified in the USFWS Information for Planning and Consultation (IPaC) migratory bird frequency charts (using IPaC results obtained less than three months prior to a test event), implement seasonal restrictions, such as changing flight area or seasonally restricting flights, to reduce any potential impact to the listed species. S&T commits to conducting testing activities outside of the migratory bird nesting season (April 15 through August 1). In the event that unforeseen schedule changes result in testing to occur during the migratory

bird nesting season, S&T commits to conducting a pedestrian nest survey of the project area to avoid and minimize potential impacts on migratory birds.

Public Health and Safety

1. DHS will identify and cordon off any sites on buildings or on the ground to ensure a safe environment for federal workers and the general public in accordance with applicable federal regulations.
2. Prior to operating RF transmitting equipment, provide training to personnel who routinely work with equipment (prior to assignment and annually). Training will ensure that personnel are aware of the potential RF hazards, established procedures, restrictions to control RF exposures, and the responsibility to limit their exposure and exposure to the public.
3. Dispose/recycle of end of life batteries (to power sUAS) in accordance with all applicable laws and regulations.
4. Set defaults such that, if the sUAS loses its link to the pilot, the aircraft is programmed to return to base.

Cumulative Impact: The impacts on the environment which would result from the incremental impact of the Proposed Action, when added to other past, present, and reasonably foreseeable future actions have been considered. No significant direct or indirect effects were identified. Past, present, and future activities would continue to be temporary and less than significant. As described in the EA, the Project related activities does not have a mechanism to directly or indirectly impact land use; air quality and climate change; noise; geology, topography, and soils; water resources; and environmental justice. Therefore, the Proposed Action would not contribute to cumulative impacts within the geographic and temporal scope of these resources. The four resources for which impacts were further analyzed include: visual aesthetics, cultural resources, biological resources, and public health and safety. The Proposed Action does not require development, ground disturbance, or loss of habitat. Neither the Proposed Action nor the No Action Alternative would reasonably contribute to cumulative adverse impacts on biological resources. Additionally, given the type and duration of the proposed project activities the Proposed Action would not result in significant cumulative effects on visual aesthetics, cultural resources, and public health and safety when considered with other recent past, ongoing, or reasonably foreseeable future actions.

Finding: The analyses presented in the EA considered both the context and intensity of the Proposed Action in determining its significance as outlined in 40 CFR 1508.27. Based upon the analysis in the EA, it is determined that the Proposed Action will not significantly affect the human and natural environment. All practicable and reasonable means will be employed by S&T to minimize the potential adverse impacts on the human and natural environment. As a result, the Proposed Action does not require the preparation of an Environmental Impact Statement. Therefore, a Finding of No Significant Impact is warranted.

July 12, 2022

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July 8, 2022

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July 7, 2022

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