STATEMENT OF
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FEDERAL AVIATION ADMINISTRATION
HEARING BEFORE THE UNITED STATES SENATE COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS, ADMINISTRATION COUNTER-UAS NATIONAL ACTION PLAN LEGISLATIVE PROPOSAL
JULY 14, 2022

Chairman Peters, Ranking Member Portman, and members of the committee:

Thank you for inviting me to speak with you today. My name is Tonya Coultas, and I am the Deputy Associate Administrator for the Federal Aviation Administration's (FAA) Office of Security and Hazardous Materials Safety. In this role, I share the Associate Administrator's responsibilities for formulating policies and plans, and directing national programs involving internal security, intelligence analysis and threat warning, emergency response, safe air transportation of dangerous goods, and support to aviation security partners. This includes ensuring programs and operations are coordinated and integrated with the appropriate internal and external organizations, including the National Security Council, the Departments of Defense (DOD), Energy (DOE), Homeland Security (DHS), Justice (DOJ), and our other security and safety partner agencies, to resolve complex national security, safety, and crisis-response challenges. My office remains the focal point within FAA for coordinating Unmanned Aircraft System (UAS) security issues, including policy related to the use of UAS detection, as well as UAS mitigation (or "Counter-UAS") capabilities.

UAS, also known as drones, have low barriers for entry into the National Airspace System (NAS). For most small UAS, this means a lower cost to both purchase and operate, wider availability, and greater ease of operation. As a result, UAS represent the fastest growing sector in aviation today, with the last decade seeing exponential growth in the number of UAS operations. Every day, commercially-operated UAS contribute to our economy by inspecting

infrastructure, supporting industries such as agriculture, real estate, entertainment, motion pictures, and insurance, and assisting public safety agencies, which are just a few of the many diverse missions in which UAS are engaged. In time, these missions are expected to include medical and other small parcel delivery, wireless signal continuity during disaster relief, and wildfire mitigation. The need to fully integrate this technology into the NAS in a safe and secure manner continues to be a national priority—one in which both the FAA and our security partners are heavily invested.

UAS technology offers tremendous benefits to our economy and society, as Congress has recognized, but we must acknowledge that potential misuse of this technology poses unique security challenges that may enable malicious actors to exploit vulnerabilities or circumvent traditional ground-based security measures. Today, I would like to discuss with you the FAA's role in maintaining the safety and efficiency of the NAS, the status of coordination with our federal partners to support the safe integration of UAS detection and mitigation capabilities into the NAS, and the next incremental steps (as reflected in the Administration's legislative proposal) for incorporating state, local, tribal, and territorial (SLTT) law enforcement entities, airports, and other critical infrastructure into the security framework necessary to support the full integration of this technology into our aviation system.

FAA's Mission is to Ensure the Safe and Efficient Use of the NAS

The FAA's primary mission is to provide the safest, most efficient aerospace system in the world. We are responsible for providing air traffic control and other air navigation services 24 hours a day, 365 days a year, for 29.4 million square miles of airspace. In addition to this critical operational role, the FAA exercises its statutory authority to carry out this mission by issuing and enforcing regulations and standards for the safe operation of aircraft and airports, and

by developing procedures to ensure the safe movement of aircraft through the nation's skies. In exercising its authority, the FAA must recognize the public's right of transit through the navigable airspace by compliant operators.

The FAA's chief role in UAS detection and mitigation is to support our partners' testing and eventual use of these systems while ensuring the safety and efficiency of the NAS is not compromised and that the right of access to the airspace by compliant operators is preserved. Many currently-available UAS detection, tracking, and mitigation systems utilize radio-frequency (RF) based and other technologies that could potentially interfere with the aviation RF spectrum, negatively impacting air navigation services, communications, and avionics systems, which are critical to safety of flight. This requires close coordination between the FAA and our security partners. The FAA relies upon its partners to provide technical specifications and operational concepts to allow the FAA to conduct specific, data-intensive analyses for each novel UAS detection use and each potential Counter-UAS use to ensure the concept of operations balances the need for operator notification, airspace access, and appropriate airspace safety mitigations with the protective missions of our security partners. Neither the FAA nor our partner agencies want to jeopardize safety or interfere with compliant UAS operations.

FAA Integration Activities

The FAA expects UAS operations in the NAS will evolve from low-density, disconnected, visual line of sight operations, to a complex, UAS Traffic Management (UTM) based network of interconnected aircraft operating beyond visual line of sight. As this ecosystem grows in scale and complexity, we are working closely with our federal partners to develop a security framework to address the risks and vulnerabilities inherent in this system. Today, UAS

registration, implementation of remote identification (remote ID), airspace awareness, and enforcement are fundamental pillars of this security framework.

One of the biggest challenges for our federal security partners is threat discrimination—knowing who is flying and where helps the FAA and our security partners understand what the operator's intent may be, and is critical to threat assessment and response. Mandatory registration and external marking requirements contribute to security by helping to match an unmanned aircraft to its owner. Remote ID will enable authorities to connect a suspect UAS to its control station location, as well as identify the registered owner. When remote ID is fully realized, the FAA, our federal security partners, and SLTT law enforcement will have an additional tool to provide improved situational awareness that will aid in identifying, locating, and, if necessary, taking traditional enforcement actions against non-compliant UAS operators. However, even after the remote ID final rule is implemented, the FAA acknowledges that UAS detection and/or Counter-UAS authority may remain a necessary tool for our federal security partners.

Compliance with basic airspace requirements—the "rules of the road"—is essential to maintaining safety in the NAS and ultimately will make it easier for our national security and law enforcement partners to recognize a drone that is being operated in an unsafe or suspicious manner. UTM will offer a suite of capabilities that will incorporate components from the FAA, industry, and our government partners to create a comprehensive system of low-altitude airspace management for UAS. Planned UTM capabilities include a number of components—the FAA's Low Altitude Authorization and Notification Capability (or "LAANC"), remote ID, and dynamic airspace management—that will support the needs of industry, the FAA, and our security partners. To establish the UTM system, the FAA is developing a UAS regulatory and traffic

management framework that is compatible with the evolution of the technology required to support UTM and complement the Air Traffic Management system.

In addition, Congress directed the FAA in Section 383 of the *FAA Reauthorization Act of 2018* to test and evaluate UAS detection and mitigation technologies that could be used to address potential safety risks posed by UAS near airports. Also, Section 383 required the FAA to develop a plan for the certification of UAS detection and mitigation systems in the NAS, and convene an Aviation Rulemaking Committee (ARC) to make recommendations for the plan. The FAA has launched a robust testing effort and is taking steps to convene the ARC. This work is a critical step expected to inform the development of future standards for the certification of UAS detection and mitigation systems to ensure the safe integration, and reliability of, these systems for broader use in the NAS.

Advance Coordination on Policy Development and Concepts of Operations

Congress has provided the DOD, DOE, DOJ, and DHS relief from applicable federal criminal statutes in titles 18 and 49, United States Code, necessary to respond to UAS that pose a threat to designated covered facilities and assets. The FAA collaborates and coordinates closely with each federal partner to support research, testing, training, and operational use of UAS detection and mitigation technology to address UAS-based threats.

Congress established the foundation for UAS detection and mitigation coordination between the FAA and our security partners in the specific statutory provisions that granted relief from applicable federal criminal statutes to DOD, DOE, DOJ, and DHS, respectively, as well as in the FAA's authorizing statute in title 49, United States Code. Building from that foundation, the FAA and our security partners have collaborated to develop agency-specific and jointly agreed-upon processes that use objective standards to determine when, how, and what detection

or mitigation technology can be safely used in a particular location without introducing unacceptable risk to the NAS. The FAA has worked with each authorized federal department to define what actions constitute a threat; develop departmental guidance for agencies with covered missions; apply a risk-based approach to the designation of select locations for protection; develop a concept of operations that incorporates a graduated approach for measured responses; analyze and mitigate the spectrum impact of selected systems; establish flight restrictions, as appropriate, to provide public notice; and establish interagency notification protocols and reporting requirements.

Many factors have been considered in the development of these processes. For example, as noted earlier, the FAA's priority is the safety and efficiency of the NAS, as well as the preservation of access to the NAS by compliant operators. Any activity taken in furtherance of UAS detection or mitigation depends upon a thorough and jointly conducted risk-based assessment, as outlined in the current DHS and DOJ authorities. Through this process, the FAA evaluates potential secondary impacts on the NAS, identifies additional mechanisms for mitigating any secondary risk, and works with our federal partners to identify mutually agreeable solutions.

One example of an airspace mitigation that the FAA may identify as required to address potential adverse effects associated with UAS detection and mitigation systems is the establishment of a flight restriction. Flight restrictions established by the FAA serve two purposes—first, they provide advance warning to operators to stay away from an area and, second, they provide mitigation of secondary hazards introduced by the detection or mitigation system to aviation safety. The size, shape, and volume of a given flight restriction or other airspace mechanism, and whether the restriction is mandatory or advisory, is directly related to

whether we are serving one or both of those purposes. For example, the restriction may need to be tailored in size and shape to account for the mitigation of a specific hazard within the area of engagement.

The ability to provide reasonable advance notice to airspace users is also an integral requirement, which Congress recognized in the current provision for the joint risk-based assessment. From both a safety and security perspective, it is a mission essential requirement for the FAA to inform the flying public when the FAA establishes flight restrictions so that they understand where they should not operate.

A critical aspect of the Counter-UAS coordination process is the FAA's analysis of potential RF spectrum interference with navigation, communications, avionics, and other aviation-related systems—either in the air or on the ground—when a detection or mitigation system is being operated. Through technical coordination with our security partners, as well as the Federal Communications Commission (FCC) and National Telecommunications and Information Administration (NTIA), we determine whether a system will interfere with other systems operating in the NAS, such as avionics aboard manned or unmanned aircraft, or air traffic control systems. If there is interference, the FAA notifies the Department of Transportation Operations Center and works with the federal security partners to identify a solution that may allow the federal partner to conduct its security operations without compromising the safety of the NAS. We are also able to evaluate potential impacts to persons and property on the ground or to other aircraft depending upon the response of the UAS once mitigated. Recently, our federal partners have involved FAA subject matter experts in airspace safety and management in the classroom and practical training and certification processes for

Counter-UAS operators. We look forward to continuing this collaboration on system training going forward.

Coordination During Counter-UAS Operations

The FAA has also worked closely with each of its security partners to develop notification protocols during an active (*i.e.*, emitting or potentially impactful) detection or Counter-UAS event. These protocols require a federal security partner to notify the FAA's Domestic Events Network (DEN) of a UAS operation that may provoke an authorized response. Once alerted, the DEN contacts the local air traffic control facilities in the potentially affected airspace to address the possible impacts on other users of the airspace. Local air traffic control is also kept informed during and after an activation event. These protocols are designed to enable air traffic control to increase situational awareness regarding operational impacts and prepare to resolve any safety issues, provide operational support to any needed security-focused response actions, and provide an immediate alert to avoid impacting other aircraft operating in the area.

Proposed Expansion of UAS Detection and Mitigation Authorities

Unlike DOD, DOE, DHS, and DOJ, most federal departments and agencies, as well as public and private entities, lack the necessary authority to use some of the most readily available technologies to protect sensitive facilities, operations, and people from the malicious or errant use of UAS, due to constraints imposed by federal law.

The FAA provided input to help shape the Administration's proposal from the earliest stages of development. The proposal reflects a whole-of-government approach to take additional incremental steps to expand UAS detection and mitigation capabilities through relief from applicable federal statutes, and the FAA plays an integral role in nearly every aspect of the proposed expansion. We support the Administration's proposal and recognize that our security

partners need to address gaps in their authorities. As discussed, we have an excellent track record of coordination with our federal security partners, and we believe this proposal builds on that relationship to address security gaps while maintaining the essential safeguards required to protect the safety of the NAS.

The Administration's proposal includes provisions to renew, and make permanent, the relief granted to DHS and DOJ, which were established in the Preventing Emerging Threats Act of 2018, new provisions for improved federal cooperation, and measured areas of expansion based on lessons learned from federal implementation and coordination accomplished to date. These areas of expansion include ensuring DHS and DOJ are able to use UAS detection and mitigation technologies to protect airports and other critical infrastructure from UAS-based threats; limited UAS detection-only authority for the SLTT law enforcement community, airports, and critical infrastructure; and a temporary pilot program for SLTT law enforcement entities to begin using UAS mitigation technologies under direct oversight of DHS and DOJ. This pilot program will allow the federal government to evaluate the costs, risks, and benefits associated with a possible, more permanent expansion of the authority in the future, and to identify any additional necessary safeguards should the authority be expanded further. The proposal would also give the FAA authority to assess civil penalties against non-federal entities or people who use detection or mitigation technologies in an unauthorized manner that endangers the national airspace.

As we see with ground-based threats, SLTT law enforcement are most likely to be the first to identify a potential threat—like a UAS flying over people in a parking lot before a football game. The limited detection-only authority provided for in the Administration's proposal will enable law enforcement officials, as well as security personnel in their protective duties at

airports and critical infrastructure, to locate and engage the UAS operator so that they can assess the risk in real time and take appropriate action. Importantly, this will allow authorized users of UAS detection technology to detect signals from UAS that may not be remote ID-compliant.

The Administration's proposal includes a pilot program for SLTT law enforcement entities to conduct UAS mitigation activities in coordination with our federal security partners. We are confident the safeguards contained in the pilot program, including the direct oversight of all activities by DHS and DOJ, training of SLTT program participants, FAA coordination procedures, and reliance on a fully vetted federally-managed list of authorized equipment, are sufficiently robust to preserve safety of the NAS. We recognize that expanding UAS mitigation authorities beyond our current federal partners will present challenges. For that reason, the proposal takes an incremental approach to evaluating such authorities by requiring participants to work through one of the federal security agencies that already have an established track record coordinating the use of UAS mitigation technology with the FAA. Given the currently available UAS detection and mitigation technology and the impacts it can have on aircraft and NAS systems, we believe the proposal incorporates a responsible path to evaluate the benefits and risks associated with a potential broader, more permanent expansion of authority.

The Administration's proposal reflects a commitment to ensuring that any UAS detection or mitigation activities are conducted by trained and proficient users in a standardized, responsible, and deliberate manner using equipment that has been fully evaluated and authorized for use by the federal government. It leverages all existing operational coordination requirements with the FAA, FCC, and NTIA to ensure the safety of the airspace and the communications spectrum, safeguard against possible cyber intrusion, and provide for direct federal oversight of all UAS mitigation activities.

Conclusion

There is no question that a seamless security framework is critical to advancing the Administration's goal of fully integrating UAS into the NAS, thus realizing the full potential of public benefits from this technology. By renewing the vital authorities of our federal security partners and taking incremental, deliberate steps to evaluate the safest means to support SLTT law enforcement agencies and security personnel in their protective duties at airports and critical infrastructure to address emerging UAS-based threats, the United States will continue to lead the way in the full integration of UAS while offering the safest, most efficient—and most secure—aerospace system in the world. We thank the committee for its leadership on this issue, and look forward to working together to balance safety and innovation with security. This concludes my statement. I will be happy to answer your questions at this time.