STATEMENT OF

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BEFORE THE
SUBCOMMITTEE ON SECURITY
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
U.S. SENATE

CONCERNING
DRONE SECURITY: ENHANCING INNOVATION AND MITIGATING SUPPLY CHAIN RISKS

PRESENTED
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Introduction

Good afternoon, Chairman Sullivan, Ranking Member Markey, and members of the Committee. On behalf of the Massachusetts Port Authority, I would like to thank you for the opportunity to testify before the Subcommittee on Security about Unmanned Aircraft Systems (UAS) and the risks they can pose to aviation safety.

The Massachusetts Port Authority, or Massport as we are commonly called, is an independent quasi-state entity that oversees Boston Logan International Airport, Worcester Regional Airport, L.G. Hanscom Field, maritime facilities, and various

real estate holdings. Our first priority is always the safety and security of the traveling public, our employees, and our neighboring communities. As the Chief Security Officer at Massport, I am responsible for ensuring our organization is prepared for the threats we face today, and to anticipate threats of the future. I am here to testify that the rising incidence of unauthorized UAS encroaching on airspace reserved for manned aircraft is a clear and present risk that must be addressed thoughtfully and deliberately, but urgently.

As we speak, the Federal Aviation Administration, state and local governments, and operators of critical infrastructure are seeking appropriate ways to manage, and safely and securely integrate UAS usage in our shared airspace. As Massachusetts Governor Charlie Baker recently highlighted in a letter to acting FAA Administrator Daniel Elwell, the Commonwealth is privileged to be a hub for high tech and innovation companies, and we fully appreciate their potential to enhance safety, security, and commerce. We also recognize that with innovation, including advancements in UAS technology, come challenges—especially risks posed by negligent, reckless, or malicious use. The rapid pace of growth of the UAS industry and the ever-evolving UAS technological landscape have out-paced the current laws and policies designed to prevent harmful interaction between manned and remotely piloted aircraft.

Our Approach to Safety and Security

Enhancing safety and security is, by definition, a fluid process and always a work-in-progress. Every day we strive to identify and utilize every available tool to create a redundant, multi-layered system that seeks to drive down risk and respond to evolving threats. This approach includes updating and standardizing operating procedures, constant preparation through training and drills, collaboration among many stakeholders, infrastructure investments, technology research and application, and proactive testing and implementation of new approaches.

Some of the activities we undertake at Logan Airport demonstrate our commitment to safety and security. Since 9/11, the aviation community at Logan has met every day to discuss security and operations. We conduct multiple exercises every year, and work with our law enforcement partners, which include a permanent Massachusetts State Police troop presence, an FBI Joint Terrorism Taskforce Annex on the airport premises, as well as the many federal agencies charged with securing our airports.

UAS Risks

Rapid advances in UAS technology promise to revolutionize air transportation, and Massport looks forward to continuing to evolve with the future of air travel. Nevertheless, the disruption of manned aviation due to the proliferation of UAS is happening as we speak, and increasing with each passing day. According to the FAA, airplane pilots reported over 2,000 UAS sightings in the US in first 10

months of 2018. UAS operators, many with little or no training, are encroaching on airport flight paths causing risks of collision or ingestion by aircraft engines. Nefarious actors could use UAS's to inflict significant harm, potentially attacking an aircraft in the air or on the ground with payloads of explosives, chemical, biological or radiological material.

In recent months, as the Committee knows, there have been incidents at international airports, including London Gatwick and Newark Liberty, where reported UAS sightings disrupted operations. Massachusetts has seen its fair share of incidents as well, including an incident where a recreational UAS violated a temporary flight restriction and appeared over Fenway Park during a Boston Red Sox game with more than 35,000 in attendance. There were 32 reported UAS sightings alone at the three airports Massport operates from January 2018 to March of this year.

The impact of an extended UAS incident would be significant to Logan Airport. Flights from coast to coast would feel the ripple effect of a handful of UAS's. If Logan Airport faced an extended halt of flight operations due to reported UAS sightings like Gatwick did in late 2018, then roughly 1,300 aircraft would be impacted. Passengers and cargo would be grounded on the tarmac at Logan Airport. Aircraft destined for Boston would be diverted in the air or held on the ground at originating airports. Most importantly, Logan could not serve as a refuge for aircraft forced to land because of an in-flight emergency or diverted for weather. Disruptions at Logan Airport would also affect the international airspace.

Each of our 42 airlines would have to cancel or redirect aircraft across 78 cities in the US and 57 international destinations, impacting approximately 140,000 passengers all over the world. If you were to apply USDOT criteria to this type of event, then the overall costs to air passengers alone could easily reach tens of millions of dollars. Airline costs for crew, fuel, and other operating costs would increase this loss even more dramatically.

Our Response to UAS Risks

Massport applauds the FAA's efforts to ensure UAS can coexist safely with manned flight. The FAA has instituted mandatory UAS registration, established guidelines for flying UAS near airports, and is educating the public on UAS safety. However, more needs to be done to strengthen current laws and policies to counter UAS threats.

We recently conducted a UAS tabletop exercise, which included Massport, the FAA control tower at Logan, Massachusetts State Police, the FBI, TSA, and the Massachusetts Department of Transportation. The drill confirmed, with some slight modifications, that we have effective communications protocols in place for coordinating a response to a UAS incident, but it also validated our concern that we lack the tools to help us identify potential unauthorized UAS's or confirm sightings from pilots. We need technical solutions to increase our situational awareness with real-time intelligence so that we can detect and neutralize potential threats as quickly as possible. We continue to advance our efforts to

better understand and address these needs. We established an internal working group, participate in a Commonwealth-sponsored Counter-UAS (CUAS) working group, and routinely engage with our federal partners to both learn more on the intricacies of this subject matter, as well as advance a collaborative discussion on potential solutions.

However, we need appropriate legal and regulatory guidelines that provide clear rules of the road, so that in the event we are required to take proactive actions to identify, track, and possibly even mitigate the threat, there would be a clear understanding of authorization and responsibility.

Recommendations

The efforts needed to address the risks posed by the misuse of UAS's, whether intentional or not, can be grouped into three categories: enforcement, technology, and collaboration/research.

Enforcement. Clearly, the FAA has the primary role in ensuring UAS's are integrated into public airspace in a positive and safe manner that allows for commercial and recreational use while addressing the risks. We greatly appreciate the work this Committee and Congress have done to address the issue. We support several initiatives in the 2018 FAA Reauthorization Act, such as making it a criminal offense to fly certain UAS near airports, requiring the FAA to develop a strategy to assist state and local government response to a UAS threat, and directing the Comptroller General to study state and local roles in

UAS regulations. Nevertheless, we also strongly appeal to this Committee and to Congress to take additional steps that will empower state and local partners to take charge of their own safety. The Preventing Emerging Threats Act of 2018 authorized some federal agencies to take action to intercept and neutralize UAS that pose a threat to safety; however, they lack the capability to provide robust and persistent coverage across the nation. State and local agencies are ready to fill this void, but we need greater legal authority to do so. We respectfully request Congress pass additional legislation that extends similar authority to state and local law enforcement agencies.

Enforcement should also include public outreach that provides clear guidance of what is permissible and what is prohibited. We encourage the FAA to enhance its outreach to recreational UAS operators, who usually have less experience piloting aircraft, so they know when and where to fly safely, and the consequences for breaking those rules. The FAA does have an active website and mobile app that begin to help address the problem. However, we advocate that more be done. We urge the FAA to expeditiously implement several key provisions of the FAA Reauthorization Act pertaining to recreational operations, including rolling out the mandatory operator knowledge test and working with community-based organizations to develop safety guidelines.

Technology. Currently, there is no single commercial system available to airports that can safely and effectively identify, track, and neutralize rogue UAS's in domestic airspace. We commend the FAA's efforts to support research and

development projects to counter the UAS threat, and we encourage the FAA to expand existing pilot programs to identify solutions to this ever-increasing challenge as soon as possible.

At Massport, we actively and aggressively are reviewing available technologies that promote better UAS situational awareness for application at our airports and facilities. The FAA has expressed concerns to airports about deploying new technologies, and potential legal implications based on current federal law. This has chilled our efforts to engage proactively on testing new technologies that might be able to assist us. We encourage FAA and our other key federal partners to reconsider its approach to CUAS capabilities, and work collaboratively with airports to develop and deploy real solutions to counter these threats. We are coordinating with our state partners and will engage with the FAA as we move forward in this area.

Collaboration/Research. Like any serious security risk affecting aviation, this needs to be a collective effort. We support multi-state and Federal agency collaboration, information sharing, testing, training, and setting common standards and operating procedures. In Massachusetts, we are achieving this through the Massachusetts DOT Aeronautics Division's CUAS Working Group. Massachusetts is also a participant in the Northeast UAS Airspace Integration Research Alliance (NUAIR), providing aeronautical research, UAS operations, and safety management—one of just seven FAA-designated UAS test sites in the United States.

Finally, the FAA has announced a pilot program for testing UAS detection systems at five yet-to-be chosen airports. As the FAA continues to work on UAS integration, Governor Baker and Massport have offered our assistance and collaboration in achieving the important balance of public safety and innovation. Today, we are renewing our request for the FAA to consider Logan Airport for the UAS detection systems pilot program. Massport and Logan Airport are playing a crucial role in countering security threats to aviation every day, and, in partnership with the FAA and other federal, state, and local partners, we hope to bring that expertise to better integrate UAS into the airspace while fostering safe and secure airport operations.

Conclusion

Thank you again for the opportunity to provide Massport's perspective on this important issue. I look forward to your questions.