

STATEMENT OF HANK KRAKOWSKI, CHIEF OPERATING OFFICER, AIR TRAFFIC ORGANIZATION, ACCOMPANIED BY JOHN ALLEN, DIRECTOR, FLIGHT STANDARDS SERVICE, OFFICE OF AVIATION SAFETY, FEDERAL AVIATION ADMINISTRATION, BEFORE THE SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION, SUBCOMMITTEE ON AVIATION OPERATIONS, SAFETY, AND SECURITY, FIELD HEARING ON THE INTEGRATION OF UNMANNED AIRCRAFT SYSTEMS (UASs) INTO THE NATIONAL AIRSPACE SYSTEM (NAS): FULFILLING IMMINENT OPERATIONAL AND TRAINING REQUIREMENTS, SEPTEMBER 13, 2010.

Chairman Dorgan, Senator Conrad, Congressman Pomeroy:

Thank you for inviting the Federal Aviation Administration (FAA) to this hearing.

Accompanying me today is John Allen, Director of the Flight Standards Service in the Office of Aviation Safety at the FAA. Together, we have distinct yet related duties in carrying out the FAA's mission to ensure the safety and efficiency of the National Airspace System (NAS). Mr. Allen's organization is charged with setting and enforcing the safety standards for aircraft operators and airmen. My role as the head of the Air Traffic Organization is to oversee the nation's air traffic control system, to move flights safely and efficiently, while also overseeing the capital programs and the modernization of the system.

As the most complex airspace in the world, the NAS encompasses an average of over 100,000 aviation operations per day, including commercial air traffic, cargo operations, business jets, etc. Additionally, there are over 238,000 general aviation aircraft that represent a wide range of sophistication and capabilities that may enter the system at any time. There are over 500 air traffic control facilities, more than 12,000 air navigation facilities, and over 19,000 airports, not to mention the thousands of other

communications, surveillance, weather reporting, and other aviation support facilities. With this volume of traffic and high degree of complexity, the FAA maintains an extremely safe airspace through diligent oversight and the strong commitment to our safety mission.

With regard to unmanned aircraft systems (UAS), the FAA sets the parameters for where a UAS may be operated and how those operations may be conducted safely in the NAS. Our main focus when evaluating UAS operations in the NAS is to avoid any situations in which a UAS would endanger other users of the NAS or compromise the safety of persons or property on the ground. The FAA acknowledges the great potential of UASs in national defense and homeland security, and as such, we strive to accommodate the needs of the Department of Defense (DoD) and Department of Homeland Security (DHS) for UAS operations, always with safety as our top priority.

When new aviation technology becomes available, we must determine if the technology itself is safe and that it can be operated safely. Whether the technology is to be used by pilots, operators or air traffic controllers, we determine the risks associated with putting that technology into the NAS. Once the known risks are mitigated, we move forward with integration in stages, assessing safety at each incremental step along the way. Unforeseen developments, changing needs, technological improvements, and human factors all play a role in allowing operations within the civil airspace system.

The FAA is using this same methodology to manage the integration of the new UAS technology into the NAS. While UASs offer a promising new technology, the limited

safety and operational data available to date does not yet support expedited or full integration into the NAS. Because current available data is insufficient to allow unfettered integration of UASs into the NAS—where the public travels every day—the FAA must continue to move forward deliberately and cautiously, in accordance with our safety mandate.

Because the airspace is a finite resource, and in order for us to carry out our safety mission, the FAA has developed a few avenues through which UAS operators may gain access to the NAS. First, the FAA has a Certificate of Waiver or Authorization (COA) process. This is the avenue by which public users (government agencies, including Federal, state, and local law enforcement, as well as state universities) that wish to fly a UAS can gain access to the NAS, provided that the risks of flying the unmanned aircraft in the civil airspace can be appropriately mitigated. Risk mitigations required to grant a COA frequently include special provisions unique to the requested type of operation. For example, the applicant may be restricted to a defined airspace and/or operating during certain times of the day. The UAS may be required to have a transponder if it is to be flown in a certain type of airspace. A ground observer or accompanying “chase” aircraft may be required to act as the “eyes” of the UAS. Other safety enhancements may be required, depending on the nature of the proposed operation.

The FAA may also set aside airspace for an operator’s exclusive use to segregate the dangerous activity or protect something on the ground, when needed. Some of these exclusive use areas are known as Restricted, Warning or Prohibited Areas. The DoD

conducts most of its training in such airspace. In order to set aside Restricted or Prohibited Area airspace, the FAA would need to undertake rulemaking to define the parameters of that airspace. This is typically a time-consuming process that would also include environmental reviews that could impact the proposed airspace.

Civil UAS operators must apply for a Special Airworthiness Certificate – Experimental Category to gain access to the NAS. This avenue allows the civil users to operate UAS for research and development, demonstrations, and crew training. The Special Airworthiness Certificate – Experimental Category does not permit carriage of persons or property for compensation or hire. Thus, commercial UAS operations in the U.S. are not permitted at this time.

We are working with our partners in government and the private sector to advance the development of UAS and the ultimate integration into the NAS. First, in accordance with Section 1036 of the Duncan Hunter National Defense Authorization Act (NDAA) for Fiscal Year 2009, Public Law 110-417, the DoD and FAA have formed an Executive Committee (ExCom) to focus on conflict resolution and identification of the range of policy, technical, and procedural concerns arising from the integration of UASs into the NAS. Other ExCom members include DHS and the National Aeronautics and Space Administration (NASA) to capture more broadly other Federal agency efforts and equities in the ExCom. The mission of this multi-agency UAS ExCom is to increase, and ultimately enable routine, access of Federal public UAS operations in the NAS to support the operational, training, developmental, and research requirements of the member

agencies. All of these partner agencies are working to ensure that each department and agency is putting the proper focus and resources to continue to lead the world in the integration of UAS.

The ExCom's work has also facilitated the work of the Red River Task Force (RRTF), the interagency working group that was established to work on issues regarding the basing of UAS at Grand Forks Air Force Base (RDR). With the ExCom's work and the RRTF's work running in parallel, the FAA is able to support more easily and fully the DoD's needs at RDR. One of the RRTF's first tasks was to establish two separate tracks for DoD's goals at RDR: one would be an aeronautical proposal that would involve establishment of a new restricted area(s), while the other would be a broader menu of operational options that could be used either as a stand-alone solution or as a layered approach for the operation of UASs at RDR. We have done this in numerous places and continue to streamline the approval process.

Currently, the FAA is working with the DoD to determine and evaluate the scope and details of its operational needs at RDR. In addition, the RRTF has examined 18 option sets that can provide short, mid- and long-term solutions to UAS NAS access at RDR. The FAA continues to be committed to working with the DoD on matters relating to UAS operations at RDR in a manner consistent with our safety mission.

Unmanned aircraft systems are a promising new technology, but one that was originally and primarily designed for military purposes. Although the technology incorporated into

UASs has advanced, their safety record warrants caution. As we attempt to integrate these aircraft into the NAS, we will continue to look at any risks that UASs pose to the traveling public as well as the risk to persons or property on the ground. As the agency charged with overseeing the safety of our skies, the FAA seeks to balance our partner agencies' security, defense, and other public needs with the safety of the NAS. We look forward to continuing our work with our partners and the Congress to do just that.

Chairman Dorgan, Senator Conrad, Congressman Pomeroy, this concludes our prepared remarks. We would be pleased to answer any questions you might have.