



ICAO

**Twenty-Second Meeting of the AFI Planning and Implementation Regional Group
(APIRG/22)
(Accra, Ghana, 29 July – 2 August 2019)**

UPDATE ON U.S. UNMANNED AIRCRAFT SYSTEMS INTEGRATION ACTIVITIES

(Presented by the United States)

SUMMARY

This paper provides an update on the U.S. Federal Aviation Administration’s activities to integrate Unmanned Aircraft Systems (UAS) into the U.S. National Airspace System. This paper includes updates on rulemaking, remote identification, the Drone Advisory Committee, the UAS Integration Pilot Program, Low Altitude Authorization and Notification Capability, UAS Traffic Management, and FAA Reauthorization.

The Meeting is invited to:

- a) Note the information provided; and
- b) Encourage States with operators that intend to operate within the affected U.S. airspace to promote awareness of this upcoming requirement.

<i>Strategic Objectives</i>	This paper relates to the Safety and Air Navigation Capacity and Efficiency Strategic Objectives.
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1 INTRODUCTION

1.1 As Unmanned Aircraft Systems (UAS) are fundamentally changing aviation, the U.S. Federal Aviation Administration (FAA) is committed to supporting this change and working with the UAS community to ensure that this dynamic shift is safely integrated. For the FAA, safety is always the most important factor for any operation, including UAS.

1.2 Over the past several years, the FAA has pursued a number of actions to safely integrate UAS effectively into the U.S. National Airspace System (NAS), beginning with regulatory efforts such as the introduction of registration requirements and the small UAS rule (Part 107). Now, the FAA is building on this foundation to expand on Part 107 to incorporate remote identification (ID) and lessons learned from Integrated Pilot Program (IPP) operational research tests.

1.3 Further, the FAA engages with the UAS community to promote a joint understanding of goals and constraints and to develop specific requirements needed to support operations and approval processes. This engagement supports mutual education and facilitates common approaches and solutions.

2. DISCUSSION

Rulemaking

2.1. Following Part 107, the FAA is now focusing on creating rules for routine UAS operations over people. However, our security partners have highlighted important public policy questions regarding threat discrimination and being able to identify operators.

2.2 In order to move forward, we are prioritizing remote ID requirements for UAS, which should enable threat discrimination by security officials. The following proposed new rules (NPRM) were published in the Federal Register on February 13, 2019:

- *Operation of Small UAS Over People* – This NPRM proposes changes to the Small UAS rule to balance the need to mitigate safety risks without inhibiting technological and operational advances.
- *Safe and Secure Operations of UAS* – This Advance NPRM seeks public input to identify major drone safety and security issues that may pose a threat to other aircraft, to people on the ground or to national security.
- *External Marking of Small UAS* – This interim final rule requires small unmanned aircraft owners to display the unique identifier assigned by the FAA upon completion of the registration process (registration number) on an external surface of the aircraft. Small unmanned aircraft owners are no longer permitted to enclose the FAA-issued registration number in a compartment.

Remote ID

2.3 Remote ID is a crucial component of UAS traffic management (UTM), and will enable many more high-volume, low-altitude UAS operations. The FAA is committed to establishing remote ID requirements for UAS as quickly as possible, and we are currently working on developing a draft rule.

2.4 There are two main reasons to implement universal remote ID: safety and security.

2.4.1 Remote ID enables our UAS integration efforts from a safety perspective. We need remote ID for routine beyond visual line-of-sight operations and package delivery; operations in congested, low-altitude airspace as part of UTM; and for the continued safe operation of all aircraft in the shared airspace system.

2.4.2. From a security perspective, remote ID enables us to connect a drone to its operator and is the cornerstone for threat determination by law enforcement. With universal remote ID, law enforcement and national security partners will be in a better position to locate the operator, determine if a drone is being operated in a clueless, careless, or criminal manner, and take appropriate action if necessary.

The Drone Advisory Committee (DAC)

2.5 The DAC is a broad-based Federal advisory committee that provides the FAA with advice on key UAS integration issues by helping to identify challenges and prioritize improvements.

2.6 The DAC is an open venue for FAA and UAS stakeholders to work in partnership to identify and recommend a single, consensus-based set of resolutions for issues regarding the

efficiency and safety of integrating UAS into the NAS, and to develop recommendations to address those issues and challenges.

UAS IPP

2.7 Beginning in 2017, the UAS IPP has brought state, local, and tribal governments together with private sector entities, such as UAS operators or manufacturers, to accelerate safe drone integration. The program is helping the U.S. Department of Transportation and the FAA by providing data to inform rulemaking for more advanced operations.

2.8 The UAS IPP will enable state, local, and tribal governments to work with industry to explore ways to safely expand and manage more advanced UAS operations, such as night operations, flights over people and beyond the pilot's visual line of sight, and package delivery. The FAA hopes to gain valuable insight into balancing the responsibilities to safely and efficiently manage the airspace with local community concerns regarding safety and privacy.

Low Altitude Authorization and Notification Capability (LAANC) and UTM

2.9 The FAA's long-term goal is to integrate, not segregate, UAS into the NAS. The development of LAANC is a big step forward in terms of automating systems to support the volume of UAS operations.

2.10 LAANC provides access to controlled airspace near airports through near real-time processing of airspace authorizations below approved altitudes in controlled airspace. It automates the application and approval process for airspace authorizations through automated applications developed by FAA-approved UAS Service Suppliers.

2.11 Requests by pilots for airspace authorization are checked against multiple airspace data sources in the FAA UAS Data Exchange, such as temporary flight restrictions, Notices to Airmen, and the UAS Facility Maps. If approved, pilots receive their authorization in near-real time. Please note that LAANC provides airspace authorizations only. More information on LAANC can be found on the FAA's public website.

2.12 LAANC and remote ID are critical components of the FAA's effort to implement the building blocks for UTM. The FAA envisions UTM as an aviation ecosystem in which UAS operators/service suppliers, aircraft, and the FAA all have roles to safely separate dense, low-altitude operations.

2.13 UTM is a set of concepts and tools in development by the National Aeronautics and Space Administration, the FAA, and industry to facilitate low-altitude operations. It not a specific equipment system and will be complementary to the existing Air Traffic Management system rather than replacing it.

Reauthorization

2.14 The FAA Reauthorization Act of 2018 is a welcome development that supports the integration of UAS while maintaining the overall safety and security of the NAS.

2.15 There are several UAS provisions included in this most recent authorization, many of which focus on enabling operations for both civil and public operators and on developing more

security measures to integrate UAS. Significantly, the Act provides a sufficient framework to allow the FAA to address security concerns with universal registration and remote identification, and to promulgate enabling regulations critical to the success of commercial UAS applications as well as UAS integration more broadly.

2.16 The UAS provisions in the Act reinforce what is in the FAA UAS Implementation Plan, namely to focus on using existing regulations to create pathways for advanced operations right now, including cargo and agricultural operations, while simultaneously developing performance-based rules that will enable routine complex operations.

2.17 The Reauthorization Act establishes full FAA authority over all UAS operating in the NAS and facilitates the expansion of the FAA’s education and enforcement campaigns. It also includes the provision of authority to the U.S. Departments of Homeland Security and Justice to engage in counter UAS activities in order to address security risks posed by UAS. The measure explicitly requires authorized agencies to coordinate with the FAA when engaging in any counter UAS activity that could affect the NAS.

2.18 The FAA’s comprehensive and collaborative approach to UAS integration, including continued cooperation between the U.S. Government and industry, will continue to facilitate the safe integration of UAS as more complex UAS technologies and operations continue to mature.

3 ACTION BY THE MEETING

3.1 The meeting is invited to note the content of the paper and visit the FAA’s UAS website (www.faa.gov/uas) for more detailed information.