



International Civil Aviation Organization

MIDANPIRG/21 & RASG-MID/11 Meetings

(Abu Dhabi, UAE, 4 – 8 March 2024)

Agenda Item 5.3: ANS (AIM, PBN, AGA-AOP, ATM-SAR, CNS and MET)

UAS REGULATIONS –REGULATORY CHALLENGES

(Presented by UAE)

SUMMARY

This paper presents the UAE process for the development of U-SPACE Service Provider, U-Space and U-SPACE Management regulations to support all relevant stakeholders' requirements, whether to enable operations of UAS for state authorities and military use, for commercial flights in both VLOS and BVLOS environments, as well as for consumer flights, while still addressing the safety and security needs of governmental entities.

Action by the meeting is at paragraph 7.1.

REFERENCE

- NIL

1. INTRODUCTION

1.1 The United Arab Emirates (UAE) is supporting the introduction of Unmanned Aircraft Traffic Management (U-SPACE) systems for use in areas of projected high traffic of Unmanned Aircraft (UA) operations. The aim is to provide a dynamic U-SPACE utilising Artificial Intelligence (AI) to decongest high traffic UAS zones to provide optimal airspace management, maximising UAS capacity within that airspace whilst maintaining the highest safety standards.

1.2 As with any emerging technology, the growth of the UAS market creates significant legal and regulatory challenges. The GCAA is developing regulations to support the UAE vision, and this paper discusses the current status of regulations and proposes a regulatory framework to accommodate future developments in UAS operations.

1.3 The introduction of UAS operations into the UAE airspace during the early 2000's was limited to mainly Military and State operations. These early operations were managed on a case by case basis and the operations were severely segregated from Civil Commercial operations, with commensurate restrictions within the UAE FIR.

1.4 With the continued development and introduction of civil UAS operations in to the UAE, the GCAA in the mid 2010's has developed special procedures and processes for managing Commercial UAS operations. Mostly this meant restricting operations to below 400 ft AGL and outside of controlled or Special Use Airspace for hobbyists. As commercial operations increased, an e-service was developed to enhance the approval process for commercial operations.

1.5 The GCAA also developed a UAE Drone Application to simplify the UAS registration and management process. This application also included a map indicating no-fly zones for hobby flights. The total UAS management system from an operations perspective is however still very much a manual and case-by case process. Operations above 400 ft and inside of controlled or Special Use Airspace is still very much managed by segregation, which is not the most efficient use of the limited available airspace. The first UAS Regulations were developed and published in 2015, governing the registration of UAS, Airspace approval requirements and UAS Testing and experimental use.

2. DISCUSSION

2.1 The current UAS regulations limits operations to day light, below 400ft, and mostly outside of controlled or SUA airspace, thus limiting growth opportunities for future expansion in to delivery and passenger operations. The UAE has the following in place:

- a) Federal Decree-Law No. (26) of 2022 on the regulation of the Civil use of Unmanned aircraft and related activities;
- b) CAR-UAC: UAS Commercial and Governmental Operations
- c) CAR-UAD: UAS Demonstration operations;
- d) CAR-UAEV: UAS Events operations;
- e) CAR-UAX: UAS Experimental operations;
- f) CAR-UAM: Urban Air Mobility operations; and
- g) CAR-UAR: UAS Recreational flight.

2.2 Some of the challenges of the current regulations are:

- a) Establishing and regulating U-SPACE Traffic Management System and the U-SPACE Service providers.
- b) This includes defining and managing U-Space;
- c) Accommodating Night operations;
- d) Accommodating multiple UAS operations at the same time and locations;
- e) Management of autonomous UAS Operations, Including BVLOS;
- f) Accommodating Urban Air Mobility (Drone Taxi and Delivery)
- g) High Altitude UAS Operations.

2.3 The GCAA is following a time tested process for developing efficient and safe UAS management and operations regulations. The basic process includes:

- a) Developing a Rule making plan and associated timelines
- b) Conducting Benchmark and Research
- c) Industry Consultation
- d) Drafting Regulatory frameworks
- e) Peer review and Industry review
- f) Publish and Implement
- g) Post Implementation Review and updates

2.4 The GCAA is currently developing regulations for U-SPACE Service Provider certification and U-Space regulations for the management and approval of U-Space operations. These include:

2.5 CAR-ASP Part USSP, defining U-SPACE Service Provider Certification. Any organization that is providing unmanned air traffic management services to unmanned air traffic and that is functionally separated from manned air traffic management systems (ATM).

2.6 CAR-ASP Part Airspace Management (ASM), which includes Specific regulatory oversight as to the Airspace Requirements for UAS Operations, Airspace Standards and Categorization for UAS Operations.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the regulatory development process adopted by the UAE and contained in this paper;
- b) consider a Regional approach to UAS regulations and operations to facilitate cross border operations, and
- c) agree that MID States share regulatory development and implementation experiences for the benefit of all members.

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