



DIRECTORS GENERAL OF CIVIL AVIATION-MIDDLE EAST REGION

Third Meeting (DGCA-MID/3) (Doha, Qatar, 27-29 April 2015)

Agenda Item 11: Any other Business

REGULATION OF UNMANNED AIRCRAFT SYSTEMS (UAS)

(Presented by the United Arab Emirates)

SUMMARY

This paper discusses the introduction of Unmanned Aircraft Systems (UAS) into the existing UAE airspace environment and the regulations, allocating Flying zones using interactive maps and actions necessary to ensure that safety will remain as safe as that for the operation of manned aircraft.

1. INTRODUCTION

1.1 Unmanned Aircraft Systems (UAS) are also referred to as Unmanned Aerial Systems (UAS), Unmanned Aerial Vehicles (UAV) and drones.

1.2 The GCAA has recently conducted a comprehensive analysis of the recent significant increase in UAS activities both nationally and globally which is placing a strain and potential risk to the aviation industry.

1.3 The analysis has concluded that there is a need for a new UAE GCAA regulation (CAR PART VIII, Subpart X), to be introduced in order to regulate the use of all Unmanned Aircraft Systems (UAS) within UAE Civil Airspace, while continuing to provide efficient and sustainable Air Traffic Services for Manned Aircraft operations to an equal acceptable level of safety which was previously achieved before UAS Operations.

1.4 The UAE GCAA formed a committee during 2014 to study and review global UAS regulations and to develop a UAS regulation, including categorizations, rules and requirements that were suitable for the UAE.

1.5 The UAE GCAA presented the drafted UAS Regulations to the aviation industry and the general public through a Notice of Proposed Amendment (NPA) on the GCAA website. The NPA closed on 8th March 2015 and comments received have been addressed by GCAA and the UAS Regulations amended where appropriate.

1.6 The UAS regulation has been published and in force from 13th April 2015 as CAR Part VIII Subpart 10 - Operation of Unmanned Aircraft Systems within the United Arab Emirates.

1.7 GCAA is now in the process of developing interactive mapping (which will be made available to the public through easy to use applications), to clearly indicate UAV Approved Segregated Flying Zones (to be known as UAV Green Zones).

2. DISCUSSION

2.1 The regulatory environment for UAS integration into the UAE national airspace presents specific challenges in a number of key areas, in particular:

2.1.1 Security: UAS are not immune to potential unlawful actions. Potentially, UAS could be used as weapons, where the navigation or communications signals of UAS could be jammed or ground control stations hijacked.

2.1.2 Safety: The integration of UAS into the national airspace shall be based on the principle that safety will not be compromised; UAS operations must be as safe as manned aircraft insofar as they must not present or create a greater hazard to persons, property, vehicles or vessels, whilst in the air or on the ground, than those attributable to the operation of manned aircraft.

2.1.3 Citizen Concerns: UAS operations must not lead to a raising of citizen concerns, especially the right to preserving privacy in regard to private and family life and the protection of personal data. Amongst the wide range of potential UAS civil applications, a number involve the collection of personal data, including images, and thus raise ethical, privacy and data collection concerns in particular in the area of surveillance, monitoring, mapping or video recording.

2.1.4 Economic and Environmental Concerns: Thus far, international attempts to integrate UAS into the national airspace have resulted in moderate to severe disruption to commercial aircraft services. This has resulted in additional track miles for the commercial aircraft with the associated extra fuel consumption resulting in increased costs, noise pollution and increased aircraft emissions. The integration of UAS into the national airspace shall reduce or at least balance the current aircraft emission levels. Further UAS operations could introduce noise pollution into areas of airspace where previously flight operations were prohibited or not feasible.

2.2 UAS Operational Risks

2.2.1 In addition to the concerns identified above, there are a number of risk categories that are recognized as significant in UAS operations:

- a) Safety Risks
 - Collision with Piloted/Manned aircraft
 - Collision with other UAS
 - Collision with Obstacles-People-Structures-Terrain-Vehicles-Vessels
 - Collision with people-3rd Party risk to life
- b) Security Risks
 - Public
 - Commercial
 - National

- c) Economic and Environmental Risks
 - Aircraft delays
 - Potential for additional cost and increased carbon emissions
 - Introduction of noise pollution into previously unaffected areas

2.3 The meeting may wish to note that in addition to developing a UAE GCAA UAS regulation, the UAE GCAA is also developing an interactive map which depicts where the operation of UAS within the Emirates FIR requires specific UAE GCAA approval.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information presented in this paper.

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