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FOURTEENTH AIR NAVIGATION CONFERENCE

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Agenda Item 3: Air navigation system performance improvement

3.1: Proposals to improve the efficiency of air navigation services contributing to LTAG

AERONAUTICAL INFORMATION EVOLUTION TOWARDS DIGITALIZATION AND SUSTAINABILITY

(Presented by United Arab Emirates)

EXECUTIVE SUMMARY

This paper highlights the importance of States' readiness for the evolution towards digitalization in various aspects, including products and infrastructure. The United Arab Emirates has reached two significant milestones by providing the United Arab Emirates Aeronautical Information Publication (AIP) dataset and disseminating it through system-wide information management (SWIM) system.

1. INTRODUCTION

1.1 The aviation industry is continuously evolving to enhance safety, efficiency and environmental sustainability. A significant aspect of this transformation is the shift in aeronautical information management towards digitalization and sustainability. Integral to this transformation is the provision of the aeronautical information publication (AIP) datasets through system-wide information management (SWIM).

1.2 The main driver for the planned approach employed by the United Arab Emirates and described in this paper, is the regulatory compliance and alignment of the United Arab Emirates aeronautical information management (AIM) with ICAO SARPs (Annex 15 — *Aeronautical Information Services and Procedures for Air Navigation Services — Aeronautical Information Management* (PANS-AIM, Doc 10066) as well as with the revised Middle East (MID) Region AIM Implementation Roadmap.

1.3 Enhancing AIM system capabilities are improvement stages and the natural results of the United Arab Emirates AIM continuous services development process. These have created a solid platform of functionalities allowing better quality-controlled and standardized interaction with other internal and external (third party) stakeholder systems.

2. DISCUSSION

2.1 To a large extent, ICAO Digital Datasets are Recommended Practices (“should”), i.e. their implementation is left at the discretion of the Member States.

2.2 By analysing the Digital Aeronautical Information Management (DAIM) Thread based on the priority level as well as considering the ICAO datasets “shall” versus “should” requirements, subsequent consideration for United Arab Emirates AIM strategic approach was deemed necessary as follows:

- a) United Arab Emirates AIP Datasets (Block B1/2);
- b) Terrain Area 1 and 4, and complete Area 2 (Block B1/3);
- c) Obstacles Area 1 and 4, and complete Area 2 (Block B1/4);

2.3 According to the MID Region Air Navigation Strategy (Doc 002), in particular, the MID Region DAIM Thread/Elements prioritization, AIP Dataset is categorized as Priority 2. However, the United Arab Emirates AIM has decided to proceed with the implementation activities for the United Arab Emirates AIP dataset by considering a strong pilot-case due to:

- a) existing AIM SWIM System; and
- b) availability of the required United Arab Emirates AIP aeronautical data in Aeronautical Information Exchange Model (AIXM) format.

2.4 Additionally, Obstacle Dataset (eTOD) Area 1 is being provided as per the ICAO requirements.

2.5 The projected transition from an electronic AIP (eAIP) to a digital AIP involves several significant benefits that enhance the functionality, accessibility and overall effectiveness of aeronautical information management. Mentioning some key benefits of moving to a digital AIP:

2.5.1 Increased Interoperability: AIM Digital Datasets are structured AIXM format which allow for better interoperability with various aviation systems. This standardization facilitates the ease, seamless data-sharing and integration across different platforms and stakeholders in the aviation industry.

2.5.2 Enhanced Data Accuracy: The structured data format of AIM Digital Datasets reduces the risk of errors that can occur in manual data-handling. Automated processes in digital systems also contribute to maintaining data integrity and accuracy.

2.5.3 Improved Accessibility: AIM Digital Datasets can be easily accessed from multiple devices and locations, providing flexibility and convenience for users. This accessibility is particularly important for operators and pilots who need timely access to information from various points.

2.5.4 Enhanced Analytical Capabilities: With AIM Digital Dataset, it becomes easier to apply analytical tools and software to extract insights.

3. **CONCLUSION**

3.1 The Conference is invited to:

- a) note the United Arab Emirates' experience and the benefits of digitalizing aeronautical charting and implementing paperless system; and
- b) encouraged to promote the acceleration of transition to digitalization for improved efficiency, quality and sustainability.

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