



DIRECTORS GENERAL OF CIVIL AVIATION – MIDDLE EAST REGION

Second Meeting (DGCA-MID/2)

(Jeddah, Saudi Arabia, 20-22 May 2013)

Agenda Item 5: Air Navigation

THE ACHIEVEMENTS AND DEVELOPMENTS IN THE FIELD OF FLIGHT PROCEDURES DESIGN IN SAUDI ARABIA

(Presented by Saudi Arabia)

SUMMARY

The aim of this paper is to present the achievements and developments in the field of flight procedures design in Saudi Arabia and the importance of this sector in the province of safety and to facilitate the work of air traffic controllers and pilots, including coordination between airspace users and keep up with the latest developments in the field of flight procedure design. This paper propose also to implement ways cooperation in order to exchange experiences between the countries of the Middle East in this field.

The action by the meeting is at paragraph 5

1. INTRODUCTION

1.1. Safety and efficiency of airspace and airports are mainly based on the accuracy of routes design and Instrument flight procedures (SID, Approach and STAR) in addition to data quality and reliability to protect aircraft tracks from natural and manmade obstacles according to ICAO requirements, international aircraft performance and developments in this field.

1.2. Due to the importance and sensitivity of the flight procedures design, Saudi Arabia has developed a strategy and goals for the application of the Global Navigation Satellite System (GNSS/GPS) in the Kingdom airspace for all airports, ATS routes and airport's TMA with the adoption of performance monitoring system (GPMS). In the framework of this strategy KSA/GACA has trained Saudi staff to design flight procedures according to the requirements of the International Civil Aviation Organization (ICAO) and the establishment of flight procedures unit within the Air Navigation Services/Aeronautical Information Services (ANS/AIS).

2. INSTRUMENT FLIGHT PROCEDURES UNIT

2.1. GACA/ANS/AIS installed a computer integrated network based on aeronautical information exchange model (AICM/AIXM) using the AIS database to produce eAIP including its amendments and aeronautical charts. This is linked with Flight Procedures Design software (FPDAM) to ensure the safety and quality of flight information. This system will be linked to eTOD database.

2.2. The update version of the FPDAM version 10.1 software according to the requirements of the International Civil Aviation Organization (ICAO) is installed and the training of eight flight procedure designers is done on April 2013.

2.3. Instrument flight procedures design unit is composed of Saudi staff university graduates and trained in international schools under the supervision of specialists and experts in this field. They are in charge to design, review and modify flight procedures for all civil and other airports within KSA airspace based on conventional, precision and area navigation (RNAV/PBN) including GBAS, SBAS and BAROVNAV depending on FPDAM software and centralized AIS database. They are also able to design routes taking into account the lateral separation and verification of protection areas to develop minimum altitude on ATS routes and during approach, SID and STAR according to International Civil Aviation Organization requirements (ICAO/PANS-OPS) and then processed for Flight Check before the approval and publication.

2.4. Ground validation of the flight procedures will be adopted before the publication according to the requirements of the International Civil Aviation Organization (ICAO).

2.5. Legal framework and how to work in the field of flight procedures design was developed under GACA Regulation section 23.

2.6. PBN strategic plan to design flight procedures as required was also developed to review all flight procedures according to ICAO/PANS-OPS.

3. CONCLUSION

3.1. Given the importance and sensitivity of the flight procedures design to maintain safety and to gain time for airlines while preserving the environment and the follow-up of the global developments, there must be commitment to ensuring compliance with the rules and recommendations of the ICAO in this field, in addition to cooperate and exchange of experiences between the countries of the Middle East in the field of flight procedures design.

4. RECOMMENDATIONS

4.1. Saudi Arabia proposes to establish a working group to coordinate efforts in the field of flight procedures design and standardization of the regulation in the Middle East, especially in relation to the visibility (VIS/RVR) and the exchange of information and database.

4.2. Coordination with ICAO to create (FPP) Flight Procedure Program for the Middle East and developing a program periodically and continuously on training in the field of flight procedures to keep up with developments and to assist States to accomplish the procedures based on RNAV/PBN.

4.3. Setting up a mechanism for the exchange of visits and experiences in this area and in coordination with ICAO to organize workshops and develop a unified strategy to cope with the global development and remove difficulties to get high quality information with countries in the region.

5. ACTION BY THE MEETING

- 5.1. The meeting is invited to:
- a) take note of the efforts made by Saudi Arabia in the field of flight procedures design; and
 - b) taking into consideration the proposals and recommendations made in this paper.

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