International Civil Aviation Organization

MIDANPIRG/20 and RASG-MID/10 Meetings

(Muscat, Oman, 14 – 17 May 2023)

Agenda Item 2.2: Update from States and International Organizations

ATM System Enhancement in Oman

(Presented by Sultanate of Oman)

SUMMARY

This paper presents the efforts made by CAA Oman in enhancing ATM System and the benefits it achieved by introducing new generation radar system.

1. INTRODUCTION

1.1 Provision of air traffic services was always a cumbersome and stressful job. However, the introduction of radar and voice systems provided much needed measures to overcome such difficulties.

1.2 As aviation industry grew, so did the challenges of handling of aircraft and ensuring their safe operations in the airspace. Therefore, the world has been in a constant endeavour to establish procedures and formulate processes that ensure a safe guidance for aviation operations.

1.3 Under the directives of His majesty (late) Sultan Qaboos Bin Said, the government was directed to develop and enhance its aviation operational capabilities to meet the ICAO requirements.

1.4 Oman until now is ensuring this service by delegating the service to the external competent agencies, and always remained responsible for the service acquired from external agencies.

2. DISCUSSION

2.1 The first Surveillance system in Oman consisted of the old generation Marconi radar used for Area Control and Plessey radar for Approach Control, which were very bulky with traditional CRTs (Cathode Ray Tubes) and required a lot of concentration without any safety nets for operation levels.

2.2 After 1996, Oman embarked on acquiring the advanced Raytheon system (radars & monitors) that made a big difference in the air traffic management application by introducing new features and applications that not only enhanced tremendously the ATC workload also the safety and efficiency of air traffic services.

2.3 With the introduction of INDRA system, Oman has accomplished remarkable success in the delivery of safe, expeditious and efficient surveillance services within the Oman FIR.

2.4 GANP requirements, including some tools and additional safety net features, were incorporated into Oman surveillance system in collaboration with INDRA in 2010 as mentioned below:

- Medium Term Conflict Detection (MTCD)
- MSAW
- LB (Level Bust)
- Area Warning (ZN)
- What-if Function
- CPDLC
- ADS-B/C
- OLDI/AIDC

2.5 The system really made the difference, by introduction of which, ATC's ability has been significantly enhanced to detect traffic conflict, including level bust well in advance to take necessary actions.

2.6 This relieved ATCs from a very tedious task that required continuous vigilant on paper flight strips for aircraft position, times and levels and the corresponding data displayed on the screens.

2.7 Among the tools introduced, MTCD was a monumental workload and stress reliever for ATC that enabled ATCs to concentrate on managing & facilitating traffic needs and with a highly developed system SAFETY NET tools that provide them with enough info & lead time to sort out conflicts.

2.8 The path to using MTCD was not an easy task- it was not only time consuming but stressful and strenuous too as it required lots of tests and the system was new for all ATCs. However, all such hurdles were safely handled and safe transition to new system become possible.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to note the information contained in this paper.

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