



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

AIRSPACE AND ATM IMPROVEMENTS

(Presented by IATA)

SUMMARY

Air traffic growth in the Middle East has recovered to two digit growth figures. These traffic volumes are now at the levels where the daily operation needs world-wide 'Best Practice' across all domains, whether Enroute or Terminal operations, or Approach and/or Airside operations. And these procedures and tools must be considered and planned on an End-to-End or Gate-to-Gate basis, on a national, regional and global stage and across all stakeholders of Aviation.

1. INTRODUCTION

1.1 The economic situation as well as the accessibility of the airspace over the last years has been a constant challenge for the airlines. Nevertheless, traffic growth is back to double digit figures.

1.2 As a result of this growth the challenges the airspace and ATM environment is facing to provide the required capacity have increased. In areas where the demand is bigger than offered capacity, airlines are facing substantial delays or inefficient routings. This inefficiencies result in increases in CO2 emissions, unnecessary fuel burn and inconveniences for travelers.

1.3 Within the different ICAO groups and activities states and other organizations (including airlines) have committed themselves to address the inefficiencies and to increase capacity and efficiency. Several conclusions have been taken e.g. MIDANPIRG CONC. 12/25: CIVIL/MILITARY COOPERATION or DGAC CONC. 1/2: ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE MID REGION. Unfortunately, progress has been slower than expected.

1.4 Airlines have been supporting national or regional projects and initiatives i.e. MIDRAR or MEAUSE and intend to do so in the future. Unfortunately, these projects and initiatives have not all produced the results were expected to deliver.

1.5 Nevertheless, the airlines have seen an increasing tendency for cooperation between the different ATM stakeholders (airlines, ANSPs and airports) over the last year. Unfortunately, this cooperation has been initiated on an ad hoc basis, focusing on specific issues.

2. DISCUSSIONS

2.1. Given the situation in the airspace and ATM environment and the economic and ecological consequences airlines see an urgent need to identify a process or a place allowing an efficient way of coordination between ATM stakeholders and providing a platform to effectively cooperate in different projects and activities. These activities have not to be regional but always should help to improve the regional situation.

2.2. In the Global Air Navigation Plan, ICAO has introduced the concept of dynamic and flexible Air Traffic Management (ATM) as a Strategic Objective: Global Plan Initiative (GPI-7) states that routes need not be fixed to pre-determined waypoints, except where required for control purposes. GPI-8 enhances the implementation process with Collaborative Decision Management techniques. It is aimed at organizing airspace in a collaborative manner involving all stakeholders so that airspace is managed to accommodate user-defined flexible routings.

2.3. Today's ATM system handles some 40 million yearly IFR movements. Air services between new city-pairs have opened up while others are being dropped. The Air Navigation System continues to be challenged to provide for shorter flight times, and thereby lower carbon dioxide (CO₂) emissions and fuel burn.

2.4. Building on lessons learned in various areas of the world, the MID Region needs to apply existing best practices, adopt current technologies and employ operating practices that can be implemented safely and broadly in daily operations. All Flex Routes are planned in consideration of existing airspace constraints and flight conditions. The resulting flight plan trajectories will have been created to optimize each flight's efficiency within the applicable rules.

2.5. International cooperation is the key for an efficient and cost-effective development of a "seamless" airspace on a regional and/or global scale.

2.6. This approach to the use of airspace which would otherwise be segregated (i.e. special use airspace) along with flexible routing adjusted for specific traffic patterns supports the new ASBU modules defined by ICAO and approved by the Air Navigation Conference last fall. It allows greater routing possibilities, reducing potential congestion on trunk routes and busy crossing points, resulting in reduced flight length and fuel burn.

2.7. Almost all of the ASBU Block 0 modules adopted by the ICAO MID Region as priorities support this work.

- B0-10 Improved Operations through Enhanced En-Route Trajectories
- B0-80 Improved Airport Operations through Airport-CDM
- B0-75 Improved Runway Safety (A-SMGCS Level 1-2 and Cockpit Moving Map)
- B0-35 Improved Flow Performance through Planning based on a Network-Wide view
- B0-65 Optimisation of approach procedures including vertical guidance
- B0-84 Initial capability for ground surveillance
- B0-05 Improved Flexibility and Efficiency in Descent Profiles (CDOs)
- B0-20 Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)
- B0-40 Improved Safety and Efficiency through the initial application of Data Link En-Route

2.8. In fact traffic volumes and growth in the MID Region are now at the levels where the daily operation needs world-wide 'Best Practice' across all domains, whether Enroute or Terminal operations, or Approach and/or Airside operations. And these procedures and tools must be considered and planned on an End-to-End or Gate-to-Gate basis.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) consider the formation of and support for a Work Group, comprised of States and International Organizations to define and implement a better framework of airspace, both Enroute and Terminal, as a fully flexible and seamless airspace evolves in the Middle East Region.