



## DIRECTORS GENERAL OF CIVIL AVIATION-MIDDLE EAST REGION

**First Meeting (DGCA-MID/1)**  
*(Abu Dhabi, UAE, 22-24 March 2011)*

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### Agenda Item 4: Air Navigation Issues

#### RATIONALIZATION OF THE ATS ROUTE NETWORK IN THE MID REGION

*(Presented by the Secretariat)*

##### SUMMARY

This paper highlights the need for rationalization of the ATS Route Network in the MID Region based on the Flexible Use of Airspace (FUA) and Performance Based Navigation (PBN) concepts.

Action by the meeting is at paragraph 3.

##### REFERENCES

- MIDANPIRG/10 Report
- MIDANPIRG/11 Report
- MIDANPIRG/12 Report

### 1. INTRODUCTION

1.1 Aircraft used to navigate using external electronic guidance or self-contained information that is provided by ground-based navigation aids such as Non Directional Beacons (NDB) and Very Hi Frequency Omni direction Range (VOR). As technology advanced, Area Navigation (RNAV) was introduced as a method of navigation which permits aircraft operation on any desired flight path where aircraft navigate using on-board navigation computers.

1.2 In the 1990's an increase in civil traffic was observed in the MID Region with the creation of new airlines and introduction of new fleets. This increase in traffic necessitated the need to establish more direct ATS routes and the reduction in ATS route spacing, with a view to improve efficiency and increase capacity.

### 2. DISCUSSION

2.1 With the increase in traffic and in order to reduce the ATS route spacing, in 1997 the Required Navigation Performance (RNP) concept was introduced in the MID Region with the implementation of RNP 5. For harmonization purpose, ICAO made a transition from RNP to Performance Based Navigation (PBN).

2.2 Currently RNAV 5 is implemented in the whole MID Region and RNAV 1 routes have been implemented in some congested areas, especially in Bahrain, Emirates and Muscat FIRs.

2.3 The meeting may wish to note that after the successful RVSM implementation in the MID Region in 2003, an urgent operational requirement was identified for the establishment, realignment/shortening and review of some strategic ATS routes in the Region. In this respect, MIDANPIRG/10 in April 2007 recognized that a radical review of the MID ATS route network had to be carried out based on the definition of city-pairs routes. Furthermore, MIDANPIRG/10 was of view that this work has to be carried out using automated tools, as necessary.

2.4 The ATM/SAR/AIS SG/9 meeting in December 2007 was of the view that the process of review of the MID ATS route network as envisaged by the MIDANPIRG/10 meeting (Doha, Qatar 15-19 April 2007), would be an elaborate and involving one, and could not be achieved within the framework of the ATM/SAR/AIS Sub Group. Accordingly, the ATM/SAR/AIS SG/9 meeting agreed to the establishment of the ATS Route Network Task Force (ARN TF) which had its first meeting in Cairo in July 2008.

2.5 In accordance with its Terms Of Reference (TOR), as approved by MIDANPIRG/11 meeting (Cairo, Egypt 9-13 February 2009), through Decision 11/14, the ARN TF is requested, inter-alia, to:

- a) review the MID ATS route network in order to assess its capacity and constraints;
- b) based on the airspace user needs and in coordination with stakeholders (States, International Organizations, user representative organizations and other ICAO Regions), identify requirements and improvements for achieving and maintaining an efficient route network in the MID Region; and
- c) propose a strategy and prioritized plan for development of improvements to the route network, highlighting:
  - areas that require immediate attention
  - interface issues with adjacent ICAO Regions

2.6 The meeting may wish to note that since its establishment, the ARN Task Force has convened three (3) meetings. An ATS Route Catalogue was developed to reflect the users' requirements which have not yet been included in the Air Navigation Plan, due mainly to political/military reasons.

2.7 The meeting may further, wish to note that MIDANPIRG/12 (Amman, Jordan 17-21 October 2010), was apprised of the latest developments related to Civil/Military coordination including the outcome of the Global Air Traffic Management Forum on Civil/Military Cooperation held at ICAO HQ (Montréal, Canada 19-21 October 2009). It was highlighted that the sharing of airspace between civil and military features prominently in ICAO's vision of an integrated, harmonized and globally interoperable air traffic management system along the following principles:

- airspace should be a usable resource;
- any restriction on the use of a particular segment of airspace should be considered transitory; and
- all airspace should be managed flexibly with an equitable balance between civil and military users through strategic coordination and dynamic interaction.

2.8 MIDANPIRG/12 further recognized that the ultimate goal is to open up segregated airspace when it is not being used for its originally-intended purpose which will allow for better airspace management and access for all users according to their needs without impeding the military's mission or operations. In addition to the advantages that increased flexibility and balance in airspace management will bring for airspace users, there is also a positive impact for the environment: shorter flights between city pairs will mean reduced fuel burn and less CO<sub>2</sub> emissions released into the atmosphere. Accordingly, through Conclusion 12/25, MIDANPIRG/12 urged States to implement the Flexible Use of Airspace Concept (FUA).

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) recognize the need for rationalization of the ATS Route Network in the MID Region based on the Flexible Use of Airspace (FUA) and Performance Based Navigation (PBN) concepts; and
- c) agree on a mechanism to achieve the above-mentioned objective.

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