

MID RNP/RNAV TF/5
Report on Agenda Item 3

Agenda Item 3: Reports from the regional monitoring agency and results of safety assessments for RNP 5 operations

3.1 Under this Agenda Item the Task Force was apprised of the results of the safety general Civil Aviation Authority (GCAA), which has been selected as the Middle East Central Monitoring Agency (MECMA) for implementation of RNP 5 and RVSM in the MID Region.

3.2 It was recalled that Navigation error monitoring is one of the ICAO requirements for implementation of RNP 5 as laid down in the Manual on Required Navigation Performance (Doc 9613). To satisfy this requirement, a letter of agreement between Seven monitoring States (Bahrain, Egypt, Iran, *Jordan (** Not participating in the monitoring process so far*), Oman, Saudi Arabia and United Arab Emirates) and the Regional Monitoring Agency (the UAE General Civil Aviation Authority) was concluded with a view of establishing a framework for the navigation error monitoring associated with RNP implementation within the MID Region.

3.3 In accordance with the conclusions of TF/4, the United Arab Emirates hosted a coordination meeting between the monitoring States and the monitoring agency in Abu Dhabi in November 2000, where common procedures for monitoring were agreed and detailed guidance material issued.

3.4 In accordance with the agreed methodology, the five monitoring States instituted monitoring of navigation errors for all RNP traffic routing via ten monitoring points with effect from 01 January 2001. Furthermore, traffic will be monitored at two additional points, both located in Tehran FIR, upon opening of new routes associated with these points. The following factors were taken into account:

- The total number of RNAV flights, as indicated ATC flight plan, is counted monthly for each monitoring point;
- All flights deviating by 5-8 NM from the airway centerline are counted and the total number is reported to MECMA (*Web Page: WWW.MECMA.COM*) along with details of the current flight plan. The flights are referred to as Core Errors;
- All flights deviating by more than 8 NM from the airway centerline are counted and the total number is reported to MECMA. Such flights are referred to as Gross Navigation Errors. Individual investigation is required for each such occurrence, of which none has been reported for the first five months of monitoring;
- Registration of navigation errors and calculation of error rates will be carried out by MECMA and reporting will take place once every six months. As monitoring commenced on 01 January 2001, the first such report is not yet due. However, the preliminary results have been calculated and are summarized in **Appendix A** to the report on this Agenda Item.

3.5 The Task Force noted that a total of 99,603 flights have been monitored during the first five months with a Core Error ratio of 3×10^{-5} against the permissible limit of 5×10^{-2} . This represents a margin in excess of two orders of magnitude over the permissible limit. and the results are summarized as follows:

- The number of core errors, i.e. 5-8 NM, is three (3). This gives an error ratio of 3×10^{-5} against the permissible limit of 5×10^{-2} ;

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- One gross navigation error, i.e. in excess of 8 NM, has been reported. This gives an error ratio of 1×10^{-5} . Investigation of this error has not yet been concluded.

3.6 The Task Force noted that monitoring of navigation errors is an on-going process and should eventually be extended to cover other areas/routes of the MID Region. The process should be representative of the different airspace characteristics, aircraft population/ operators to ensure the validity of the monitoring results.

3.7 Based on the foregoing the Task Force concluded that:

Conclusion 5/3- Navigation Performance of RNP/RNAV Equipped Flights within the MID Region

That the preliminary results of the safety assessments carried out by MECMA indicate that navigation performance is well within the limits required for safe introduction of RNP 5 within the Middle East Region.
