



International Civil Aviation Organization

The Twelfth Meeting of the FANS Implementation Team, Bay of Bengal (FIT-BOB/12) and the Second Meeting of the Bay of Bengal Reduced Horizontal Separation Implementation Task Force (BOB-RHS/TF/2)

Bangkok, Thailand, 22– 26 February 2010

Agenda Item 4: Safety Analysis and Airspace Monitoring Issues

RNAV RNP 10 LONGITUDINAL SEPARATION

(Presented by the Secretariat)

SUMMARY

This working paper looks at the necessary safety analysis and monitoring procedures which will be required by the Enroute Monitoring Agency (EMA) prior to implementation in accordance with ICAO provisions.

1. INTRODUCTION

1.1 The BOB-RHS/TF/1 meeting noted that, with regard to the introduction of PBN en-route applications, implementation shall only take place following the conduct of a safety assessment that has demonstrated that an acceptable target level of safety (TLS) will be met. This was reinforced by the APANPIRG/16 Conclusion 16/5 on this matter.

2. DISCUSSION

2.1 The meeting is reminded that PANS/ATM Doc. 4444 gives details of what is required in the application of RNP 10 longitudinal separation. It should be noted that direct controller-pilot communications (DCPC) shall be maintained while applying a distance-based separation minima. DCPC shall be via voice or controller pilot data link communications (CPDLC). The communications criteria necessary for CPDLC to satisfy the requirement for direct controller-pilot communications shall be established by an appropriate safety assessment.

Conducting safety assessments and reporting results

2.2 The meeting should note that, in order to conduct a safety assessment, an Enroute Monitoring Agency (EMA) will need to acquire an in-depth knowledge of the use of the airspace, together with typical aircraft types etc operating, within which the reduced horizontal-plane separation will be implemented. Experience has shown that such knowledge can be gained through acquisition of charts and other material describing the airspace, and through periodic collection and analysis of samples of traffic movements within the airspace.

2.3 A safety assessment conducted by an EMA consists of estimating the risk of collision associated with the horizontal-plane separation standard and comparing this risk to the established TLS.

2.4 The meeting would recall that at the previous TF/1 meeting, Singapore who is the Enroute Monitoring Agency (EMA) for the South China Sea, gave a presentation on the progressive work accomplished by the SEASMA and considered that a similar EMA was also required in the Bay of Bengal and the Oceanic area of the Mumbai FIR to accomplish the tasked required to meet the target level of safety in these areas for introduction of RNAV 10 (RNP 10) longitudinal separation 50NM.

2.5 Task Force/1 finally agreed that the formulation of an agreed monitoring program by means of a Letter of Agreement between States and the proposed EMA for the area under consideration was an acceptable way forward to implement reduced horizontal separation over the area under consideration.

2.6 To this end in order to work towards a successful implementation of 50NM longitudinal separation in areas where the present 80NM separations exists, action will be required to carry out a safety assessment over most of the area under consideration. In addition, an appropriate EMA will need to be responsible to continue the ongoing task of safety assessment across the whole area to ensure performance parameters continue to be met.

2.7 As there is no dedicated safety monitoring agency established to perform the important task of processing traffic data analysis in this area to ensure that the Target Level of Safety (TLS) in the longitudinal-plane could be met, India advised the Task Force/1 meeting that, taking into consideration the amount of airspace within their FIRs in both the Bay of Bengal and the Arabian Sea, they are prepared to establish an Enroute Monitoring Agency in accordance with ICAO provisions.

2.8 Singapore, who is responsible for the EMA service for the South China Sea area, offered to share their experience on the setting up of SEASMA with India in the establishment of an EMA service for the Bay of Bengal and Mumbai FIR if required. It is understood that India and Singapore are presently in discussions on this matter.

2.9 In addition, The EMA established by India would also need to take into consideration both the lateral separation and longitudinal separation of 50 NM in these areas in the safety monitoring programme. Both of these matters need to be addressed to ensure that ICAO safety requirements are in place prior to proposed implementation of 50NM longitudinal separation in the Bay of Bengal and Mumbai FIR.

2.10 The meeting is invited to note that, in order to work towards a successful implementation of 50NM longitudinal separation in areas where the present 80NM separations exists, The EMA will need to take action will to carry out a safety assessment over most of the area under consideration.

En-route Monitoring Agency (EMA) Handbook

2.11 Recognizing the need for a common set of principles and practices for safety assessment and ongoing safety monitoring, RASMAG prepared a regional En-Route Monitoring Agency Handbook in connection with operational usage of reduced horizontal-plane separation minima based on the application of PBN. The handbook is expected to also help to promote an interchange of information among Asia/Pacific States in support of achieving common operational horizontal monitoring procedures, as well as supporting the acquisition and sharing of data resulting from the application of those procedures.

2.12 The **En-route Monitoring Agency (EMA) Handbook** is available on the ICAO website for States' information <http://www.bangkok.icao.int/edocs/index.html>.

Airline participation in data collection

2.13 As part of the safety assessment for the area under consideration, periodic data collection and analysis will be required. Some of this data will be from nominated FIRs however there may also be a need for aircraft to contribute to this data collection process by cooperating with ACCs in the sending and receiving of CPDLC messages prior to implementation of 50 NM longitudinal separation.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Take into consideration the ICAO requirements for safety assessment and monitoring;
- b) Note that India has accepted the responsibility to operate and maintain an Enroute Monitoring Agency (EMA) for the Bay of Bengal and oceanic area of the Mumbai FIR;
- c) States within the area under consideration, agree to support the EMA by providing required data in their areas of responsibility;
- d) Where necessary to do so, airlines cooperate with necessary data when required by the EMA; and,
- e) Create an Action Plan for steps required to implement the Bay of Bengal and Arabian Sea EMA

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