



*International Civil Aviation Organization*

**The Fourth Meeting of the Bay of Bengal Reduced Horizontal Separation  
Implementation Task Force (BOB-RHS/TF/4)**

Bangkok, Thailand, 18 to 22 October 2010

---

**Agenda Item 2: Review Outcomes of Related Meetings**

**SUMMARY OF OUTCOMES OF THE BOB-RHS/TF/3 MEETING**

(Presented by the Secretariat)

**SUMMARY**

The purpose of this working paper is to provide the meeting with a summary of the work accomplished at the BOB-RHS/TF/3 meeting, which were held at the CAAS Singapore Aviation Academy in Singapore on 18 to 21 May 2010.

**1. INTRODUCTION**

1.1 Due to the possibility of civil unrest in Thailand, in particular Bangkok, a decision was taken by the ICAO Bangkok Regional office, in consultation with the lead United Nation Agency security section and the Civil Aviation Authority of Singapore, to transfer the meeting to Singapore. The venue for the meeting was the CAAS Singapore Aviation Academy, which provided excellent facilities and support to the meeting requirements.

1.2 The meeting was held over 4 days and was attended by 32 participants from India, Indonesia, Malaysia, Maldives, Nepal, Singapore, Thailand, United States, IATA, ARINC and SITA.

**2. DISCUSSION**

2.1 The task force/3 meeting was advised that, due to the important work to be accomplished over the next few meetings in order to complete the work of Phase 1 of the task force by the target date, it was considered necessary to appoint a Chairman of the task force to oversee the work of the meeting. The meeting subsequently elected Mr. Edmund Heng, Deputy Chief of Singapore ATC Centre, CAAS as Chairman of the task force.

2.2 The meeting further noted the outcomes of the FITBOB/12 and the BOB-RHS/TF/2 meeting which was held back to back.

**Outcomes of BOB-RHS/TF/3**

**Operational Issues**

2.3 Malaysia gave the meeting a comparison of traffic operating on Bay of Bengal routes who have or do not have operable FANS-1A equipment, which is necessary for 50 NM spacing outside of VHF coverage. This information was based on one month of flight plans submitted in March/April 2010 on 3 major routes, P628, L510 and N571.

2.4 Analysis indicated that with respect to P628/L510, 85% were FANS equipped, whereas on N571, 55% were FANS 1 equipped. With respect to N571, it was decided to provide 50 NM separations on an opportunity basis during Phase 1 of the project.

2.5 Another RNAV route P762 may be considered for 50 NM longitudinal separation on an opportunity basis provided the remote VHF site becomes operational or CPDLC is available within the Yangon FIR as well as datalink is made available in the Colombo FIR before the introduction of Phase 1.

#### Summary of Discussions of the ASIOACG/5 Meeting

2.6 The meeting was given a summary of discussions at the Arabian Sea – Indian Ocean ATS Coordination Group (ASIOACG/5) meeting, which was held in Dubai, UAE in 19-21 April 2010.

2.7 Maldives presented the “Male Free Route Airspace Concept.” Which will enable aircraft to transit freely within the Male FIR although they will be required to cross specific FIR entry/exit points.

2.8 IATA presented their vision for the establishment of a User Preferred Routes (UPR) geographic area. This would not interfere with the major route structures where the traffic is low-medium density with two primary flows, Middle East - Australia and South/ South East Asia - Africa. UPRs were the primary objective for this part of the region and would be specified as part of the work program for the CNS/ATM sub group of ASIOACG.

2.9 ASIOACG was reminded about the role of the CRA and how it should function in the Indian Ocean region noting the increasing availability of data link capabilities throughout the region. They noted the existence of the FIT-BOB and that Melbourne FIR were covered by the FIT as part of ISPACG. The meeting asked IATA to prepare a paper for presentation at the appropriate ICAO regional meetings in ASPAC, MENA and AFI.

#### Exclusive or non-exclusive use of 50 NM longitudinal separation

2.10 Working Papers were presented by States on this matter highlighting their own positions and various options available to the meeting. It was decided that a small working group (SWG) be formed involving the Bay of Bengal States concerned and IATA to find an appropriate solution of mixed traffic operating through the Bay of Bengal.

2.11 It was noted that RNP10 50 NM longitudinal separation has been implemented in many parts of the world. In all cases, there is no implementation of exclusive use by data link aircraft on any route. Further, no levels were exclusive and the application of 50 nm separation was achieved on opportunity basis between data link equipped aircraft. In case where one aircraft was non-data link, 10 minutes (80 NM) separation was used.

2.12 It was noted however that the purpose of the task force is to introduce an RNAV RNP 10 50 NM longitudinal separation procedure in the defined area. Therefore, it was considered that this is the main objective of the task force and as such, should be kept in mind when making decisions in regard to procedures to be applied.

2.13 The meeting accepted that is Phase 1 of the task force, plans to implement 50 NM longitudinal separation on only three RNAV routes. Other matters were mentioned such as ATC concerns in the adoption of this procedure due to the difference between data link to data link separation vis-à-vis data link to non-data link separation on the same route especially in regard to N571. It was finally agreed that during the Phase 1 trial period, reduced horizontal separations would be applied on an opportunity basis. However to enable ATC to become accustomed to the provision of reduced separations, priority handling could be applied to data link equipped aircraft on N571 for a period of two AIRAC cycles after implementation of Phase 1.

### **Safety Analysis and Airspace Monitoring Issues**

#### *Letter of Agreement (LOA) for monitoring of aircraft navigation errors in the Bay of Bengal area*

2.14 It was recalled that the implementation of reduced horizontal separation minima requires continuous monitoring of aircraft navigation errors which includes identification and reporting of any Large Lateral Deviations (LLD) or Large Longitudinal Errors (LLE), to ensure that the target level of safety (TLS) of the operations within the airspace in question meets regional requirements.

2.15 The first step in the monitoring process is to identify suitable designated areas where monitoring can be done by means of surveillance. This is usually from the point an aircraft leaves the surveillance coverage till the point where it will again enter surveillance coverage. There are also occasions that the monitoring is done within total surveillance coverage. On day-to-day basis, air traffic controllers carrying out their ATC duties should be the front line first person to initiate the report should they encounter any aircraft with navigational errors.

2.16 There is also a need to collect the traffic movement count for each route portion in the area. This will make up the figures required for the analysis to compute the Target Level of Safety (TLS). The traffic movements along with any occurrences of navigational errors are computed on a monthly basis. As such there's a need to collect monthly traffic movement counts.

2.17 The meeting was advised that an LOA should be put in place as agreed by the relevant States to ensure that the procedures for reporting of navigation errors and traffic movement counts are clearly spelt out.

### **Future Direction and Arrangements**

2.18 The meeting was reminded that the Terms of Reference for the BOB-RHS/TF had also been tasked to look at other features within the scope of the area under consideration. Under paragraph i) of the TORs, it is stated that the task force should "Explore possibilities for further enhancement to operational efficiency of routes through configuration and/or enhanced surveillance."

2.19 In this context, whilst taking into consideration the major thrust in reducing the longitudinal separation to 50 NM on present RNAV routes in the area, other initiatives should also be explored that would enhance operational efficiency and safety of aircraft to the benefit of the users and providers alike.

#### *Unidirectional Routes already established within the APAC region*

2.20 The meeting noted that in other areas of this region, for example South China Sea, unidirectional routes have been established based on a lateral separation of not less than 60 NM. Each RNAV route now use unidirectional procedures for managing aircraft. Aircraft on designated southwest routes may choose any level (even or odd levels), except levels reserved for crossing

aircraft. Similarly, aircraft operating on designated northeast routes may choose the same range of levels as the other parallel routes going in the opposite direction proceeding southwest. This ability of a wider range of levels gives more flexibility and efficiency to all aircraft operations in the area.

*Unidirectional Routes over the Bay of Bengal and the Arabian Sea*

2.21 It was suggested that there may be an opportunity for this type of procedure to be considered for RNAV routes crossing the Bay of Bengal and the Arabian Sea. A procedure similar to the SCS example would also take into consideration the crossing aircraft, as well as allowing a flexible and more efficient use of the present airspace for the majority of aircraft operating on the major East/West/Northwest traffic flows.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) Review the work achieved and progress made during task force /3; and,
- b) Use the initiatives mentioned to further develop the work required to meeting the target dates for Stage 1 and Stage 2 of the task force.

.....