



International Civil Aviation Organization

The Thirteenth Meeting of the FANS Implementation Team for the Bay of Bengal (FIT-BOB/13) and the Fifth Meeting of the Bay of Bengal Reduced Horizontal Separation Implementation Task Force (BOB-RHS/TF/5)

Bangkok, Thailand, 07 – 11 February 2011

Agenda Item 3: Operational Issues

**IMPLEMENTATION OF RNP 10 OPERATIONS
(50NM LONGITUDINAL SEPARATION)**

(Presented by the Secretariat)

SUMMARY

The purpose of this working paper is to put forward a Draft AIP Supplement for consideration and agreement by all States concerned in the implementation of RNP 10 operations applying 50 NM separation on RNAV routes L510, N571, P628 and P762 within the Bay of Bengal and/or the Arabian Sea, as part of Phase 1 of the BOB-RHS Task Force programme.

1. INTRODUCTION

1.1 Several major projects have previously been implemented in the area under consideration to enhance air traffic operations using improved technology, procedures and techniques for the benefit of the users and providers of the air traffic services.

1.2 The meeting would recall that, since the turn of the millennium, with the cooperation on many APAC/MID and European States, an enhanced ATS route structure from South and Southeast Asia to Europe and the Middle East was introduced in November 2002. Where possible to do so, RNP 10 lateral separation of 50 NM was implemented, however, due to insufficient equipage of Direct Controller Pilot Communications by many States using data-link, the longitudinal separation of 10 minutes/80 NM RNAV has remained.

1.3 Over the past few years, Air Traffic Control Centres have been steadily installing ADS-C/CPDLC facilities to the point where it is now considered that, the area under consideration can confidently be explored to bring into effect the longitudinal spacing on ATS routes to 50 NM.

2. DISCUSSION

Phase 1 Implementation of 50 NM Longitudinal Separation – L510 – N571 – P628 – P762

2.1 It would be recalled that the BOB-RHS Task Force decided to implement improved procedures in a phased approach, initially concentrating on four ATS routes in the southern part of the Bay of Bengal. These routes each have their own particular characteristics:

- a) L510 is a By-pass route designed as an Eastbound route during daylight hours. It is also available as a night-time Westbound route during BOBCAT operations to complement P628. Once BOBCAT operations are completed in the Bay of Bengal, it reverts back to an eastbound route only;
- b) N571 is used for aircraft primarily proceeding to/from the Middle East across the Bay of Bengal and Arabian Sea;
- c) P628 is primarily used as a feeder route for aircraft proceeding through Kabul FIR via entry points ASLUM and SERKA. It is a very popular ATS route during BOBCAT operations; and,
- d) P762 from Bangkok to Colombo is a crossing route through the primary parallel route structure from Southeast Asia to India and beyond. It is also used by aircraft proceeding to/from Maldives and South Africa airports

2.2 As a general rule, these 4 routes have less traffic than the other ATS routes crossing the Bay of Bengal to the Middle East, and to Europe through the Kabul FIR, which are intended to be part of the Stage 2 implementation process.

2.3 In keeping with past ATS route improvement initiatives, the meeting is invited to consider developing a model AIP Supplement which is attached, to harmonize procedures for Phase 1 of the BOB-RHS task force project.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Discuss the proposed attached AIP Supplement for the purpose of preparing a uniform document by all States concerned; and,
- b) After consideration of all items which are necessary to be included in the AIP Supplement, agree to an acceptable date for implementation of Phase I in the introduction of reduced longitudinal separation of 50 NM in the area under consideration.

MODEL AIP SUPPLEMENT

**IMPLEMENTATION OF RNP 10 OPERATIONS (50 NM LONGITUDINAL SEPARATION)
ON ATS ROUTES L510, N571, P628 AND P762**

1. INTRODUCTION

1.1 The purpose of this AIP Supplement (SUP) is to provide details on the implementation of RNP 10 (50NM longitudinal separation) operations on ATS routes L510, N571, P628 and P762 inFIR.

2. IMPLEMENTATION OF RNP10 OPERATIONS ON ATS ROUTES P628, N571, P762 and L510

2.1 With effect from (Date), RNP 10 based 50NM longitudinal separation will be applied to aircraft which are approved for RNP10 operation on ATS routes L510, N571, P628 and P762.

2.2 Operating restrictions applicable within FIRs are detailed in appropriate paragraphs below.

3. RNP 10 NAVIGATION REQUIREMENT

3.1 ATC will apply 50NM longitudinal separation minima between suitably equipped aircraft which are approved for RNP10 operations on those segments of the routes which fall within the FIR.

L510 – (between xx 5 Letter Name Codes)
N571 – “ “
P628 – “ “
P762 – “ “

3.2 Pilots are to advise ATC of any deterioration or failure of navigation system below the navigation requirements for RNP10. ATC shall then provide alternate separation and/or alternative routing.

3.3 Pilots of aircraft meeting RNP10 navigation requirements are to indicate /R in Item 10 of the ICAO Flight Plan.

4. SEPARATION MINIMA

Longitudinal Separation Minima

4.1 80NM RNAV or 10 minutes (or less) Mach Number Technique (MNT) separation minima may be applied between aircraft.

4.2 50 NM longitudinal separation will be applied between RNP 10 approved aircraft which either LOGON to CPDLC or are within VHF radio range.

5. OPERATIONS BY AIRCRAFT NOT MEETING RNP 10 REQUIREMENTS

5.1 An aircraft that is unable to meet the minimum navigational requirements for RNP 10 must file flight plan at F280 or below. Operations above F280 for these aircraft will be subject to ATC approval, in accordance with the provisions of paragraph 5.3.

5.2 Pilots of such aircraft wishing to operate on routes specified in paragraph 3.1, at or above FL290, must indicate their level requirements at Item 18 of the ICAO flight plan as RMK/REQ FL (insert level). Approval to operate at the preferred level will be subject to ATC co-ordination and clearance. Flights that are not approved will be required to operate at F280 or below or via alternative routes

5.3 ATC units receiving a request for a non-RNP 10 approved aircraft to operate on ATS routes specified in paragraph 3.1, at or above FL290, will co-ordinate with adjacent ATC units affected by the flight. In deciding whether or not to approve the flight, each ATC unit will take into consideration:

- (a) Traffic density;
- (b) Communications, including the non-availability of normal communication facilities;
- (c) Weather conditions en-route; and
- (d) Any other factors pertinent at the time.

6. MONITORING OF AIRCRAFT NAVIGATION PERFORMANCE

6.1 Monitoring of aircraft navigation performance is a joint responsibility between operators, States of Registry or States of Operators (as applicable), regulatory authorities and the ATS providers. The detection and reporting of non-conformance with the navigation requirements against the following parameters will rely primarily on radar monitoring by ATC units.

Large Lateral deviation (LLD)

6.2 LLD is classified as any deviation of 15 NM or more to the left or right of the current flight-plan track.

Large Longitudinal error (LLE)

6.3 Any unexpected change in longitudinal separation between an aircraft pair, or for an individual aircraft the difference between an estimate for a given fix and the actual time of arrival over that fix, as applicable, in accordance with the criteria set out below:

Type of Error	Category of Error	Criterion for Reporting
Longitudinal deviation	Aircraft-pair (Time-based separation applied)	Infringement of longitudinal separation standard based on routine position reports
Longitudinal deviation	Aircraft-pair (Time-based separation applied)	Expected time between two aircraft varies by 3 minutes or more based on routine position reports
Longitudinal deviation	Individual-aircraft (Time-based separation applied)	Pilot estimate varies by 3 minutes or more from that advised in a routine position report
Longitudinal deviation	Aircraft-pair (Distance-based separation applied)	Infringement of longitudinal separation standard, based on ADS-C, radar measurement or special request for RNAV position report
Longitudinal deviation	Aircraft-pair (Distance-based separation applied)	Expected distance between an aircraft pair varies by 10NM or more, even if separation standard is not infringed, based on ADS-C, radar measurement or special request for RNAV position report

6.4 ATC will advise the pilot-in-command when such deviations are observed and implement the required investigation procedures in conjunction with the aircraft operator and State of Registry, or the State of the Operator, as applicable..

7. **OPERATORS PROCEDURES**

7.1 The operator shall ensure that in-flight procedures, crew manuals and training programmes are established in accordance with RNP 10 navigation requirements.

8. **EFFECTIVE DATE**

8.1 This AIP Supplement will become effective at UTC on the
