



*International Civil Aviation Organization*

**The Fourth Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/4) and the Twenty first Meeting of the South East Asian ATM Coordination Group (SEACG/21)**

Hong Kong, China, 24 – 28 February 2014

---

**Agenda Item 5: ATS Route Development**

**PROPOSAL TO IMPLEMENT 30 NM LONGITUDINAL SEPARATION ON ROUTES N571, M300, P570 and P574**

(Presented by Airports Authority of India)

**SUMMARY**

This paper presents the proposal by India to implement 30 NM Longitudinal Separation between aircraft with FANS/1A data link capability on an opportunity basis in the Bay of Bengal Arabian Sea Indian Ocean Airspace in a phased manner.

**1. INTRODUCTION**

1.1 On 20 Jun 2004 the President of ICAO on behalf of the ICAO Air Navigation Commission authorized the use of 30 NM lateral and longitudinal separation standards between aircraft meeting the RNP 4 criteria; RNP 4 was subsequently implemented in Oceanic Airspace in the Brisbane and Melbourne FIRs in APAC region .With the Bay of Bengal Reduced Horizontal Separation Task Force dissolved during its last meeting in May 2012 and the residual tasks being delegated to the South Asia/Indian Ocean ATM Coordination Group (SAIOACG) it becomes imperative that this group carry forward the work done by BOB-RHS/TF and implement RNP 4 PBN navigation specifications within the Bay of Bengal area and the Oceanic area of the Mumbai FIR.

**2. DISCUSSION**

2.1 In the recently concluded Combined ASIOACG and INSPIRE Working Group Meeting, held in Dubai, UAE, from 11<sup>th</sup> to 14<sup>th</sup> December 2013, Air Services Australia presented an IP on “**Indian Ocean RNP4**” in which it summarizes as to consider the possibility of leveraging the work completed to implement RNP 4 in the Brisbane and Melbourne FIRs, to implement RNP 4 in Indian Ocean including Mauritius and Malé FIRs. The method of implementation chosen for the Melbourne and Brisbane FIRs was the “no mandate – mixed navigation capability” method as described in ICAO Doc 9613 i.e aircraft without RNP 4 approval may continue to operate in the Melbourne and Brisbane FIRs without RNP 4 approval although such aircraft are not eligible for application of RNP 4 separation standards. Doc 9613 suggests methods of implementation including “mandate” and “mixed mandate”. While the “mandate” method is simpler to administer from the perspective of the ANSP, it may be impractical for operators to upgrade all aircraft to RNP 4 standards.

2.2 In the third meeting of SAIOACG in February 2013, India presented a working paper on the Proposal to introduce 30 NM Longitudinal Separation in the Bay of Bengal Arabian Sea Indian Ocean (BOBASIO) airspace and this is also one of action item [2/10] listed in Appendix-F of SAIOACG /03 meeting’s final report, wherein the time frame mentioned is 2013 to be met by all states.

2.3 India had proposed that states first introduce 30 NM longitudinal separation on the existing RNP routes in a phased manner and then progress to reducing the lateral separation to 30 NM. As a first step India expressed its readiness to implement 30 NM Longitudinal Separation between aircraft with FANS/1A data link capability on an opportunity basis on four routes N571, M300, P570 & P574.

2.4 India further proposed that a small working group be constituted within SAIOACG to undertake the task of implementation of RNP4 PBN navigation specification which would require the restructuring of the EMARSSH route structure.

2.5 Member states in the sub-region required to participate in the process of implementation of 30NM longitudinal separation within its airspace have expressed certain difficulties to move forward from 50NM to 30NM. The analysis of the results in regard to the implementation of 50 NM longitudinal separation by the states clearly indicates that the application of 50NM separation has never been seamless across the sub-region due to the fact that some of the states in the West and as well as in the east do not accept 50 NM pair ( Data attached as Annexure) thus dishonoring the letter of agreement executed by the states. However India has been making all possible efforts in applying 50 NM separation across Indian FIRs passing on the benefits to the operators.

2.6 India plans to implement 30 NM Longitudinal Separation between aircraft with FANS/1A data link capability on an opportunity basis in four ATS routes N571, M300, P570 and P574 commencing from AIRAC date 1<sup>st</sup> May 2014. At the given circumstances, to start with India will accept 30 NM pair aircraft with FANS/1A data link capability from adjacent states subject to one of the aircraft is landing in any of the Indian airports and thereafter India will implement 30NM longitudinal separation within its airspace between aircraft with FANS/1A data link capability on an opportunity basis irrespective of whether one of the aircraft in pair is landing in any of the Indian airports or not.

2.7 The four routes M300, N571, P570 & P574 traverse the entire BOBASIO airspace in an east - west direction over an average distance of 2,050NM and an average flying time of 4 hours 30 minutes. These four routes are used by long haul aircrafts flying between airports in South east Asia and the Middle east & Europe and the distance flown across the Indian FIRs of Chennai & Mumbai accounts for a major portion of their flying time.

2.8 This implementation would also benefit Air Traffic Controllers, particularly in climbing and descending aircraft clear of reciprocal traffic when both aircraft are data link equipped. Also the availability of additional separation minima would help air traffic controllers to accommodate more aircraft at optimum flight levels and to gain adequate experience prior to implementation of RNP4 in the sub-region.

2.9 The RGCSF recommends that  $5 \times 10^{-9}$  fatal accidents per flight hour is used as the assessment TLS for systems introduced after 2000 (Refer ICAO Doc 9689 Page 25, ICAO Doc 9689 Page19 and ICAO Doc 9613 Page I-B-3-5).The pre-implementation safety assessment for the introduction of 30 NM RLS on four routes N571, M300, P570 and P574 was conducted by the Bay of Bengal Arabian Sea Indian Ocean Safety Monitoring Agency, BOBASMA. The Lateral Collision risk & Longitudinal Collision risk are estimated to be  $0.1511256 \times 10^{-9}$  &  $3.1262392 \times 10^{-9}$ , respectively which is well below the Target Level of Safety (TLS) of  $5 \times 10^{-9}$ .

2.10 The successful leveraging of earlier work completed by ISPACG for the implementation of RNP 4 in the Brisbane and Melbourne FIR may be replicated in the Bay of Bengal and Indian Ocean area. Therefore, the opportunity exists for the regional implementation of RNP 4 in the Sub-region area in order to achieve improvements in capacity, efficiency and environmental benefits similar to those achieved in the Pacific Ocean area as well as the Brisbane and Melbourne FIRs.

Conclusion

- It can be concluded that with the introduction of 30 NM longitudinal separation on the four routes N571, M300, P570 & P574, aircraft stand to benefit even if it is implemented only within the Indian FIRs.
- There is an urgent need for states to the west and east of India to implement the 50 NM & 30 NM reduced longitudinal separation to enhance the benefits of a uniform application of separation standards across the entire BOBASIO airspace.
- Full benefit of any implementation of Reduced horizontal separation cannot be achieved without corresponding enhancement in the on board data link equipage of aircraft.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the planned implementation of the use of 30 NM longitudinal separation by India on the four routes N571, M300, P570 & P574.
- b) consider the information presented in this paper as a means of accelerating RNP4 implementation in the Bay of Bengal and Indian Ocean (SAIOACG) region.
- c) urge the member states in the region to implement reduced longitudinal separation to provide for a seamless flow of traffic.
- d) urge airline operators to equip aircraft with FANS/1A data link capability
- e) discuss any relevant matters as appropriate.

.....