International Civil Aviation Organization

The Second Meeting of the APANPIRG ATM Sub-Group (ATM /SG/2)

Hong Kong, China, 04-08 August 2014

Agenda Item 4: ATM Systems (Modernization, Seamless ATM, CNS, ATFM)

STATUS OF 30NM LONGITUDINAL SEPARATION IMPLEMENTATION

(Presented by India)

SUMMARY

This paper presents the implementation status of the 30NM Longitudinal Separation between RNP 4 approved aircraft on select RNP 10 ATS Routes.

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.

1.2 In the third and fourth meeting of SAIOACG, India presented working papers on the proposal to introduce 30 NM Longitudinal Separation in the Bay of Bengal Arabian Sea Indian Ocean (BOBASIO) airspace. This is also one of action item [2/10] listed in Appendix-F of SAIOACG /03 meeting's final report.

1.3 India, in adherence to its commitment is on the verge of issuing an AIRAC AIP Supplement with an effective date of 19th September, 2014 with a purpose of providing implementation details of the 30NM longitudinal separation between RNP 4 approved aircraft on RNP 10 ATS Routes M300, P574, P570 and N571, in Chennai and Mumbai FIR.

2. DISCUSSION

2.1 Chennai and Mumbai ATCCs had completed safety assessments for the introduction of RNP 4 based Longitudinal separation minima in a mixed navigation environment, rendering the airspace non-exclusive and has found the change acceptable.

2.2 The four routes M300, N571, P570 & P574 traversed 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 were used by long haul aircrafts flying between airports in South East Asia and the Middle East and Europe and the distance flown across the Indian FIRs of Chennai and Mumbai accounted for a major portion of their flying time.

2.3 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.

2.4 The Separations and Airspace Safety Panel (SASP) recommended that $5x10^{-9}$ fatal accidents per flight hour was 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 0.1511256×10^{-9} & $3.1262392x10^{-9}$ respectively, which was well below the Target Level of Safety (TLS) of $5x10^{-9}$.

2.5 It can be concluded that with the introduction of 30 NM longitudinal separation on the four routes (N571, M300, P570 and P574), aircraft stood to benefit even if it was implemented only within the Indian FIRs. However, there was an urgent need for States to the West and East of India to implement the 50 NM and 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 more efficient 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 and 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; and

e. discuss any relevant matters as appropriate.

……