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 3: Operational Issues

IMPROVING EFFECIENCY ON HIGH VOLUME ROUTES WITH THE IMPLEMENTATION OF REDUCED LONGITUDINAL SEPARATION

(Presented by Singapore)

SUMMARY

The implementation of reduced horizontal separation based on Performance Based Navigation (PBN) specifications brings about an improvement in safety, airspace capacity, flight efficiency and environmental benefits. The benefits yield with this implementation would be far greater and apparent on high volume routes.

Where reduction of horizontal separation is applied on opportunity basis, such application on high volume routes would allow greater chance for the procedure to be applied. Thus realizing the intended benefits brought about with the application of PBN.

Action by BOB-RHS/TF/2 is at Paragraph 3.

1. INTRODUCTION

1.1 At the first meeting of the Bay of Bengal Reduced Horizontal Separation Implementation Task Force (BOB-RHS/TF 1) in November 2009, a Small Working Group (SWG) was formed to develop the future work schedule including timelines for further task force meetings. The SWG concluded with a positive outcome to implementing 50NM longitudinal separation on ATS route N571 targeted for initial operations in January 2011.

1.2 At the SWG of BOB-RHS/TF 1, the few considerations based on inputs from various stakeholders were discussed to determine the appropriate route for implementation in the initial phase. The main considerations taken to determine the eligible routes for the initial phase of implementation were, i) population of flights suitably equipped and ii) the capability of FIRs involved to provided Direct Controller Pilot Communications (DCPC) to support the reduced longitudinal separation.

1.3 In this regard, the ATS routes such as N877, P628 and L759 were not included as part of the initial phase of the reduced longitudinal separation implementation over the Bay of Bengal. The selection of N571 as a first step towards implementation of reduced separation over the Bay of Bengal is a positive way forward towards expanding this initiative to the other routes which have higher volume of traffic.

2. DISCUSSION

2.1 ATS route with high volume of traffic serves as a good platform for implementing reduced horizontal separation. The obvious benefit to this would be improved capacity and efficiency for flights operating on such routes. In cases where 50NM reduced horizontal separation is applied on an opportunity basis, the higher volume of traffic would provide more opportunity for this to take place, thus further quantifying the benefits from implementing reduced horizontal separation.

2.2 The implementation of reduced longitudinal separation in the South China Sea area specifically on ATS routes L642 and M771 have provided an immense level of exposure for the air traffic controllers to gain experience and confidence in applying reduced horizontal separation. This is because of the high volume of traffic on these 2 routes compared to the other trunk parallel routes over the South China Sea. The application of 50NM longitudinal separation on L642 and M771 is applied on opportunity basis. When two suitably equipped aircraft at on the mentioned routes in succession, the 50NM longitudinal separation is applied. This opportunity would not have been possible if not for the high volume of traffic on these 2 routes.

2.3 Over the Bay of Bengal Area, majority of flights departing from Malaysia and Singapore bound for Europe traverse across the area between 1500 – 1800UTC. Majority of these flights participate in the Bay of Bengal Air Traffic Flow Management (ATFM) program in order to make an efficient transition through Kabul FIR and beyond. The figure below provides the breakdown of flights that departed from Changi Airport, Singapore (WSSS) traversing across the Bay of Bengal during the abovementioned according to the various over the Bay of Bengal Area.

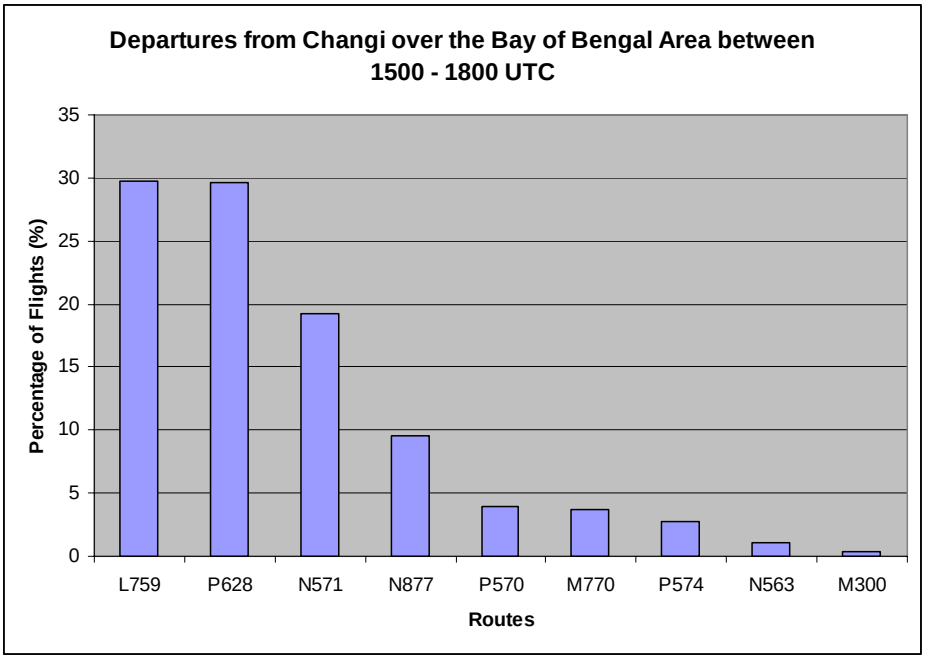

Figure 1. Percentage breakdown against routes for departures from Changi traversing the Bay of Bengal Area between 1500-1800UTC in 2009.

2.4 The figure above showed that the percentage of flights utilizing L759 and P628 are the highest at close to 30% of the total number of flights that traverse across the Bay of Bengal daily during the period between 1500-1800UTC. The high volume of traffic on these 2 routes compared to the other routes would serve as a good platform to implement 50NM longitudinal separation.

2.5 Similar to the consideration made to implement 50NM longitudinal separation on ATS route N571, ATS route P628 only involve 2 States, namely India and Malaysia. The other consideration that was taken into account was the aircraft fleet equipage on P628. This should not be an obstacle to implement 50NM longitudinal separation. In situation where opportunity arise having 2 suitably equipped aircraft in succession, the reduced longitudinal separation can be applied. This ensures a fair and balance approach to allowing both suitably equipped aircraft and non-equipped aircraft to operate within the same environment without penalizing the other.

2.6 The implementation of 50NM longitudinal separation on heavily utilized routes not only will improve efficiency of ATM on these areas but would also complement the ATFM procedure that is currently in place. The option of having a reduced longitudinal separation prior to entering the Bay of Bengal area would be an added advantage for the FIR concerned in managing ATFM participating flights.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) Note the high usage of ATS route P628 and L759 compared to the other routes.

b) Note the benefit of applying 50NM longitudinal separation on opportunity basis especially on high usage routes.

c) Discuss on applying 50NM longitudinal separation on heavily utilized routes that can support such initiative through the availability of DCPC facilities.

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