Agenda Item 4-Strategic ATM Plans of participating States

IMPLEMENTATION OF 50NM RHS

(Presented by Airports Authority of India)

SUMMARY

This working paper presents the proposal for uniform application of 50NM Reduced Horizontal Separation minima in the BOBASIO region to enhance airspace capacity and multiply manifold the benefits to the airspace users from AIAC cycle date 12th Nov, 2015.

This paper relates to:

Relevant Strategic Objectives:

A: Safety – Enhance global civil aviation safety
B: Air Navigation Capacity and Efficiency – Increase the capacity and improve the efficiency of the global aviation system
C: Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment

Global Plan Initiatives:

GPI-5 RNAV and RNP (Performance-based navigation)
GPI-7 Dynamic and flexible ATS route management
GPI-8 Collaborative airspace design and management
GPI-17 Data link applications

1. INTRODUCTION

1.1 The EMARSSH project introduced in 2002 envisaged that the RNP 10 operations will yield significantly due to its capability to reduce longitudinal separation to 50NM. Contrary to this objective, most of the countries continue to apply 10 minute MNT longitudinal separation, along this routes.

1.2 It is proposed to implement 50NM longitudinal separation minima between RNP 10 approved aircraft which either LOGON to CPDLC or are having two way VHF communication i.e. direct controller pilot communication (DCPC) on RNP 10 routes of BOBASIO Region with effect from AIRAC cycle 12 November, 2015
2. DISCUSSION

2.1 The Bay of Bengal ATS Coordination Group, formed the Bay Of Bengal Reduced Horizontal Separation Task Force in 2009 for implementing Reduced Horizontal Separation in the Bay of Bengal Arabian Sea Indian Ocean. All delegates at the BOBRHS/TF/1 agreed that there is an operational need for implementing 50 NM horizontal separation in the Bay of Bengal and Oceanic Area of the Mumbai FIR.

2.3 The BOB-RHS/TF/5 meeting, as part of the Phase 1 programme for implementation, agreed to implement 50NM longitudinal separation along 4 RNAV routes, P628, L510, P762 and L571, with effect from AIRAC Date 30 June 2011. A Draft AIP Supplement to be used by States to cover all agreed RNAV route specifications in BOB-RHS Phase 2 operations was also made.

2.4 The status of Phase 2 implementation of 50NM RHS as presented in BOB-RHS/TF/7 was as below:

<table>
<thead>
<tr>
<th>FIR</th>
<th>Phase 2A Routes (15 December 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangkok</td>
<td>L301, L507, L759, M770, P646</td>
</tr>
<tr>
<td>Chennai</td>
<td>M300*, L510, N563*, P570*, P574*, L759, N877</td>
</tr>
<tr>
<td>Delhi</td>
<td>L509, P646, L759</td>
</tr>
<tr>
<td>Kabul</td>
<td>UL333, P628, N636</td>
</tr>
<tr>
<td>Kolkata</td>
<td>L301, L507, L510, L509, P646, L759, M770, N895</td>
</tr>
<tr>
<td>Kuala Lumpur</td>
<td>L510, N571, P574*, L759, P628, M770</td>
</tr>
<tr>
<td>Mumbai</td>
<td>L301, M300, P570*, L759, N877, N895</td>
</tr>
<tr>
<td>Muscat</td>
<td>M300*, L301*, N563*, P570*, P574*</td>
</tr>
<tr>
<td>Tehran</td>
<td>UL333, P628 (subject to Ashgabat)</td>
</tr>
<tr>
<td>Yangon</td>
<td>L301, L507, P646, L759, M770, N895</td>
</tr>
</tbody>
</table>

Table 1 indicates the Phase 250NM longitudinal separation implementation status:

<table>
<thead>
<tr>
<th>FIR</th>
<th>Phase 2B Routes (12 January 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jakarta</td>
<td>M300*, N563*, P570*, P574*</td>
</tr>
<tr>
<td>Kabul</td>
<td>A466, L509, N644, L750, G796, M875</td>
</tr>
</tbody>
</table>

Table 2: Phase 2 Implementation Status (* = postponed)

<table>
<thead>
<tr>
<th>FIR</th>
<th>Phase 2C Routes (8 March 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colombo</td>
<td>M300*, P570*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FIR</th>
<th>Post-8 March 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karachi</td>
<td>UL333, P628, N636, N895</td>
</tr>
<tr>
<td>Lahore</td>
<td>A466, L509, N644, L750</td>
</tr>
</tbody>
</table>

2.5 In 2011, as decided by the BOB-RHS/TF, India implemented Reduced Longitudinal Separation of 50 NM on 18 RNP 10 routes for suitably equipped aircraft.
2.6 The data link capability of Yangon, Kuala Lumpur, Chennai, Kolkata, and Mumbai enables continuous surveillance for FANS1/A aircraft. Muscat FIR to the west of Mumbai FIR has uninterrupted Radar coverage right up to and beyond the common boundary with Mumbai FIR. Pakistan has Surveillance and VHF coverage in the upper airspace of Karachi and Lahore FIR. In BOB-RHS-TF/7 Afghanistan advised that they now have full VHF coverage of their FIR which will allow Direct Controller-Pilot Communications (DCPC) in support of 50NM Longitudinal Separation requirements.

2.7 India has already signed LOA with Malaysia, Indonesia, Srilanka and Muscat for implementing 50NM longitudinal separation minima. India and Pakistan have already implemented 50NM longitudinal separation on three RNP10 routes viz. N895, P628 and L509 for which LoAs are signed.

2.8 The BIMT/1 meeting held at Bangkok in 2014 and attended by Malaysia and Indonesia agreed to prioritize the reduction of longitudinal separation minima on L301 and L507 routes.

2.9 Discussions in the AHACG/3 and BIMT/2 meeting has resulted in Iran, Pakistan, India, Myanmar and Thailand agreeing for application of 50NM longitudinal separation minima between RNP 10 approved aircraft from a common date.

2.10 The En-route Monitoring Agency, BOBASMA had conducted the pre-implementation and post-implementation Safety Assessment for the introduction 50 NM Reduced Horizontal Separation in the region and the same had been presented to RASMAG. BOBASMA continues to review the safe use of 50 NM & 30 NM Reduced Longitudinal Separation annually and the last periodical safety assessment had been presented as WP09 in RASMAG/20. States can now go ahead and implement 50 NM RHS after conducting the qualitative safety assessments.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:
   a) deliberate the information contained in this paper;
   b) discuss any relevant matters as appropriate.
   c) confirm the date of 12 November, 2015 to implement 50NM longitudinal separation minima between RNP 10 approved aircraft with availability of direct controller pilot communication (DCPC) i.e VHF and/or CPDLC on RNP 10 routes of BOBASIO Region
   d) Discuss implementation issues including amendments to LoA

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MODEL AIP SUPPLEMENT

IMPLEMENTATION OF RNP 10 OPERATIONS (50 NM LONGITUDINAL SEPARATION) ON RNAV ROUTES (xxxx) AS AGREED TO BY THE MEETING

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, NS71, P628 and P762 in no FIR.

2. **IMPLEMENTATION OF RNP10 OPERATIONS ON ATS ROUTES XXXXX**

2.1 With effect from AIRAC Date 30 JUN 2011, RNP 10 based 50NM longitudinal separation may be applied to aircraft which are approved for RNP10 operation on ATS routes XXXX.

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.

   (Route name) – (between xx 5 Letter Name Codes)
   (Route name) – “ “
   (Route name) – “ “

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.