International Civil Aviation Organization

The Sixth Meeting of the Bay of Bengal Reduced Horizontal Separation Implementation Task Force (BOB-RHS/TF/6) and the First Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/1)

Bangkok, Thailand, 19 – 23 September 2011

Agenda Item 3: Operational Issues

BOBCAT CONFIGURATION WITH RVSM IN AFGHANISTAN AIRSPACE AND REDUCED LONGITUDINAL SEPARATION OF 50 NM

(Presented by Thailand)

SUMMARY

This working paper presents proposed BOBCAT system configuration with implementation of RVSM in Afghanistan airspace and Phase 2 implementation of 50 NM longitudinal separation on ATFM routes transiting the Kabul FIR.

1.   INTRODUCTION

1.1   The meeting would recall operational implementation of ATFM procedures using the BOBCAT system for westbound traffic through the Kabul FIR during the busy period of 2000-2359UTC commenced on 7 July 2007. In addition, it should be noted that, since the commencement of the ATFM operational trial in July 2006, the BOBCAT system was configured to provide minimum spacing of 15 minutes entering the Kabul FIR on the same route/level, composing of the 10-minute procedural separation and a 5-minute buffer.

1.2   The meeting would note establishment of ATS Route L509 in the Lahore FIR linking SAMAR (Delhi – Lahore FIR boundary) to LAJAK (Lahore – Kabul FIR boundary) on AIRAC 10 March 2011, which the BOBCAT system was reconfigured to cater for changes.

1.3   The meeting should also note discussion at APANPIRG/22 meeting held in Bangkok on 5–9 September 2011 on progress of the EURASIA RVSM Task Force under auspices of ICAO European / North Atlantic Office (Paris), which RVSM implementation were proposed on AIRAC 17 November 2011.

1.4   The meeting would also recall Phase 1 implementation of 50NM (RNP 10) longitudinal spacing across the Bay of Bengal and Arabian Sea airspace on AIRAC 30 June 2011, which did not include routes through the Kabul FIR airspace.

1.5   As Phase 2 of the proposed 50NM (RNP 10) longitudinal spacing of 50NM expecting to include routes through the Afghanistan airspace, there is an opportunity to decrease spacing parameters used by the BOBCAT system in accordance with the new procedures.

1.6   Furthermore, the meeting is advised that spacing parameter on the BOBCAT system is independently configurable for each waypoint within the system.

2.   DISCUSSION

2.1   The current waypoints and routes used for these ATFM/BOBCAT operations are listed below in Figure 1.
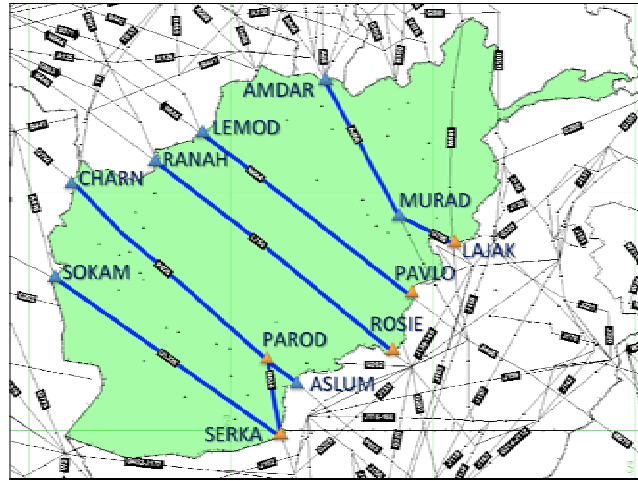

Figure 1: *Current BOBCAT Airspace Configuration over the Kabul FIR*
(Waypoints with orange triangles are entry waypoints)

2.2   The meeting should note current spacing parameter within the BOBCAT system of these waypoints in Figure 2.

Waypoint	Total Spacing	Separation-based Spacing	Buffer Spacing
LAJAK	15 minutes	10 minutes procedural	5 minutes
PAVLO	15 minutes	10 minutes procedural	5 minutes
ROSIE	15 minutes	10 minutes procedural	5 minutes
PAROD	15 minutes	10 minutes procedural	5 minutes
SERKA	15 minutes	10 minutes procedural	5 minutes

Figure 2: *Current BOBCAT waypoint spacing configuration*

2.3   The meeting should note current flight level available within the BOBCAT system of these waypoints in Figure 3.

Waypoint	Available Flight Levels
LAJAK	FL310 | FL350 | FL390
PAVLO	FL280 | FL310 | FL350 | FL390
ROSIE	FL280 | FL310 | FL350 | FL390
PAROD	FL310 | FL350 | FL390
SERKA	FL310 | FL350 | FL390

Figure 3: *Current BOBCAT waypoint flight level availability*

BOBCAT and Implementation of RVSM in the Kabul FIR

2.4   The proposed implementation of RVSM in the Kabul FIR on AIRAC 17 November 2011 would enable BOBCAT to be configured with RVSM flight levels such as those in Figure 4.

Waypoint	Available Flight Levels
LAJAK	FL320 | FL340 | FL360 | FL380 | FL400
PAVLO	FL280 | FL300 | FL320 | FL340 | FL360 | FL380 | FL400
ROSIE	FL280 | FL300 | FL320 | FL340 | FL360 | FL380 | FL400
PAROD	FL320 | FL340 | FL360 | FL380 | FL400
SERKA	FL320 | FL340 | FL360 | FL380 | FL400

Figure 4: Proposed BOBCAT waypoint flight level availability with RVSM in the Kabul FIR

2.5   The meeting is advised that, based on available flight levels in Figure 4, airspace capacity in the Kabul FIR from FL280–FL360 are expected to increase from 48 to 76 aircraft/hour, representing a 58-percent capacity increase.

2.6   It should also be noted that, in order for the BOBCAT waypoint configuration change in Figure 4 to be effective, the airlines would need to create a new set of slot request templates in the system. It is also possible for the BOBCAT Development Team to delete old slot request templates already present in the system, which would be rendered unusable by the waypoint configuration change.

BOBCAT Configuration with 50NM Phase 2 Reduced Horizontal Separation

2.7   It should be noted that it would be possible to adjust spacing parameter within the BOBCAT system to accommodate 50NM longitudinal separation by reducing the 10-minute procedural separation part of the spacing parameter to 7 minutes, which should be equivalent to 50NM longitudinal separation. This would reduce total spacing from 15 minutes to 12 minutes on ATS routes where 50NM (RNP 10) longitudinal separation would be implemented. The configuration workload on the BOBCAT system required to implement such change would be minimal in time and effort. In fact, the configuration change could be done within the same day 50 NM longitudinal separation is implemented on any or all of the selective routings.

2.8   It is envisaged that all routes transiting the Kabul FIR would be involved. This would in effect enable BOBCAT waypoint spacing configuration mentioned in Figure 5 below. The proposed configuration increases airspace capacity in the Kabul FIR between FL280 – FL360 on all major ATS routes including UL333 from 76 to 95 aircraft per hour, representing a 25-percent capacity increase.

Waypoint	Total Spacing	Separation-based Spacing	Buffer Spacing
LAJAK	12 minutes	7 minutes (~50NM)	5 minutes
PAVLO	12 minutes	7 minutes (~50NM)	5 minutes
ROSIE	12 minutes	7 minutes (~50NM)	5 minutes
PAROD	12 minutes	7 minutes (~50NM)	5 minutes
SERKA	12 minutes	7 minutes (~50NM)	5 minutes

Figure 5: Proposed Phase 2 BOBCAT waypoint spacing configuration

2.9   While BOBCAT configuration to accommodate 50NM longitudinal separation takes a relatively small amount of time, announcements via AIP Supplement of NOTAM should be made to all involved ahead of the implementation time in accordance with ICAO procedures to ensure a smooth transition to 50NM separation within the Kabul FIR.

3. **ACTIONS BY THE MEETING**

3.1   The meeting are invited to:

      a)   note information presented in this paper;

      b)   discuss potential inclusion of UL333 routing within the BOBCAT system;

      c)   discuss BOBCAT configuration parameters for the implementation of RVSM in the Kabul FIR on AIRAC Date 17 November 2011;

      d)   alert the airlines within the BOBCAT system of required re-creation of slot request templates on AIRAC Date 17 November 2011; and,

      e)   discuss configuration change of the BOBCAT system to accommodate implementation of 50NM (RNP 10) longitudinal separation through the Kabul FIR.

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