



*International Civil Aviation Organization*

**The Thirteenth Meeting of the FANS Implementation Team for the Bay of Bengal (FIT-BOB/13) and the Fifth Meeting of the Bay of Bengal Reduced Horizontal Separation Implementation Task Force (BOB-RHS/TF/5)**

Bangkok, Thailand, 07 to 11 February 2011

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**Agenda Item 3: Operational Issues**

**BOBCAT CONFIGURATION WITH NEW ATS ROUTE SAMAR - LAJAK  
AND REDUCED LONGITUDINAL SEPARATION OF 50 NM**

(Presented by Thailand)

**SUMMARY**

This working paper presents proposed BOBCAT system configuration with new ATS Route in Pakistan airspace (L509) and the phased implementation of 50 NM longitudinal separation on ATFM ATS 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.

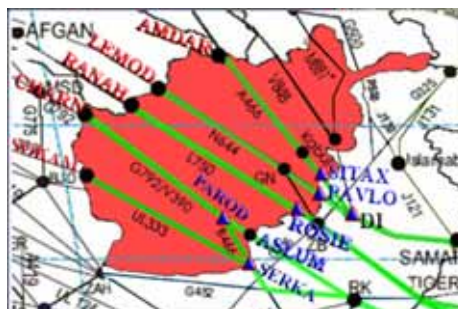
1.2 The meeting would note Pakistan AIP Supplement S-01/11 with effect from AIRAC Date 10 March 2011 at 0001UTC, establishing new ATS Route L509 in the Lahore FIR linking SAMAR (Delhi – Lahore FIR boundary) to LAJAK (Lahore – Kabul FIR boundary) provided in **Attachment A**.

1.3 With the proposed implementation of RNP10 longitudinal spacing of 50NM across the Bay of Bengal, as well as the introduction of 50NM longitudinal separation within the Kabul FIR on these transit routes, there is an opportunity to decrease spacing parameters used by the BOBCAT system in accordance with the new procedures.

1.4 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 blue 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
DI	10 minutes	5 minutes	5 minutes
SITAX	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

**Note:** Spacing mentioned in Figure 2 above for Waypoint DI, only relates to 2 aircraft who will divert at DI and proceed to PAVLO and SITAX

#### BOBCAT and Establishment of L509 (SAMAR – LAJAK) in the Lahore FIR

2.3 The implementation of L509 (SAMAR – LAJAK) in the Lahore FIR on AIRAC Date 10 March 2011 will enable separated traffic flows from GUGAL (M875) to PAVLO and from SAMAR (L509) to LAJAK. In such a case, the proposed BOBCAT waypoint spacing configuration in Figure 3 could be applied.

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 3:** Proposed BOBCAT waypoint spacing configuration with L509 (SAMAR – LAJAK)

2.4 The meeting is advised that, with the implementation of BOBCAT configuration in Figure 3 by removing DI and SITAX while adding LAJAK, airspace capacity in the Kabul FIR between FL280 – FL350 not including capacity of UL333, which is currently not requiring BOBCAT slots, would increase from 38 to 44 aircraft per hour, representing capacity increase of 16 percent.

2.5 Therefore, it should also be noted that, in order for the BOBCAT waypoint configuration change in Figure 3 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 Reduced Horizontal Separation of 50 NM*

2.6 It should be noted that it would be possible to adjust spacing parameter within the BOBCAT system to accommodate 50 NM longitudinal separation by reducing the 10-minute procedural separation part of the spacing parameter to 7 minutes, which should be equivalent to 50NM separation. This would reduce total spacing from 15 minutes to 12 minutes on ATS routes where RNP10 50NM 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.

*Phase 1 Implementation of 50NM Separation*

2.7 Based on the agreement in BOB-RHS/TF/4, Phase 1 implementation of the 50NM longitudinal separation includes 2 ATS routes transiting the Kabul FIR. namely G792/V390 (ASLUM – PAROD – CHARN) as well as those using B466 to join G792/V390 (SERKA – PAROD – CHARN) due to reduction to 50 NM longitudinal separation on ATS Routes P628 and L510 in the Bay of Bengal.

2.8 Taking present circumstances into account, the BOBCAT waypoint spacing parameters could be configured based on parameters presented in Figure 4. The proposed configuration increases airspace capacity in the Kabul FIR between FL280 – FL350 on all major ATS routes including UL333 from 52 to 56 aircraft per hour, representing capacity increase of 8 percent.

<b>Waypoint</b>	<b>Total Spacing</b>	<b>Separation-based Spacing</b>	<b>Buffer Spacing</b>
<b>LAJAK</b>	15 minutes	10 minutes procedural	5 minutes
<b>PAVLO</b>	15 minutes	10 minutes procedural	5 minutes
<b>ROSIE</b>	15 minutes	10 minutes procedural	5 minutes
<b>PAROD</b>	12 minutes	7 minutes (~50NM)	5 minutes
<b>SERKA</b>	12 minutes	7 minutes (~50NM)	5 minutes

*Figure 4: Proposed Phase 1 BOBCAT waypoint spacing configuration*

*Phase 2 Implementation of 50NM Separation*

2.9 In the second phase of 50NM separation, it is envisaged that all other routes feeding into 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 – FL350 on all major ATS routes including UL333 from 56 to 65 aircraft per hour, representing capacity increase of 16 percent.

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

*Figure 5: Proposed Phase 2 BOBCAT waypoint spacing configuration*

2.10 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 WP;
- b) discuss potential inclusion of UL333 routing within the BOBCAT system;
- c) discuss BOBCAT configuration parameters for the implementation of L509 (SAMAR – LAJAK) in the Lahore FIR on AIRAC Date 10 March 2011;
- d) alert the airlines within the BOBCAT system of required re-creation of slot request templates on AIRAC Date 10 March 2011; and,
- e) discuss phased configuration change of the BOBCAT system to accommodate implementation of RNP10 50NM separation in the Kabul FIR.

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**AIP SUPPLEMENT**  
**S-01/11**  
 27<sup>TH</sup> JANUARY 2011

**ALL TIMES UTC**

## S-01/11 ESTABLISHMENT OF NEW ATS ROUTE L509 IN LAHORE FIR (OPLR)

1. With effect from 11 03 10 0001 UTC.
2. Permanent.
3. New Bi-Directional International ATS Route **L509** has been established within Lahore FIR. The details are as follows:

INTERNATIONAL ATS ROUTE							
Route designator Name of significant point Coordinates	Track MAG	Dist (NM)	Upper limit Lower limit Airspace Classification	Lateral limits (NM)	Direction of cruising levels		Remarks Controlling unit Frequency
					Odd	Even	
1	2	3	4	5	6		
<b>L 509</b>							
▲ SAMAR 312048N 0743357E	<u>321</u> 141	107.8	FL410 FL300  Class A	20			Route avbl btn 1900-2400 UTC only. To establish contact 15 minutes prior to entering Lahore FIR. a) Lahore ACC (E) 127.5 MHz b) Lahore ACC (W) 124.1 MHz c) HF 5658, 10018 and 3467 KHz
▲ INDEK 324600N 0731558E	<u>302</u> 122	84.7					
▲ JABAR 333218N 0715122E	<u>264</u> 084	42.8					
▲ HANGU 332909N 0710021E	<u>315</u> 135	36.9					
▲ LAJAK 335559N 0702959E							
							Transition segment btn HANGU and LAJAK.  For continuation see AIP Afghanistan.

4. Incorporate in AIP Pakistan ENR-3 accordingly.

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