



International Civil Aviation Organization

The First Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/1)

Bangkok, Thailand, 19 – 23 September 2011

Agenda Item 3: Review Current Operations across the Bay of Bengal and Identify Problem Areas

**BAY OF BENGAL AND SOUTH ASIA AIR TRAFFIC FLOW MANAGEMENT HANDBOOK
VERSION 2.3**

(Presented by Thailand)

SUMMARY

The purpose of this information paper is to present the updated Bay of Bengal and South Asia ATFM Handbook Version 2.3, reflecting route structure changes in airspace relevant to ATFM/BOBCAT procedure.

1. **INTRODUCTION**

1.1 The meeting would recall that on AIRAC 5 July 2007, international long range ATFM procedure using the BOBCAT system became fully operational.

1.2 The meeting would also recall implementation of L509 (SAMAR-LAJAK) route in the Pakistan airspace on AIRAC 10 March 2011, which resulted in changes of waypoints used for BOBCAT slot allocation purposes.

1.3 The meeting should also note re-designation of routes in the Afghanistan and Pakistan airspace effective on AIRAC 30 June 2011, which resulted in name changes of routes involved in the BOBCAT slot allocation process.

2. **DISCUSSIONS**

2.1 The Bangkok ATFMU updated the Bay of Bengal and South Asia ATFM Handbook available within the BOBCAT system to Version 2.3, reflecting changes up to AIRAC 30 June 2011 in **Attachment A** with changes marked.

3. **ACTION BY THE MEETING**

3.1 The meeting is invited to note the updated Bay of Bengal and South Asia ATFM Handbook Version 2.3.

----- end -----

**BAY OF BENGAL
AND
SOUTH ASIA
AIR TRAFFIC FLOW MANAGEMENT
HANDBOOK**

VERSION 2.23

~~20 November 2008~~30 June 2011

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Glossary of Terms

Term	Description
ACC	Area Control Centre
ADC	Aerodrome Control
AEROTHAI	Aeronautical Radio of Thailand, Limited
AFTN	Aeronautical Fixed Telecommunications Network
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Services
ANSP	Air Navigation Service Provider
ATC	Air Traffic Control
ATFM	Air Traffic Flow Management
ATFM Users Handbook	Bay of Bengal and South Asia ATFM Handbook
ATFMU	Air Traffic Flow Management Unit
ATM	Air Traffic Management
ATS	Air Traffic Services
ATT	Additional Taxi Time
AWUT	Allocated Wheels-Up Time
BOBCAT	Bay of Bengal Cooperative Air Traffic Flow Management System
CHG	Change Message
CNL	Cancel Message
CSRT	Contingency Slot Request Template
DEP	Departure Message
DLA	Delay Message
EET	Estimated Elapsed Time
ETD	Estimated Time of Departure
FIR	Flight Information Region
FL	Flight Level
FPL	Flight Plan Message
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization

Term	Description
ICAO PANS ATM	ICAO Procedures for Air Navigation Services: Air Traffic Management
MAD	Maximum Acceptable Delay
NOTAM	Notice to Airmen
PIC	Pilot in Command
PSR	Past Slot Request
SMC	Surface Movement Control
SRT	Slot Request Template
STT	Standard Taxi Time
TWR	Control Tower
WUT	Wheels Up Time

1. Introduction

Purpose and Scope

- 1.1. As per ICAO Annex 11 Chapter 3.7.5, an ATFM service shall be implemented for airspace where air traffic demand at times exceeds or is expected to exceed the declared capacity of the air traffic services concerned.
- 1.2. Further, Annex 11 recommends that an ATFM service should be implemented on the basis of a regional air navigation agreement or through a multilateral agreement, which should make provision for common procedures.
- 1.3. Doc 4444 (PANS-ATM) Chapter 3.2.1.5 states that *“Detailed procedures governing the provision of the ATFM measures, and service within a region or area should be prescribed in a regional ATFM manual or handbook”*.
- 1.4. Accordingly, the purpose of this Handbook is to provide in one document, the procedures for the operation of the Bay of Bengal and South Asia ATFM service, which have been developed through the effective use of Collaborative Decision Making between the States, ICAO Asia Pacific Regional Office and airspace users concerned.

Objectives of Air Traffic Flow Management (ATFM)

- 1.5. The Air Navigation Service Providers (ANSPs) concerned, ICAO Asia Pacific Regional Office, and the International Air Transport Association (IATA) considered that there was a need to introduce an automated air traffic flow management system, due to CVSM flight level constraints at the Kabul FIR gateway points together with the limited number of route segments through the Kabul FIR. This would ensure a smooth flow of traffic through Kabul waypoints and associated route segments.
- 1.6. The objectives of ATFM across the Bay of Bengal and South Asia are:
- a) To enhance and facilitate the orderly and efficient flow of air traffic across the Bay of Bengal and South Asia;
 - b) To minimize ground and enroute delays;
 - c) To maximize capacity and optimize the flow of air traffic within the area;
 - d) To plan for and manage future ATS workload in the light of forecast increased traffic flow within the area; and
 - e) To assess the economic and environmental impact of the implementation of the ATFM system.

1.7. The Bay of Bengal Cooperative ATFM System (BOBCAT) has been developed by Aeronautical Radio of Thailand Ltd. (AEROTHAI), in coordination with ICAO Asia Pacific Regional Office, affected Air Navigation Service Providers (ANSPs) concerned, the International Air Transport Association (IATA) and their member airlines to assist in managing the restrictions for westbound aircraft operating through the Kabul FIR during the busy night time period.

ATFM Users Handbook

1.8. This *Bay of Bengal and South Asia ATFM Handbook* (hereinafter 'ATFM Users Handbook') provides information necessary for airline operators and ANSPs to carry out their responsibilities within the BOBCAT system. The ATFM Users Handbook will be updated as BOBCAT functionalities are enhanced.

Principles of BOBCAT

1.9. The following principles have been agreed to:

- a) To introduce an automated air traffic flow management system in accordance with ICAO standards and recommended practices to enhance the smooth flow of westbound aircraft transiting the Kabul FIR during the period of 2000 to 2359UTC daily;
- b) ANSPs retain responsibility for tactical ATS and traffic management;
- c) BOBCAT will manage mandatory slot selection through interaction with airline dispatchers via the Internet using a dedicated website;
- d) To maintain or improve aircraft operations through the Kabul FIR during the above period;
- e) To maintain a high level of responsiveness to requests from ANSPs, IATA and airline operators for procedure and system improvements; and,
- f) To provide reports and statistics on ATFM operations for analysis.

References

1.10. The following documents are referred to within this handbook:

- a) Annex 11 Air Traffic Services;
- b) Doc 4444 Procedures for Air Navigation Services – Air Traffic Management;
- c) Doc 9673 Basic Air Navigation Plan – Asia and Pacific Regions;
- d) Doc 9750 Global Air Navigation Plan for CNS/ATM Systems; and,
- e) Doc 9426 ATS Planning Manual

Control of the Manual

1.11. This Handbook is controlled, edited and produced by the ICAO BBACG Air Traffic Flow Management Task Force, which operates under the auspices of the ICAO Bay of Bengal ATS Coordination Group (BBACG).

1.12. The Custodian for the Bay of Bengal and South Asia ATFM Handbook is:

Bangkok Air Traffic Flow Management Unit (Bangkok ATFMU)

Tel: +66 2 287 8024 / +66 2 287 8025

Tel/Fax: + 66 2 287 8026

Fax: +66 2 287 8027

E-Mail: atfmu@bobcat.aero

Validity

1.13. The date of application of this Edition number 2.2-3 is ~~20 November 2008~~ 30 June 2011. This manual shall not be used operationally before that date. This edition supersedes all previous editions.

Changes to the ATFM Handbook

1.14. The ATFM Handbook will be updated as necessary by the ATFM/TF or the ATFM Scrutiny Group. However intervening amendments may be issued in conjunction with relevant State AIC and AIP documents.

1.15. Whenever a user identifies a need for a change to this Handbook, a Request for Change Form (RFC) should be completed and submitted to the Editor. A copy of the RFC Form is shown at Appendix A.

Version / Amendment Number	Effective Date	Amended by	Comments
1.0	16 June 2006	ATFM/TF	The original version
2.0	5 July 2007	ATFM/TF	Full re-issue. Updated to reflect approval for Operational system
2.1	28 August 2008	ATFM/TF	Updated to reflect activation of UL333/B466 and new features in BOBCAT Version 1.03, i.e. Slot Request History and Slot Allocation History
2.2	20 November 2008	ATFM/TF	Updated to reflect removal of UL333 from ATFM procedures
<u>2.3</u>	<u>30 June 2011</u>	<u>Bangkok ATFMU</u>	<u>Updated to reflect new route activation and designations</u>

2. BOBCAT Operations and Functionality

BOBCAT System

2.1 BOBCAT will be responsible for the ATFM activities within the Bay of Bengal and South Asia areas for the routes and at the times described in States' AIP Supplements. This responsibility will be managed by the Bangkok Air Traffic Flow Management Unit (ATFMU) in coordination with aircraft operators and ANSPs in the FIRs concerned.

BOBCAT Concept of Operations

2.2 The BOBCAT concept of operations has been formulated based on the following parameters:

- a) BOBCAT shall ensure slot allocations at the same flight level are not less than the agreed required spacing at each Kabul FIR entry waypoints: ~~SITAX_LAJAK (G796-A466A466)~~, PAVLO (N644), ROSIE (L750), PAROD (~~G792P628~~) and SERKA (~~B466N636~~);
- b) In order to accommodate converging traffic from ~~G792-P628 (ASLUMPAROD)~~ and ~~B466-N636~~ (SERKA) at PAROD, the BOBCAT system would be configured to additionally space aircraft on the two ATS routes at waypoint PAROD;
- ~~c) In order to efficiently utilize airspace with regard to aircraft diverting over Dhera Ismail Khan (DI) on A466 and N644, airline operators should indicate their CVSM flight level for entry into Kabul FIR at the DI waypoint;~~
- d)c) Spacing requirements between two aircraft at the same waypoint into Kabul FIR and the same flight level shall address the 10 minutes longitudinal separation requirements plus an additional system buffer time, in accordance with Table 1 below;

Table 1: Metering Waypoints and Spacing Requirements for traffic through the Kabul FIR

Routing through the Kabul FIR	Metering Waypoint(s)	Spacing Requirement (Separation + Buffer)
G796 – A466A466	DI SITAXLAJAK	5+5 minutes 10+5 minutes
N644	DI PAVLO	5+5 minutes 10+5 minutes
L750	ROSIE	10+5 minutes
G792P628	PAROD	10+5 minutes
B466-N636 – G792P628	SERKA PAROD	10+5 minutes 10+5 minutes

e)d) _____ The additional buffer time will be applied within the system to ensure flexibility as well as efficient and safe flow of traffic operating through the Kabul FIR;

f)e) In order to ensure availability of slots for westbound departures from designated airports in northern India and Pakistan, departures from these airports are given priority for FL280 in the slot allocation. This does not preclude these flights from requesting higher flight levels with initial slot request.

g)f) Conversely, departures from other airports with longer flight times are given priority for FL310-FL390 in the slot allocation. This does not preclude these flights from requesting FL280 with initial slot request.

h)g) _____ Allocated Wheel-Up Time (AWUT) assigned by BOBCAT is based on information derived from the airline operators and ANSPs' input. This time should be based on Estimated Time of Departure (ETD), individual aerodromes' Standard Taxi Time (STT) provided by ANSPs, and any additional time that aircraft operator considers necessary (Additional Taxi Time - ATT) as well as the Estimated Elapsed Time (EET) to the Kabul FIR boundary;

i)h) The BOBCAT system utilizes time based calculations as the core of the system. Inaccuracies in airline operator submitted EET will immediately result in calculation errors, and non compliance with AWUT and Kabul slot times will have immediate negative impact on slots allocated to same and other flights.

j)i) Aircraft sequencing at the departure airport according to AWUT order will be managed by the ANSP concerned;

k)j) ANSP should endeavor to assist aircraft operators in order for them to meet the required AWUT;

l)k) Airline operators should submit ATS flight plan based on BOBCAT slot allocation for entry into Kabul FIR;

m)l) _____ It is the airline operators' responsibility to arrange taxi and en route flight profile to arrive over the Kabul FIR entry waypoint as allocated by BOBCAT;

n)m) _____ It is an ANSP responsibility to tactically manage aircraft entry into the Kabul FIR in accordance with the assigned route and flight level;

Bangkok Air Traffic Flow Management Unit

2.3 Bangkok Air Traffic Flow Management Unit (Bangkok ATFMU), located in Bangkok ACC, has responsibility to manage the BOBCAT system on behalf of

ANSPs and aircraft operators concerned. The Bangkok ATFMU is operational H24 to manage slot allocation for westbound flights entering the Kabul FIR between 2000UTC and 2359UTC daily.

Area of Operation

2.4 All Westbound flights intending to transit the Kabul FIR on ATS routes ~~A466~~, L750, N644 between FL280 to FL390 inclusive as well as ~~G796-A466~~, ~~B466N636~~, ~~G792-P628~~ between FL310 to FL390 inclusive between 2000UTC and 2359UTC daily shall participate in the ATFM procedures. These flights are required to obtain slot allocation from the BOBCAT system.

ANSP and aircraft operators system requirement

2.5 Aircraft Operators and ANSPs are required to have computer equipment capable of connecting to the BOBCAT website <https://www.bobcat.aero> via the Internet satisfying the following minimum requirements:

- a) A Personal Computer of any operating system with the following characteristics;
 - ii) Processor: minimum CPU clock speed of 150 MHz
 - iii) Operating System: Any that operates one of the following web browsers (i.e. Windows 2000/XP, Linux, Unix, or Mac OS)
 - iv) RAM: 64 MB or larger (depending on operating system),
 - v) Hard disk Space: minimum of 500 MB or larger (depending on operating system)
 - vi) Monitor Display Resolution: Minimum of 800 x 600 pixels
 - vii) Web Browser: Internet Explorer 5.5 or newer,
- b) Internet Connection: 56 Kbps Modem or faster Internet connection.
- c) Printer if required (e.g. printing out information for distribution to concerned persons).

BOBCAT Operating Procedures

2.6 Westbound transit flights intending to enter the Kabul FIR on ATS routes ~~A466~~, L750, N644 between FL280 to FL390 inclusive and ~~G796-A466~~, ~~B466N636~~, ~~G792-P628~~ between FL310 to FL390 inclusive between 2000UTC and 2359UTC daily shall participate in ATFM procedure.

Application of System Spacing

2.7 BOBCAT is designed to arrange 10-minute spacing plus a buffer time for entry into the Kabul FIR.

Wheels-Up Time

2.8 Wheels Up Time (WUT) will be calculated based on information submitted by airline operators using an aircraft's ETD + ANSP-provided STT for specific departure aerodrome + Additional Time if required by the operator. It is defined as:

WUT = ETD + STT + Additional Time required by the operator

Allocated Wheels-Up Time

2.9 Allocated Wheels-Up Time (AWUT) is the adjusted WUT calculated by BOBCAT and issued to an aircraft based on submitted entry time into Kabul FIR.

Slot Allocation Process

2.10 The slot allocation process is divided into 3 phases, namely the Slot request, initial Slot allocation and finally Slot distribution to airline operators and ANSPs. All operators concerned are required to submit slot requests to the BOBCAT system by logging onto <https://www.bobcat.aero> and completing the electronic templates provided.

Slot Request Procedures

2.11 Slot requests including preferred ATS route, flight level and Maximum Acceptable Delay (MAD) should be lodged by the cut-off time of 1200 UTC. Submitted slot requests may be amended at any time up until 1200UTC. To enhance opportunities for preferred slot allocation, airline dispatchers are encouraged to submit additional options in case their first choice is not available. This may include alternative route, flight level and changes to MAD.

2.12 As BOBCAT will allocate FL280 on a priority basis to facilitate departures from northern India and Pakistan underneath over-flying traffic, dispatchers are encouraged to include FL280 in at least one slot request for departures from these airports. This should not discourage airline dispatchers who are requesting a slot from other airports to also submit FL280 as one of their requests, especially during the busiest period of 2100 – 2300UTC.

2.13 Flights that were not allocated a slot although a slot request was submitted prior to the cut-off time (1200UTC) or flights that did not submit slot request by the cut-off time, will have the opportunity to select a slot from the unallocated slots after the slot distribution has been completed.

Slot Allocation Procedures

2.14 Slot allocation shall take place after the cut-off time at 1200UTC. BOBCAT will process and generate the slot allocation based on the information submitted in the slot request, and notify the results not later than 1230UTC via e-mail and the BOBCAT website to concerned parties.

2.15 Flights that plan to enter the Kabul FIR without an AWUT and entry slot (comprising flight level, ATS route and entry fix name) will be accommodated only after flights with slots have been processed. Such flights should expect delayed pushback and start clearances, non-preferred routes and/or flight levels, en route holding and/or diversion around the Kabul FIR.

2.16 The Bangkok ATFMU will be staffed H24, during which time aircraft operators can:

- a) View the slot allocation result for flight planning purposes;
- b) Cancel the assigned slot; and/or,
- c) Request a change of slot allocation to another available slot in the published list.

2.17 ANSPs can view the slot allocation results at <https://www.bobcat.aero/>.

2.18 Slot allocation page on the BOBCAT system is dynamic and refreshes every 3 minutes. The slot allocation page show changes in slot allocation results with a blinking yellow light, which can be cleared by acknowledging changes in slot allocation.

2.19 Once aircraft operators are in receipt of their slot allocation, they shall submit their ATS flight plan using the time, route and level parameters of the allocated slot. In addition to normal addressees, operators shall also address the flight plan and related ATS messages (e.g. DEP, DLA, CNL, CHG) to the Bangkok ATFMU via AFTN address VTBBZDZX.

Vacant Slot Selection After Cut-off Time

2.20 Airline operators have the ability to log into BOBCAT website at <https://www.bobcat.aero/> to select a slot allocation from vacant slots shown on the appropriate BOBCAT page. The procedure of selecting slot after cut-off time is listed in the "Documents" section of the website.

Cancellation or Change of Slot Allocation

2.21 Airline operators are able to log into BOBCAT website at <https://www.bobcat.aero/> to change or cancel slot allocation. The procedure of cancelling and modifying slot allocation is posted in the "Documents" section of the website.

Viewing Available Slots

2.22 Airline operators are able to log into BOBCAT website at <https://www.bobcat.aero/> to view available slot. The procedure for viewing available vacant slots is posted in the "Documents" section of the website.

Missing the Allocated Wheels-Up Time

2.23 In circumstances where it becomes obvious that the AWUT will not be met, a new slot allocation should be obtained by the most expeditious means (e.g. via coordination between flight dispatcher/ANSPs and ATFMU).

2.24 A missed slot results in dramatically increased coordination workload for ATC and PIC and should be avoided. To minimize coordination workload in obtaining a revised slot allocation, the following procedures are recommended:

- a) If the flight is still at the gate, coordination should take place via operators/flight dispatchers to ATFMU;
- b) If the flight has left the gate, coordination to ATFMU may also take place via the ATS unit presently communicating with the flight.

2.25 In reference to para 2.24 b), the following steps are recommended:

- a) PIC to inform ANSP of their revised estimate at the allocated Kabul entry waypoint
- b) ANSP will contact and inform the Bangkok ATFMU of the revised estimate.
- c) The Bangkok ATFMU will give two options to the ANSP for consideration by the PIC:
 - i) First option will be same route and the same requested flight level with the revised estimate for the Kabul entry waypoint or with delay to the revised estimate.
 - ii) Second option will be same route and a different flight level with the revised estimate for the Kabul entry waypoint or with delay to the revised estimate.
- d) PIC shall contact their dispatcher to obtain a new slot allocation from the Bangkok ATFMU if the two options are not acceptable to them.

Operations of Special Flights Exempted from ATFM

2.26 The following flights are exempted from ATFM procedures:

- a) Humanitarian or medical flights; or,
- b) State aircraft with Head of State onboard.

2.27 Flights exempted from ATFM shall indicate the exemption in their flight plan (Field 18 – STS-BOB ATFM EXMP).

2.28 ANSPs shall forward the flight plan information to the Bangkok ATFMU.

2.29 A flight that is affected by a special flight exempted from ATFM shall follow the same procedure as if the aircraft has missed the AWUT.

BOBCAT Username/Password Allocation and Security Policy

BOBCAT Username/Password Allocation

2.30 All concerned parties requiring access to BOBCAT are required to submit a written username/password request to Bangkok ATFMU, on the BOBCAT Username / Contact Information Modification Form included in **Appendix B**, signed by authorized personnel of the organization as well as the organization seal.

2.31 The username/password request should include the following information:

- a) User's Full Name;
- b) User's E-Mail address; and,
- c) User's proposed username.

2.32 When requesting a new username to participate in the BOBCAT system, the particular organization will note that the Bangkok ATFMU will add a unique suffix identifying the particular organization to the proposed username.

2.33 If a particular airline operator is using the services of another airline's dispatch office, that particular airline operator shall submit an official letter to the Bangkok ATFMU informing them that the other airline or dispatch organization has authority to submit slot request on their behalf. This formal letter shall be signed by an authorized person on the company's letterhead.

2.34 If there are any changes to users participating in BOBCAT, each participating organization is responsible to notify Bangkok ATFMU of the change so as to ensure access security for the system.

BOBCAT Security Policy

2.35 For the purpose of maintaining access security of BOBCAT, each user of the system is required to have a username/password, which should not be shared with others. Action taken under a username/password will be interpreted as action taken by the registered user.

2.36 To provide security for BOBCAT users, BOBCAT only stores the digest of the password to be verified against password provided by BOBCAT users. Each generated password will only be known to the BOBCAT user alone via e-mail.

2.37 Each BOBCAT user is responsible for maintaining a personal password only known by the user alone. It is also recommended that the password be regularly changed to protect against identity theft.

2.38 In the event of a lost BOBCAT username/password, the Bangkok ATFMU shall be contacted to request a password reset. The new password would then be sent to the registered user via e-mail. The user is responsible for changing the generated password into a new personal password.

2.39 To protect against identity theft issues, it is important that users log out of BOBCAT website once the task related to BOBCAT system is completed.

Use of the Contact Us page on the BOBCAT website

2.40 The Contact Us page is a facility whereby Airline Dispatchers and ANSPs may write a query to the Bangkok ATFMU or the BOBCAT Development Team regarding:

- a) Queries on BOBCAT procedures;
- b) Queries concerning past slot requests or slot allocations; and,
- c) General issues

2.41 Answers to any of these matters mentioned above are unlikely to be immediate. It will depend on the question and research required.

2.42 Therefore this communication channel should not be used for answers to immediate operational issues. The correct communication medium would be via telephone to the Bangkok ATFMU in the first instance, followed by Fax.

3. Bangkok ATFMU

Bangkok ATFMU Staffing and Hours of Operation

3.1 The Bangkok ATFMU will operate H24 daily in order to manage slot allocation for westbound flights entering the Kabul FIR from 2000UTC to 2359UTC, with contact details as follows:

- a) Telephone : +662 287 8024, +662 287 8025
- b) Tel/Fax: +662 287 8026
- c) Fax : +662 287 8027
- d) ATFN: VTBBZDZX
- e) E-mail: atfmu@bobcat.aero

Bangkok ATFMU Functions and Responsibilities

3.2 The Bangkok ATFMU has the following functions and responsibilities:

- a) Manage operation of BOBCAT system so as to ensure that accurate slot requests are submitted to the system, slot allocations are completed and processes after initial slot allocation are finished in a timely manner;
- b) Coordinate with airline operators and ANSPs involved in BOBCAT operations with respect to:
 - i. Requesting username/password into BOBCAT system;
 - ii. Submitting slot request;
 - iii. Obtaining slot allocation for aircraft missing wheels-up time.

4. Airline Dispatchers and Private Operators

4.1 Slot requests shall be for flight parameters that are able to be met by the flight. For example, flights requesting a slot at FL390 must be able to transit Kabul FIR at FL390. Flights subsequently unable to meet slot parameters (flight level, ATS route or entry fix time) should expect non-preferred routes and/or flight levels, en route holding and/or diversion around Kabul FIR.

Submitting a Slot Request to BOBCAT

4.2 Slot requests including preferred ATS route, flight level and Maximum Acceptable Delay (MAD) should be lodged by the cut-off time of 1200 UTC. Submitted slot requests may be amended at any time up until 1200UTC. To enhance the opportunity for preferred slot allocation, airline dispatchers are encouraged to submit additional options in case their first request is not available. This may include alternative route, flight level and changes to MAD.

Use of Multiple Slot Request Options

4.3 Airline dispatchers should note that the more slot request options (routes and flight levels) submitted generally increases the potential for a flight to be allocated a slot based on the requests.

Use of Estimated Elapsed Time

4.4 BOBCAT calculates Estimated Time over Kabul FIR entry waypoint based on the Estimated Elapsed Time (EET) provided by airline operators from the Wheels-Up Time. Airline operators are reminded that BOBCAT slot allocation is only as accurate as the EET provided.

Use of Standard Buffer Time

4.5 A standard buffer time of 5 minutes will be applied for entry into Kabul FIR. For example, aircraft allocated slot into Kabul FIR at 2100UTC can arrive at the waypoint up to 2105UTC.

Use of Standard Taxi Time and Additional Time Required

4.6 A Standard Taxi Time suggested by ANSPs at the departing airport will be used to calculate the Wheels-Up Time of an aircraft. If additional time is required by an aircraft operator, this would also be added into the WUT calculations as Additional Taxi Time.

Calculation of Wheels-up Time (WUT)

4.7 Wheels-Up Time will be automatically calculated by BOBCAT user interface based on the following equation:

$$\text{WUT} = \text{ETD} + \text{STT} + \text{Additional Time Required by Operator}$$

Procedures if No Slot Allocated or Missing Cut-off Time

4.8 Flights that were not allocated a slot although a slot request was submitted prior to the cut-off time (1200UTC) and flights which did not submit slot request by the cut-off time, will have the opportunity to select a slot from the unallocated slots after the slot distribution has been completed. The procedures for such operations are posted in BOBCAT Website under the “Documents” section.

Use of Slot Request Templates (SRT) and Past Slot Request (PSR)

4.9 Airline operators have the opportunity to save a slot request into a slot request template (SRT) with a name of their choice. This slot request template can be used to submit a slot request for a flight of a later date, or a slot request of a similar flight on the same date.

4.10 Furthermore, airline operators have the facility to view slot requests submitted on previous days and use a Past Slot Request as template for the current day’s operation.

Use of Slot Request History (SRH) and Slot Allocation History (SAH)

4.11 Airline operators have the ability to view Slot Request History (SRH) and Slot Allocation History (SAH) of their aircraft, tracking all changes to slot requests and slot allocations from 28 August 2008. Procedures for using the Slot Request History and Slot Allocation History pages are posted in the BOBCAT Website under the “Documents” section.

4.12 Airline operators can utilize Slot Request History and Slot Allocation History, along with the ability to export details into Microsoft Excel format, to enhance management of BOBCAT slot request and slot allocation through progress tracking as well as further statistical analysis on information provided.

Use of Contingency Slot Request Templates (CSRTs)

4.13 In addition to reducing workload with respect to slot request submission, the Slot Request Template feature can also be useful where airline operators are unable to reach the BOBCAT website, e.g. the airline operators’ Internet connection is down. In this case, they should advise the Bangkok ATFMU of the problem, select the appropriate Contingency Slot Request Template (CSRT) forms which are shown in **Appendix C and D**, and transmit the information to the Bangkok ATFMU via fax.

4.14 Accordingly, airline operators are requested to store up-to-date Slot Request Templates corresponding to all scheduled flights in another location outside of the BOBCAT website.

5. Pilot in Command (PICs)

5.1 In accordance with ICAO PANS ATM provisions (Section 7.9), it is the responsibility of the Pilot in Command (PIC) and the operator to ensure that the aircraft is ready to taxi in time to meet any required departure time.

5.2 PIC shall be kept informed via their operators of the Allocated Wheels Up Time (AWUT), Kabul gateway entry time and flight parameters (route/level) nominated by BOBCAT.

5.3 In collaboration with airline operators, ANSPs shall ensure that every opportunity and assistance is granted to an aircraft to meet AWUT and allocated Kabul gateway entry time and flight level.

5.4 The PIC shall include the AWUT in the ATC clearance request.

5.5 The PIC shall arrange take-off as close as possible to the AWUT in order to meet the Kabul FIR slot time.

5.6 PIC shall adjust cruise flight to comply with accepted slot parameters at Kabul FIR entry fix, providing advice to ATC of speed and estimate variations in accordance with normal AIP requirements. The flight must also be physically capable of achieving the slot requested/allocated. For example, flights accepting a slot at FL390 must be able to transit Kabul FIR at FL390. Flights subsequently unable to meet slot parameters (flight level, ATS route or entry fix time) should expect non-preferred routes and/or flight levels, en route holding and/or diversion around Kabul FIR.

6. Air Navigation Service Providers (ANSPs)

General ANSP Roles and Responsibilities

- 6.1 AWUT shall be included as part of the ATC clearance.
- 6.2 When requested by the PIC prior to push back, ANSPs shall assist the PIC to coordinate for a new slot allocation with the Bangkok ATFMU in the event that the aircraft is unable to meet the AWUT.
- 6.3 ANSPs shall notify specific Standard Taxi Time (STT) for the individual departure airports and any subsequent changes, e.g. taxi way works, to the Bangkok ATFMU as guidance for airline operators in estimating WUT.
- 6.4 ANSPs shall notify Bangkok ATFMU of any change required in the spacing at a specific waypoint within their area of responsibility.
- 6.5 The Bangkok ATFMU (AFTN Address: VTBBZDZX) shall be included in the list of AFTN addressees for NOTAMs regarding any planned activities relevant to BOBCAT operations (e.g. reservation of airspace/closure of airspace, non-availability of routes, etc).
- 6.6 The Bangkok ATFMU (AFTN Address: VTBBZDZX) shall be included in the list of AFTN addressees for ATS messages (e.g. FPL, DLA, DEP, CHG, CNL) related to flights participating in the ATFM operational trial.

Control Tower/ACC Responsibilities – Departure Airport

Standard Push-back and Taxi Time

- 6.7 ADC/SMC at departure airports are responsible for providing Bangkok ATFMU with a representative time between the time an aircraft pushes back and the wheels-up time of the aircraft during the period of BOBCAT operation. This time is called Standard Taxi Time (STT)

Priority Take-off for Aircraft Subjected to ATFM

- 6.8 In accordance with ICAO PANS ATM procedures (Section 7.8), flights with slot allocation should be given priority for takeoff over other departures to facilitate compliance with AWUT.

Procedures for Aircraft Departing Outside AWUT Window

- 6.9 In circumstances where there are needs for aircraft to depart outside the AWUT window, departure ANSP could exercise discretion in allowing the aircraft to depart provided the PIC confirms that the aircraft can arrive at the Kabul FIR entry waypoint within the allocated slot time.

6.10 PIC shall adjust cruise flight to comply with slot parameters at the Kabul FIR entry fix, requesting appropriate ATC clearances including speed variations in accordance with published AIP requirements.

6.11 Prior to departure, in circumstances where it becomes obvious that the Kabul slot time will not be met, a new slot allocation should be obtained as soon as possible and via the most expeditious means (e.g. via coordination between flight dispatcher, PIC, ANSPs and Bangkok ATFMU). Early advice that the Kabul slot time will be missed also enables the slots so vacated to be efficiently reassigned to other flights.

6.12 The PIC has the choice of the following:

- a) Choosing from alternates provided by ANSPs in co-ordination with Bangkok ATFMU, or;
- b) Contacting the airline operator's dispatch office to lodge a new slot allocation.

ACC Responsibilities – En Route

Coordination with Pilot In Command (PIC)

6.13 En Route ACCs should manage the transit of aircraft with BOBCAT slot allocation so that these aircraft would be in a position to achieve their slot allocation into the Kabul FIR.

Coordination between En Route ACCs

6.14 In circumstances where it becomes obvious that the allocated slot into Kabul FIR cannot be met, the en route ACC first becoming aware would:

- a) Advise the PIC of the situation; and
- b) Manage the traffic tactically

6.15 In these circumstances, the appropriate en route ACC should file ATFM System Fault and Event Report Form in **Appendix E** and submit to Bangkok ATFMU by fax or e-mail.

AIS Responsibilities – Departure Airports

Coordination with Airline Operators and the Bangkok ATFMU

6.16 The AIS office is responsible for coordinating with Bangkok ATFMU to assist in obtaining a slot allocation for airline operators who do not have access to the BOBCAT website.

6.17 The AIS office shall ensure that an airline operator proposing to submit a flight plan for a flight entering the Kabul FIR during the period of ATFM metering has a slot allocation.

6.18 The AIS office shall provide a BOBCAT Slot Request form to the airline operator who proposes to enter the Kabul FIR during the hours of BOBCAT operations. Once completed, this form shall be submitted by the AIS office on behalf of the airline operator to the Bangkok ATFMU for processing. The slot request form is shown at **Appendix F**.

6.19 In the case of an AIS office that has access to the BOBCAT website, the aircraft's slot allocation result may be viewed and used by the airline operator to complete his ATS flight plan.

6.20 With regard to an AIS office which is unable to access the BOBCAT website, the Bangkok ATFMU shall transmit the aircraft's slot allocation result to the AIS office by fax or other means. This information shall then be relayed to the airline operator, who shall submit a flight plan based on the information provided in the slot allocation.

6.21 The AIS office shall also ensure that, when the flight plan is finally completed by the airline operator, it is based on the BOBCAT slot allocation with reference to the Estimated Elapsed Time (EET) from departure airport to the Kabul FIR entry point as well as the ATS Route and Flight Level entering the Kabul FIR before transmission by AFTN.

6.22 In the circumstances that the airline operator submits slot request prior to the cutoff time, the following steps should be undertaken by the airline operators:

- a) The airline operator shall contact the AIS office to obtain the result of his slot allocation request. If satisfied, submit a flight plan using the slot allocation result; or,
- b) Otherwise, request a new slot allocation through the AIS office.

6.23 The Bangkok ATFMU (AFTN Address: VTBBZDZX) shall be included in the list of AFTN addressees for ATS messages (e.g. FPL, DLA, DEP, CHG and CNL) related to affected flights.

7. Contingency Arrangements

Airspace Contingencies

7.1 In the event of closure of ATS routes, flight levels or other airspace that occurs prior to the cut off time for BOBCAT slot allocation and which may affect BOBCAT operations, Bangkok ATFMU should be notified as soon as possible by the ACC concerned. In turn, Bangkok ATFMU will pass on this information to airline dispatchers to re-file slot request on routes or flight levels which are not affected. Other ANSPs will also be advised by Bangkok ATFMU of this situation.

7.2 In circumstance where closure of ATS routes or airspace as referred to in paragraph 6.1 above occurs after the slot allocation cutoff time, the following procedures are applicable:

- a) If aircraft are already airborne, ANSPs, in coordination with the Bangkok ATFMU, shall tactically manage these flights based on spare slot allocations en route as well as obtaining slots for them through the Kabul FIR in coordination with PIC to avoid diversions; or,
- b) If aircraft have not yet departed, new slot allocations shall be coordinated between Bangkok ATFMU and dispatchers for flights that would be affected by the closure.

7.3 Extreme weather conditions, e.g. cyclonic conditions, affecting international airspace may cause en-route diversion or cause airlines not to plan on routes affected by the extreme weather conditions. In this situation, ANSPs may also elect to increase longitudinal spacing between affected aircraft.

7.4 In the event of extreme weather conditions affecting ATFM operations, ANSPs would need to tactically manage these flights, including diversions. In doing so, coordination with Bangkok ATFMU should be considered if it will affect aircraft which are not yet airborne.

7.5 In the case of flights which have not yet departed, dispatchers should re-file on alternative routings wherever possible.

Reduction in Airspace Capacity due to Other Reasons

7.6 In circumstances where an ANSP is required to increase the longitudinal spacing between aircraft, e.g. sudden loss of staff, degradation in facilities, etc., the ANSP affected should take NOTAM action regarding the event as well as contacting Bangkok ATFMU with details and the resultant effect on BOBCAT operations. Bangkok ATFMU would coordinate with all concerned advising them of any changes which would affect BOBCAT operation.

7.7 ANSP responsible for areas affected by any contingency for an area or areas which may affect normal BOBCAT operations shall notify Bangkok ATFMU of the contingency and possible consequences to aircraft as soon as possible, so appropriate action and coordination can be undertaken.

Communication Issues

7.8 In the event that an airline operator or an ANSP is unable to access the BOBCAT website, the following means of communication with Bangkok ATFMU shall be used:

- a) Telephone : +662 287 8024, +662 287 8025
- b) Tel/Fax: +662 287 8026
- c) Fax : +662 287 8027
- d) ATFN: VTBBZDZX

7.9 In the event that an ACC is unable to log onto the BOBCAT website, the Bangkok ATFMU, on being advised, will send a copy of the slot allocation results to the affected ACC ensuring that:

- a) For departure airports, AWUTs are sorted the correct order;
- b) For en-route ACCs, appropriate Kabul entry waypoint(s) are selected and aircraft allocations are sorted in the correct order of ETO with Flight Level;

Complete Failure of BOBCAT System

7.10 In the event of a complete failure of the BOBCAT system, Bangkok ATFMU shall notify all parties concerned and advise that ATFM procedures are suspended. In this event, procedures will be applied by States concerned in accordance with bi-lateral agreements and as applied outside the ATFM hours of operation.

Non-Completion of Flight

7.11 In circumstances where an aircraft aborts his flight en route and either diverts or returns for various reasons, this information should be transmitted to Bangkok ATFMU so that his original slot allocation for entry into the Kabul FIR can be cancelled and made available for use by other aircraft.

8. System Fault and Event Report

8.1 An ATFM system fault is defined as a significant occurrence affecting an ATS unit, an aircraft operator or ATFMU resulting from the application of ATFM procedures.

8.2 Aircraft operators and ATC units experiencing an ATFM system fault should complete an ATFM System Fault and Event Report Form from the ATFM Users Handbook (see **Appendix E**) and forward it to the ATFMU at the address indicated on the form. The ATFMU will analyze all reports, make recommendations/suggestions as appropriate and provide feedback to the parties concerned to enable remedial action.



ATFM USERS HANDBOOK REQUEST FOR CHANGE FORM

To be submitted to Bangkok ATFMU

SECTION I: NATURE OF CHANGE

1. Subject: _____

2. Reason of Change: _____

3. Description: _____

4. References: _____

Reference sections/paragraphs related to the change as well related documents.

SECTION II: INFORMATION OF PARTY INITIATING CHANGE

Organization: _____

Full Name: _____

Tel: _____ Date of Request: _____

E-Mail: _____ Signature: _____

SECTION III: CONSULTATION

Response due date: _____

Organization / Administration	Contact Person Name	Agreement (Agree/Disagree)	Date

SECTION IV: FEEDBACK

Action(s) Required: _____

Feedback Passed: _____ Editor: _____

RFC Number: _____ Date Received: _____



USERNAME / CONTACT INFORMATION MODIFICATION FORM

To be submitted to Bangkok ATFMU

SECTION I: ADD NEW USERS

Prefix	First Name	Last Name	Proposed Username Up to 20 characters	E-Mail Address

SECTION II: REMOVE USERS

Prefix	First Name	Last Name	Username	E-Mail Address

SECTION III: RESET PASSWORD

Prefix	First Name	Last Name	Username

SECTION IV: NOTIFICATION E-MAIL ADDRESS

Change our organization's notification e-mail address to _____

SECTION V: CONTACT INFORMATION

Organization: _____

Full Name: _____

Tel: _____

Signature: _____

E-Mail: _____

Date/Time of Request: _____



CONTINGENCY SLOT REQUEST TEMPLATE FORM A

To be submitted to Bangkok ATFMU

SECTION I: AIRCRAFT DETAIL

Call Sign: _____

Registration: _____

Departure Aerodrome: _____

Departure Date: _____

Destination Aerodrome: _____

ETD (hhmm): _____

Aircraft Type: _____

Estimated Taxiing Time (minutes): _____

Estimated time between taxi and wheels up

SECTION II: ROUTE/FLIGHT LEVEL OPTIONS

Option No. 1, 2, 3, ...	ETD (UTC) Hhmm	MAD (Maximum Acceptable Delay) Minute(s)	WP1 LAJAK	EET1 hhmm	FL1 390	WP2 PAROD	EET2 hhmm	FL2 390
			LAJAK		390			
			LAJAK		350			
			LAJAK		310			
			PAVLO		390			
			PAVLO		350			
			PAVLO		310			
			PAVLO		280			
			ROSIE		390			
			ROSIE		350			
			ROSIE		310			
			ROSIE		280			
			PAROD		390			
			PAROD		350			
			PAROD		310			
			SERKA		390	PAROD		390
			SERKA		350	PAROD		350
			SERKA		310	PAROD		310

SECTION III: CONTACT INFORMATION

Organization: _____

Full Name: _____

Tel: _____

Signature: _____

E-Mail: _____

Date/Time of Request: _____



Bangkok Air Traffic Flow Management Unit (Bangkok ATFMU)

Tel: +66-2-287-8024

+66-2-287-8025

Tel/Fax: +66-2-287-8026

Fax: +66-2-287-8027

E-Mail: atfmu@bobcat.aero

AFTN: VTBBZDZX

CONTINGENCY SLOT REQUEST TEMPLATE FORM B

To be submitted to Bangkok ATFMU based on previously saved Slot Request Template

SECTION I: AIRCRAFT DETAIL

Call Sign: _____

Registration: _____

Departure Aerodrome: _____

Departure Date: _____

Destination Aerodrome: _____

ETD (hhmm): _____

Aircraft Type: _____

Estimated Taxiing Time (minutes): _____

Estimated time between taxi and wheels up

SECTION II: ROUTE/FLIGHT LEVEL OPTIONS

1. Slot Request Template Name: _____
Name of Slot Request Template which will be used to submit slot request

2. Changes from Slot Request Template Detail:

SECTION III: CONTACT INFORMATION

Organization: _____

Full Name: _____

Tel: _____

Signature: _____

E-Mail: _____

Date/Time of Request: _____



ATFM SYSTEM FAULT AND EVENT REPORT FORM

To be submitted to Bangkok ATFMU

SECTION I – GENERAL INFORMATION

1. Date and Time (UTC) of Occurrence / / / /
yy / mm / dd / hh / mm
2. Type of Event
 - 2.1 Failure of BOBCAT system
 - 2.2 Communication Link failure
 - 2.3 Non compliance with ATFM procedures by Pilot / Airline Operator / ANSP
 - 2.4 Error in FPL and associated messages
 - 2.5 Failure in ATFM Slot Monitoring (i.e. TWR at Aerodrome of Departure)
 - 2.6 Non compliance with slot allocation window
3. Restrictions applicable to the flight: _____

SECTION II – DETAILED INFORMATION

1. Organization / Administration submitting the report: _____
2. Flight Data (if applicable) – Call Sign: _____

Attach copies of Flight Progress Strips indicating DEP, EOBT, WUT, DES or Entry Point & ETO over entry point, FL to ATC Unit/Sector area of activity as applicable.
3. Other details necessary for analysis of the incident
Attach copies of FPL or RPL, subsequent ATS modifying messages etc. if appropriate

SECTION III – SUPPLEMENTARY INFORMATION

1. Actions already initiated: _____

2. Contact information follow-up action:
 - 2.1 Name: _____
 - 2.2 Designation: _____
 - 2.3 Tel: _____
 - 2.4 E-Mail: _____
3. Signature: _____
4. Date/Time of Report: _____



SLOT REQUEST FORM

To be submitted to Bangkok ATFMU

SECTION I: AIRCRAFT DETAIL

Call Sign: _____

Registration: _____

Departure Aerodrome: _____

Departure Date: _____

Destination Aerodrome: _____

ETD (hhmm): _____

Aircraft Type: _____

Estimated Taxiing Time (minutes): _____

Estimated time between taxi and wheels up

SECTION II: ROUTE/FLIGHT LEVEL OPTIONS

Option No. 1, 2, 3, ...	ETD (UTC) Hhmm	MAD (Maximum Acceptable Delay) Minute(s)	WP1 LAJAK	EET1 hhmm	FL1 390	WP2 PAROD	EET2 hhmm	FL2 390
			LAJAK		390			
			LAJAK		350			
			LAJAK		310			
			PAVLO		390			
			PAVLO		350			
			PAVLO		310			
			PAVLO		280			
			ROSIE		390			
			ROSIE		350			
			ROSIE		310			
			ROSIE		280			
			PAROD		390			
			PAROD		350			
			PAROD		310			
			SERKA		390	PAROD		390
			SERKA		350	PAROD		350
			SERKA		310	PAROD		310

SECTION III: CONTACT INFORMATION

Organization: _____

Full Name: _____

Tel: _____

Signature: _____

E-Mail: _____

Date/Time of Request: _____



Bangkok Air Traffic Flow Management Unit (Bangkok ATFMU)

Tel: +66-2-287-8024

+66-2-287-8025

Tel/Fax: +66-2-287-8026

Fax: +66-2-287-8027

E-Mail: atfmu@bobcat.aero

AFTN: VTBBZDZX

ORGANIZATIONAL CONTACT INFORMATION FORM

To be submitted to Bangkok ATFMU

ORGANIZATION CONTACT INFORMATION

Organization Name: _____

Organizational Unit Name: _____

Address: _____

Tel: _____

AFTN: _____

Fax: _____

E-Mail: _____

Name: _____

Title: _____

Signature: _____

Date of Submission: _____