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## ENR 1.9 AIR TRAFFIC FLOW MANAGEMENT (ATFM)

### 1 FLOW MANAGEMENT IS USED TO REGULATE TRAFFIC FOR:

- a) Arrivals into Kuala Lumpur International Airport (KLIA);
- b) Arrivals into Sultan Abdul Aziz Shah (SAAS) Airport; and
- c) Aircraft transiting into Kuala Lumpur FIR and departures from airports within Peninsular Malaysia flight planned over the Bay of Bengal.

### 2 AIR TRAFFIC CONTROL PROCEDURES FOR ARRIVALS INTO KLIA AND SAAS AIRPORT

2.1 A flow management unit is established at the Kuala Lumpur ATSC at Subang. The unit is responsible for planning the traffic flow to achieve optimum use of the available airspace and runway capacity at the airport(s). Generally, arriving aircraft are sequenced in landing order and any significant delay absorbed before the aircraft enter TMA airspace.

2.2 Flow control sequencing action may include:

- a) Speed control. This may require aircraft to maintain as high a speed as possible or reduce speed, consistent with aircraft performance profiles;
- b) Radar vectoring. This may involve track shortening or lengthening through radar vectoring by ATC;
- c) Holding. Aircraft may expect to be held at an outer holding pattern when necessary.

2.3 Pilots of aircraft subject to holding action by ATC, will be provided with a time to leave the holding pattern.

2.4 When runway or airspace congestion is expected or occurs, traffic may be regulated by the imposition of slot times for departures and/or arrivals. Slot times are only applied to aircraft departing from airports within the Kuala Lumpur FIR for either Subang - Sultan Abdul Aziz Shah Airport or for KL International Airport.

2.4.1 When slot times are to be applied, pilots will be informed by ATC at the departure aerodrome, prior to start up clearance, that traffic delays can be expected at Subang - Sultan Abdul Aziz Shah Airport or KL International Airport and will be offered a slot time for departure.

2.4.2 The slot time will be based on a flow management planned Expected Landing Time (ELT) for Subang - Sultan Abdul Aziz Shah Airport or KL International Airport, as applicable.

2.4.3 When a slot time is provided, it is a joint pilot/ATC responsibility to ensure that the aircraft is able to depart within (a parameter) minutes of the slot time in order to make good the ELT at Subang - Sultan Abdul Aziz Shah Airport or KL International Airport.

2.4.4 Once a slot time has been applied, under normal circumstances there should be no holding; however, there may be a need for limited application of speed control.

### 2.5 SPEED CONTROL (Arriving Aircraft)

2.5.1 Speed control is used to reduce the need for radar vectoring in the establishment of an approach sequence.

2.5.2 ATC may instruct aircraft to adjust their speed in accordance with the table in ENR 1.6. All speeds are minimum IAS.

2.5.3 Above FL 240 speed control will be based on Ground Speed or Mach No.

2.5.4 A pilot will be advised to resume desired speed when a specific speed control instructions is no longer necessary.

2.5.5 Unless otherwise stated, a speed control instruction applies until the aircraft reaches the point in the descent profile where the speed would normally be reduced below that assigned by ATC.

2.5.6 Unless otherwise specified, a clearance for final approach or a clearance for a visual approach terminates speed control.

2.5.7 Pilots may request an alternative sequencing action when the speed control instruction is unacceptable on operational grounds.

**Note:** For flights destined for KL International Airport, please refer to WMKK AD 2 - 15.

## 2.5.8 Phraseologies

2.5.8.1 The following phrases may be used to issue speed restrictions for flow control purposes.

- a) Descend at.....Knots
- b) Cruise and descend at.....Knots
- c) Cruise at.....Mach Number/Ground Speed
- d) Reduce speed to/by.....Knots
- e) Increase speed to/by.....Knots
- f) Maintain ....Knots [as long as possible]  
[until ...miles finals]  
[for the next....miles]
- g) Resume normal speed
- h) If acceptable, reduce speed to/by ....Knots/Mach Number, advise
- i) Cross (significant point) at (time) [at (speed)]

## 3 ATFM FOR TRANSITING AIRCRAFT AND DEPARTURES FLIGHT PLANNED ON ATS ROUTES OVER BAY OF BENGAL

### 3.1 Introduction

3.1.1 The States of the ICAO Asia/Pacific Region within the Bay of Bengal, South Asia and Pakistan airspace have implemented an automated Air Traffic Flow Management (ATFM) service under the auspices of the ICAO Bay of Bengal ATS Coordination Group – ATFM Task Force.

### 3.2 Provision of ATFM Services

3.2.1 ATFM services are provided by Aeronautical Radio of Thailand LTD (AEROTHAI) from the Bangkok Air Traffic Flow Management Unit (ATFMU) at Bangkok ACC. ATFM services will be limited to calculation, promulgation and management of mandatory Allocated Wheels Up Time (AWUT) and Kabul FIR flight level, ATS route and entry fix time for each affected flight.

3.2.2 Air Navigation Services Providers (ANSPs) retain responsibility for the tactical management of flights that are subject to ATFM. In discharging tactical responsibilities, ANSPs will manage non-ATFM compliant flights using delayed pushback and start clearances, non-preferred routes and/or flight levels, enroute holding and/or diversion around Kabul FIR.

3.2.3 The ATFMU utilises the automated, web based Bay of Bengal Cooperative ATFM System (BOBCAT) system in meeting its ATFM responsibilities. These responsibilities will be managed in coordination with aircraft operators and ANSPs in the FIRs concerned.

3.2.4 The ATFMU operates on a 24 hour basis and is responsible for westbound flights entering the Kabul FIR at specified times, flight levels and ATS routes in accordance with paragraph 3.3. The objectives of these ATFM services are to:

- a) Reduce ground and en-route delays;
- b) Maximise capacity and optimize the flow of air traffic within the area;
- c) Provide an informed choice of routing and flight level selection;
- d) Alleviate unplanned in flight re-routing and technical stops; and
- e) Assist regional ANSPs in planning for and managing future workload in the light of forecast increased traffic flows within the area.

### 3.3 ATFM affected ATS routes, flight levels and applicable hours

3.3.1 All westbound flights intending to enter the Kabul FIR between 2000UTC and 2359UTC daily on ATS routes A466, L750, N644 from FL280 to FL390 inclusive and G792/V390 and B466 between SERKA and PAROD from FL310 to FL390 inclusive shall comply with the ATFM procedures. This includes a mandatory requirement for all flights to obtain a specific ATFM slot allocation from the ATFMU (including AWUT) for entry into the Kabul FIR during the period mentioned above.

Note: There are no ATFM requirements or flight planning restrictions for flights via N571/N877 entering Kabul FIR at SERKA then UL333 to SOKAM. However, to avoid conflicts with flights that are subjected to ATFM procedures, flights shall not flight plan via N571/N877 to enter Kabul FIR at SERKA then B466 to PAROD.

3.3.2 Flights who plan to enter Kabul FIR without an AWUT and entry slot (comprising flight level, ATS route and entry fix time) 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, enroute holding and/or diversion around Kabul FIR.

- 3.3.3 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.

### 3.4 Flights Exempted from BOBCAT ATFM

- 3.4.1 The following flights are exempted from the ATFM procedures:

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

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

- 3.4.3 KLIA AIS shall forward the flight plan information to the ATFMU at AFTN address VTBBZDZX.

### 3.5 Mandatory AWUT and Kabul FIR Slot allocation

- 3.5.1 Affected flights shall obtain the mandatory AWUT, Kabul FIR entry time, flight level and ATS route from the BOBCAT system. The AWUT and Kabul slot allocation will enable ANSPs to tactically control westbound flights transiting the Kabul FIR at specified times by assigning minimum spacing requirements at established gateway fix points in the vicinity of the eastern boundary of the Kabul FIR.

- 3.5.2 The application, calculation and distribution of AWUT and Kabul FIR entry fix slot allocations will be managed via internet access to the BOBCAT system in accordance with the ATFM operating procedures in paragraph 3.6

### 3.6 BOBCAT-Operating Procedures

- 3.6.1 All affected flights are required to submit slot requests to the BOBCAT system by logging onto <https://www.bobcat.aero> between 0001 and 1200UTC on day of flight and completing the electronic templates provided.

- 3.6.2 Affected operators who do not have dedicated BOBCAT username/password access should complete the application form provided and fax it to the ATFMU as soon as possible.

#### 3.6.3 Slot Allocation Process

- 3.6.3.1 The slot allocation process is divided into 3 phases, namely the slot request submission, initial slot allocation and finally slot distribution to aircraft operators and ANSPs.

##### Slot Request Submission

- 3.6.3.2 Slot requests including preferred ATS route, flight level and Maximum Acceptable Delay (MAD) should be lodged between 0001 UTC and 1200 UTC on the day of flight. Slot requests may subsequently be amended prior to 1200 UTC, which is the cut-off time. Aircraft operators are encouraged to submit additional slot request options in case their first choice is not available. This may include variations to ATS route, flight level and MAD.

- 3.6.3.3 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, enroute holding and/or diversion around Kabul FIR.

- 3.6.3.4 As BOBCAT will allocate FL280 on a priority basis to facilitate departures from northern India and Pakistan underneath over-flying traffic, flights departing these airports are encouraged to include FL280 as at least one slot request preference.

- 3.6.3.5 Flights that were not allocated a slot in the initial slot allocation, are not satisfied with the allocated slot or did not submit a slot request should select slots from the listing of remaining unallocated slots available immediately after slot distribution has been completed.

##### Slot Allocation and Distribution

- 3.6.3.6 Slot allocation will commence at the cut-off time at 1200UTC. BOBCAT will process and generate the slot allocation based on the information submitted in the slot requests. Notification of slot allocation will be made not later than 1230UTC via the ATFMU website. Alternative arrangements for notification of slot distribution (e.g. e-mail, fax, telephone) should be coordinated with the ATFMU.

3.6.3.7 After the slot allocation has been published at <https://www.bobcat.aero>, aircraft operators can:

- a) Use the slot allocation result for ATS flight planning purposes,
- b) Cancel the allocated slot and/or,
- c) Change slot allocation to another available slot in the published list of unallocated slots.

3.6.3.8 Kuala Lumpur ACC and KLIA TWR can also view the slot allocation results at <https://www.bobcat.aero>.

### 3.6.4 Submission of ATS Flight Plan

3.6.4.1 Once aircraft operators are in receipt of the slot allocation, they shall submit the ATS flight plan using the time, ATS route and flight level parameters of the BOBCAT allocated slot.

3.6.4.2 In addition to normal AFTN addressees, operators should also address flight plan (FPL) and related ATS messages (e.g. DLA, CNL, CHG) to the ATFMU via AFTN address VTBBZDZX for all flights that have submitted a slot request.

## 3.7 Aircraft Operator/Pilot in Command and ANSP Responsibilities

### Aircraft Operator/Pilot in Command

3.7.1 In accordance with ICAO PANS ATM provisions, it is the responsibility of the Pilot in Command (PIC) and the aircraft operator to ensure that the aircraft is ready to taxi in time to meet any required departure time. PIC shall be kept informed by their operators of the AWUT, Kabul FIR entry fix times and flight parameters (route/level) nominated by BOBCAT.

3.7.2 The PIC, in collaboration with ATC, shall arrange take-off as close as possible to the AWUT in order to meet the Kabul FIR slot time.

### ANSPs

3.7.3 In accordance with ICAO PANS ATM provisions, flights with an ATFM slot allocation should be given priority for take off to facilitate compliance with AWUT.

3.7.4 AWUT shall be included as part of the initial ATC clearance. In collaboration with PIC, Kuala Lumpur ACC and KLIA TWR shall ensure that every opportunity and assistance is granted to a flight to meet AWUT and allocated entry fix times at Kabul FIR.

## 3.8 Coordination between Aircraft Operator/Pilot in Command, ANSPs and Bangkok ATFMU

3.8.1 The PIC shall include the AWUT in the initial ATC clearance request.

3.8.2 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.

3.8.3 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, Kuala Lumpur ACC, KLIA TWR 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.

3.8.4 Prior to departure, in the event that the aircraft is unable to meet the Kabul slot time, when requested by the PIC after the aircraft has left the gate, Kuala Lumpur ACC or KLIA TWR shall assist the PIC to coordinate with the ATFMU for a revised slot allocation.

3.8.5 The ATFMU (VTBBZDZX) shall be included in the list of AFTN addressees for NOTAMs regarding any planned activities that may affect slot availability (e.g. reservation of airspace/ closure of airspace, non-availability of routes, etc).

3.8.6 The ATFMU (VTBBZDZX) shall be included in the list of AFTN addressees for ATS messages (e.g. FPL, DEP, DLA, CHG, CNL) relating to flights subject to ATFM procedures.

3.8.7 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.