



International Civil Aviation Organization

The combined Twelfth Meeting of the Asia/Pacific Air Traffic Flow Management Task Force (ATFM/TF/12) and Inter Regional Afghanistan Interface Meeting (IRAI)

Cairo, Egypt, 13 – 17 July 2008

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- Agenda Item 2: ATS route matters**
Agenda Item 3: RVSM implementation including transition areas
Agenda Item 4: Air Traffic Flow Management
Agenda Item 5: Operational issues including contingency management ATS route matters

FEEDBACK FROM THE ASIA/PACIFIC BBACG AND ATFM/TF

(Presented by the Secretariat)

SUMMARY

Arrangements put in place by the ICAO Asia/Pacific Regional Office to address civil aviation operational matters and support ATM implementations include the ongoing conduct of two working groups of direct relevance to the IRAI meeting:

- a) the Bay of Bengal ATS Coordination Group (BBACG), and
- b) a subsidiary body of the BBACG known as the Air Traffic Flow Management Task Force (ATFM/TF).

This paper introduces relevant material from the periodic BBACG and ATFM/TF meetings for review and discussion

1. INTRODUCTION

1.1 The most recent meeting of the BBACG, the Nineteenth Meeting of the Bay of Bengal ATS Coordination Group (BBACG/19), was held in late January 2008 at the ICAO Regional Office in Bangkok, Thailand. The Eleventh Meeting of the Air Traffic Flow Management Task Force (ATFM/TF/11) was held in late November, 2007 also at the Bangkok Regional Office.

1.2 The full meeting reports from both meetings are available on the ICAO Asia/Pacific Office website at <http://www.bangkok.icao.int/> under the “Meetings” menu.

2. DISCUSSION

2.1 Relevant extracts from BBACG/19 and recent ATFM/TF reports have been included as **Attachments A and B**, respectively, to this paper.

2.2 Additionally, although now somewhat out of date, some papers that were presented by Pakistan to a Small Working Group Special meeting of the ATFM/TF in March 2007 have been included as **Attachment C**. The Pakistan papers highlight some of the operational and infrastructure complexities that existed at that time.

3. **ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) Review the attached material from BBACG/19 and the ATFM/TF (Attachments A and B refer),
- b) Discuss the matters raised by BBACG/19 and ATFM/TF with the objective of identifying and implementing solutions, and
- c) review the archival information papers from Pakistan (Attachment C refers) with particular emphasis on addressing operational and communications infrastructure problems.

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Extracted from the report of BBACG/19 (January 2008)

3.10 BBACG/19 was informed of the many improvements that were evident as a result of the implementation of long range ATFM procedures during July 2007, including reduced ground and airborne delays, many less reroutes, increased numbers of flights achieving their BOCAT allocated flight level or one level higher for transit of Kabul FIR and significantly reduced numbers of flight being pushed down to FL280. The numbers of flights without slots had decreased markedly. ANSPs involved generally reported reduced ATC workload and increased flexibility. The situation in Kabul ACC was markedly improved leading to safer, more efficient and flexible traffic handling facilitating the rehabilitation of the Afghanistan civil aviation sector generally.

ATFM related ATS route issues in Pakistan Airspace

5.12 A Small Working Group was convened during the meeting to explore ways of solving several ATM issues within Pakistan airspace, especially during the ATFM period for westbound aircraft. The meeting was attended by representatives from ICAO, Pakistan, Thailand and IATA. Issues discussed are described below.

ATS Routing system from the Delhi/Lahore FIR boundary to separate aircraft entering Kabul FIR at PAVLO and SITAX

5.13 The meeting noted that considerable effort had already been devoted to this issue by both India and Pakistan to avoid aircraft who entered Kabul FIR at PAVLO and SITAX using the same ATS route (A466) from SAMAR to DI.

5.14 India had already extended the route M875 from BUTOP to the Lahore FIR boundary (GUGAL) which would open the way for an extension of this route into Lahore FIR airspace. It was the intension that, once this extension was agreed to by Pakistan, aircraft planning to proceed via PAVLO – N644 through the Kabul FIR would be required to proceed via M875 - GUGAL.

5.15 Various options were looked into by the Working Group and it was finally agreed that Pakistan would further extend M875 from GUGAL to JHANG then A466 – DI – PAVLO. It was also suggested that the portion of route from GUGAL to PAVLO may also be changed to M875 for consistency.

5.16 Additionally, with regard to the present routing on A466 from SAMAR (Delhi/Lahore FIR Boundary) to DI, a new routing proposal would be implemented from SAMAR, avoiding R216,P215 to the northwest, then tracking direct to HANGU – LAJAK (Lahore/Kabul FIR Boundary) – G796 – MURAD (Kabul). As a result of this initiative, the section of A466 from DI – MURAD would not be able to be flight planned by westbound flights during the period when ATFM procedures are in operation.

5.17 Pakistan advised the meeting that all of these initiatives will be positively put forward for agreement with their military where military airspace may be affected. Feedback will be provided to the Regional Office and future ATFM/TF meetings.

ATS Route G202

5.18 Pakistan advised the working group that some westbound aircraft are planning via P628 to Rahim Yar Khan (RK) then proceed via G202 to ZOB – ROSIE. This takes away the simplicity of a parallel route system as the vast majority of aircraft using P628 proceed via G792 and enter the Kabul FIR at ASLUM. Aircraft choosing to enter the Kabul FIR at ROSIE enter the Karachi FIR at TIGER then proceed via G201 – ZOB – ROSIE. By having aircraft also proceeding to ZOB on G202, additional workload is placed on Pakistan controllers, taking into account other crossing routes in a relatively constrained airspace environment.

5.19 Pakistan advised the working group that they will continue to monitor this situation to see if the present arrangements can be sustained or whether G202 would not be able to be flight planned by westbound flights during the period when ATFM procedures are in operation.

Minimum Enroute Altitude (MEA) entering Karachi FIR at VIKIT

5.20 The meeting requested Pakistan to consider lowering the MEA on P628 from VIKIT (Delhi/Karachi FIR Boundary) from FL320 to FL300, especially during ATFM operations. This would be consistent with the position by India under which they would also make FL300 available prior to VIKIT on P628. This route, which is used by aircraft from Singapore, Kuala Lumpur and recently from Mumbai, is very popular especially during the summer months, however present flight level limitations cause issues to aircraft using this route, especially when FL280 is not available via G792 through the Kabul FIR.

5.21 Pakistan advised that they would seriously consider lowering the MEA to FL300 however, they needed to take into consideration crossing traffic which was considerable during the ATFM period. The matter would be further investigated and coordination undertaken with India to determine strategies in this respect.

Simultaneous Use of B466 and G792 westbound joining at PAROD

5.22 The meeting noted that a lengthy discussion had taken place on this subject during ATFM/TF/11 in November 2007. Afghanistan advised ATFM/TF/11 that B466 from SERKA to PAROD had been approved by military authorities in Afghanistan from FL310 to FL390. However, without assistance from Pakistan, Kabul ACC was presently unable to ensure the appropriate separation between aircraft simultaneously using both ATS routes at the same flight level.

5.23 Understanding Kabul ACC's difficulties on this matter, Pakistan advised the meeting that they would positively look at ways to ensure that, where aircraft would be operating on both B466 and G792 and approaching PAROD at the same level, Pakistan would manage the aircraft to ensure that 10 minutes with no closing speed would be maintained over PAROD.

5.24 In this context, two alternative proposals were discussed:

- a) implement actions to ensure that there would be a minimum of 10 minutes (no closing speed) between the first westbound aircraft's ETA over GASIR on B466 with the second aircraft's ETA over AMBER on G792 (both waypoints within Karachi FIR), or vice versa; or

- b) the same procedures would apply, however the waypoints used to establish the separation would be changed to SERKA (B466) and ABDUL (G792).

5.25 In the case of b) above, coordination would need to be managed between Karachi ACC (SERKA) and Lahore ACC (ABDUL). It was recognized that during the busy ATFM period during the early hours of the morning, it may be more efficient for both waypoints to be assigned to one FIR to ease coordination workload.

5.26 Pakistan advised that they would study and progress this matter and keep the ICAO Regional Office informed. It would also be expected that the new procedure should be included in the updated Operational Letter of Agreement between Kabul ACC and Karachi/Lahore ACCs before implementation.

5.27 The meeting expressed appreciation to Pakistan for attempting to move these matters forward. Successful outcomes would result in streamlined arrangements for the ATFM period and was also expected to alleviate ATC workload for ACCs in India and Pakistan.

Extracted from the Report of ATFM/TF/11 (November 2007)

Kabul ACC Briefing

3.6 The Kabul ATS authority in the person of the Manager of the Kabul ACC provided a short briefing in relation to operational matters in the Kabul FIR. Notably, the Kabul ACC served a zone of heavy military activity involving multi national forces on a twenty-four hour/7-day a week basis whilst also facilitating civilian domestic and overflight traffic to the maximum extent possible.

3.7 The Kabul ACC High Sector became active in May of 2005 and subsequently the complete Kabul ACC structure was commissioned on 11 July, 2005. The Kabul ACC was designed to serve a dual purpose. It has a responsibility to assist with de-confliction of military missions and the establishment of Civil Aviation ATC for Afghanistan. The airspace design was unique and had many areas that were restricted by military missions. Military restrictions still affect the airspace and its usage and these restrictions can change on a few minutes notice.

3.8 This situation was further complicated by poor radio and landline communications and the fact that there was no radar available for the Kabul ACC and all operations had to be handled using procedural control techniques. Nevertheless, the Kabul ACC was handling very large numbers of flights procedurally with approximately 132,000 traffic movements during 2006 and traffic for 2007 expected to exceed 150,000 movements.

3.9 The implementation of ATFM procedures had ensured an orderly flow of overflight traffic as well as making it much easier for Kabul ACC to provide improved ATS services to the users of the Afghanistan airspace, particularly with destinations to the west. Additionally, the ATFM procedures have made the management of existing traffic levels more efficient and will enhance the capability of Afghanistan to manage the increased traffic growth forecast in the near future.

3.10 Afghanistan recognized the hard and complex work undertaken by affected Asia/Pacific States and airspace users in attempting to provide effective traffic metering into Kabul FIR and thanked all participants in the ATFM/TF for the very successful results demonstrated so far. Afghanistan had been honoured to be invited by ICAO to attend the ATFM/TF/11 meeting and was pleased to provide feedback in relation to the ATFM procedures as well as information concerning the Kabul ACC and its mission.

Outcomes from RDGE/7

3.17 The meeting was advised that the Seventh Meeting of the Route Development Group – Eastern Part of the ICAO EUR Region (RDGE/7) was held in the ICAO European and North Atlantic Office from 15 to 19 October 2007. Due to ATFM procedures for westbound flights transiting the Kabul FIR, AEROTHAI had also attended RDGE/7 and provided feedback to the ATFM/TF/11 meeting.

3.18 Various Working Papers were submitted from States, IATA and International Air Carriers Association (IACA). A presentation was given to the meeting on ultra long-haul flights flying from Mumbai (VABB) to North America. The meeting noted that the choice of route is critical for these types of operations.

3.19 The meeting noted that there is a current lack of adequate communication means (ground-ground and ground-air) within the Kabul FIR, an operational constraint greatly affecting flexibility under which the Kabul ACC will accept and implement many of the proposals put forward to the mini EUR/MID-INT sub-meeting. Nevertheless, it was agreed that the following routes will be evaluated by the Airspace Control Authority of Afghanistan and if considered feasible, submitted to the Afghan government as priority for implementation. Five routes would be considered:

- a) MID/41: SAMAR (3121N 07434E) – LA (3130N 07424E) – LAJAK (3356N 07030E)
- b) MID/42 Option 1: INDEK (3246N 07316E) – PS (3359.7N 07130.3E) – ALAMI (3506N 07025E) – PINAX (3715N 06906E) – G555
- c) MID/47: PG (2657.3N 06407.5E) – New WPT – KAMAR (3239N 06044E)
- d) MID/52: KAMAR (3239N 06044E) – SERKA (2951N 06615E)
- e) MID/53: LAJAK (3356N 07030E) – DOSHI (3536N 06826.5E)

3.20 In respect to paragraph (d) above, the ATFM/TF/11 meeting has changed this route so that it enters the Tehran FIR and leaves the Kabul FIR at SOKAM (3313.3N 06037.9E), not KAMAR. The meeting was advised that the ICAO APAC, MID and EURO/NAT Offices would continue close cooperation on the outcome of progress in regard to the five proposed routes to ensure transparency of the issues that would affect the interface area of the three routes.

3.21 The meeting noted the work of the RDGE/7 meeting and the contribution given by Afghanistan and Thailand to this important meeting. It was pleasing to note that there was focus on not only Kabul issues but also issues on proposed new routes between India and Pakistan which have been discussed at previous ATFM/TF meetings.

Remove restrictions on B466 between SERKA and PAROD

3.40 The meeting was advised that in the initial stages of planning for ATFM operations there were no flights from Mumbai which fell within the period of the ATFM hours of operation. Consequently, no consideration was given to departing aircraft from Mumbai in the design of the BOBCAT system parameters. Furthermore, to avoid the inadvertent convergence of traffic on B466 and G792 at PAROD in Kabul FIR, a decision was taken to restrict the use of B466 between SERKA and PAROD during the hours of operation of ATFM.

3.41 However this situation had changed some time ago with a number of airlines commencing ultra long haul operations from Mumbai through the Kabul FIR during the ATFM period. Due to the location of Mumbai, departing aircraft that chose to plan via G792 to the ASLUM entry point into Kabul FIR were required to fly excessive additional mileage by established routes to join G792.

3.42 Afghanistan confirmed their requirement of 10-minute separation at PAROD between two aircraft at the same level and, noting the short distance from the FIR boundary to PAROD, reiterated that assistance was necessary from the Pakistan ACCs to assist in

achieving this requirement. Pakistan proposed that waypoints ABDUL and SERKA, both approximately 100 nm from PAROD, could be used to provide calculations in ensuring that a 10-minute separation could be achieved between two aircraft tracking to PAROD on B466 and G792 respectively. The meeting noted that the BOBCAT system would be configured to space aircraft 15 minutes apart over PAROD from a strategic point of view which would assist Pakistan in providing 10 minutes separation at PAROD.

3.43 Pakistan also advised that to simplify ATM procedures between Lahore and Karachi FIR in simultaneously operating B466 and G792 during the BOBCAT period, consideration is being given to moving responsibility of G792 within Lahore FIR across to Karachi FIR so that both routes would be under control of one ACC prior to entering Kabul FIR.

Operations at FL280 on V390 SERKA-PAROD

3.47 Noting that Class E airway V390 lay underneath Class A airway B466 between SERKA and PAROD, the Kabul ATS authority advised the meeting that they would accept westbound flights on FL 280 on V390 between SERKA –PAROD-CHARN if they were transferred at that flight level from Pakistan. Pakistan reported that they did not foresee any difficulties in this regard but would study the matter and advise if any problems arose. As this operation was not included in the current BOBCAT parameters and this flow was not expected to impact the flow from ASLUM to CHARN on G792, the meeting agreed that there was no requirement for a slot to be issued from the ATFMU.

3.48 The Kabul ATS authority advised that as the low level route was Class E airspace, such flights would be processed in accordance with the applicable rules for Class E airspace and the relevant provisions of the Afghanistan AIP. The decision to operate in Class E airspace rested entirely with individual operators based on the outcomes of their due diligence investigations. The Kabul ATS authority also advised operators that, if using F280 on V390, they should expect adhoc diversions to an alternative route via V718 to VACUK, DILAM and GEROR without notice and were requested to caution their flight crews accordingly if they intended to operate on V390.

3.49 The attention of the Kabul ATS authority was drawn to potentially misleading text in NOTAM A0422/04 under which it could be interpreted, at point 4, that V390 was closed. The Kabul ATS authority would coordinate with the Airspace Control Authority (ACA) to delete the text ‘V390’ from point 4 and reissue the NOTAM.

Kabul Airspace Closures – ATFM Contingency Planning

3.59 Thailand informed the meeting of occasions where aircraft operating during the ATFM period had experienced changes to their slot allocation before entering the Kabul FIR due to the closure of one or more ATS routes with little or no warning prior to transiting the Kabul FIR. These changes had sometimes caused severe disruptions and penalty to the aircraft affected; on at least one occasion the aircraft was required to land for technical reasons prior to destination. Two recent events were as described below.

Kabul FIR closure on 10 October 2007

3.60 At 1430UTC on 10 October 2007, the ATFMU received a phone call from Lahore ACC advising that Kabul airspace was closed until further notice with no reason given. Shortly thereafter, the ATFMU was preparing to initiate a series of phone calls to airlines affected to advise them of the situation. At the time of the closure there were very

few aircraft who had commenced their journey from the respective airports however, many were about to depart in the next 30-45 minutes.

3.61 At 1455UTC (25 minutes later), Lahore ACC advised that the airspace was now open for international traffic transiting the Kabul FIR on ATS routes A466, N644 and L750. It was fortunate that this information came before the phone calls to the airlines had commenced.

Re-routing of airborne aircraft entering the Kabul FIR

3.62 On 12 November 2007, 17 aircraft with slot allocations via SITAX on A466, were re-routed via PAVLO and N644. In addition, statistics from Lahore ACC indicated that one aircraft was re-routed from ROSIE to PAVLO and another from ASLUM to PAVLO. This particular incident caused one aircraft to land for technical reasons prior to the destination with the resultant inconvenience and cost. A number of other flights were fortunate to avoid similar technical stops.

3.63 The Kabul ATS Authority confirmed that these and other occasions were due to the high priority military mission being addressed in Afghanistan. Conflict events were often unpredictable and had to be managed at short notice. The Kabul ACC always endeavoured to give as much warning as possible, however often had little or no warning themselves. In most of these instances, Kabul ACC was heavily dependant on the very professional efforts of both the Karachi and Lahore ACCs in managing to divert the traffic flows at short notice. This had been the situation in these recent examples and the Kabul ACC Manager passed his congratulations and gratitude to Pakistan for the way in which these events had been managed.

3.64 The meeting noted that the key to handling this type situation was the rapidity of the message getting to each airline/pilot concerned so that the most safe and efficient decision could be made. In this context, as well as the ATC to ATC coordination with adjacent ACCs, the swift transmission of information by NOTAM was the most effective way of alerting airspace users.

3.65 The Kabul ATS Authority informed the meeting that NOTAMS were generally issued on behalf of Afghanistan by the AIS Office at the USAF base at Ramstein in Germany. Unfortunately, this AIS Office was not a H24 facility and events that occurred outside of office hours had to wait until the following day for NOTAM or other AIS action.

3.66 The meeting considered that having H24 AIS capability available to the Kabul ACC so that NOTAMs could be issued immediately would be an extremely valuable step in mitigating the effects of sudden changes on civilian airspace users. The meeting urged the Kabul ATS Authority to explore avenues by which this capability could be made reliably available. Solutions could include the preparation of a number of NOTAM templates for typical events and making arrangements to fax or email them to a H24 AIS Office for issue on behalf of Afghanistan.

Sub-Regional coordination complexities

6.9 In the meeting discussed the complexities inherent in enhancing operational arrangements around Afghanistan. In terms of the ICAO regional disposition, States in the vicinity of Afghanistan were accredited to three of the regional offices of ICAO. For example the discussions in relation to ATS route matters that had taken place during this meeting involved Iran, which was accredited to the MID Office of ICAO, Turkmenistan, which was

accredited to the EUR/NAT Office of ICAO and India and Pakistan which are accredited to the APAC Office.

6.10 Attempts had been made to use the recent RDGE/7 meeting as an opportunity to conduct an interface meeting with the States surrounding Afghanistan, however the absence of some States from RDGE/7 had meant that this was unsuccessful. RDGE/7 had urged affected MID and EUR/NAT States to attend this ATFM/TF/11 meeting and, accordingly, Afghanistan had completed significant preparation to take advantage of such an interface opportunity. Regrettably, a number of significant States could not attend the Bangkok meeting.

6.11 Recognizing that the ATS route enhancements would be very valuable in streamlining operations in this area, the meeting requested that the Regional Office attempt to coordinate an interface meeting that included delegates from at least Afghanistan, India, Iran, Pakistan and Turkmenistan as well as representatives from the APAC and MID Offices of ICAO and relevant IATA officials.

ATFM/TF/11 Task List

Item 9/11

Beyond Kabul FIR, 3 of the routes through Kabul join in Turkmenistan leading to further capacity restrictions. Bangkok Regional Office to coordinate with EUR/NAT (Paris) Office of ICAO to seek assistance in ensuring exit capacity from Kabul FIR.

Attention drawn to this matter during RDGE/7 meeting in Paris, October 2007

Item 11/4

Kabul ATS Authority to explore avenues by which H24 AIS capability could be made available. Solutions could include the preparation of a number of NOTAM templates for typical events and making arrangements to fax or email them to a H24 AIS Office for issue on behalf of Afghanistan.

Item 11/7

Afghanistan and Pakistan Investigate and correct the persistent ground-ground communications outages between Afghanistan and Pakistan ACCs.

Extracted from the Report of ATFM/TF/10 (May 2007)

“Interim” RVSM transition procedures India – Pakistan – Afghanistan

3.28 Of particular interest to the meeting was the matter identified during SWG/1 in relation to the agreement between Pakistan and India with regard to RVSM levels to be used relating to the aircraft's flight level allocation at CVSM levels entering Kabul FIR. The agreement had been put in place during 2003 that FL300 and FL320 will be considered as one level and FL340 and FL360 be considered as one level while transferring control from Delhi ACC to Lahore ACC, enabling a smooth transition from RVSM to CVSM in Kabul FIR.

3.29 In order to enable RVSM implementation to proceed in Indian and Pakistan FIRs during 2003, this procedure had been activated on an interim basis until RVSM was implemented in the Kabul FIR, which was expected to occur during 2004. Subsequently, delays to RVSM implementation in Kabul FIR had occurred and Afghanistan informed the meeting that the implementation of RVSM in the Kabul FIR was now unlikely to occur prior to 2010.

3.30 The meeting recognized that, as a consequence, the 'interim' procedure would remain indefinitely with Pakistan responsible for the RVSM transition areas feeding into Kabul FIR. Pakistan informed the meeting that, although this was a significant burden that had originally been accepted by Pakistan in good faith four years ago in the full expectation that it was a short term interim arrangement, they would continue to honour the agreement and their associated flight level transition responsibilities indefinitely.

ATFM Implementation "Go" Decision

6.3 In making a unanimous 'Go' decision to implement air traffic flow management procedures on a permanent basis, the ATFM/TF members gave consideration to the following matters:

- 1) The driving issue for the formation of the ATFM/TF had been the inefficient traffic management arrangements in place across the Bay of Bengal leading into the 'choke' point formed by the reduced capacity in the Kabul FIR. As there was no anticipation of any viable increase in capacity in the Kabul FIR and RVSM implementation was not expected prior to 2010, the Kabul FIR choke point would remain for the foreseeable future. Hence many of the original driving factors remained valid, albeit exacerbated by the traffic increases being experienced;



International Civil Aviation Organization

**The Tenth Meeting of the Air Traffic Flow Management Task Force
(ATFM/TF/10)**

Bangkok, Thailand, 30 April – 3 May 2007

Agenda Item 3: Operational Issues

PAKISTAN PAPERS TO FIRST MEETING OF SWG, MARCH 2007

(Presented by the Secretariat)

SUMMARY

This paper provides, as attachments, the three papers presented by Pakistan to the First meeting of the ATFM/TF Small Working Group which was held in Lahore, Pakistan from 27-29 March 2007.

1. INTRODUCTION

1.1 In order to more deeply investigate some of the operational issues that had been identified during the ATFM operational trial, the ATFM/TF/9 meeting (January 2007) had agreed to the formation of a Small Working Group (SWG) to undertake such work. ATFM/TF/9 considered that Afghanistan, India, Pakistan, Thailand (as the BOBCAT and ATFMU provider) and IATA should comprise the membership of the SWG and work together to attempt to identify solutions to the operational issues identified by ATFM/TF/9.

2. DISCUSSION

2.1 The First meeting of the SWG (ATFM/TF SWG/1) was graciously hosted by CAA Pakistan and was held in Lahore, Pakistan from 27 – 29 March 2007. Twenty-two (22) participants from Thailand, Pakistan and IATA attended the meeting. Apologies were received from the ICAO Regional Office, Afghanistan and India.

2.2 As part of the meeting programme, Pakistan prepared and presented three papers to the ATFM/TF SWG/1 meeting. Copies of the papers are **attached** for the information of ATFM/TF/10.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information in the attachments to this paper.

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ATTACHMENT A

ATFM/TF-SWG
27/03/07



International Civil Aviation Organization

INFORMATION PAPER

**AIR TRAFFIC FLOW MANAGEMENT (ATFM) TASK FORCE (TF)
SMALL WORKING GROUP (SWG) MEETING**

Lahore 27 – 29 March 2007

Agenda Item 2: Analyze ATFM Flight Data for February and March 2007

(DATA COLLECTION PERIOD)

11 – 17 February and
04 – 10 March 2007

(Presented by Islamic Republic of Pakistan)

SUMMARY

This paper presents analysis on the performance status and highlights operational constraints with respect to ATFM trials for Karachi and Lahore Flight Information Regions (FIRs).

1. **INTRODUCTION**

1.1 Pakistan Civil Aviation Authority, the Air Navigation Service provider in Karachi and Lahore Flight Information Regions (FIRs) plays a pivotal role in handling air traffic that use ATS route network which facilitates smooth and efficient flight operations between Asia and Pacific and Middle East Region. The airspace falling within Karachi and Lahore FIRs is strategically situated at the periphery of Asia and Pacific region. It caters high density traffic flows East to West and medium density crossing traffic from North to South and Vice Versa. Pakistan CAA with additional responsibility of managing RVSM transition airspace made modest contribution in successfully conducting the ATFM trials in February and March 2007.

2. **TRAFFIC ANALYSIS**

2.1 **ATFM trials conducted 11 to 17 February 2007.**

2.1.1 **Lahore ACC**

• Total number of Flight applied for ATFM	345
• Total number of flights participated in ATFM	326
• Percentage of flights utilized ATFM	94.49%
• Non – participating flights operated on ATFM route	13
• Aircraft operated at their allocated levels	174
• Aircraft subject to level change in other FIRs	137
• Percentage of level change in other FIRs	42.02%
• Aircraft subject to level change in Lahore FIR	15
• Percentage of level change in Lahore FIRs	4.60%
• Aircraft operated on allocated ATFM routes	324
• Percentage of Operation on ATFM routes	99.38%
• Aircraft compelled to change route in other FIR	02
• Percentage ratio of compulsion	00.61%
• Aircraft compelled to change route in Lahore FIR	NIL

2.1.2 **Karachi ACC**

• Total number of Flights applied for ATFM	149
• Total number of flights participated in ATFM	149

• Percentage of flights utilized ATFM	100%
• Non – participating flights operated on ATFM route	09
• Aircraft operated at their allocated levels	86
• Aircraft subject to level change in other FIRs	55
• Percentage of level change in other FIRs	63.95%
• Aircraft subject to level change in Karachi FIR	NIL
• Aircraft operated on allocated ATFM routes	149
• Percentage of Operation on ATFM routes	100%
• Aircraft compelled to change route in other FIR	NIL
• Aircraft compelled to change route in Karachi FIR	NIL

2.2 ATFM trials conducted 04 to 10^{March} 2007.

2.2.1 Lahore ACC

• Total number of Flight applied for ATFM	340
• Total number of flights participated in ATFM	322
• Percentage of flights utilized ATFM	94.41%
• Non – participating flights operated on ATFM route	18
• Aircraft operated at their allocated levels	192
• Aircraft subject to level change in other FIRs	130
• Percentage of level change in other FIRs	40.37%
• Aircraft subject to level change in Lahore FIR	30
• Percentage of level change in Lahore FIRs	9.31%
• Aircraft operated on allocated ATFM routes	319
• Percentage of Operation on ATFM routes	99.07%
• Aircraft compelled to change route in other FIR	03
• Percentage ratio of compulsion	00.93%
• Aircraft compelled to change route in Lahore FIR	NIL

2.2.2 Karachi ACC

• Total number of Flights applied for ATFM	193
• Total number of flights participated in ATFM	193
• Percentage of flights utilized ATFM	100%
• Non – participating flights operated on ATFM route	01
• Aircraft operated at their allocated levels	130
• Aircraft subject to level change in other FIRs	63

- Percentage of level change in other FIRs **67.35%**
- Aircraft subject to level change in Karachi FIR **NIL**
- Aircraft operated on allocated ATFM routes **193**
- Percentage of Operation on ATFM routes **100%**
- Aircraft compelled to change route in other FIR **NIL**
- Aircraft compelled to change route in Karachi FIR **NIL**

3. **OVERVIEW ON OPERATIONAL CONSTRAINTS**

3.1 Following are the operational constraints.

- Frequent level changes are made in Delhi FIR prior to traffic entered in Karachi / Lahore FIR. Further level changes were seldom applied due transition from RVSM to Non RVSM level.
- Level restriction with upper limit F290 in Kabul FIR on ATS route B466 during the ATFM hours of operation was unacceptable to airlines.
- Traffic participating in ATFM entered CAA Pakistan Karachi FIR from Mumbai FIR on route B466 insisted to operate on route G208 – G326 – G792 to ASLUM or G208 – G326 – G325 – A466 to SITAX instead of exiting via SERKA. This involved crossing major traffic flows and last minute tactical adjustments.
- At time unilateral withdrawal of ATS routes and/or closure of Kabul airspace on interim basis by Kabul ACC without advance notice causes congestion of Air Traffic during peak hours of operations and additional workload on ATC Lahore requiring immediate action for tactical adjustment involving rerouting and level changes. Pilots objects on deviation of route.
- Degraded performance of Ground to Ground Communication Facilities between Lahore and Kabul ACC,
- Non-participating Traffic on Route G325 to/from China and other aircraft entering Kabul FIR is subject to level change from RVSM to CVSM which significantly increases workload.

4. **CONCLUSION**

ATFM Task Force to note the performance status and operational constraints in respect of Karachi and Lahore ACCs.

ATTACHMENT B

ATFM/TF-SWG
27/03/07



International Civil Aviation Organization

DISCUSSION PAPER

AIR TRAFFIC FLOW MANAGEMENT (ATFM) TASK FORCE (TF)
SMALL WORKING GROUP (SWG) MEETING

Lahore 27 – 29 March 2007

Agenda Item 3: Provide solutions to ensure aircraft receive correct entry point and flight level into Kabul FIR.

(Presented by Islamic Republic of Pakistan)

SUMMARY

This Discussion Paper identifies the areas which need to be addressed to implement safe and efficient ATFM

1. INTRODUCTION

1.1 Pakistan Civil Aviation Authority is actively participating in the ATFM trials conducted by the ATFM Task Force since July 2006. Senior officers from Air Navigation Services are positioned in the enroute control Karachi and Lahore centers (ACCs) to monitor the traffic flow. Evaluation of trials conducted so far has identified areas which need to be addressed to achieve the benefits. The benefits of ATFM are given at the end of this paper.

2 AREAS IDENTIFIED

2.1 Route Change:

During ATFM trials aircraft entered via PARTY and elected to exit via SITAX. The said routing involved crossing of traffic flows that entered via TIGER and exited at point ROSIE. This resulted in enhanced potential confliction at RK and other crossing points. In order to streamline the traffic flow, aircraft entering Pakistan airspace at a specific point should follow the route for the corresponding exit point in Lahore and Karachi FIRs. This will facilitate parallel traffic flow which will enhance safety and capacity. In this context, following suggestions are made to facilitate parallel traffic flows in Karachi and Lahore FIRs :-

<u>ROUTE</u>	<u>ENTRY POINT</u>	<u>EXIT POINT</u>
A466 / N644	SAMAR	PAVLO / SITAX
G201 / L750	TIGER	ROSIE / MUNTA
P628 / G792	VIKIT	ASLUM
G208 / B210 / B466	PARTY / TASOP	*SERKA

* *Kabul may raise upper limit up to FL 390 on ATS route B466. Karachi will provide standard longitudinal separation over Kandhar between aircraft maintaining same level and exiting via ASLUM on route G792 & SERKA on route B466*

2.2 Level Change:

- a. Karachi and Lahore FIRs are transition airspace in which level change is required from RVSM to Non RVSM. Aircraft entering Lahore FIR at RVSM FL340 and FL360 are required to undergo level change to Non RVSM FL350. Similarly aircraft entering Lahore FIR at RVSM FL320 and FL300 are required to undergo level change to FL310 prior to entering Kabul FIR, a non RVSM airspace.
- b. The transition requirements from RVSM to Non RVSM with potential conflicting reciprocal traffic restrict availability of level in Lahore/Karachi FIR. It is mandatory for traffic entering Lahore FIR via SAMAR to be at appropriate level, to facilitate the safe and efficient transition from RVSM

to non RVSM.

- c. In line with the Global ATM concepts, the requirement to have a compatible, seamless and harmonized airspace between adjacent ACCs, Kabul FIR as a first step should be declared RVSM airspace. This will significantly enhance the existing capacity.

2.3 Time over the Gateway FIX for KABUL FIR:

Variation in reporting at gateway fix at the time allocated by ATFM Unit is attributed to numerous factors. Operators while planning the flight should take into account the critical enroute elements so as to ensure crossing time over the appropriate Gateway FIX (i.e. PAVLO, SITAX, ASLUM, ROSIE, and SERKA) as close as possible to their allocated slot time. This will facilitate in reducing the existing buffer time from 05 minutes to 03 minutes which will significantly enhance the existing capacity. However, study be conducted to identify and address enroute operational constraints prior to reducing Flow Buffer Time from five to three minutes.

3. **SUGGESTION**

Pakistan Civil Aviation Authority suggests to ATFM/TF participants and other stakeholders to consider and address the areas as identified to enhance the safety and capacity.

BENEFITS OF ATFM

- Provides metered aircraft spacing into the Kabul FIR.
- Allows airlines to submit multiple choices of routing and flight levels.
- Provides airlines as well as ANSPs with an overall picture as well as details of all aircraft planning to transit Kabul FIR during BOBCAT period.
- Enhance and facilitate the orderly and efficient flow of air traffic across the Bay of Bengal and South Asia.
- Minimize ground and en-route delays.
- Maximize capacity and optimize the flow of air traffic within the area.
- Plan for and manage future ATS workload in the light of forecast increased traffic flow within the area, and
- Assess the economic and environmental impact of the implementation of the ATFM system.

ATTACHMENT C

ATFM/TF-SWG
27/03/07



International Civil Aviation Organization

INFORMATION PAPER

AIR TRAFFIC FLOW MANAGEMENT (ATFM) TASK FORCE (TF) SMALL WORKING GROUP (SWG) MEETING

Lahore 27 - 29 March 2007

Agenda Item 4: Update on the Kabul FIR traffic situation.

(Presented by Islamic Republic of Pakistan)

SUMMARY

This paper is presented to apprise the Task Force on the ATS coordination status between Karachi/Lahore and Kabul ACCs.

1. INTRODUCTION

1.1 Efficient coordination between adjacent Area Control Centers (ACCs) is imperative to ensure safe, expeditious and efficient traffic flows. Lack of coordination due to frequent communication failure between adjacent ACCs is potential hazard to flight safety. The unsatisfactory status of the under mentioned communication channels established for ATS coordination between Karachi/Lahore and Kabul ACCs, due to poor response, interruption or prolonged un-serviceability, is a cause of concern.

1.2 Communication channels

- VSAT Link between Karachi and Kabul ACC provided by IATA.
This link was unserviceable since one and half year.

- VSAT Link between Lahore and Kabul ACC provided by IATA.
This link is available but response from Kabul is very poor and most of the time this link is declared unserviceable.
- Direct Speech Circuit between Karachi and Kabul ACC.
This circuit is unserviceable since last two years.
- Direct Speech Circuit between Lahore and Kabul ACC.
This circuit is unserviceable since last two years.
- Long Range HF Ground to Ground Communication Facility.
This communication facility is available for ATS coordination with Kabul, but its use is a serious violation of ICAO standard which prohibits ground to ground ATS coordination due to congestion on air ground HF channel (freq. 5658KHz).

2. **CONCLUSION**

- 2.1 ATFM Task Force to take note and consider for corrective action with active participation of all stake holders, in particular, IATA for its proactive role as displayed in the past.