



*International Civil Aviation Organization*

**The Second Meeting of the Ad Hoc Afghanistan Contingency Group Meeting  
(AHACG/2)**

Istanbul, Turkey, 17-19 November 2014

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**Agenda Item 3: Europe- Southeast/South Asia Contingency Planning (scenarios, procedures)**

**ROLE OF PAKISTAN IN AFGHANISTAN CONTINGENCY PLANNING**

(Presented by Pakistan)

**SUMMARY**

This paper presents Pakistan's evaluation on airspace contingency plan for transition efforts in Afghanistan as well as the possible options to handle this situation. This paper also describes the measures under consideration within Pakistan for improvement of traffic flows.

**1. INTRODUCTION**

1.1 Afghanistan is in planning for the transition of Air Navigation Services (ANS) from the military to Afghan authorities taking over these tasks. However, lack of experienced Afghan Air Traffic Control Officers (ATCOs) is the main issue affecting the continuity of the ATS during transition. If Afghan authorities would be unable to arrange a new contract by 15 December 2014, airspace within the Kabul Flight Information Region (FIR) would become uncontrolled airspace.

1.2 Considering the scenario, ICAO had formed Ad Hoc Afghanistan Contingency Group which had its first meeting in Kuala Lumpur in September 2014. The group discussed the different scenarios and possible alternate routings which could be available in case of disruption of services / closure of Kabul FIR. Unfortunately Pakistan was not able to attend the meeting. However, Pakistan point of view on possible contingency plans is presented in this paper for consideration of the meeting.

**2. DISCUSSION**

2.1 Pakistan has key strategic position for traffic flows to/from Europe and America to Asia/Far East overflying Kabul FIR. The traffic flow is being managed on 05 parallel ATS Routes available within Kabul FIR (L333, P628, L750, N644, L509/M875) during peak traffic hours (Figure – 1). The different possible scenarios were discussed during the AHACG/1 which includes partial or total Kabul contingency services or avoidance of Kabul FIR through number of alternate options using Iranian, Gulf or Chinese airspace. The concentration was made on scenario B, C, and E which involves Kabul Contingency services with availability of upper airspace without air navigation services, re-routing via Iranian airspace and re-routing via China using ATS route L888.

2.2 Pakistan airspace is divided into 02 FIRs i.e. Karachi and Lahore FIRs and the services within each FIR are provided by respective ACCs. The airspace is covered by 06 SSRs for provision of ATS using surveillance facility which covers major ATS route structure. However, some of grey areas exist where surveillance data is not available due to coverage or line of sight issues. These surveillance radars remain available for provision of ATS; however, there is no redundancy to cater for any single radar failure. Procedural control has to be exercised under such circumstances. The surveillance coverage is depicted in Figure-2.



Figure -1

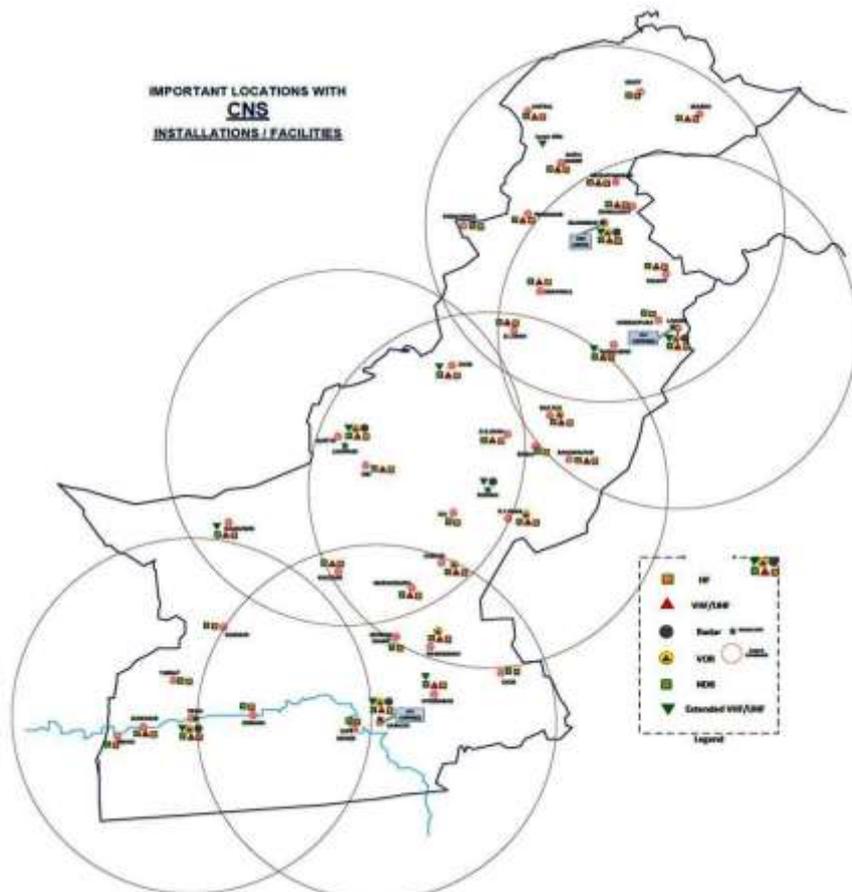


Figure -2

2.3 In order to provide direct controller pilot communication, number of remote control air ground frequencies have been installed within Pakistan. The VHF coverage is depicted in Figure-3.

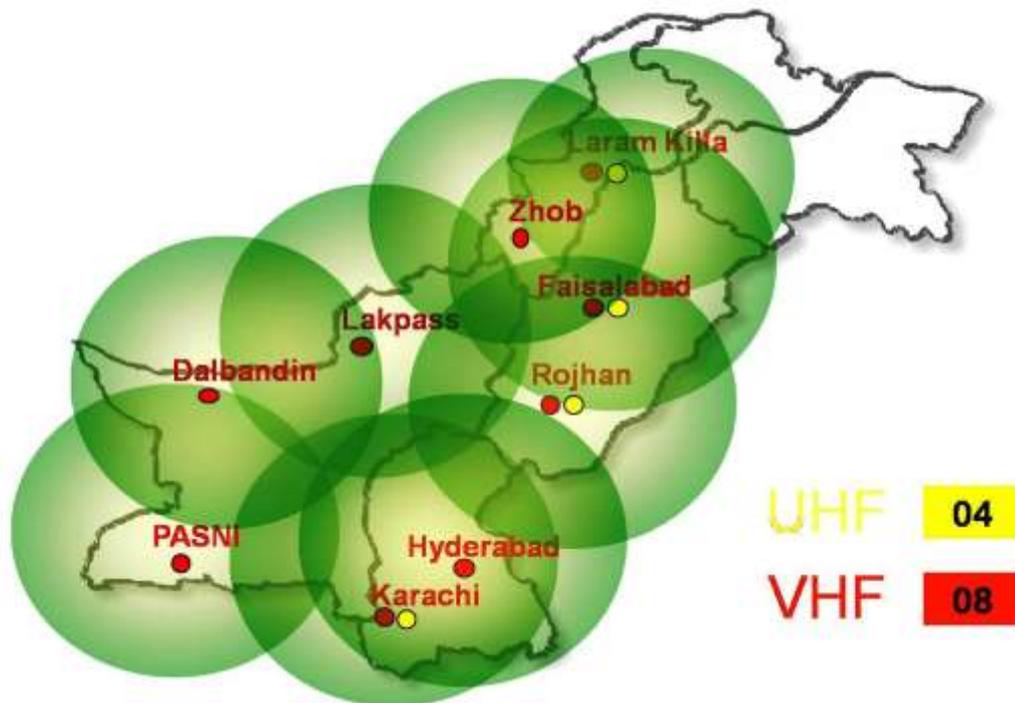


Figure -3

2.4 Pakistan has evaluated these scenarios and its role in each scenario. The study was made to identify the possible measures and other possible alternates which could facilitate major international traffic flow. The available surveillance and communication facilities have also given due consideration. The assessment of each scenario and the support Pakistan can provide has been discussed in subsequent paras.

### **Scenario B**

2.5 The best possible option Afghanistan can undertake during the disruption in the provision of air traffic services is the availability of upper airspace not affected by military activities. Crossing / converging ATS routes within Kabul FIR may need to be closed in upper airspace (at or above FL310) to ensure no convergence within Kabul FIR which must include the closure of ATS Route segment N636 (PAROD-SERKA) and M875 (TAPIS-SITAX).

2.6 ATS routes with major flows have segment length varying from 250NM between LAJAK and AMDAR (L509/M875) to 375 NM between ROSIE and RANAH (L750) within Kabul FIR with approximate flying time from 30 to 50 minutes. Pakistan can ensure longitudinal separation of 10 minutes (or 50NM if desired) at TCPs with application of Mach number technique so that the minimum longitudinal separation should continue to exist for atleast 01 hour beyond TCP. However, advisory services within Kabul FIR by Lahore / Karachi ACC would not be practicable due to number of limitations. Similarly, Iran, Turkmenistan and Tajikistan could ensure separation over respective TCPs for east bound traffic keeping FL330 vacant as per existing restriction.

2.7 In case of continued availability of Kabul FIR, the extension of BOBCAT timings to 24 hours as discussed during first meeting would ensure availability of optimum levels and adherence to flight planning for operators and is supported. Safety can further be augmented by implementing TIBA procedures. However, continued operation over Kabul FIR without availability of air navigation services would be the decision of air operators.

### **Scenario C**

2.8 Apparently Iranian contingency routes in Scenario C have potential to accommodate rerouting to avoid Afghan airspace upto certain extent. The proposed ATS route L124 and G452/L125 are already under operation and have traffic flows during peak hours. Some of the diversionary traffic to/from South and Southeast Asia can operate to and from Europe with optimum profiles if the airspace within Kabul is not available. However, these routes may not be able to accommodate all diversionary traffic from Kabul FIR. Furthermore, to avoid congestion in Iranian airspace, blockade of levels on Royal Road OTS as considered during first meeting would further reduce the capacity of the route.

2.9 ATS route L124 and G452 within Karachi FIR could be utilized for traffic transiting through Iranian airspace via L124 and L125 within Tehran FIR. The routing proposed by Iran via T215 and UN319 can also be utilized. In case of the Kabul closure, Pakistan is of point of view that traffic orientation scheme may be considered for use of these routes. The route L124 should mainly serve traffic to/from Mumbai/Karachi FIR and G452 from Delhi/Karachi FIR to Europe. It may be appropriate under the scenario if Iran consider to temporary close the route segment between KEBUD to ZDN to avoid convergence and streamline flows. However, other routes terminating at ZDN i.e. G775 may be made available to operators coming via G452.



Figure - 4

2.10 ATS Route L124 KEBUD-PG is specified as RNAV5 and has onwards connectivity with multiple RNAV routes declared as RNP10 within Karachi and Mumbai FIRs. In order to enhance the airspace capacity, Pakistan is ready to implement 50NM Reduced Horizontal Separation provided Pakistan is able to transfer traffic to India on similar conditions. Similarly, ATS Route G452 has onwards connectivity with multiple RNP10 routes and can also be declared as RNP10 within Karachi FIR to accommodate 50NM RHS operations. Strategic metering system by providing slot allocation would help in ensuring that operators get their desired profile. Keeping in view the westerly winds, it is proposed that 10 minute metering should be planned for 50NM tactical separation on westbound flows whereas 7 minute is considered sufficient for eastbound traffic flows.

2.11 Establishment of any new ATS route is a cumbersome process and needs significant time for its implementation. Pakistan has evaluated the possibility of additional route between KERMAN and TURBAT to enhance airspace capacity as proposed by Iran. From Pakistan's perspective, the route could only be beneficial if has a connectivity to Mumbai FIR well segregated from the existing ATS route structure. If the aircraft entering via new proposed route and L124 have to converge within Karachi FIR, the problem of bottle neck would continue to persist. It would therefore be appropriate that the proposal should be re-evaluated with macro view. However, the implementation might require some time and may not support immediately the contingency scenario.

### **Scenario E**

2.12 Re-routing using L888 via China could be a possible option for avoiding Kabul FIR. However, current and possible future capacity on this ATS route within China and neighbouring countries need to be assessed. The route is likely to enhance distances for major city pairs operating between Far-East/Asia to/from Europe/America. As Pakistan has no role if re-routing via L888 is opted by the operators, it has no comments to offer.

2.13 As presented during AHACG/1, operators have explored all the possibilities of re-routing for any Kabul airspace closure including, Gulf and China, Pakistan considers that some of the options left can further be investigated by the meeting to assess their viability. Pakistan would endeavor best to facilitate international air transport if the option is considered viable by air operators and meeting.

### **Other Options**



Figure – 5

2.14 ATS route P500 (DI – ADINA – PS – PADDY – FIRUZ) within Lahore FIR was established earlier to avoid Afghan airspace due to military activities. The route overfly small portion of 12NM over Kabul FIR which has been delegated to Dushanbe ACC for provision of air traffic services. Transfer of traffic on this route is therefore affected between Lahore and Dushanbe ACCs. The 12NM segment over Kabul FIR appears to be well clear of all military activities as well which can be confirmed from Afghan authorities. This route could be a viable option for air operators with small increase in distances in comparison to the option in Scenario E. This could also provide an additional routing in addition to Royal Road OTS as discussed in Scenario C.

2.15 In order to enhance efficiency for major air traffic flow, study has been carried out to determine possible measures which could be taken by Pakistan. As an outcome of the study, following steps are under consideration and an internal process has been initiated:

- Availability of ATS Route L509 (SAMAR-INDEK-JABAR-HANGU-LAJAK) on 24 hours basis to facilitate international air transport.
- Establishment of a new ATS route between JABAR and PS VOR for joining ATS Route P500 to provide better connectivity between ATS route L509 and ATS route P500.
- Availability of ATS route P757 (NH-PG) on 24 hours basis to improve flow on ATS route L124.



Figure - 6

2.16 Pakistan has always been facilitating international air transport within its limitations. The transition from RVSM to non-RVSM at Pak/Afghan TCPs from November 2003 to November 2011 and provision of separation over PAROD in Kabul FIR are the examples. Pakistan would continue to strive best to serve for betterment of international air transport under this critical situation.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) examine the possible alternates in contingency plans; and
- c) discuss any relevant matters as appropriate.

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