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Fifteenth Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/15)

Bangkok, Thailand, 28 April – 02 May 2025

Agenda Item 4: Review of Current ATFM Operations and Problem Areas

CHALLENGES IN MANAGEMENT OF AIR TRAFFIC FLOW IN DELHI FIR DUE TO RESTRICTIONS IN KABUL FIR.

(Presented by India/Airports Authority of India)

SUMMARY

This paper presents the operational challenges in management of air traffic flow in Indian FIR due to level restrictions, increased separation requirement and unavailability of enroute ATS in Kabul FIR. Due to the level restrictions and increased separation requirement, both ANSPs and airlines are experiencing increased complexities, increased delays, and increased fuel consumptions. The paper also presents the potential solution to mitigate these challenges and improve efficiency in flight operations.

1. INTRODUCTION

1.1 As per KABUL FIR Contingency Coordination Team (CCT) Bulletin 013, the ENROUTE air traffic service in Kabul FIR remains unavailable.

1.2 There has been a steady increase in westbound air traffic transiting through Delhi FIR and subsequently transiting through Kabul FIR. The restrictions over Kabul FIR are affecting the efficient flow of westbound air traffic particularly during peak traffic hours.

1.3 The severe flow restriction at DOBAT, BIROS, ASLUM and SERKA (FL360-F510 vide NOTAM G0071/25), at LAJAK (FL310-F510 vide NOTAM G0071/25), and increased longitudinal separation requirement (15 min vide G0553/24) at entry points of Kabul FIR (LAJAK, DOBAT, BIROS, ASLUM and SERKA) causes significant delay to westbound Delhi departures and overflying aircraft transiting through this airspace.

2. DISCUSSION

Operational challenges for ANSP and Airlines

2.1 Air Traffic Control Complexity: The flow restrictions and increased longitudinal separation requires continuous and accurate monitoring of aircraft estimate and flight plan routes considering potential conflict point within and after exiting Delhi FIR.

2.2 Operational Delays: Larger separation requirements and limited availability of flight levels are resulting in delays, possible re-routing, particularly during peak traffic hours.

2.3 Coordination between Delhi ACC and Lahore ACC: Tactical coordination between Delhi ACC and Lahore ACC has increased significantly to ensure that air traffic is safely managed in context of these restrictions.

2.4 Impact on Airline Operations: Airlines may face additional costs due to longer flight routes/non-preferred routes, non-preferred levels and increased fuel consumption due to the requirement of larger separation. Airlines may also need to take delays enroute or on the ground at Delhi.

2.5 Delhi FIR receives westbound aircraft from seven entry points (GUGIP, LKN, IGONA, KKJ, IBANI, UUD AND UGISO) and releases these aircraft to Lahore FIRs through four exit points (SULOM, GUGAL, MERUN and VIKIT). These aircrafts after exiting Delhi FIR further route via L509, N644, L750 and P628 to enter Kabul FIR via entry points LAJAK, DOBAT, BIROS and ASLUM respectively.

2.6 Delhi FIR receives westbound overflying aircrafts at all levels i.e. F280, F300...F400, F430 etc. and with separations such as 20 NMs, 50 NMs etc. converging at four exit points (SULOM, GUGAL, MERUN and VIKIT). Delhi ACC has challenge of translating such inbound traffic pattern through mentioned exit points and release to Lahore ACC as per prescribed flow restriction at DOBAT, BIROS, ASLUM and SERKA (FL360-F510 vide NOTAM G0071/25), at LAJAK (FL310-F510 vide NOTAM G0071/25) and increased longitudinal separation requirement (15 min vide G0553/24)

2.7 Absence of clear alignment of exit point of Delhi FIR with entry point of Kabul FIR leads to increase conflicts and complexity in Delhi FIR.

2.8 The stipulated level restrictions in respect to entry points of Kabul FIR, are at flying time of approx. 35-45 min away from Delhi FIR. Thus, it is not always possible for Delhi ACC to release aircraft to Lahore ACC ensuring compliance of level restrictions required to be met before entering Kabul FIR. As some of these flights have operational constraint in climbing to prescribed level with Delhi ACC, however such flights are ready to climb prescribed levels before entering Kabul FIR. During peak hours of west bound traffic, above restrictions are creating operational difficulties, air traffic congestion, delays and complexities within Delhi FIR.

2.9 A majority of Delhi departures which flight plan to transit via Kabul FIR are exiting Indian FIR via SULOM and GUGAL, and many a times these departures are unable to reach F320 or above at these exit points. During peak traffic hours, overflying aircraft transiting Delhi FIR also operates at level FL300/FL320 and this in turn causes significant increase in ground delays to Delhi departures, RT congestion, and inter unit coordination.

Mitigation Measures to Improve Efficiency of Flight Operations

2.10 The flight planning of the aircrafts planning to exit Delhi FIR should preferably be in alignment with entry points in Kabul FIR. For example: an aircraft planning to route via LAJAK or P500 MOTMO should preferably plan SULOM as Delhi FIR exit point. Similarly aircraft planning to route via DOBAT should preferably plan GUGAL as Delhi FIR exit point. Such alignment will enhance predictability, consistency and situational awareness among ANSPs and airlines leading to efficient flow of traffic transiting Indian FIR, Pakistan FIR and Afghanistan FIR. To streamline the traffic flow, following route pairing may be preferred for flight operations:

S. No.	Entry point in Kabul FIR	Exit Point at Delhi/ Lahore FIR	Route to be followed
1.	LAJAK	SULOM	L509-LAJAK
			L509 NONIB T400 PS P500 MOTMO P500 FIRUZ
2.	DOBAT	GUGAL	M875-N644
3.	BIROS	MERUN	L333/G333-L750
4.	ASLUM	VIKIT	P628

2.11 Westbound aircraft exiting Delhi FIR via SULOM may flight plan via LAJAK (L509) or MOTMO (P500). On route L509, westbound levels available are FL320-F510, whereas on route P500 westbound levels available are FL300-F510. The greater number of availability of levels provides enhance airspace capacity via these route as compared to other entry points for Kabul FIR.

2.12 In order to use the available enhanced airspace capacity at SULOM, it is proposed to implement surveillance based longitudinal separation of 20NM between aircrafts exiting Delhi FIR via SULOM and thereafter diverging in Lahore FIR (i.e. between aircrafts following L509-LAJAK and L509 NONIB T400 PS P500 MOTMO P500 FIRUZ). This will help in accommodating a greater number of westbound aircrafts at SULOM.

2.13 BOBCAT services may be reactivated to ensure that the westbound flow of air traffic into Kabul FIR can be handled effectively. The level constraints and longitudinal separation requirement may be suitably incorporated in BOBCAT algorithm.

2.14 All the stakeholders should be encouraged to participate in BOBCAT services to reduce number of non-participating flights. Increased participation and compliance will help in efficient flow of air traffic through the region.

2.15 In addition to metering flow restriction over entry points of Kabul FIR, it is proposed to provide metering at exit points of Delhi FIR. The slot allocation sheet may also specify the time and level restrictions over the exit points in Delhi FIR, namely: SULOM, GUGAL, MERUN & VIKIT. This will delineate clear role and responsibility between Delhi and Lahore FIR, ease out coordination and enhance predictability and situational awareness among stakeholders about implementation of restriction.

2.16 Air Traffic Control shall retain responsibility for the tactical management of flights that are subject to ATFM. In discharging tactical responsibilities, ATC will manage ATFM non-compliant flights/non-participating flights using delayed pushback and start clearances, non-preferred routes and/or flight levels, enroute holding and/or diversion around Kabul FIR.

2.17 All stakeholders to keep themselves updated with the restrictions over Kabul FIR through Notams. Affected aircrafts to ensure flight planning and keep preparedness (carriage of extra fuel) considering possible enroute holding/ re-routing due to the level restriction and larger separation requirement before entering Kabul FIR.

2.18 Above measures will enhance the predictability, consistency and common situational awareness of all stakeholders in terms of air traffic management through the whole area. These measures will also help in better air space utilization, reduced complexity, gaining preferred route/level and reduced fuel consumption leading to efficient and effective flight operations through the region.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Note the information contained in this paper;
- b) Discuss the latest situation over the Kabul FIR;
- c) Discuss the necessity of reactivation of BOBCAT services with inclusion of proposal mentioned in WP.
- d) Discuss any relevant matters as appropriate.

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