



International Civil Aviation Organization

**The Fourth Meeting of the Air Traffic Flow Management Task Force
(ATFM/TF/4) and BOBCAT Workshop**

Bangkok, Thailand, 7 to 11 November 2005

Agenda Item 6: Operational Trial Arrangements

BOBCAT DEVELOPMENT – INTERMEDIATE GATEWAYS

(Presented by Thailand)

SUMMARY

The purpose of this working paper is to decide whether to include or delete the intermediate waypoints of Lucknow (LLK) and Khajuraho (KKJ) from the BOBCAT system,

1. INTRODUCTION

1.1 At the ATFM/TF/2 meeting held in Delhi on 28 June – 1 July 2005, India raised concerns in regard to a number of operational difficulties which presently occurred within their airspace and requested that, where possible, these matters be addressed in the development of BOBCAT.

1.2 India advised that they were in agreement with the use of intermediate gates along certain ATS routes proceeding to the Kabul FIR. Due to the convergence of one or several routes at certain positions, India were currently experiencing bottlenecks along this route system and requested that spacing should be built into BOBCAT to obviate this matter. If this was not included, the meeting was advised that there would be a strong possibility that some aircraft may not be able to make their Kabul FIR gate time.

1.3 At the SCM ATFM/TF PMT meeting held in Singapore on 10-11 August 2005, India had again requested that, if possible, a facility for intermediate gateway fixes should be included in the BOBCAT design in order to relieve enroute choke-points. This in turn, was expected to assist aircraft making their entry gate time into the Kabul FIR. It was expressed that inclusion of this feature did not imply that BOBCAT was a separation tool, but rather a flow management practice to effectively space aircraft to meet their entry gate time into Kabul FIR.

1.4 It was therefore agreed that intermediate gateways would be looked at in the paper trial exercises for these parameters to be examined to enable conclusions to be made as to whether they were suitable or necessary for application during the operational trial.

2. DISCUSSION

2.1 The meeting would be aware that two sets of BOBCAT paper trials were conducted by AEROTHAI at their premises in October 2005. At the first set of trials on 5-7 October 2005, which was attended by 24 participants from Bay of Bengal States as well as international airlines and IATA, several trials were conducted using two scenarios; option 1 with intermediate gateways included and option 2 with intermediate gateways left out. The two gateways used for these exercises were Lucknow (LLK) and Khajuraho (KKJ).

2.2 The results of these options indicated that aircraft were correctly spaced with intermediate gateways included, however on the other option of no intermediate gateways, there were breakdowns in intended spacing over these gateways, which would have required action by Indian ATC.

2.3 In analysing the paper trials conducted on 19 October traffic, the same results as mentioned in para. 2.2. above also applied, however in these scenarios, there was some controlled decisions which could be made with respect to level changes on some aircraft so that no time delay would occurred to the aircraft concerned thus allowing the said aircraft to make their slot through Kabul FIR. Nevertheless this is not a guaranteed solution as it would depend on the traffic situation on any particular night.

2.4 In summary, the meeting may wish to consider that, in the initial phase of the operational trial, intermediate gateways would be included in the BOBCAT system. This would allow an analysis of additional data over a longer period to be collected to see what impact there would be if intermediate gateways were deleted in the future.

2.5 The meeting is invited to note another issue regarding aircraft transiting on primary routes used by Kabul traffic, which are landing at Delhi. In this case, it has been noticed from paper trial results that these few aircraft which operate during the BOBCAT period are at levels higher than long haul aircraft overflying Kabul FIR. It would seem to suggest that these Delhi bound aircraft could be tactically managed by India so as not to impede the flight profile of BOBCAT aircraft. It is also noted that other aircraft arriving in Delhi from the departure points on the eastern side of the Bay of Bengal seem to be outside the window of BOBCAT and therefore need not be included in the BOBCAT programme.

2.6 With regard to westbound aircraft proceeding via Delhi and TIGER to enter the Tehran FIR, it would be expected that they are part of the BOBCAT programme up until Delhi however, as they then only cross the 2 most westerly routes proceeding through Kabul, namely G202N at Tiger and G792 at Rahim Yar Khan (RK), tactical control could also be used to manage these aircraft with Kabul bound traffic.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the extensive discussions which has taken place on the matter of intermediate gateways;
- b) note the results of paper trial evaluations on this issue;
- c) until evaluation of additional live data has been completed to gauge the impact of deleting intermediate gateways, that the initial operational trials commence with intermediate gateways;

- d) decide on whether westbound aircraft landing at Delhi are required to be part of the BOBCAT process; and,
- e) agree on westbound flights transiting on Kabul related ATS routes but proceeding through the Tehran FIR via Delhi/Tiger/RK are part of the BOBCAT process until Delhi, then tactically managed by India/Pakistan west of Delhi.

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