International Civil Aviation Organization

The First Meeting of the APANPIRG ATM Sub-Group (ATM /SG/1)

Bangkok, Thailand, 20 – 24 May 2013

Agenda Item 4: ATM Systems (Modernization, Seamless ATM, CNS, ATFM)

MANUAL ATFM IMPLEMENTATION IN THE DELHI FIR

(Presented by Airports Authority of India)

SUMMARY

This paper presents information about India's efforts in allocating suitable flight levels through manual ATFM process implemented in Delhi FIR for reducing departure delays for westbound International Departures from Delhi airport.

It was observed that during 0630 to 0930 UTC, westbound Delhi departures on ATS route A589-SAMAR-A466 were delayed significantly due to airspace restrictions in Kabul FIR (FL300 and below not available) and saturation caused by overflying traffic. Therefore as an interim measure, till implementation of central ATFM in India, manual ATFM has been implemented outside the BOBCAT hours and the ground delays to such departures are considerably reduced.

Strategic Objectives:

- *A:* ***Safety*** *– Enhance global civil aviation safety*
- *B:* ***Environmental Protection and Sustainable Development of Air Transport*** *– Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-6 Air traffic flow management

1. INTRODUCTION

1.1 It was observed that Delhi Airport is having series of departures scheduled to cross Kabul FIR between 0630 to 0930 UTC.

1.2 The Airspace West of Delhi FIR on ATS Route A466 (FIR Reporting Point SAMAR) has vertical restrictions and levels up to FL300 are not available in Kabul FIR.

1.3 There are a number of overflying aircraft also in this period and often the airspace at "SAMAR" is saturated for FL320 which is the preferred level for Delhi Departures since these are heavy and cannot take higher levels. Ten minutes Time Separation is applicable at exit point for aircraft at same level.

1.4 The departures from Delhi therefore were getting delayed on ground (Pre Pushback / Startup Delays) regularly and sometimes delays were up to 48 minutes.

2. DISCUSSION

Airspace Congestion at SAMAR (A466/ M890) during 0630-0930 UTC

2.1 Fig 2.1 shows a case of airspace congestion at Delhi Lahore FIR exit point "SAMAR". All levels up to FL360 were blocked by overflying traffic for more than 30 minutes.

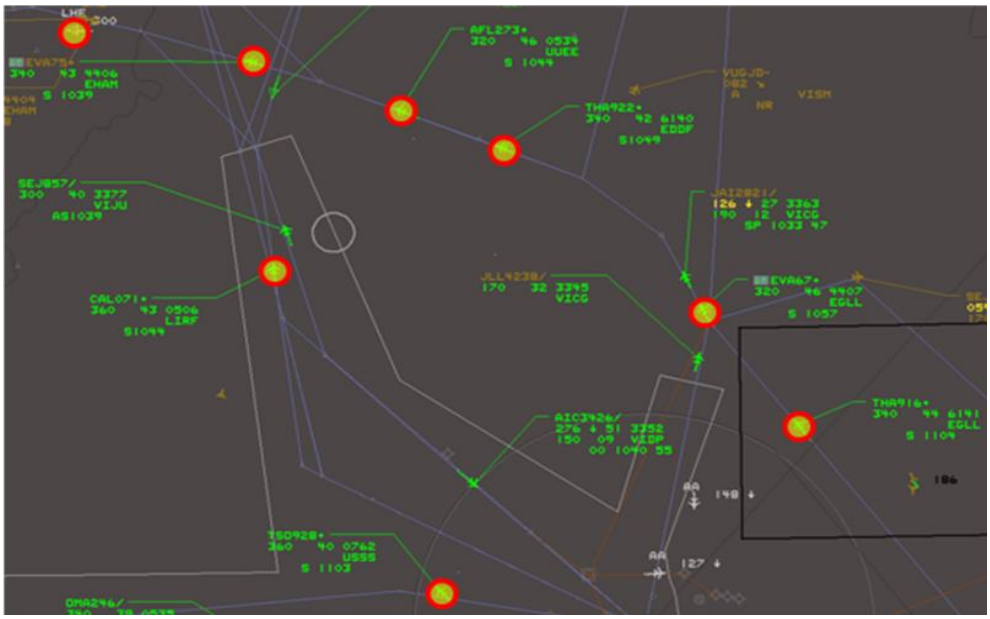


Fig 2.1

Manual ATFM Process – Delhi ATM

2.2 Manual ATFM has been implemented at Delhi ACC from 01-April-2013 between 0700 to 0830 UTC to manage SAMAR track departures more efficiently. The process initiated is as follows:

Two additional ATC officers are deputed during the above mentioned period. Data regarding all planned departures from Delhi towards SAMAR is retrieved in advance. A plan to release departures with least delay is prepared at least 30 minutes prior to EoBT.

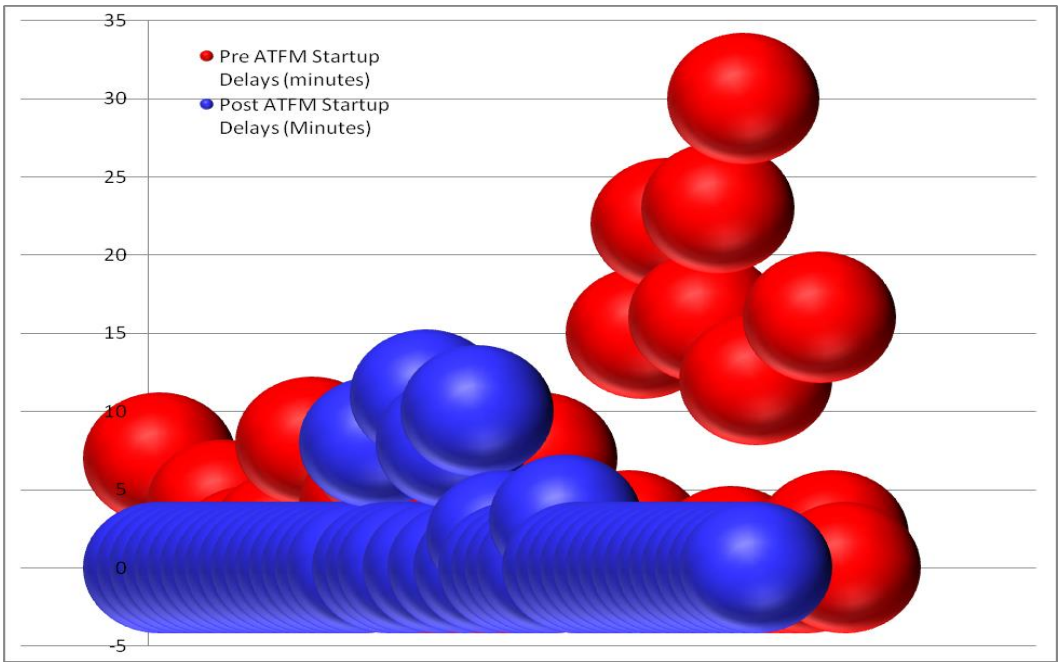
Actual Aircraft Estimate of overflying aircraft over position "SAMAR" is obtained from the preceding ACC(Varanasi) when an aircraft is requesting for pushback / startup at Delhi Airport and forward calculation for SAMAR Estimate, based on preset block timings, is done for departing aircraft. If required, overflying aircraft are advised through Varanasi ACC to adjust their SAMAR crossing time slightly to accommodate departure. AWUT time is passed to Delhi Tower for ensuring timely departure for accommodating precisely between the two over flights.

Delhi CDM Process, is available on trial and Target Take off Time derived from A-CDM portal, will be a great help in accommodating the departures in future.

2.3 After the implementation of Manual ATFM, delays are reduced considerably. However, some slots are still saturated by overflying aircraft and it is not possible create a departure slot for some time.

2.4 Therefore, taking note of the above situation, suitable changes in the BOBCAT software may be considered by the participating states to ensure that optimum flight levels are made available to international departures from Delhi Apt. during 0630-0930 UTC.

2.5 Delay analysis : Pre and Post implementation of Manual ATFM Process:



2.6 There are no gains in terms of Carbon Emissions or Fuel Savings, since the departure delays prior to this process were on the bay with engine switched off.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note India's efforts and the information contained in this paper,

b) urge participating states to incorporate necessary changes in the BOBCAT Software,

c) discuss the relevant matters as appropriate.

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