

Combined ASIOACG/9 and INSPIRE/5 Meeting, 2014

Dubai, UAE, 12th to 14th November 2014

Agenda Item 3: ATM issues (ATFM)**Review of Traffic Flow Management Procedures in Mumbai Oceanic Airspace**

(Presented by AAI)

SUMMARY

The paper presents the information of traffic flow in oceanic airspace of Mumbai FIR. The paper also reviews the traffic flow management procedures applicable in the airspace and the efforts of AAI in improving the procedures.

1. INTRODUCTION

1.1 The traffic flow in the oceanic airspace of Mumbai FIR over Arabian Sea consists mainly of traffic between Mid East Asia and South East Asia/Australia and between Africa and South East Asia that cross each other over twenty four waypoints.

1.2 The oceanic airspace has twenty one International ATS routes and every day on an average 500 flights fly through the airspace daily.

1.3 This paper presents information about the traffic flow, the review of traffic flow management in the form of Flight Level Allocation Scheme and the efforts made by AAI to make optimum flight levels available to flights to so as to reduce fuel burn and emissions.

2. DISCUSSION

2.1 In the year 2003 six RNP10 routes were promulgated as a part of EMARRSH route structure and later in the year 2004 RVSM was implemented in Mumbai FIR. The only communication available then was in form of HF and surveillance was only through pilot position reports. A traffic flow management in the form of Flight Level Allocation Scheme was then introduced to ensure

a) separation between crossing traffic,

b) to ensure that a reasonably efficient flight levels are available for the Africa and South East Asia traffic flow which otherwise would get lower levels as they crossed of high density bunch of east west traffic.

c) to ensure safe transition from RVSM levels to CVSM levels as some of neighbouring FIRs were still using CVSM.

2.3 In 2006 FANS-1A data link services were introduced in the airspace in the form of ADS-C for surveillance and CPDLC for communication. Initially the percentage of aircraft equipped with ADS-C/CPDLC was low but over the years the percentage of new generation wide body aircraft

has grown steadily and now about 60 percent of aircraft have the FANS-1A equipage. The RNP capabilities of the new generation aircrafts are also better.

2.4 The FLAS provides that one flight level for east bound flights i.e. FL330 and one flight level for westbound flights i.e. FL300 is blocked for flights on ATS routes P751, B459, G450, G424 and A474 and is not available on ATS routes N563, M300, P570, L516 and L894.

2.5 In later years as gradually all the neighbouring FIRs have converted to RVSM airspaces and many wide body long haul aircraft have started operating in the airspace it has been reported that the FLAS and conventional longitudinal separations are restricting the flights to use less than optimum flight levels.

2.6 Airports Authority of India has implemented following measures that would increase the availability of optimum levels resulting in more efficient traffic flows,

- a) the reduced longitudinal separation of 50 Nm was introduced on all RNP 10 routes for suitably equipped aircraft in the first phase of three phased plan proposed by ICAO APAC for the region.
- b) AAI took initiative in establishing ASIO UPR zone through the INSPIRE partnership
- c) the FLAS is suspended for periods of less density of north south traffic i.e. 0530 to 0930 UTC
- d) reduced longitudinal separation of 30 nm has been introduced on 4 ATS ROUTES N571, P574, M300 and P570 between suitably equipped aircraft from 13th September 2014.
- e) The FLAS though restricts usage of certain levels on certain routes but does not prohibit the usage if traffic permits. Accordingly, traffic permitting, Mumbai ATC was allotting optimum levels as far as practicable. In past months a sensitization programme was launched for ATC controllers to encourage them to use FLAS only as last resort. Instructions have been issued to accept CPDLC capable flights on ATS routes A474, B459 and G424 at Non FLAS levels.

AAI is on the path to remove FLAS in a phased manner so as to ensure safety at all times.

- a) In the first phase the application of FLAS will be removed in the UPR zone. The trials for this has have already commenced and instructions have been issued to accept ADS/CPDLC capable aircraft on routes A474, G424 and B459 at current flight plan levels.
- b) In the second phase the FLAS for all west bound flights will be abolished
- c) In the final and most difficult to achieve phase the FLAS will be totally eliminated.

3. ACTION BY THE MEETING

3.1 The meeting is invited to

- a) Note the efforts made by AAI to improve efficiency of traffic flow,
- b) Suggest measures that could be implemented to improve the efforts,
- c) Support the initiatives of UPR and RHS.