



International Civil Aviation Organization

ICAO Thirteenth Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/13)

Bangkok, Thailand, 03 – 07 April 2023

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

ANALYSIS OF LEAD TIME OF FILING FLIGHT PLAN

(Presented by India)

SUMMARY

This paper presents an analysis of Flight Plan Submission Lead Time for all the Flight plans (FPLs) received at ATFM from 1st October 2022 to 31st Dec 2022. The purpose of the analysis is to monitor the compliance with provisions of AIP India ENR1.9, regarding Flight Planning requirements in the context of ATFM.

1. INTRODUCTION

1.1 Accurate and timely input in respect of flight intent is paramount to the correct traffic demand projection and eventually effective ATFM implementation. FPLs remain the main source of tactical demand prediction for ATFM systems. Early filing of error free FPL helps in improving the lead time required for ATFM measures and reduces the number of unexpected flights (pop-up). This in turn helps in improving the accuracy of demand-capacity imbalance prediction and optimizes slot utilization.

1.2 Asia/Pacific Regional Framework document for Collaborative ATFM (Version 4.0 October 2022), section 7.20, stipulates that;

“Requirements should be published in all relevant State AIP, specifying that, except where necessary for operational or technical reasons, FPL should be submitted not less than 3 hours prior to EOBT.”

1.3 AIP India, ENR 1.9 section 4 on Flight Planning in the context of ATFM recommends Flight Planning requirements for all Airline Operators –

“a) Flight plans shall be submitted at least 3 hours before the EOBT;

b) The window for filing FPL is between 3 Hours and 120 Hours (Five days) before the EOBT. Earlier filing of FPL will give a realistic demand data to the CCC and hence the requirement of ATFM measures can be identified early for better planning. Late filing of a flight plan will lead to inaccuracies in predicting the demand and may lead to undesirable delay;”

2. DISCUSSION

Analysis

2.1 An analysis has been conducted to find out the difference between the flight plan filing time and filed EOBT for all the FPLs received at ATFM system from 1st October 2022 to 31st Dec 2022. The purpose of the analysis is to monitor the compliance with provisions of AIP India, section 4, ENR 1.9 regarding Flight Planning requirements in the context of ATFM.

2.2 This flight plan filing requirement has been reiterated through the recently agreed ATFM common business rules (CBR) document and is recognized as a metrics to be monitored regularly for any improvement.

2.3 The distribution of FPL filing Time with respect to filed EOBT is shown as below

Filing of FPL prior to EOBT (Hours: Minutes)	Between 00:00 to 02:59	Between 03:00 to 5:59	Between 06:00 to 08:59	Between 09:00 to 11:59	Between 12:00 to 14:59	More than 15:00
Percentage	16.56	36.32	21.76	13.23	5.42	6.71

2.4 A similar sample study was carried out for the Month of November and December 2019, wherein flight plans were studied for the time they were received by the ATFM unit against their filed EOBT. It was then observed that 22.4% (46170 out of 206099) of Total Flights were filing Flight plans less than 3 hours prior to EOBT. In the present analysis 16.56% (86314 out of 521289) of Total Flights are filing Flight plans less than 3 hours prior to EOBT which shows an improving trend.

2.5 The breakdown of filing Flight plans less than 3 hours prior to EOBT is as follows-

Filing of FPL prior to EOBT (HH:MM)	Between (00:00 to 00:59)	Between (01:00 to 01:59)	Between (02:00 to 02:59)
Percentage	3.20	4.40	8.95

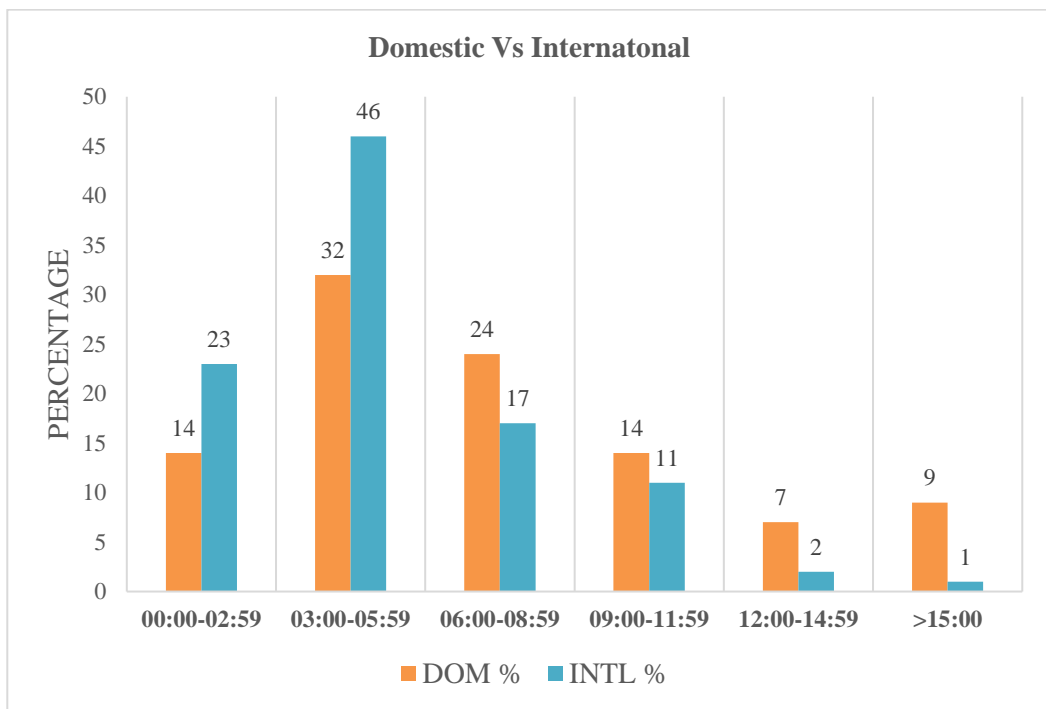
2.6 Further, the FPL sample data has been categorized for analysis as follows-

- a) Lead time for FPLs filed for Domestic flights v/s Lead time for FPLs filed for international flights
- b) Lead time for FPLs filed by Scheduled Operators v/s Lead time for FPLs filed by operators other than scheduled operators (includes military, general aviation and non-scheduled).

2.7 The EOBT and FPL filing time difference less than 3 hours has been summarized below

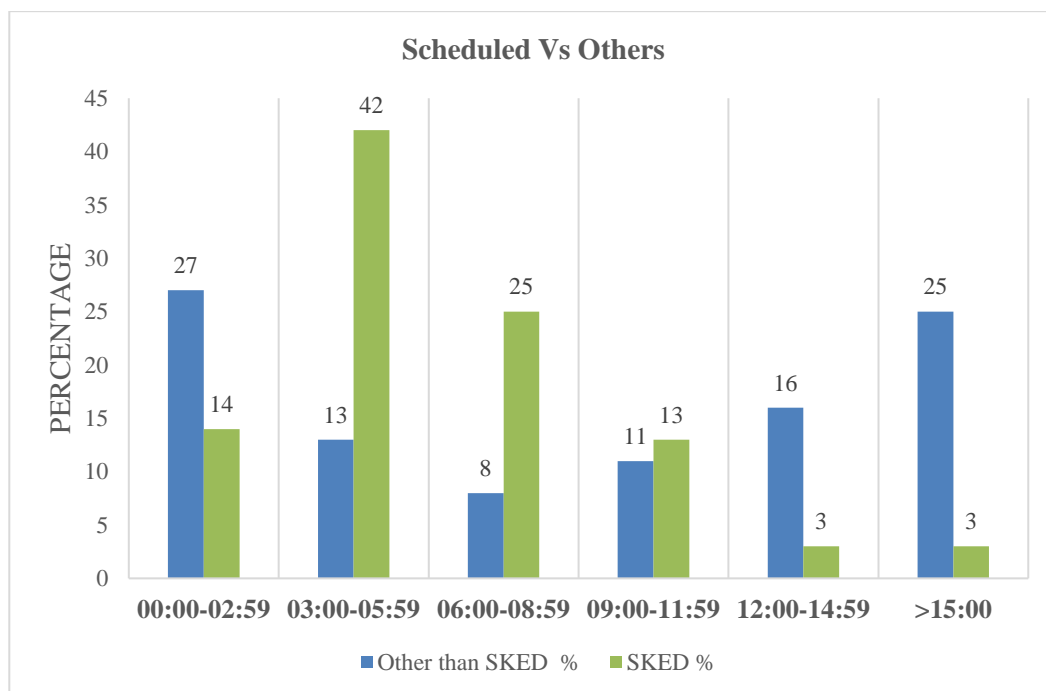
	Total	Group 1		Group 2	
		Domestic	International	Scheduled	Other than Scheduled
No of Flights	521289	357105	164184	424394	96895
No of Flights (EOBT-FPL filing time) less than 3 Hours	86314	48538	37776	60371	25943
As Percentage	16.56	13.59	23.01	14.22	26.77

2.8 The comparison between the domestic flights and international flights is shown below



2.9 Only 14% of all the FPL received for domestic flights were filed less than 3 hours prior to EOBT while for international flights this figure is 23%.

2.10 The comparison between scheduled flights and other than scheduled flights (includes military, general aviation and non-scheduled) is shown below



2.11 Only 14% of all the FPL received for scheduled flights were filed less than 3 hours prior to EOBT while for remaining flights this figure is 27%. However, very few FPL for scheduled flights were filed more than 12 hours in advance while this number is significant for the remaining FPLs filed. As a result, the mean value of the time difference (EOBT-filing time) is less for scheduled flights compared to the remaining flights. The mean lead times for filing FPLs are summarized below-

EOBT-FPL filing time	Domestic	International	Scheduled	Other than Scheduled
Mean (HH:MM)	07:38	05:14	06:19	09:20

Key Observations

2.12 The initial demand projection at ATFM is based on Airline schedule. However, filed EOBT has frequently been observed to vary from Scheduled off block time (SOBT), although the difference may be small. This leads to sudden change in demand charts as observed by traffic flow manager when FPL is filed close to the EOBT.

2.13 Sudden peak in demand may require initiation of ATFM measures at short notice which is undesirable.

2.14 Filing flight plan with sufficient lead time optimizes the delay distribution among affected flights.

2.15 One of the major reasons identified for non-compliance of CTOT in India is the late receipt of CTOT which in turn is mainly due to late filing of FPL.

2.16 The ATFM unit is continuously engaged in improving the FPL submission Lead Time mainly with the domestic scheduled airlines. This has also been recapitulated through the Common business rules.

2.17 CCC regularly shares data pertaining to late filing of EOBT with the concerned airlines.

2.18 Early filing of FPL helps in providing longer lead time with improved predictability for application of ATFM measures which in turn allows use of GDP with more advance notice to stakeholders. Hence short notice or unplanned repetitive use of tactical ATFM measures are reduced.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

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