



ICAO

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Agenda Item 3: Reports from Asia/Pacific RMAs and EMAs

IDENTIFIED AIRSPACE RISK OCCURRENCES IN INDIAN FIRs

(Presented by Airports Authority of India)

SUMMARY

This paper presents the identified airspace risk occurrences in the four Indian FIRs as reported by ATC during the period 1st January to 31st December 2020. The paper also presents the various mitigation measures taken by India.

1. INTRODUCTION

1.1 BOBASMA in addition to its role as an EMA is also the RMA Point of Contact (POC) in India for filing of Large Height Deviation (LHD) reports submitted by the Indian ACCs/OCCs. During the period 1st January to 31st December 2020 there were NIL reports of LLD and LLE in the BOBASIO airspace. However, there were 85 LHDs filed by Indian ACCs/OCCs and another 26 LHDs filed by the accepting ACCs/OCCs adjacent to the four Indian FIRs.

2. DISCUSSION

2.1 **Table 1** is a summary of the Large Height Deviations (LHDs) reported by the ACCs/OCCs in the four Indian FIRs and those adjacent to and having common FIR boundary with the Indian FIRs, during the period, January to December 2020.

S.No	Area Control Centre	LHD reports Filed	LHD Categories		
			B	D	E
1	Chennai	15			15
2	Delhi	3	2	1	0
2	Kolkata	8			8
3	Kuala Lumpur	3			3
4	Male	16			16
5	Mumbai	59	-	1	58
6	Muscat	4			4
7	Sanaa	3			3
	Total	111	2	2	107

Table 1: Summary of LHD Reports for the period January to December 2020

2.2 **Table 2** gives the explanation of the different Category of LHDs that occurred in the airspace of the four Indian FIRs along with the number of reports in the respective Category.

LHD Category	Definition	Number of Reports	Duration at Incorrect Flight Level in Minutes
B	Flight crew climbing/descending without ATC Clearance.	2	0
D	ATC system loop error; (e.g. ATC issues incorrect flight level clearance or flight crew misunderstands flight level clearance message).	2	0
E	Coordination errors in the ATC to ATC transfer or control responsibility as a result of human factors issues (e.g. Late or non-existent coordination, incorrect time estimate/actual, flight level, ATS route etc., not in accordance with agreed parameters).	107	401
	Total	111	401

Table 2: Details of different LHD Categories.

2.3 Two CAT-B LHDs occurred in Delhi FIR when flight crew climbed without ATC clearance and crossed through the levels of the reciprocal traffic.

2.4 The two CAT-D LHDs occurred due to mistakes committed by ATC. Of the two CAT-D LHDs, one occurred in Delhi FIR and the other in Mumbai FIR.

2.5 Both the CAT-B and CAT-D LHD occurrences were investigated by the Directorate General of Civil Aviation, India (DGCA, India) and remedial action taken.

2.6 A total of 107 CAT-E LHDs were filed of which 81 were filed by the ACCs/OCCs in the four Indian FIRs and the rest 26 were filed by external ACCs/OCCs having common FIR boundary with any of the four Indian FIRs.

2.7 **Table 3** gives the details of the Category – E LHDs reported by the four Indian FIRs and four external ACCs/OCCs having common FIR boundary with an Indian FIR. The FIR boundary between Mumbai/Muscat, Mumbai/Male, Chennai/Kuala Lumpur, Kolkata/Yangon were the major LHD hot spots in 2020.

Flight Information Region	Number of CAT-E LHD Occurrence	Time Duration (Minutes)	Transferring Unit	Number of Occurrence	Time Duration (Minutes)
Chennai	15	0	Kuala Lumpur	8	0
			Yangon	3	0
			Mumbai	4	0
Kolkata	8	0	Yangon	8	0
Mumbai	58	302	Karachi	1	0
			Muscat	48	260
			Mogadishu	8	42
			Sanaa	1	0
Kuala Lumpur	3	0	Chennai	3	0
Male	16	55	Mumbai	16	55
Muscat	4	0	Mumbai	4	
Sanaa	3	44	Mumbai	3	44

Table 3. CAT-E LHD Occurrence within Indian FIRs.

2.8 All the Long duration CAT-E LHDs had occurred in the oceanic airspace of Mumbai due to coordination errors committed by ACCs/OCCs adjacent to Mumbai FIR. There were 6 LHDs with duration ≥ 20 minutes of which 2 were of duration > 30 minutes.

2.9 Though the huge reduction in the number of LHDs can be attributed to the COVID related reduction in air traffic, the location and LHD duration of the occurrences in 2020 are clearly symptomatic of the ever-continuing safety Hot spots in the airspace of the four India FIRs.

2.10 India as part of its efforts to reduce the risks due to coordination errors and other near boundary ATS incidents had planned to implement AIDC with all the neighboring FIRs. AIDC Test/Trails were conducted during the past one year with many of the neighboring ATSUs. **Table 4** below gives the current status of implementation of AIDC with neighboring FIRs.

S. No	Involved ATS Units		Test/Trial	Date/ Month	Remarks
1.	Chennai	Kuala Lumpur	Implemented		LoA signed. Effective from 1 st June 2021. ABI, EST, TOC/AOC implemented. CDN with voice confirmation.
2.	Chennai	Male	Trial operations successful		Safety Assessment conducted. LoA being finalized.
3.	Chennai	Colombo	Test	November 2015	Trials to commence once issue addressed by Colombo
4.	Chennai	Yangon	Trial	January 2018	Yangon to address issues of incorrect reference number.
5.	Delhi	Lahore	Trial	March 2021	Identified issues in both the automation systems.

6.	Kolkata	Yangon	Trial	On-going	Most message exchanges successful. LoA to be signed.
7.	Mumbai	Muscat	Test	March 2021	Identified problems in Indra automation system at Muscat. Muscat informed they would resolve the issue with vendor and revert back for further testing.
8.	Mumbai	Mogadishu	Test	June 2021	Identified minor issues with Mogadishu automation system. Resolution by Mogadishu awaited.
9.	Mumbai	Mauritius	Test	August 2021	Two rounds of testing conducted and identified issues being addressed
10.	Mumbai	Male	Trial operations successful		Safety Assessment conducted. LoA being finalized.

Table 4. Status of Implementation of AIDC with neighboring FIRs.

2.11 India is ready to conduct AIDC Test/Trials between Chennai-Jakarta, Mumbai-Karachi, Kolkata-Dhaka, Ahmedabad-Karachi and Varanasi-Kathmandu whenever the other adjoining ATSU is ready.

2.12 Of the Six external FIRs in the Arabian sea having common FIR boundary with Mumbai/Chennai, AIDC Testing/ Trial operations are ongoing with Four FIRs (Muscat, Mogadishu, Mauritius & Male). Pakistan informed that they will take up AIDC testing between Karachi – Mumbai after testing between Lahore-Delhi. Seychelles is the other external FIR still not ready to test AIDC with Mumbai. Once AIDC is successfully implemented between the above mentioned ATSUs in the Arabian sea the number of CAT E LHDs is expected to greatly reduce.

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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