



International Civil Aviation Organization

Middle East Regional Monitoring Agency Board

Twentieth Meeting (MIDRMA Board/20)
(Muscat, Oman, 10 – 11 November 2024)

Agenda Item 4: RVSM Monitoring and related Technical Issues

**ENHANCING AIRSPACE SAFETY BY REDUCING CROSS-FIR BOUNDARY LHD EVENTS
AT THE INTERFACES BETWEEN MUSCAT AND MUMBAI / KARACHI FIRS**

(Presented by Sultanate of Oman)

SUMMARY

This paper presents the current status of LHDs occurring at the interface between MID and APAC cross-FIR boundaries adjoining the Muscat FIR. It highlights initiatives undertaken by Oman and emphasizes the need for inter-regional collaboration to effectively address these issues.

Action by the meeting is at paragraph 3.

REFERENCES

- ATM SG/10-WP/7, 2024
- MIDANPIRG/21 Report, 2024
- MIDRMA Board/19 Report, 2023
- MIDRMA Board/19-IP/5, 2023

1. INTRODUCTION

1.1 MIDRMA is continuously monitoring LHD reports along the eastern interface of the MID Region, emphasizing the need to close the safety protocol and minimize associated risks through the application of Automated Data Exchange (ADE) technologies.

1.2 Previous MIDRMA Board meetings have also highlighted critical levels of LHD occurrences and focused on the importance of regional collaborations to address the associated challenges.

1.3 The majority of reported LHDs primarily stem from human error, ATM system limitations, and procedural issues.

1.4 Implementing ADEs, such as AIDC/OLDI between cross-FIR ATS units, can significantly reduce such operational deficiencies and help decrease LHDs.

2. DISCUSSION

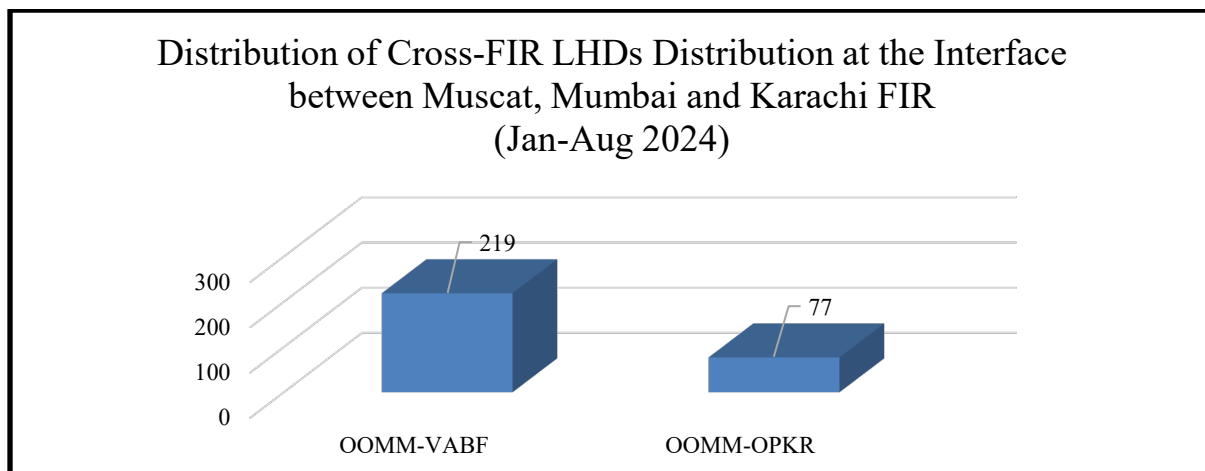
2.1 Oman has implemented a comprehensive strategy to reduce LHDs, collaborating closely with all adjacent FIRs to facilitate the consistent exchange, study, and investigation of LHD occurrences.

2.2 An internal mechanism has been established to monitor these events and ensure corrective actions are followed up with relevant stakeholders. Additionally, Oman has further strengthened cooperation with neighboring FIRs to enhance data exchange connectivity, reduce coordination-related LHDs, and improve ATM safety.

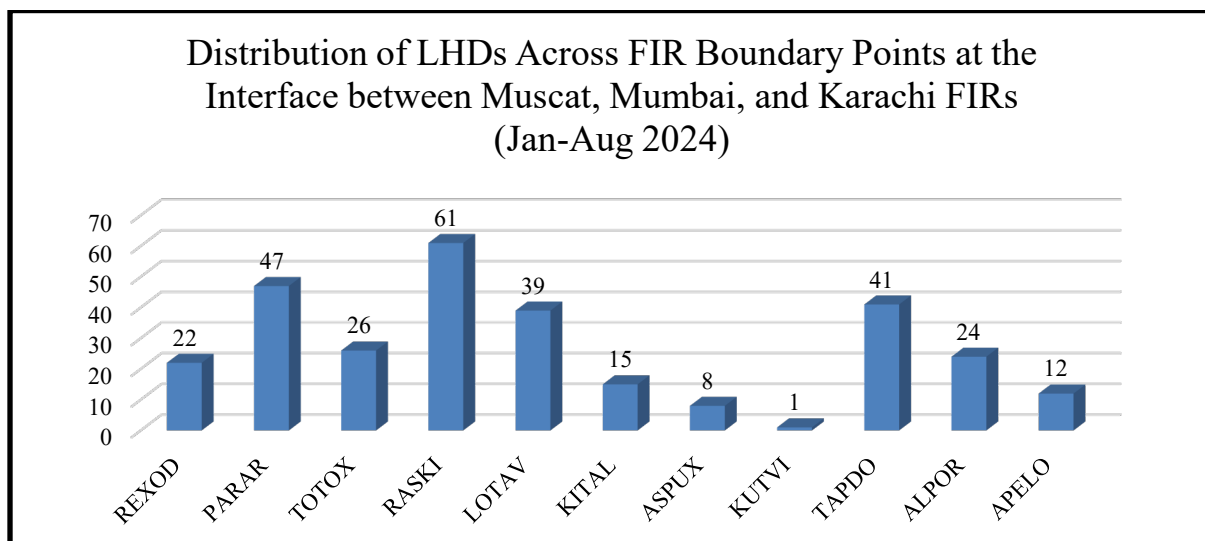
2.3 Oman CAA recognizes that ATM Coordination Meetings with neighboring FIR authorities are an effective strategy for reducing LHD occurrences. Accordingly, coordination meetings with the Airports Authority of India (AAI) in August 2023 and the Pakistan Civil Aviation Authority (PCAA) in November 2023 facilitated serious discussions on minimizing LHDs.

2.4 Multiple AIDC trials with India (Mumbai ACC) have been conducted through 2023, with connectivity tests to resume after India’s ATM system upgrade. AIDC communication with Pakistan (Karachi ACC) has also been established in 2024, pending readiness on Pakistan’s side for tests. Successful ADE testing is expected to significantly reduce LHDs by minimizing human-related errors associated with the manual exchange of data.

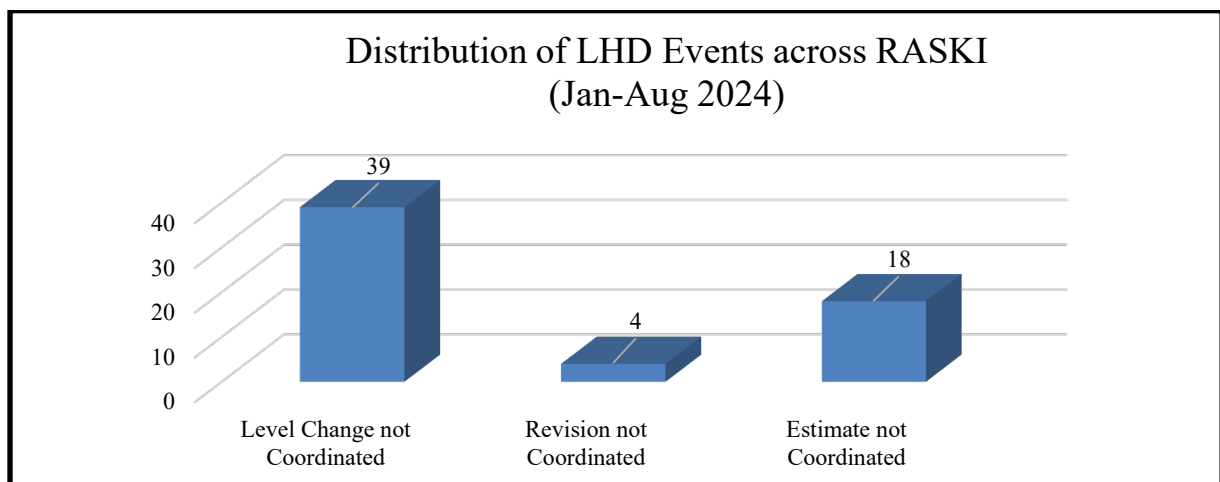
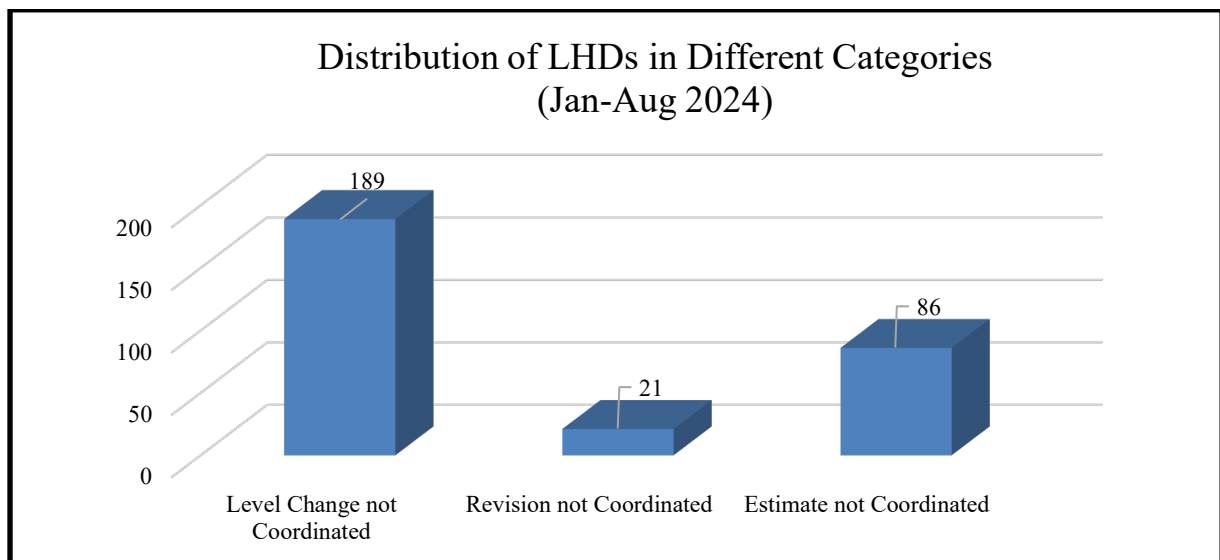
2.5 A recent study of LHD reports from January to August 2024 revealed that the majority of LHDs, totaling 296, were identified as Cross-FIR coordination failures, with 219 associated with Mumbai- a decrease of about 20% compared to the same period in 2023.



2.6 The study identifies RASKI, PARAR, TAPDO and LOTAV as primary FIR boundary points of concern at the MID-APAC airspace interface with Mumbai and Karachi FIRs, showing highest number of LHD events.



2.7 Among the various LHD events related to coordination failures, missing level change coordination was the most alarming.



2.8 LHD events are analyzed from three perspectives: cross-FIR, cross-boundary point, and event category, providing clear insights into key areas of concern.

2.9 Since the LHDs discussed in this paper pertain to cross-regional airspace interfaces, regional inter-state activities alone may be insufficient. Extensive discussions at the cross-regional level are needed to enable productive dialogue on mutual concerns and to establish resolutions that are agreed upon across regions.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information in this paper;
- b) discuss on the need of inter-regional RMA meetings to effectively resolve LHD issues, and to enhance airspace safety; and
- c) discuss any relevant matters as appropriate.