



# ICAO

## INTERNATIONAL CIVIL AVIATION ORGANIZATION

### Twenty-Fifth Meeting of the AFI Planning and Implementation Regional Group (APIRG/25)

7 – 11 November 2022

#### Agenda Item 3: AFI Airspace Monitoring

#### AFI AND MID REGION LARGE HEIGHT DEVIATIONS (LHD) 2022

(Presented by ARMA)

<b>SUMMARY</b>	
This working paper presents the summary of the increasing reports of LHD of Category E that occur in the Eastern part of the AFI Region reported by Sanaa ACC under the MIDRMA and how it has affected their ICAO TLS.	
<b>Action by the Meeting is as per paragraph 3</b>	
<i>Strategic Objectives</i>	A, B, D and E

## 1 INTRODUCTION

1.1 The AFI Regional Monitoring Agency (ARMA) has been receiving Large Height Deviations (LHD) Category E since October 2018 from the MIDRMA. These reports have been occurring on a daily basis and there has been no effective resolution to these reports. AFI States involved are Somalia, Djibouti, Eritrea and Ethiopia. The reports are only reported by the MIDRMA and the States in the AFI Region have not provided their version of the co-ordination failures as they occur at the FIR boundary into the MID Region.

1.2 The challenge of increasing Large Height Deviations occurrences at the boundaries of the MID Region and AFI Region continues to prevail. As the agency responsible for monitoring the subject deviations, ARMA has expressed concern and calls for action to eliminate the deficiencies.

1.3 Category 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):

**Example 1:** Sector A coordinated Aircraft 1 to Sector B at FL380. The aircraft was actually at FL400.

**Example 2:** The Sector A controller received coordination on Aircraft 1 for Waypoint X at FL370 from Sector B. At 0504 Aircraft 1 was at Waypoint X at FL350 requesting FL370.

## 2 DISCUSSION

2.2 ARMA and MIDRMA convened several meetings to discuss the steadily rising Large Height Deviations at the MID Region and AFI Region's borders.

2.3 As a result of these coordination failures, Yemen ACC, which operates procedurally because it lacks surveillance, changed its operating practices and stopped issuing climb and descend clearances close to the boundary to mitigate the risk of a conflict at the boundary.

#### 2.4 **APIRG/22 Conclusion 22/16: Implementation of eleventh TAG meeting report**

**That:**

- a) *States update the contact details of RVSM National Programme Managers or Focal Points by 31 December 2019;*
- b) *ICAO and ARMA jointly conduct seminars for State agencies and RVSM NPM/Focal Points in 2019 to inform and/or update them on RVSM requirements and post implementation responsibilities of States, ANSPs, Airspace Users and other stakeholders;*
- c) *ICAO ESAF and WACAF Regional Offices facilitate Coordination Meetings for Addis Ababa, Kinshasa and either Gaborone or Lusaka FIRs, and ensure the participation of neighbouring FIRs and/or ATC Units to resolve the high numbers of Coordination Failures by 30 June 2020;*
- d) *States/ANSPs be urged to report all vertical events involving large height deviations and take the necessary corrective action to reduce the total vertical risk further down to below the total vertical Target Level of Safety;*
- e) ***AFI Trans-regional co-ordination failures between Sanaa FIR and Mogadishu, Asmara and Djibouti should be given immediate attention due to the number of events that have occurred; and***
- f) *States/FIRs which have not yet done so are urged to submit all the RVSM data from 2018 to 2019 and establish a mechanism for submission of monthly data to ARMA.*

2.5 ICAO MID organized a Virtual AFI MID ATM coordination meeting held on 28 June – 2 July 2021, Virtual ATM SG/8 meeting 15-18 November 2021 and Virtual MID RMA board 17 meeting 18 Jan 2022 all addressed the Issue of LHD however, to this point, no prompt action has been taken.

#### 2.6 **Hot Spots**

2.6.1 There are three hotspots between the ARMA and MIDRMA that are a cause for concern due to the regular trans-regional coordination failures that occur. The Sanaa FIR submits numerous large height deviation reports for three FIRs in the AFI Region namely Mogadishu FIR, Asmara FIR and Addis Ababa FIR (over Djibouti airspace). All the Large Height Deviations that occur between the AFI and MID Region are ATC transfer of control coordination errors due to human factors, which are called LHD Category E.

2.6.2 With regard to the Reporting Point (RP) PARIM and TORBA, it has been noticed from the periodical reports received from the pilots and Aden Approach Control unit, that the said RPs always have LHD reports due to a large number of scheduled, unscheduled and uncoordinated traffic from all the states passing over/crossing PARIM at once.. This is because of the non-receipt of the timely Flight Plan messages, Departure messages followed by Estimate messages to those countries/ states over whose airspace/FIR an aircraft is intended to fly.

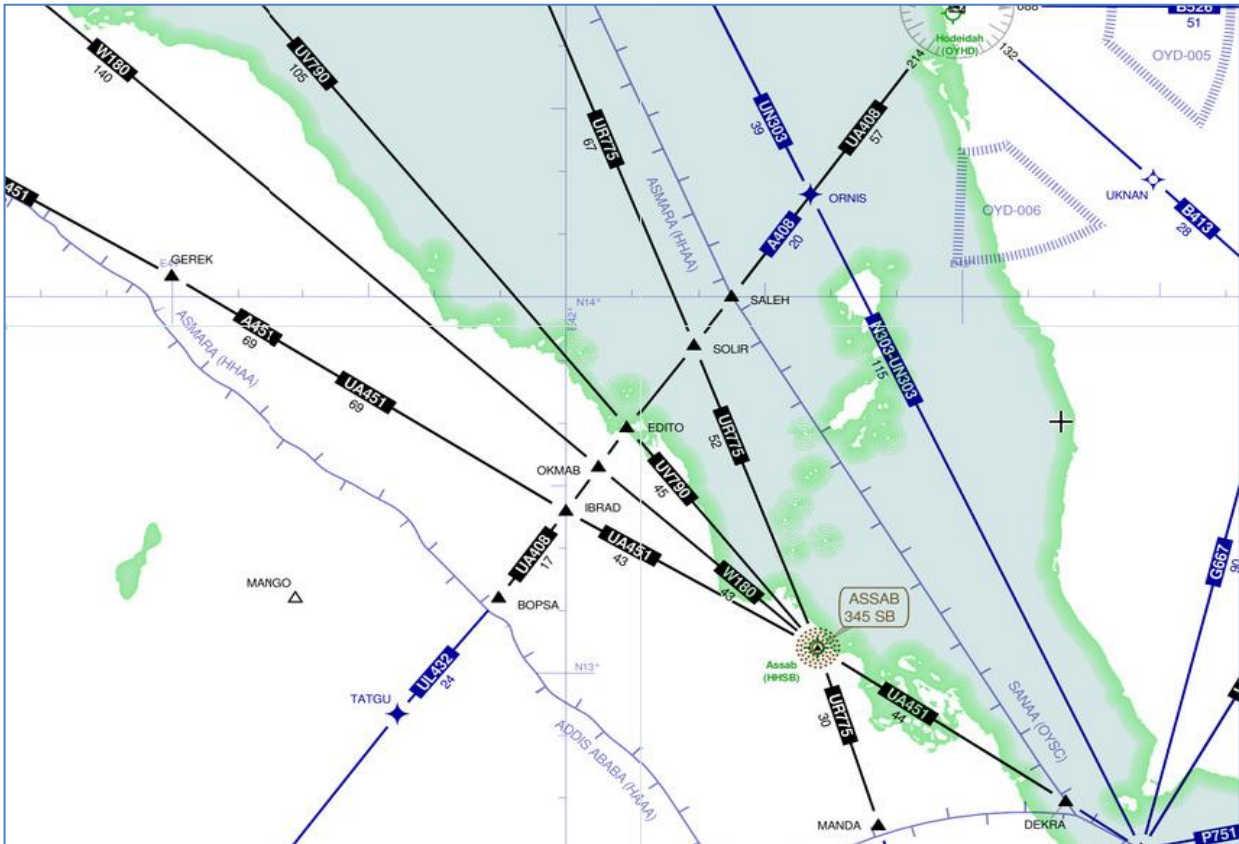


Figure 1: Hotspot between the Addis Ababa FIR and Sanaa FIR.

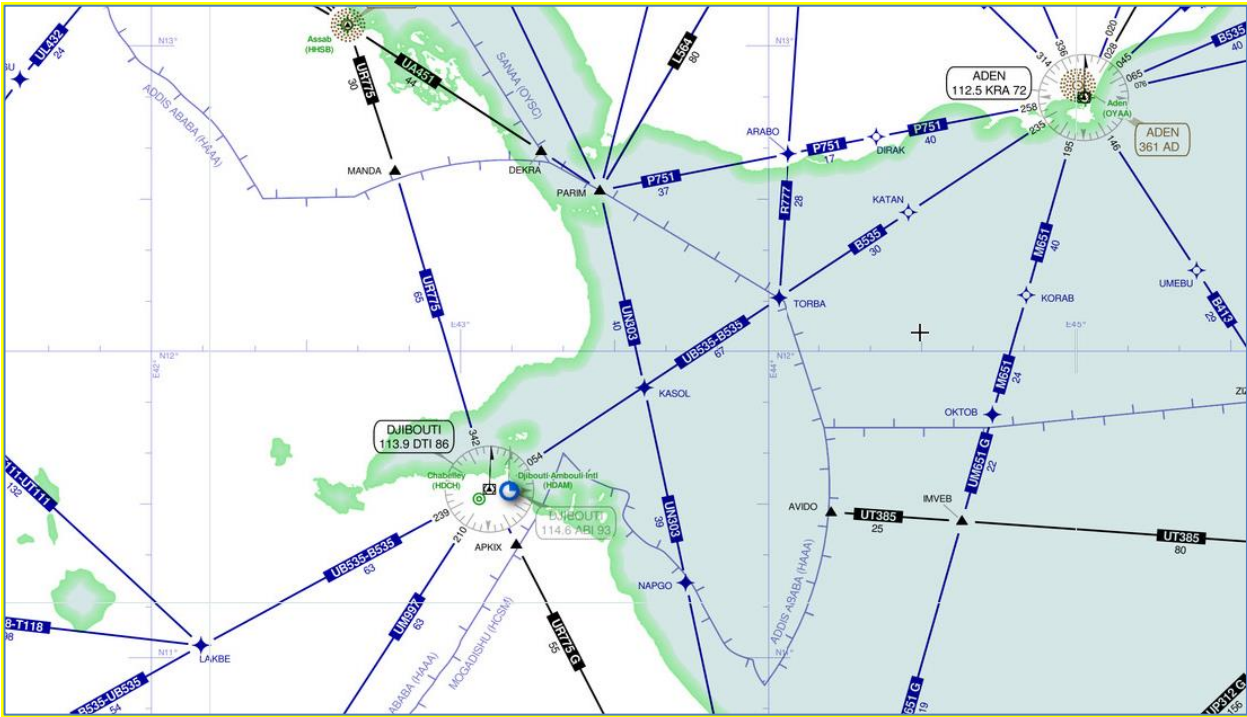


Figure 2 : Hotspot between the Djibouti FIR and Sanaa FIR.

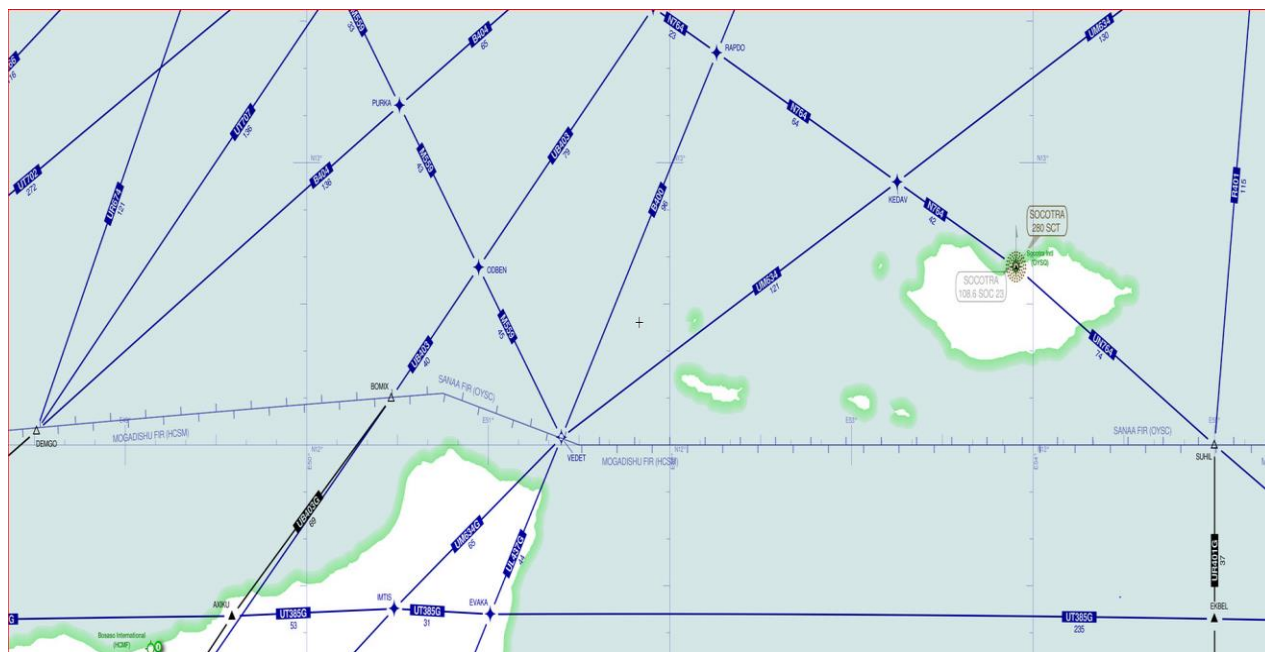


Figure 3: Hotspot between the Mogadishu FIR and Sanaa FIR.

2.6.3 Hotspots positions are DEKRA, PARIM and TORBA.

## 2.7 Conclusion

2.7.1 ICAO Doc. 9574 RVSM Implementation Manual section 6.4 specifies that ATC authorities are responsible for reporting Large Height Deviations (LHD) to the responsible Regional Monitoring Agency (RMA). The RMA will use this information to assess the overall risk of RVSM airspace as LHDs are main contributing factors to the risk of mid-air collision.

2.7.2 Over years of safety promotion by States, ATC authorities, and RMAs, there were many changes in personnel, procedures, and circumstances. Ambiguous LHD events were raised and clarified. LHD taxonomy was redefined. The ARMA has come to develop material to promote awareness to LHD within the Region and hope it will assist in spreading awareness resulting in reduced LHD occurrences. The package includes:

**Attachment 1** to this paper is the LHD frequently asked questions (LHD FAQ). It is intended to promote a common understanding of LHD in one page.

**Attachment 2** to this paper is the LHD taxonomy. It provides a comprehensive list of generic LHD classification.

**Attachment 3** to this paper is the LHD reporting form which will be on the ARMA Website [www.arma.agency](http://www.arma.agency).

**Attachment 4** to this paper is the Cross-Boundary LHD coordination procedure. To ensure that there is coordination between the two involving ATS units to uncover the cause and prevent future occurrences, the following additional coordination procedure is recommended for every LHD occurrence that involves another ATS unit.

2.7.3 States are encourage to have a LHD Preventative/Mitigation Measures in place. States / ANSPs to keep track of the mitigation measures which are identified and planned, as well as the effectiveness of those measures.

2.7.4 States are encouraged to have trained Human Factor Specialists, so that the State can recognize HF considerations in their daily work activities, including in their own internal organization, and to know when the help of a qualified and experienced HF professional should be sought.

### 3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) Note the information contained in this paper;
- b) Consider distributing the LHD FAQ (**Attachment 1**) to promote LHD reporting among relevant units;
- c) Consider the scope of the LHD point of contacts if needed to expand for all African-Indian Ocean Region, and update the point of contact, if necessary;
- d) Consider the application of the Cross-Boundary LHD coordination procedure (**Attachment 4**) with the LHD Point of contacts; and
- e) Endorse point 2.7.3 and 2.7.4 to help mitigate LHD occurrences.