



*International Civil Aviation Organization*

**AIR NAVIGATION SYSTEMS IMPLEMENTATION GROUP**

**First Meeting (ANSIG/1)**  
*(Cairo, Egypt, 10 – 12 February 2015)*

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**Agenda Item 5: Air Navigation Safety matters and Coordination with RASG-MID**

**REPORTING OF LARGE HEIGHT DEVIATION**

*(Presented by MIDRMA)*

**SUMMARY**

This paper presents an update on the Large Height Deviations reported by States to the MIDRMA.

Action by the meeting is at paragraph 3.

**REFERENCES**

- ATM SG/1 Report
- MIDANPIRG/14 Report
- MIDRMA Board/13 Report
- MID RVSM SMR 2012-2013

**1. INTRODUCTION**

1.1 The ICAO Doc. 9574, Manual on Implementation of 300 m (1000 ft.) Vertical Separation Minimum between FL 290 and FL 410 inclusive, calls for regional review of Large Height Deviation Reports (LHD) occurring in airspace in which Reduced Vertical Separation Minimum has been implemented.

1.2 The RVSM-related safety issues required to be examined by the Scrutiny Group that would specifically address matters relating to the MID RVSM operations. This group will essentially analyse and validate Large Height Deviation (LHD) from archives maintained by the States and the MIDRMA with the objective of determining which reports from those archives influence the risk of collision associated with application of RVSM, and where applicable propose remedial actions and procedures which will be taken up through the MIDRMA processes.

**2. DISCUSSION**

2.1 The MID RVSM Scrutiny Group convened on 10th March 2014 in Bahrain during the MIDRMA Board/13 Meeting (09-12 March 2014) and chaired by the MIDRMA and attended by representatives from 7 Member States (Bahrain, Egypt, Iran, Saudi Arabia, Sudan, Oman and Yemen), also participated by Airworthiness Inspectors from Bahrain and Qatar and monitored by representatives from Euro RMA, the developer of the MIDRAS Software from the University of New South Wales in Canberra-Australia and the ICAO MID Office.

2.2 The MIDRMA Board decided to include in its work programme the agenda of the MID RVSM Scrutiny Group to improve its efficiency and to facilitate the implementation of its outcome and to ensure States involved in contributing large height deviation reports that adverse trends can be identified and remedial actions can be taken to ensure that risk due to operational errors will not be increased and can be reduced or eliminated.

2.3 The MIDRMA presented to the Scrutiny Group all Coordination Failure Reports (CFRs) and Large Height Deviation Reports (LHDs) received from all MIDRMA member states during the period of 1st September 2013 until 08th March 2014. The MIDRMA validated and endorsed the rest of the reports received from 09th March 2014 until 31st December 2014.

2.4 The lack of reporting Large Height Deviations and Coordination Failures by some of the MIDRMA Member States was addressed again during this meeting, also the continuous filing of "NIL LHDs" especially by FIRs with high volume of traffic continued for the fifth consecutive SMRs which has a negative effect on the computed Targets Level of Safety. The MIDRMA reported to the meeting that the overall reporting of LHDs is not acceptable and must be improved.

2.5 In response to the request made by MIDRMA Board/12 meeting to develop an online reporting tool for the submission of LHD reports and to improve the level of reporting by States, the MIDRMA announced during this meeting the availability of this system in the MIDRMA website and provided the necessary training and the instructions manual for all Member States to start for the submission of LHD reports via this tool.

2.6 The MIDRMA reported to the meeting that with effect of 01st May 2014 will not accept any more the old format of Coordination Failure Reports (CFRs) and Altitude Deviation Reports (ADRs) as the online LHD reporting tool will be the only recognised and approved method for reporting LHD and all Member States are NOT required to send CFRs or ADRs anymore.

2.7 A total of 29 LHD reports contributed in the risk analysis, the MIDRMA evaluated the rest of the reports filed for the period followed the Scrutiny Group meeting until 31st December 2014. The meeting noticed the same main reasons for filing the LHD reports still exist from the last SMR as the extreme majority of the reports were because of the transferring units failed to coordinate their traffic to the accepting units, the participants analysed the LHD reports filed during that period and discussed their impact on the implementation of RVSM in the Middle East region and determined parameter values necessary for the collision risk estimation.

The total Altitude Deviation period gathered from the validated LHD occurrences in the MID Region airspace was = 38.33 minutes.

2.8 The following observations were addressed and discussed during the meeting:

- a. During this reporting period, Bahrain submitted LHD reports to the MIDRMA related to all the neighbouring FIRs, the Scrutiny Group noticed the extreme majority of these reports were concentrated at waypoints RABAP and LONOS (FIR boundary points with Kuwait) and NARMI, LADNA, DAROR and ULIKA (FIR Boundary Points with Jeddah & Riyadh FIR), also some other reports at the boundary points with Emirates and Tehran FIRs.

Note 1: The MIDRMA noticed the LHD reports started to build up at waypoint KUVAR (Bahrain/Tehran FIR boundary Waypoint), both ATC units are required to act immediately and review the reasons for these occurrences to ensure safe RVSM operations always exist.

Note 2: The number of LHD reports at the Bahrain FIR boundary points with Kuwait and Jeddah/Riyadh FIRs found to be the highest in the ICAO Middle

East Region (Jeddah & Riyadh ATCUs reported after investigated these LHD reports that some reports are NOT Valid) Bahrain ATC must make sure before filing any LHD report that the occurrence is valid and meets the conditions for filing the LHD Report.

Note 3 :The MIDRMA excluded all the non-relevant reports and validated the occurrences which has direct impact to the RVSM operations as most of these occurrences were observed and rectified by the controllers working in Bahrain ACC well in advance, but that does not mean the situation is safe all the time. All concerned ATC Units involved in these LHD reports are required to take all necessary measures to rectify the problems at these waypoints and must work with each other to eliminate or reduce these errors as soon as possible. The MIDRMA consider the level of reporting LHD by Bahrain is Satisfactory.

- b. The LHD reports received from Egypt were very few, the sudden decrease in the number of LHD reports submitted by Egypt were discussed during the meeting and Egypt MIDRMA Board Member promised to address this issue to the concerned ATC Authority to improve the level of reporting , but despite several attempts to remind the concerned focal point to submit the required reports, the MIDRMA didn't see any improvement at all, therefore the MIDRMA consider the level of reporting LHD by Egypt is Unsatisfactory.
- c. The Scrutiny Group evaluated the reports received from the I.R. of Iran and found most the reports were related to Kabul ATCU at position CHARAN, also there were a few at SOKAM and PIRAN, the meeting noticed a good improvement concerning the reports filed at position DENDA related to Muscat ATCU comparing to the last reporting period although there were very few reported from Muscat ATCU side at the same position.

Note 1: The MIDRMA didn't receive any LHD reports related to Baghdad ATCU from Tehran, this conclude the problems addressed between the two ATCUs in the last Scrutiny Group meeting have been resolved.

Note 2: The MIDRMA received LHD reports through MAAR (Monitoring Agency for Asia Region) filed by Kabul ATCU related to Tehran ATCU and MAAR raised their serious concern in the number of LHD occurrences near position GADER, which is a transfer of control point between Tehran and Kabul ACCs. The frequency seems to have increased quite a lot in 2014 and immediate action and necessary measures must be taken by both ATCUs to ensure safe RVSM operations exist all the time.

Note 3: Since May 2014, the MIDRMA didn't receive any LHD report from I.R. of Iran focal point, therefore the MIDRMA consider the level of reporting LHD by Iran is Unsatisfactory.

- d. During this reporting period, the MIDRMA received LHD reports from Jeddah & Riyadh ATCUs but not related to all their neighbouring FIRs, half of these reports were filed at position KITOT which is the transfer of control point with Cairo ATCU. The same problems exist at this point since last meeting, these occurrences are critical for RVSM operations due to the close proximity to NWB which is a converging point west of KITOT inside Cairo FIR. The traffic converging at same flight levels transferred by Cairo to Jeddah at KITOT without prior coordination or approval from Jeddah ATCU can cause serious incidents. The MIDRMA consider the level of reporting LHD by Saudi Arabia is Satisfactory.

Note 1: Jeddah addressed several safety issues required to be considered by the concerned ATCU to improve safety in handling traffic within their RVSM airspace:

LADNA: This is a transfer control point with Bahrain ATC, located on AWY UN318 which serves traffic landing Qatar airports, this WP can get very busy especially during peak hours as Bahrain ATC accept FL 310 only at this point and FL 290 by prior approval.

KITOT: This is a transfer control point on AWY UN697 with Cairo ATC where the accepting ATCU accept one westbound flight level from Jeddah ATC which can put the controllers in Jeddah at tremendous pressure during peak hours to regulate traffic at this point.

MIPOL: This is a transfer control point on AWY G660 (used for eastbound TFC only) this point located 82 NM west of Jeddah VOR, the proximity of this point to OEJN is causing serious problems to Jeddah ATC for traffic transferred at this point landing OEJN as Khartoum ATC use FL330 ONLY, this is a very high level for landing OEJN especially during periods with strong tail wind, Khartoum ATC required to consider another flight levels to facilitate traffic landing OEJN without any difficulties.

- e. Sudan MIDRMA Board member attended the Scrutiny Group meeting for the first time and because there were no reports filed during the meeting the group was unable to discuss any issues related to Khartoum FIR, the MIDRMA would like to confirm that the level of reporting LHD by Sudan focal point is Satisfactory.
- f. Yemen filed LHD reports for the month of February 2014 ONLY and nothing has been received from March until December 2014. The filed reports were concentrated at position NADKI north of Sanaa FIR which is the transfer control point with Jeddah ATCU, the meeting discussed these occurrences of traffic entering Sanaa FIR without coordination with the presence of representatives from Jeddah ATC, this kind of coordination failures can cause risk to other known traffic under their control within the RVSM airspace .

Note 1 : Yemen MIDRMA focal point stopped sending LHD reports since Feb 2014, despite the reminders sent for submitting the required data each month, the MIDRMA didn't receive any response from the concerned focal point, therefore the level of reporting LHD by Yemen LHD found to be Unsatisfactory.

- g. Oman regularly submits LHD reports on time and the MIDRMA never experienced any difficulties for obtaining the required data from the MIDRMA focal point. The LHD reports received from Oman were distributed mainly at DENDA (transfer control point with Tehran ATCU) and at position TAPDO (transfer control point with Karachi ATCU), the meeting noticed the number of reports filed at DENDA reduced a lot comparing to the last reporting period, Oman focal point reported the same problems still exist but not in the same volume as Muscat ATC still working very hard to reduce the LHD occurrences. The level of reporting LHD by Oman is Satisfactory.
- h. The Scrutiny Group could not evaluate all the reports submitted by the Member States which didn't attend the meeting (Iraq, Lebanon, Jordan, Libya, Syria, UAE and Kuwait) , the MIDRMA followed the same evaluation mechanism during this meeting for the reported LHDs by the absent states and determined which reports from those are influence in the risk of collision

associated with the implementation of RVSM, although this process was supposed to be carried out by the absent member states, the MIDRMA could not find any other way to overcome the lack of endorsing the reports other than validating and calculating the total deviations period by themselves.

Note 1: The level of reporting LHD by Iraq is Unsatisfactory.

Note 2: The level of reporting LHD by Lebanon, Jordan, Syria and UAE is Satisfactory.

Note 3: The MIDRMA reported to the meeting that the LHD reports received from UAE found to be the best in the ICAO Middle East region in terms of quality, regularity and reasons for filing these reports.

Note 4: Kuwait reports received from Sep 2013 until Jan 2014 related to Bahrain, Jeddah/Riyadh and Tehran FIRs filed by Kuwait were discussed and validated. Kuwait also filed reports related to Baghdad FIR and most of these reports were concentrated at position SIDAD, the Scrutiny Group was unable to comment in the situation because both MIDRMA board members did not attend the meeting. The level of reporting LHD by Kuwait is Unsatisfactory.

Note 5: Libya was excluded from the safety analysis.

### **3. Action by the Meeting**

3.1 The meeting is invited to:

- a) review the information contained in this working paper; and
- b) agree to include the States with unsatisfactory reporting level of LHD in the MID Air Navigation Deficiency List.