



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**REPORT OF THE EIGHTEENTH MEETING
OF THE MIDDLE EAST REGIONAL
MONITORING AGENCY BOARD**

MIDRMA Board/18

(Doha, Qatar, 19 – 20 September 2022)

The views expressed in this Report should be taken as those of the Middle East Regional Monitoring Agency Board (MIDRMA Board) and not of the Organization. MIDANPIRG will be informed of the outcome of this Report and any formal action taken will be included in the Report of the MIDANPIRG.

Approved by the Meeting
and published by authority of the Secretary General

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TABLE OF CONTENTS

| | Page |
|---|-------------|
| PART I - HISTORY OF THE MEETING | |
| 1. Place and Duration | 1 |
| 2. Opening | 1 |
| 3. Attendance..... | 1 |
| 4. Officers and Secretariat | 1 |
| 5. Language | 1 |
| 6. Agenda | 2 |
| 7. Conclusions and Decisions – Definition | 2 |
| 8. List of Conclusions and Decisions | 2 |

PART II - REPORT ON AGENDA ITEMS

| | |
|-------------------------------|---------|
| Report on Agenda Item 1 | 1-1 |
| Report on Agenda Item 2 | 2-1 |
| Report on Agenda Item 3 | 3-1/3-3 |
| Report on Agenda Item 4 | 4-1/4-8 |
| Report on Agenda Item 5 | 5-1 |
| Report on Agenda Item 6 | 6-1 |

APPENDICES

- Appendix 2A
- Appendices 3A – 3E
- Appendix 4A
- Appendix 6A

ATTACHMENT

| | |
|---------------------------|--------------|
| List of Participants..... | Attachment A |
|---------------------------|--------------|

PART I - HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The Eighteenth meeting of the Middle East Regional Monitoring Agency Board (MIDRMA Board/18) was kindly hosted by Qatar Civil Aviation Authority (QCAA) at Qatar Air Traffic Control Centre (QATCC), Doha, Qatar, on 19 and 20 September 2022.

2. OPENING

2.1 The meeting was opened by Mr. Mohamed Smaoui, Deputy Regional Director, Middle East Office, who welcomed all participants to Doha. He elaborated that the main technical issues related to the RVSM implantation will be discussed during this meeting in addition to financial and managerial matters. Mr. Smaoui thanked Qatar for the preparation and facilitation of these meetings and for the excellent hospitality extended to the ICAO staff and all participants. He highlighted that QCAA's support to the ICAO MID Regional Office activities is evidence of its active role and reflects Qatar's commitment to the deployment of the MID Office Work Programme and activities. Also, Mr. Smaoui thanked the MIDRMA Chairman and Team members for their excellent efforts in making this programme a success.

2.2 Mr. Smaoui highlighted the main role of the MIDRMA Board as well as the importance of the decisions that will be agreed upon by the meeting and their impact on the work of the MIDRMA Team and RVSM implementation in the MID Region. He extended ICAO's gratitude to the MIDRMA Chairman and Team for their dedication, commitment and professionalism in running the MIDRMA as well as for Bahrain for all the support/facilities provided in hosting the MIDRMA Office. Mr. Smaoui encouraged States to use the MIDRMA services, and continuously address the issues raised by the MIDRMA as a result of their monitoring activities and to support its activities.

2.3 In closing, Mr. Smaoui thanked all the participants for their attendance and wished the meeting every success in its deliberations.

3. ATTENDANCE

3.1 The meeting was attended by a total of forty-three (43) participants from ten (10) States (Bahrain, Iraq, Jordan, Libya, Oman, Qatar, Saudi Arabia, UAE, USA-FAA and Yemen) and two (2) Organizations (IATA and MIDRMA). The list of participants is at **Attachment A**.

4. OFFICERS AND SECRETARIAT

4.1 The meeting was chaired by Mr. Mohamed Zainal, Director Aviation Safety and Security, from Bahrain Civil Aviation Affairs.

4.2 Mr. Ahmad Amireh, Regional Officer, Air Traffic and Management and Search and Rescue (RO/ATM/SAR) was the Secretary of the meeting. The meeting was supported by Mr. Mohamed Smaoui, Deputy Regional Director. Ms. Dina El Karimy provided the Technical Assistance.

5. LANGUAGE

5.1 Discussions were conducted in English and documentation was issued in English.

6. AGENDA

6.1 The following Agenda was adopted:

- Agenda Item 1: Adoption of the Provisional Agenda
- Agenda Item 2: Follow-up on MIDANPIRG/19 and MIDRMA Board/17 Conclusions and Decisions
- Agenda Item 3: Progress Report on the MIDRMA Project
- Agenda Item 4: RVSM Monitoring and related Technical Issues
- Agenda Item 5: Future Work Programme
- Agenda Item 6: Any other Business

7. CONCLUSIONS AND DECISIONS – DEFINITION

7.1 The MIDANPIRG records its actions in the form of Conclusions and Decisions with the following significance:

- a) **Conclusions** deal with matters that, according to the Group’s terms of reference, merit directly the attention of States, or on which further action will be initiated by the Secretary in accordance with established procedures; and
- b) **Decisions** relate solely to matters dealing with the internal working arrangements of the Group and its Sub-Groups.

8. LIST OF DRAFT CONCLUSIONS AND DECISIONS

| | |
|--------------------------------|---|
| <i>MIDRMA CONCLUSION 18/1:</i> | <i>PAYMENT OF ARREARS TO THE MIDRMA PROJECT</i> |
| <i>MIDRMA DECISION 18/2:</i> | <i>MIDRMA SUSTAINABILITY ACTION GROUP</i> |
| <i>MIDRMA CONCLUSION 18/3:</i> | <i>NON-COMPLIANCE WITH MMR REQUIREMENTS</i> |
| <i>DRAFT CONCLUSION 18/1:</i> | <i>MID RVSM SMR 2023</i> |
| <i>DRAFT CONCLUSION 18/2:</i> | <i>LACK OF HEIGHT MONITORING OF SYRIAN RVSM APPROVED AIRCRAFT</i> |
| <i>DRAFT CONCLUSION 18/3:</i> | <i>AWARENESS AND TRAINING ON RVSM SAFETY ASSESSMENT</i> |
| <i>DRAFT CONCLUSION 18/4:</i> | <i>MID RVSM SAFETY ASSESSMENT SEMINAR</i> |

PART II: REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA

1.1 The meeting reviewed and adopted the Provisional Agenda as at Paragraph 6 of the History of the Meeting.

**REPORT ON AGENDA ITEM 2: FOLLOW-UP ON MIDANPIRG/19 AND MIDRMA BOARD/17
CONCLUSIONS AND DECISIONS**

2.1 The subject was addressed in WP/2 presented by the Secretariat. The meeting noted the status of relevant MIDANPIRG/19 and MIDRMA Board/17 Conclusions and Decisions and the follow-up actions taken by States, ICAO and other parties concerned as at **Appendix 2A**.

REPORT ON AGENDA ITEM 3: PROGRESS REPORT ON THE MIDRMA PROJECT
MIDRMA Project (RAB/05/802) Financial Status

3.1 The subject was addressed in WP/3 presented by the Secretariat. The meeting reviewed the status of States' contributions to the MIDRMA Project (RAB/05/802), as of 31 August 2022 as reflected at **Appendix 3A**. The meeting noted that several States have arrears for the past years' contributions. Accordingly, the meeting agreed to the following Conclusion:

***MIDRMA CONCLUSION 18/1: PAYMENT OF ARREARS TO THE MIDRMA
PROJECT***

That, the ICAO MID Office follow-up with concerned States to pay their arrears to the MIDRMA Project prior to 15 April 2023.

3.2 The meeting reviewed and approved the financial report of the MIDRMA project (RAB/05/802) for the year 2022, as at **Appendix 3B**.

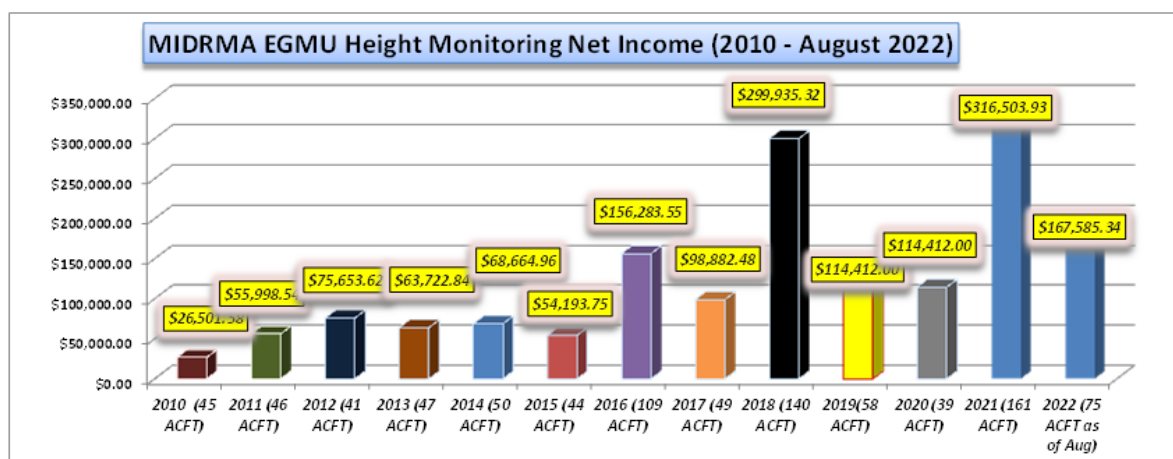
3.3 The meeting noted that the balance of the funds available in the MIDRMA account managed by ICAO HQ (RAB/05/802) were as follows:

| | |
|--|---------------------|
| - Fund Balance as of 31 December 2018: | US\$ 374,592 |
| - Fund Balance as of 31 December 2019: | US\$ 179,831 |
| - Fund Balance as of 31 December 2020: | US\$ 170,084 |
| - Fund Balance as of 31 December 2021: | US\$ 189,963 |
| - Fund Balance as of 30 June 2022: | US\$ 439,208 |

3.4 The meeting noted that according to the latest Bank statement dated 31 August 2022, the fund balance of the MIDRMA Bank account in Bahrain is: USD 471,795.22.

3.5 The meeting noted with appreciation that during the period of 1 January to 31 August 2022, the MIDRMA has conducted GMU monitoring for 75 Aircraft, generating an amount of USD 167,585.34; the expected income for the remaining of 2022 is USD 76,456.98.

3.6 Additionally, the meeting noted that since year 2010, the MIDRMA has managed to generate income from successful GMU height monitoring missions for 904 aircraft, as reflected in Graph 1. The amount credited to the MIDRMA account is used for the development of tools for the MIDRMA activities and covers some of the operational expenses. In accordance with the 2023 Plan for GMU monitoring activities, the expected income from GMU missions would be approximately USD 281,587.30.



Graph 1

3.7 The meeting recalled that the financial status and expenditure summaries for the Years 2020 and 2021 were reviewed during the MIDRMA Board/17 meeting, which was conducted virtually (18 – 19 January 2022). The meeting reviewed and approved the financial statements related to the MIDRMA expenditures for the year 2022 as of 31 August 2022, as at **Appendix 3C**. The meeting was apprised of the MIDRMA expected expenditures and incomes for the remaining of the Year 2022 and Year 2023, as reflected in Table 1 below:

| | Budget Items | Budget Estimation (USD) | |
|--|-----------------------------------|------------------------------|--------------|
| | | Updated as of 31 August 2022 | 2023 |
| 1 | MIDRMA Manpower | \$222,904.00 | \$234,049.00 |
| 2 | Staff Health / Travel Insurance | \$14,669.31 | \$14,669.31 |
| 3 | Computer Hardware & Software | \$109,805.66 | \$3,174.00 |
| 4 | Duty Travel; (ICAO, RMAs Meeting) | \$5,291.00 | \$5,291.00 |
| 5 | Training | \$15,873.02 | \$15,873.02 |
| 6 | Miscellaneous | \$2,300.00 | \$4,000.00 |
| Estimated Total | | \$370,842.99 | \$277,056.33 |
| Estimated income from EGMU Height Monitoring | | \$244,042.32 | \$281,587.30 |

Table 1: MIDRMA preliminary budget estimation for (2022 and 2023)

3.8 The meeting recalled the ICAO Council Decision C-DEC 225/10 related to the establishment of the Doha FIR/SRR; and the implementation of Phase 1A effective 8 September 2022.

3.9 The meeting recalled the MIDRMA Conclusion 14/3 related to the funding mechanism. The meeting agreed that the MIDRMA conduct an assessment based on traffic volumes and size of fleet to review the MIDRMA Funding Mechanism (contributions by States), and present a WP on the subject to the upcoming MIDRMA Board/19 meeting.

3.10 The meeting urged MIDRMA to invest part of the available funds in conducting training activities for the State Focal Points, in particular to Qatar CAA, since, further to the establishment of Doha FIR, Qatar is required to provide the MIDRMA with Traffic Data Samples and LHD reports on regular basis.

MIDRMA Project (RAB/05/802) Sustainability

3.11 The subject was addressed in WP/4 presented by the Secretariat and PPT/13 presented by UAE. The meeting recalled that the MIDRMA was established in 2006. The project was hosted by Bahrain. A Memorandum of Agreement was signed by all member States and ICAO as at **Appendix 3D**, and a Custodian Agreement was signed between ICAO (TCB), Bahrain and the MIDRMA Board Chairman (on behalf of the member States) as at **Appendix 3E**.

3.12 The meeting recalled that the MIDRMA Board Chairperson and both technical Staff are approaching their retirement. The meeting recognized the urgency to develop a succession plan for the MIDRMA addressing the Staffing, transfer of knowledge/training, business continuity, etc. In this respect, the meeting commended and valued the MIDRMA team for their efforts, contributions, expertise and experience acquired during the past 16 years of activity of the MIDRMA.

3.13 In connection with the above, the meeting underlined the importance of the availability of MIDRMA training and operating Manuals.

3.14 The meeting noted with appreciation Bahrain's commitment to comply with the terms of the MIDRMA MOA related to the provision of local staff to support the MIDRMA activities.

3.15 Based on all the above, the meeting agreed that a Strategic Plan for the MIDRMA should be developed to ensure sustainability and business continuity. Accordingly, the meeting agreed to the following Decision:

MIDRMA DECISION 18/2: MIDRMA SUSTAINABILITY ACTION GROUP

That:

- a) the MIDRMA Sustainability Action Group is established to develop a Strategic Plan for the MIDRMA to ensure business continuity and sustainability; and*
- b) the Action Group is composed of members designated by:*
 - i. Bahrain;*
 - ii. Jordan;*
 - iii. Oman;*
 - iv. UAE (Rapporteur);*
 - v. MIDRMA; and*
 - vi. ICAO MID.*

3.16 The meeting agreed that the Action Group present a progress report to the MIDRMA Board/19 meeting.

REPORT ON AGENDA ITEM 4: RVSM MONITORING AND RELATED TECHNICAL ISSUES
Preliminary Results of the MID RVSM SMR 2022 (First Draft Version)

4.1 The subject was addressed in WP/5 and WP/11, presented by the MIDRMA and Yemen, respectively.

4.2 The meeting recalled the MIDANPIRG Conclusion 19/2 related to the development of the SMR 2022:

MIDANPIRG/19 CONCLUSION 19/2: MID RVSM SMR 2022

That,

- a) States are required to provide the FPL/traffic data for the period 1 June until 30 June 2022 and LHD data for the period 1 January to 31 December 2022 to the MIDRMA before 1 August 2022, for the development of the MID RVSM Safety Monitoring Report (SMR 2022);*
- b) Bahrain, Iran, Iraq, Kuwait, Oman, Saudi Arabia and UAE, are urged to provide the FPL/traffic data for the period 1 – 30 November and 1 – 31 December 2022 to the MIDRMA before 31 January 2023 for measuring the ICAO RVSM TLS (Technical and Overall) during the FWC 2022 event; the remaining States are strongly encouraged to provide the FPL/traffic to the MIDRMA for the same period (months of November and December 2022).*
- c) only the appropriate Flight Data form, available on the MIDRMA website (www.midrma.com), should be used for the provision of FPL/traffic data to the MIDRMA; and*
- d) the final version of the MID RVSM SMR 2022 be ready for presentation to and endorsement by the MIDANPIRG/20 meeting.*

4.3 The MIDRMA presented the initial results of the SMR 2022 at **Appendix 4A**. The meeting noted that based on the data provided to the MIDRMA (TDS and LHDs), the Safety Objectives 1 and 3 continue to be met; however, the MID RVSM Airspace failed to meet Safety Objective No. 2. The value computed for the overall risk is estimated 1.724×10^{-7} , which is above the ICAO overall TLS of 5×10^{-9} . It was highlighted that the deterioration of the TLS (Safety Objective No. 2) is due mainly to an isolated incident.

4.4 The meeting noted with concern the magnitude and duration of the submitted LHD reports, which impacted the overall risk (Safety Objective 2). In particular, it was highlighted that the number of LHD reports submitted by Sana'a ACC, against Mogadishu continued to be very high. In this respect, the meeting noted with concern that a non-RVSM approved IL76 Aircraft infringed the MID RVSM airspace within Sana'a FIR (transferred from Mogadishu without FPL and prior coordination at FL310) for a period of 3420 seconds.

4.5 The meeting noted that the initial investigation by Sana'a ACC showed that the main reasons which led to the incident are the followings:

- State/Military aircraft (type IL76) transferred by Mogadishu at an RVSM level;
- No FPL received by Sana'a ACC;
- No warning is available regarding the RVSM status of this IL76; and
- Sana'a ACC is providing ATS procedurally (non-radar).

- 4.6 The meeting agreed to the following mitigation measures:
- a) MIDRMA to open a safety protocol between Sana'a and Mogadishu, in coordination with the AFI RMA (ARMA), ICAO MID and ESAF Regional Offices.
 - b) MIDRMA to provide necessary training and awareness to Yemen.
 - c) States are urged to comply with the Minimum Monitoring Requirements (MMR).
 - d) MIDRMA to improve the format and content of the Monthly Bulletin containing the List of Non-RVSM approved Aircraft; in particular by adding the information related to the State of Registry and Operators, as well as to add a warning on the types of aircraft with a high number of violations observed.
 - e) The results of the investigation related to the IL76 incident should be shared and used as lesson learned to avoid similar cases being repeated in the future.
 - f) MIDRMA to identify the areas where possible intruders might operate within the MID RVSM Airspace (including ACFT types, FIRs, interface, etc.).

4.7 The meeting noted that Lebanon and Libya did not provide the TDS yet, and the data submitted by Kuwait has been rejected (due to high number of inconsistencies). Therefore, the three (3) States were excluded from the SMR.

4.8 The meeting noted the developments related to the long-standing RVSM Safety Protocol opened at Muscat/Mumbai FIR Boundaries. In this respect, the meeting noted with appreciation that Oman will complete the implementation of OLDI with Mumbai by mid October 2022.

Assessment of Non-RVSM Approved Aircraft 2022

4.9 The meeting recalled that the MIDRMA is tasked to carry out systematic checks of the operators' compliance with State approval requirements within the MID Region, on regular basis.

4.10 The meeting noted that the source of data used by the MIDRMA is either the RVSM State Approval Database, or the TDS provided by the States on annual basis. The meeting recalled that Bahrain, Iraq and UAE are providing the MIDRMA with TDS on monthly basis using their radar data. The meeting noted that the MIDRMA uses Bahrain, Baghdad, and Emirates FIRs RVSM traffic data as the primary source for checking non-RVSM approved aircraft in the MIDRMA area of responsibility. The meeting noted with appreciation that Saudi Arabia is planning also to provide the TDS Data on monthly basis starting October 2022.

4.11 The meeting noted the MIDRMA process to validate the RVSM approvals for the Aircraft operating within the MID Region RVSM Airspace against the global RVSM approval database, and the communication with the appropriate Civil Aviation Authorities and the related RMAs to clarify the discrepancy found, and the request of corrective actions to resolve the issue. In this respect, it was noted that most of the nonconformities were due to the late submission of the RVSM certificates to the RMAs.

4.12 The meeting noted the notification bulletin issued by the MIDRMA on monthly basis and shared with the MIDRMA Focal points, to warn the relevant Air Traffic Control Units about the NON-RVSM approved aircraft operating in the MID RVSM Airspace.

Minimum Monitoring Requirements 2022

4.13 The meeting recalled the requirements of the monitoring programme conducted by the MIDRMA established in ICAO Annex 6 and 11, and ICAO Doc 9574 and 9937.

4.14 The meeting noted that the total number of RVSM approved aircraft registered by the MIDRMA Member States is 1883 aircraft. The MIDRMA continuously monitors the validity dates of height monitoring requirements for all these aircraft and keeps all Member States fully aware of the validity status through the Minimum Monitoring Requirement software available on the MIDRMA website. The MMR software is programmed to send automatic summaries of all the RVSM approved aircraft in the region and reminders on monthly basis to update the approved lists.

4.15 The meeting reiterated the MIDANPIRG Conclusion 17/3 concerning the procedures for the follow-up with States and the issuance of warning related to RVSM approved aircraft without valid height-keeping performance monitoring results. However, the meeting noted with concern that some Member States are still not fully compliant with the agreed procedures and urge all States to comply with these procedures.

4.16 The table below reflects the monitoring requirements valid for August 2022 for all MIDRMA Member States:

| MID States | RVSM Approved A/C | Have results OR covered | Not covered | % Not covered | A/C MMR |
|----------------|-------------------|-------------------------|-------------|---------------|-----------|
| BAHRAIN | 62 | 62 | 0 | 0% | 0 |
| EGYPT | 149 | 120 | 29 | 19% | 20 |
| IRAN | 211 | 196 | 15 | 7% | 13 |
| IRAQ | 46 | 46 | 0 | 0% | 0 |
| JORDAN | 45 | 40 | 5 | 11% | 4 |
| KSA | 280 | 261 | 19 | 7% | 4 |
| KUWAIT | 63 | 63 | 0 | 0% | 0 |
| LEBANON | 32 | 30 | 2 | 6% | 1 |
| LIBYA | 33 | 6 | 27 | 82% | 18 |
| OMAN | 73 | 72 | 1 | 1% | 1 |
| QATAR | 277 | 277 | 0 | 0% | 0 |
| SUDAN | 13 | 10 | 3 | 23% | 3 |
| SYRIA | 15 | 0 | 15 | 100% | 9 |
| UAE | 578 | 534 | 44 | 8% | 19 |
| YEMEN | 6 | 4 | 2 | 33% | 2 |
| TOTAL | 1883 | 1719 | 164 | 9% | 95 |

4.17 The meeting urged concerned States to provide the required data to the MIDRMA to update their RVSM approved aircraft, and provide clarification to the MIDRMA regarding the increased percentage of non-compliant aircraft.

4.18 Accordingly, the meeting agreed to the following MIDRMA Decision:

MIDRMA DECISION 18/3: NON-COMPLIANCE WITH MMR REQUIREMENTS

That, the MIDRMA present an updated report to MIDANPIRG/20 meeting with the list of States not complying with the MMR requirements for inclusion in the List of air navigation deficiencies.

Processing TDS for FWC2022 and Development of the MID RVSM Safety Monitoring Report (SMR) 2023

4.19 The subject was addressed in WP/6, presented by the MIDRMA.

4.20 The meeting recalled the MIDANPIRG Conclusion 19/2 and ICAO MID Office Letter AN 6/5.10.15A – 22/114, related to the collection of the Traffic Data Sample (TDS) for SMR 2022 and for the FWC event. Bahrain, Iran, Iraq, Kuwait, Oman, Saudi Arabia and UAE are urged to provide the FPL/traffic data for the period 1 – 30 November and 1 – 31 December 2022 to the MIDRMA before 31 January 2023.

4.21 The meeting noted that the reporting cycle for the development of the MID RVSM SMR 2023 will be from 01st January until 31st December 2023. The Traffic Data Sample (TDS) must be submitted in the right format using the excel sheet designed for the MIDRMA Risk Analysis Software (MIDRAS) available on the MIDRMA website (www.midrma.com). This sheet has been prepared and made available to States in order to collect all necessary TDS data of traffic operating between FL 290 and FL 410 inclusive.

4.22 Based on the above, the meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 18/1: MID RVSM SMR 2023

That, in order to support the MIDRMA in the timely development of the MID RVSM Safety Monitoring Report (SMR 2023):

a) States are required to provide the MIDRMA with:

- the FPL/traffic data for the period 1 – 30 June 2023 before 1 August 2023, and*
- LHD data for the period 1 January to 31 December 2023.*

b) only the appropriate “Traffic Data Sample” form, available on the MIDRMA website (www.midrma.com), should be used for the provision of FPL/traffic data to the MIDRMA; and

c) the final version of the MID RVSM SMR 2023 be ready for presentation to and endorsement by the MIDANPIRG/21 meeting.

ADS-B Height Monitoring System (AHMS)

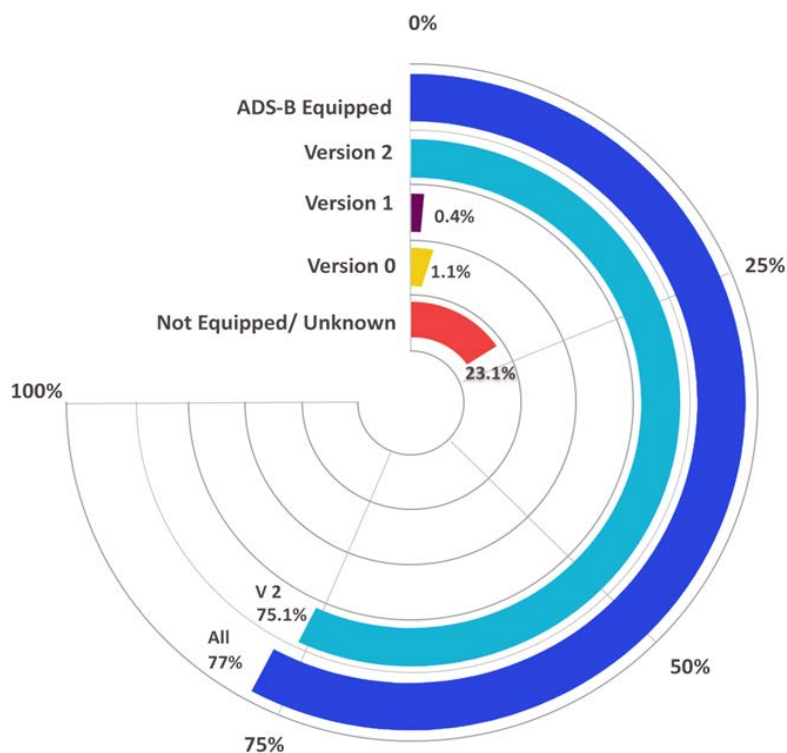
4.23 The subject was addressed in WP/8, presented by the MIDRMA.

4.24 The meeting was apprised of the endorsement of ADS-B Height Monitoring methodology by the ICAO Separation and Airspace Safety Panel (SASP). ADS-B data can be used for calculating the Altimetry System Error (ASE); which is a measure of the height-keeping performance of an aircraft. It is an ICAO requirement that aircraft operating in RVSM airspace must undergo periodic monitoring on height-keeping performance.

4.25 The ICAO Separation and Airspace Safety Panel (SASP) first considered the use of geometric height data from ADS-B systems in 2001. While further consideration was given to this issue by SASP in the intervening years, activity was started in earnest following work after significant progress was made with test flights conducted by the United States FAA in 2008 and early 2009 which demonstrated that aircraft geometric height data obtained from ADS-B is sufficient for estimating aircraft Altimetry System Error (ASE).

4.26 The meeting noted the requirements and benefits of ADS-B height monitoring. The meeting was apprised of the ADS-B coverage in the MID Region, as well as of the equipage of fleet based on the data provided by 13 Member States, as follows:

| ABS-B | Total | Equipped | Not Equipped/ Unknown | V2 | V1 | V0 |
|----------------|--------------------------|-----------------|----------------------------------|--|------------|------------|
| BAHRAIN | 60 | 60 | 0 | 60 | 0 | 0 |
| IRAQ | 46 | 18 | 28 | 18 | 0 | 0 |
| JORDAN | 45 | 41 | 4 | 39 | 0 | 0 |
| KSA | 281 | 272 | 9 | 256 | 6 | 6 |
| KUWAIT | 63 | 56 | 7 | 52 | 1 | 3 |
| LEBANON | 32 | 30 | 2 | 30 | 0 | 0 |
| OMAN | 74 | 70 | 4 | 68 | 0 | 0 |
| QATAR | 275 | 264 | 11 | 264 | 0 | 0 |
| SUDAN | 9 | 0 | 9 | 0 | 0 | 0 |
| UAE | 571 | 544 | 27 | 543 | 0 | 1 |
| Egypt | 149 | 24 | 125 | 24 | 0 | 0 |
| Iran | 211 | 18 | 193 | 9 | 0 | 9 |
| Yemen | 6 | 5 | 1 | 2 | 2 | 1 |
| TOTAL | 1822 | 1402 | 420 | 1365 | 9 | 20 |
| % | | 77.3 | 23.1 | 75.2 (97.4% of the Total Equipped ACFT) | 0.5 | 1.2 |
| Syria | No Data Submitted | | | | | |
| Libya | No Data Submitted | | | | | |



4.27 It was highlighted that around **77%** of the MID Region fleet can benefit from ADS-B RVSM height monitoring.

4.28 The results of the survey are encouraging reflecting that a good percentage of the RVSM approved aircraft are equipped with ADS-B Out Version 2 (almost 75%) as illustrated in the two Graphs above.

4.29 Notwithstanding the above, the meeting discussed the technical, financial and legal issues which might be linked to the provision of ADS-B data to the MIDRMA.

4.30 Based on the above, the meeting agreed that the MIDRMA, in coordination with IATA AME, prepare a WP for the next MIDRMA Board/19 meeting on the subject, providing more details on the technical requirements for the provision of ADS-B data (exact data to be extracted, format, methodology to be used), financial impact on the MIDRMA, etc., in order for the Board to agree on the Action Plan for a stepwise implementation of ADS-B for Height Monitoring in the MID Region. Meanwhile, the meeting encouraged States that are ready and willing to share their ADS-B data for height monitoring purpose, to coordinate directly with the MIDRMA for further steps. The meeting noted with appreciation that UAE will coordinate with the MIDRMA for the implementation of trial phase.

RVSM Height Monitoring Activities (GMU)

4.31 The subject was addressed in WP/7, presented by the MIDRMA. The meeting was apprised of the monitoring activities conducted by the MIDRMA team within the region. It was noted that the MIDRMA team managed to monitor 75 Aircraft since January 2022. The meeting also discussed the MIDRMA Application for OFAC Licenses to monitor the Syrian registered Aircraft and the renewal request for the OFAC license to monitor the Iranian aircraft which will expire end of January 2023. Both licenses requests are under process with OFAC since October 2021. The issue of lack of height monitoring of the Syrian registered aircraft was also discussed by the meeting and explored all possible solutions to overcome this problem and invited the FAA representative to coordinate an urgent meeting with the OFAC to discuss and explain the risk of lack of known height monitoring of the Syrian aircraft.

4.32 The meeting also agreed that in case no waiver is received from the OFAC to check the Syrian aircraft before the expiry date of height monitoring granted by the Syrian Civil Aviation Authority on 2nd October 2022, it will be left to each MID individual ATC Unit to decide either to accept or reject the Syrian RVSM approved aircraft within their RVSM airspace, providing the MIDRMA to circulate the RVSM status of these aircraft to all member States and advise the SCAA of the decision taken due to lack of height monitoring, which can lead to the withdrawal of RVSM approvals of their registered aircraft.

DRAFT CONCLUSION 18/2: LACK OF HEIGHT MONITORING OF SYRIAN RVSM APPROVED AIRCRAFT

- a) *that ICAO MID Office to contact the Syrian Civil Aviation Authority and address the issue of lack of height Monitoring of their RVSM approved aircraft; and*
- b) *MIDRMA to circulate the status of the Syrian RVSM approved aircraft to all member States to advise all ATCUs regarding the status of the Syrian RVSM approved aircraft within their RVSM Airspace.*

Awareness and Promotion Plan for 2023

4.33 The subject was addressed in PPT/12, presented by UAE. The meeting recognized the need for the MIDRMA to continue their efforts related to the awareness and training activities on RVSM safety monitoring with regional events (seminars, webinars, etc.) and individual activities targeting specific States/Focal Points. Accordingly, the meeting requested the MIDRMA to update its 2023 work programme to elevate awareness and promote compliance culture within the Region and individual member States.

4.34 Based on the above, the meeting agreed to the following Conclusions:

DRAFT CONCLUSION 18/3: AWARENESS AND TRAINING ON RVSM SAFETY ASSESSMENT

That, with a view to raise the awareness related to the requirements for sustained RVSM safety monitoring activities and improve the knowledge of the States' regulators, MIDRMA Focal Points, ATC and Air Operators personnel:

- a) *the MIDRMA include in its work programme regular missions to the Member States, during which briefings on the MIDRMA activities and RVSM safety monitoring requirements be provided to concerned personnel;*
- b) *for improved effectiveness, the MIDRMA visit to a State be conducted, to the extent possible, back-to-back with the GMU height monitoring mission(s) related to the air operator(s) based in this State; and*
- c) *MIDRMA to issue on regular basis flyers and newsletters addressing trending and emerging challenges related to RVSM safety monitoring.*

DRAFT CONCLUSION 18/4: MID RVSM SAFETY ASSESSMENT SEMINAR

That, with a view to raise the awareness related to the requirements for sustained RVSM safety monitoring and improve the knowledge of all involved parties, in particular with respect to the Vertical Collision Risk Methodology and Altimetry

System Errors, the MIDRMA, in coordination with ICAO, organize a MID RVSM Safety Assessment Seminar, in 2023.

Progress Report on the Upgrade of the MID Risk Analysis Software (MIDRAS)

4.35 The subject was addressed in IP/3, presented by the MIDRMA.

4.36 The meeting recalled the MIDANPIRG/19 Conclusion 19/3:

MIDANPIRG/19 Conclusion 19/3: MID RAS Upgrade Project

That, the MIDRMA Team and Board Chairman take necessary actions for the upgrade of the MID RAS Software, in accordance with the Business Case at Appendix 3.3B.

4.37 The meeting noted with appreciation the progress made in the development of the MIDRAS Software upgrade, and expected deliverables and associated timelines.

REPORT ON AGENDA ITEM 5: FUTURE WORK PROGRAMME

5.1 The meeting recalled that the MIDRMA Board meetings should be hosted by the MIDRMA Member States on rotation basis.

5.2 The meeting agreed that the MIDRMA Board/19 meeting be planned in Bahrain in Q4-2023, pending final confirmation by Bahrain. The exact date would be coordinated with Bahrain, the MIDRMA Board Chairman and the MIDRMA team. The MIDRMA Board/19 meeting will be held back-to-back with the MID RVSM Seminar which will be organized and hosted by the MIDRMA in Bahrain in Q4-2023.

REPORT ON AGENDA ITEM 6: ANY OTHER BUSINESS

6.1 The meeting reviewed and updated the list of MIDRMA Board Members, Alternates and Focal Points (ATC and Airworthiness/Flight Operations) as at **Appendix 6A**.

APPENDICES

FOLLOW-UP ACTION PLAN ON MIDRMA/17 CONCLUSIONS AND DECISIONS

| CONCLUSIONS AND DECISIONS | CONCERNS/ CHALLENGES (RATIONALE) | DELIVERABLE/ TO BE INITIATED BY DELIVERABLE | | TARGET DATE | STATUS/REMARKS |
|--|--|---|------------------------------|--------------------|---|
| <p>MIDRMA BOARD CONCLUSION 17/1: PAYMENT OF ARREARS TO THE MIDRMA PROJECT</p> <p>That,</p> <p>a) States, that have not yet done so, pay their contributions/arrears to the MIDRMA Project Prior to 1 September 2022; and</p> <p>b) States facing difficulties with the transfer of the required amounts to the MIDRMA bank account managed by the ICAO TCB, coordinate with the ICAO MID Office and/or MIDRMA, to find alternate means.</p> | <p>Payment of arrears</p> | <p>Payments received by ICAO TCB</p> | <p>Concerned States</p> | <p>1 Sep 2022</p> | <p>Actioned</p> <p>Communication with States is ongoing; many States requested to resend the Invoices and paid their contributions.</p> <p>Details will be discussed in WP/3</p> |
| <p>MIDRMA BOARD DECISION 17/2: BUSINESS CASE / COST-BENEFIT ANALYSIS FOR THE MIDRAS SOFTWARE UPGRADE</p> <p>That, the MIDRMA develop a business case / cost-benefit analysis related to the upgrade of the MIDRAS, to be presented to the MIDANPIRG/19 meeting, to support the decision-making process on the subject.</p> | <p>Development of business case/cost-benefit analysis for the MIDRAS Software upgrade, to be presented to MIDANPIRG/19 for endorsement</p> | <p>Business case/Cost-Benefit Analysis</p> | <p>MIDRMA</p> | <p>14 Feb 2022</p> | <p>Completed (to be closed)</p> |
| <p>DRAFT CONCLUSION 17/1: MID RVSM SMR 2021</p> <p>That, the MID RVSM Safety Monitoring Report (SMR) 2021 at Appendix 4C, be presented to the MIDANPIRG/19 meeting for endorsement.</p> | <p>To Develop the MID SMR 2021</p> | <p>SMR 2021</p> | <p>MIDRMA</p> | <p>14 Feb 2022</p> | <p>Completed (to be closed)</p> |
| <p>DRAFT CONCLUSION 17/2: MID RVSM SMR 2022</p> <p>That,</p> <p>a) States are required to provide the FPL/traffic data for the period 1st June until 30th June 2022 and LHD data for the period 1 January to 31</p> | <p>To Develop the MID SMR 2022</p> | <p>SMR 2022</p> | <p>MID States MIDRMA</p> | <p>31 Dec 2022</p> | <p>Ongoing</p> <p>Details will be discussed in WP/5</p> |

| CONCLUSIONS AND DECISIONS | CONCERNS/ CHALLENGES (RATIONALE) | DELIVERABLE/ TO BE INITIATED BY DELIVERABLE | | TARGET DATE | STATUS/REMARKS |
|--|--|---|--|-------------|----------------|
| <p>December 2022 to the MIDRMA before 1 August 2022, for the development of the MID RVSM Safety Monitoring Report (SMR 2022);</p> <p>b) Bahrain, Iran, Iraq, Kuwait, Oman, Saudi Arabia and UAE, are urged to provide the FPL/traffic data for the period 1 – 30 November and 1 – 31 December 2022 to the MIDRMA before 31 January 2023 for measuring the ICAO RVSM TLS (Technical and Overall) during the FWC 2022 event; the remaining States are strongly encouraged to provide the FPL/traffic to the MIDRMA for the same period (months of November and December 2022).</p> <p>c) only the appropriate Flight Data form, available on the MIDRMA website (www.midrma.com), should be used for the provision of FPL/traffic data to the MIDRMA; and</p> <p>d) the final version of the MID RVSM SMR 2022 be ready for presentation to and endorsement by the MIDANPIRG/20 meeting.</p> | | | | | |

FOLLOW-UP ACTION PLAN ON MIDANPIRG/19 CONCLUSIONS & DECISIONS

| No. | CONCLUSIONS AND DECISIONS | CONCERNS/ CHALLENGES (RATIONALE) | DELIVERABLE/ TO BE INITIATED BY | | TARGET DATE | STATUS/REMARKS |
|---------|---|--|------------------------------------|----------------------|-------------|--|
| C. 19/1 | <p>MID RVSM SMR 2021</p> <p>That, the MID RVSM Safety Monitoring Report (SMR) 2021 at Appendix 3.3A, is endorsed.</p> | Develop SMR 2021 | SMR 2021 | MID States MIDRMA | 31 Dec 2021 | <p>Completed (to be closed)</p> |
| C. 19/2 | <p>MID RVSM SMR 2022</p> <p>That,</p> <p>a) States are required to provide the FPL/traffic data for the period 1 June until 30 June 2022 and LHD data for the period 1 January to 31 December 2022 to the MIDRMA before 1 August 2022, for the development of the MID RVSM Safety Monitoring Report (SMR 2022);</p> <p>b) Bahrain, Iran, Iraq, Kuwait, Oman, Saudi Arabia and UAE, are urged to provide the FPL/traffic data for the period 1 – 30 November and 1 – 31 December 2022 to the MIDRMA before 31 January 2023 for measuring the ICAO RVSM TLS (Technical and Overall) during the FWC 2022 event; the remaining States are strongly encouraged to provide the FPL/traffic to the MIDRMA for the same period (months of November and December 2022).</p> <p>c) only the appropriate Flight Data form, available on the MIDRMA website (www.midrma.com), should be used for the provision of FPL/traffic data to the MIDRMA; and</p> <p>d) the final version of the MID RVSM SMR 2022 be ready for presentation to and endorsement by the MIDANPIRG/20 meeting.</p> | Develop SMR 2022 | SMR 2022 | MID States MIDRMA | 31 Dec 2022 | <p>Ongoing</p> <p>Details will be discussed in WP/5</p> |

| No. | CONCLUSIONS AND DECISIONS | CONCERNS/ CHALLENGES (RATIONALE) | DELIVERABLE/ TO BE INITIATED BY | | TARGET DATE | STATUS/REMARKS |
|--------|---|---|------------------------------------|--------|-------------|--|
| C.19/3 | <p>MID RAS UPGRADE PROJECT</p> <p>That, the MID RMA Team and Board Chairman take necessary actions for the upgrade of the MID RAS Software, in accordance with the Business Case at Appendix 3.3B.</p> | <p>Develop Business case / Cost-Benefit analyses for the MID RAS software upgrade</p> | Business case | MIDRMA | 14 Feb 2022 | <p>Completed (to be closed)</p> |

Status of States' Contributions to the MIDRMA Project
(As of 31 August 2022)

Note. Currency in US Dollars

| State | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|----------------------------|--|----------------|----------------|---|----------------|--------------------------------|--------------------------------|---|-----------------------------|-----------------------------|-----------------------------|--|-----------------------------|-------------------------------|---------------------------------|-------------------------------|---------------------------------|
| Bahrain | Paid 30,000 | Paid 20,000 | Paid 30,000 | Paid 30,000 | Paid 30,000 | Paid 29,978 27 Oct 11 | Paid 30,000 29 Aug 12 | Paid 30,000 15 Apr 13 | Paid 29,975 6 May 15 | Paid 29,975 13 May 15 | Paid 30,000 18 Feb 16 | Paid 30,000 16 May 17 | Paid 29,975 12 Mar 18 | Paid 29,975 13 Jan 20 | Paid 30,000 2 July 20 | Paid 30,000 9 Sep 21 | Paid 30,000 31 Mar 2022 |
| Egypt | Paid 30,000 | Paid 20,000 | Paid 30,000 | Paid 30,000 | Paid 30,000 | Paid 29,960 9 Sep 10 | Paid 29,960 17 Jan 12 | Paid 29,983 30 Jan 13 | Paid 29,940 8 Apr 14 | Paid 29,940 24 Feb 15 | Paid 29,935 24 Dec 15 | Paid 29,935 2 Jun 17 | Paid 29,935 16 Jan 18 | Paid 29,965 18 Feb 20 | Paid 29,965 18 Feb 20 | Paid 30,000 11 Aug 21 | Paid 29,935 19 Jan 2022 |
| Iran | Paid 30,000 | Paid 20,000 | Paid 30,000 | Paid 30,000 | Paid 30,000 | Paid 29,946 27 Jul 13 | Paid 29,935 27 Jul 13 | Paid 89,965 4 Apr 16 | | | Paid 29,960 12 May 16 | Paid* 29,960 10 Mar 17 not Paid | Not Paid 30,000 | Not Paid 30,000 | Not Paid 30,000 | Not Paid 30,000 | |
| Iraq | N/A | N/A | N/A | N/A | N/A | Paid 10,000 on 16 Sep 11 | Paid 10,000 on 5 Jul 12 | Paid 10,000 5 Sep 13 | Paid 10,000 22 Sep 14 | Paid 10,000 23 Apr 15 | Paid 10,000 1 Sep 16 | Paid 10,000 20 Jun 17 | Paid 10,000 20 Aug 18 | Not Paid 10,000 | Paid 10,000 07 Dec 20 | Not Paid 10,000 | |
| Jordan | Paid 30,000 | N/A | Paid 1,250 | Paid 10,000 | Paid 10,000 | Paid 10,000 on 10 Aug 10 | Paid 10,000 on 28 Nov 11 | Paid 10,000 04 Dec 12 | Paid 9,924 4 Aug 14 | Paid 9,924 3 Feb 15 | Paid 9,924 11 Dec 15 | Paid 10,000 19 May 17 | Paid 9,921 16 Mar 18 | Paid 9,984.93 6 Dec 19 | Paid 9,984.93 4 June 20 | Paid 9,984.93 12 Nov 21 | Paid 9,984.93 30 Dec 2021 |
| Kuwait | Paid 30,000 | N/A | Paid 1,250 | Paid 10,000 | Paid 10,000 | Paid 10,000 on 27 Sep 10 | Paid 9,849 on 21 Feb 12 | Paid 10,000 20 Mar 13 | Paid 10,000 5 May 14 | Paid 10,000 12 Mar 15 | Not Paid 10,000 | Paid 10,000 28 Jul 17 | Paid 10,000 14 Feb 18 | Paid 10,000 4 Dec 19 | Not Paid 10,000 | Paid 10,000 27 Sep 21 | |
| Lebanon | Paid 30,000 | N/A | Paid 1,250 | Paid 10,000 | Paid 10,000 | Paid 10,000 on 4 Feb 11 | Paid 9,960 18 Dec 12 | Paid 9,960 10 May 13 | Paid 10,000 25 Jul 14 | Paid 9,970 15 Dec 15 | Paid 9,970 18 Oct 16 | Paid 9,915 30 Jul 18 | Not Paid 10,000 | Paid 10,000 29 Dec 20 | Paid 10,000 1 Apr 21 | Paid 10,000 1 Apr 21 | |
| Libya | Libya didn't sign the MIDRMA MOA yet. | | | | | | | | | | | | | | | | |
| Oman | Paid 30,000 | Paid 20,000 | Paid 30,000 | Paid 30,000 | Paid 30,000 | Paid 30,000 13 Sep 11 | Paid 30,000 11 Jan 12 | Paid 30,000 28 Feb 13 | Paid 30,000 14 Mar 14 | Paid 30,000 16 Dec 15 | Paid 30,000 9 Mar 16 | Paid 30,000 27 Apr 17 | Paid 30,000 12 Feb 18 | Paid 30,000 16 Dec 19 | Paid 30,000 24 June 20 | Paid 30,000 29 July 21 | |
| Qatar | Qatar joined the MIDRMA on 28 April 2015 | | | | | | | | | | Paid 9,978 19 Nov 15 | Paid 9,970 10 Apr 17 | Paid 9,978 20 Feb 18 | Paid 10,000 7 Oct 19 | Paid 10,000 14 Apr 20 | Paid 9,978.00 18 Oct 21 | |
| Saudi Arabia | Paid 30,000 | Paid 20,000 | Paid 30,000 | Paid 30,000 | Paid 30,000 | Paid 30,000 4 Mar 11 | Paid 30,000 12 Jan 12 | Paid 30,000 13 Mar 13 | Paid 30,000 21 May 14 | Paid 30,000 21 May 15 | Paid 30,000 13 Apr 16 | Paid 30,000 16 June 17 | Paid 30,000 20 May 22 | Paid 30,000 27 Nov 19 | Paid 30,000 20 May 22 | Paid 30,000 13 Aug 21 | Paid 30,000 18 Mar 2022 |
| Sudan | Sudan joined the MIDRMA on 26 May 2014 | | | | | | | | | Paid 9,607 17 Feb 15 | Paid 9,278 10 Nov 15 | Paid 10,000 16 May 17 | Paid 9,863 2 Mar 18 | Paid 9,974.73 20 Nov 19 | Paid 10,133.86 11 June 20 | Not Paid 10,000 | |
| Syria^(*) | Paid 30,000 | N/A | Paid 1,250 | Paid (US\$ 1,250 + 42,789 + 11,862 + 10,374 + 7,778 + 9,970) = 84,023 | | | | | | | | Not Paid 10,000 | Not Paid 10,000 | Not Paid 10,000 | Not Paid 10,000 | Not Paid 10,000 | |
| UAE | Exempted from payment up-to end of 2015 | | | | | | | | | | Paid 29,933 26 Apr 16 | Paid 29,933 26 Apr 17 | Paid 29,931 26 Feb 18 | Paid 29,931 9 Oct 19 | Paid 30,000 16 July 20 | Paid 30,000 9 July 21 | Paid 30,000 21 July 22 |
| Yemen | Paid 30,000 | N/A | Paid 1,250 | Paid 10,000 | Paid 10,000 | Paid 10,000 on 17 Aug 10 | Paid 9,975 on 17 Apr 12 | Paid 19,973 for 2 years 26 Mar 15 | | Paid 9,987 26 Mar 15 | Not Paid 10,000 | Not Paid 10,000 | Not Paid 10,000 | Not Paid 10,000 | Not Paid 10,000 | Not Paid 10,000 | |



**Middle East Regional Monitoring Agency
(MID RMA)**

**MEMORANDUM
OF AGREEMENT**

Bahrain - 27 February, 2006

MEMORANDUM OF AGREEMENT
on the establishment, operation and management of the
Middle East Regional Monitoring Agency (MID RMA)
and its funding by the Participating States

1. PARTIES

1.1 The Parties to this memorandum of agreement are: Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Syria and Yemen.

2. AGREEMENT

- CONSIDERING the urgent need to institute a programme, on a regional basis, for monitoring the height-keeping performance of aircraft operating in RVSM airspace;
- CONSIDERING the Parties' earlier decision that the Middle East Regional Monitoring Agency (MID RMA) will be funded entirely by the participating States and that the budget estimate for the first year, be paid by the Parties on equal basis;

The Parties have agreed as follows:

1. The Parties to this memorandum of agreement, referred to hereunder as Participating States agree to establish the Middle East Regional Monitoring Agency (MID RMA) and undertake to become its members;
2. The MID RMA shall be managed as a Regional programme; shall have legal personality and shall act through the MID RMA Board;
3. The overall objective of the MID RMA is the promotion of safety of air navigation in the Middle East Region through the operation and management, on a sound and efficient basis, of a permanent MID Regional Monitoring Agency;
4. The MID RMA Board, in which each Participating State is entitled to appoint one member, shall retain overall direction and responsibility for the supervision and operation of the MID RMA in accordance with the relevant obligations of the Participating States under the Convention on International Civil Aviation and its Annexes. The Board shall elect its chairman. It shall inter-alia, supervise and direct the MID RMA, follow-up its activities and reports and assign its priorities. It shall also secure the commitment of Participating States for funding the MID RMA in accordance with agreed funding mechanism and for provision of necessary data for the MID RMA;
5. The MID RMA's scope, duties and responsibilities will be those agreed by the Board's first meeting and could be revised by the Board. The MID RMA will be assigned clear tasks in a step-by-step approach starting with RVSM height monitoring and RVSM post-implementation safety assessment, having in mind the end objectives, which will include RNP/RNAV and SMS. The MID RMA duties and responsibilities will include, but will not be limited to the following:
 - collecting and analysing RVSM data received from MID States as well as from Eurocontrol/FAA, IATA and airlines;
 - collecting data on aircraft approved by various States for operation within RVSM airspace in the MID Region and enter such data in the MID RMA database;
 - verification of the effectiveness of the approval process by States;
 - establishing a database for reporting height deviations of aircraft;
 - verification that the target level of safety on implementation of RVSM is met and maintained;

- monitoring the effectiveness of the altimetry system modifications to enable aircraft to meet the required height keeping performance criteria;
 - evaluation of the stability of altimetry system error;
 - undertake monitoring missions to States as required;
 - determine in the light of analysis made of data received and of missions conducted, whether compliance with required safety standards is maintained and initiate corrective action as needed in each case; and
 - submit a report to each Board meeting on MID RMA activities, its analysis of data and any identified departure from RVSM Safety limits, for its consideration and action as appropriate.
6. The Participating States have accepted Bahrain's offer to host the MID RMA in Bahrain to enable the early establishment and functioning of the MID RMA;
 7. Bahrain will provide the offices, equipment and local personnel needed for the MID RMA operations and pay for the initial set up of the MID RMA without waiting for MID States' contributions. The advance payment made by Bahrain shall be recovered through States' contributions in compliance with the agreed funding mechanism;
 8. Based on the agreed funding mechanism for the first year of operation of the MID RMA, the cost for the establishment of the MID RMA, its operation and management for the first year shall not exceed the estimated amount of US\$ 300,000, which shall be borne by the Participating States on equal basis;
 9. The funding mechanism and consequent contributions of Participating States may be modified in subsequent years by decision of the Board;
 10. The MID RMA staff shall be composed of:
 1. MID RMA Manager/Team Leader (Part Time)
 2. One Assistant MID RMA Officer (Full Time)
 3. Database Specialist (Part Time)
 11. The MID RMA Manager/Team Leader shall manage the project on day-to-day basis and effect coordination with the Chairman of the MID RMA Board. He shall submit the MID RMA reports to the Board with copies to the ICAO Regional Office in Cairo;
 12. Bahrain shall monitor the progress of the MID RMA, maintain financial accounting and provide general support and timely reporting;
 13. Participating States authorize the MID RMA Board Chairman to negotiate on behalf of the MID RMA an agreement with ICAO and Bahrain specifying ICAO's role as the custodian of the funds collected for the purpose of this agreement, in compliance with ICAO's Financial Regulations and Rules;
 14. This Memorandum of Agreement shall come into effect on the date it has been signed by the Participating States;
 15. Any amendment to this Memorandum of Agreement, shall be carried out by the parties to this agreement;
 16. Any dispute arising out of or relating to this Memorandum of Agreement, shall be settled by direct consultation between the Participating States concerned;
 17. Any Participating State may withdraw from this Memorandum of Agreement by giving a prior notice of **six (6) months** to other Participating States. The obligations assumed by the Participating States under this Memorandum of Agreement shall continue to exist after the

withdrawal from this Memorandum of Agreement to the extent necessary to permit the orderly finalization of activities, the withdrawal of personnel, the distribution of funds and assets and the settlement of contractual obligations. Additional funds, if necessary, to cover the above mentioned expenditures shall be provided by the Participating States.

18. The hosting of the MID RMA by Bahrain may be terminated at the request of Bahrain, with two years advance written notification to the MID RMA Board to allow sufficient time for selection of an alternative location and necessary arrangements for transfer of the MID RMA.
19. All correspondence relating to the implementation of this Agreement, shall be addressed to:

MID RMA

Chairman of the MID RMA Board
C/o Ministry of Transportation
P.O. Box 586
Bahrain International Airport
Manama - Bahrain

With copy to the:

ICAO Regional Director

ICAO Middle East Regional Office
Egyptian Civil Aviation Complex, Airport Road
P.O Box 85, Airport Post office, Terminal One
11776, Cairo, Egypt

| State | Signature | Title | Date |
|--------------|-----------|--------------------------|----------------|
| Bahrain | | AD. DEPT. AIR NAVIGATION | 27/2/06 |
| Egypt | | ATS Safety Manager | 28/2/2006 |
| Iran | | CAO, N. REZAEI | 21.03.2006 |
| Jordan | | Director ATM | 28/2/2006 |
| Lebanon | | CHIEF AIR NAV DEPT | 27th Feb 2006 |
| Kuwait | | DG GCA Gov NEA | 25/2/2006 |
| Oman | | ADGCAM | 27th Feb 2006 |
| Saudi Arabia | | RUSM (MANAGER) | 27.5.2006 |
| Syria | | Director General | 21. March 2006 |
| Yemen | | Chairman of CAA | 21.03.2006 |
| UAE | | DG. UAE GCAA | 20/10/2008 |
| IRAQ | | DG Iraq CAA | 11/1/2010 |
| SUDAN | | DG SUDAN | 16/2/2014 |

INTERNATIONAL CIVIL AVIATION ORGANIZATION



MIDDLE EAST REGIONAL MONITORING AGENCY

(MIDRMA)

MEMORANDUM OF AGREEMENT

**Edition 2
March 2014**

MEMORANDUM OF AGREEMENT
on the establishment, operation and management of the
Middle East Regional Monitoring Agency (MIDRMA)
and its funding by the Participating States

1. PARTIES

1.1 The Parties to this memorandum of agreement are: Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Sudan, Syria, United Arab Emirates and Yemen.

2. AGREEMENT

- CONSIDERING the need to institute a programme, on a regional basis, for monitoring the height-keeping performance of aircraft operating in RVSM airspace;
- CONSIDERING the Parties' earlier decision that the Middle East Regional Monitoring Agency (MIDRMA) will be funded by the participating States;

The Parties have agreed as follows:

1. The Parties to this memorandum of agreement, referred to hereunder as Participating States agree to establish the Middle East Regional Monitoring Agency (MIDRMA) and undertake to become its members;
2. The MIDRMA shall be managed as a Regional programme; shall have legal personality and shall act through the MIDRMA Board; in accordance with the agreed Terms of Reference at **Attachment A**;
3. The overall objective of the MIDRMA is the promotion of safety of air navigation in the Middle East Region through the operation and management, on a sound and efficient basis, of a permanent MID Regional Monitoring Agency;
4. The MIDRMA Board, in which each Participating State is entitled to appoint one member, shall retain overall direction and responsibility for the supervision and operation of the MIDRMA in accordance with the relevant obligations of the Participating States under the Convention on International Civil Aviation and its Annexes. The Board shall elect its chairperson. It shall inter-alia, supervise and direct the MIDRMA, follow-up its activities and reports and assign its priorities. It shall also secure the commitment of Participating States for funding the MIDRMA in accordance with agreed funding mechanism and for provision of necessary data for the MIDRMA;
5. The MIDRMA's scope, duties and responsibilities, which are at **Attachment B** to this Agreement, could be revised by the Board as deemed necessary;
6. The Participating States have accepted Bahrain's offer to host the MIDRMA in Bahrain which enabled the early establishment and functioning of the MIDRMA;
7. Bahrain ensures its continuous support to the MIDRMA through the provisions of the offices, equipment and local personnel needed for the MIDRMA operations;
8. Based on the agreed funding mechanism and to ensure the sustainability of the project, for the Member States committed to the agreed annual contributions in a timely manner;
9. The funding mechanism and consequential contributions of Participating States may be modified by decision of the Board;

10. The MIDRMA staffing shall be decided by the Board;
11. Bahrain shall monitor the progress of the MIDRMA, supervise financial accounting and provide general support and timely reporting;
12. Participating States authorize the MIDRMA Board Chairperson to sign on their behalf the agreement with ICAO and Bahrain specifying ICAO's role as the custodian of the funds collected for the purpose of this agreement, in compliance with ICAO's Financial Regulations and Rules; and any further amendment to this agreement;
13. Any amendment to this Memorandum of Agreement shall be approved by the Parties to this agreement. Amendments to the Attachments could be approved by the MIDRMA Board;
14. This Memorandum of Agreement shall come into effect on the date it has been signed by all the participating States;
15. Any dispute arising out of or relating to this Memorandum of Agreement, shall be settled by direct consultation between the Participating States concerned through the MIDRMA Board;
16. Any Participating State may withdraw from this Memorandum of Agreement by giving a prior notice of **six (6) months** to other the MIDRMA Board. The obligations assumed by the Participating States under this Memorandum of Agreement shall continue to exist after the withdrawal from this Memorandum of Agreement to the extent necessary to permit the orderly finalization of activities, the withdrawal of personnel, the distribution of funds and assets and the settlement of contractual obligations. Additional funds, if necessary, to cover the above mentioned expenditures shall be provided by the Participating States.
17. The hosting of the MIDRMA by Bahrain may be terminated at the request of Bahrain, with two years advance written notification to the MIDRMA Board to allow sufficient time for selection of an alternative location and necessary arrangements for transfer of the MIDRMA.
18. All correspondence relating to the implementation of this Agreement, shall be addressed to:

MIDRMA

Chairman of the MIDRMA Board
C/o Ministry of Transportation
P.O. Box 586
Bahrain International Airport
Manama - Bahrain

With copy to the:

ICAO Regional Director
ICAO Middle East Regional Office
Egyptian Civil Aviation Complex, Airport Road
P.O Box 85, Airport Post office, Terminal One
11776, Cairo, Egypt

Agreed on behalf of MIDRMA States

| State | Name | Title | Signature | Date |
|---------------------|-------------------------------------|--|-----------|------------|
| Bahrain | ALI AHMED | DIRECTOR AIR NAVIGATION | | 21/10/2014 |
| Egypt | Hany EL Adawy | ECCA president | | 21/9/2016 |
| Iran | Hossein Attari | Deputy of Aeronautical bureau | H. Attari | 26, 11, 14 |
| Iraq | Ali Khalil | Director General Iraq Civil Aviation Authority | | 18/4/2019 |
| Jordan | Nayef almarshoud | | DATM | 18/11/14 |
| Lebanon | DAVID EL HAIBY | ADIRECTOR GENERAL | | 18/11/14 |
| Libya | | | | |
| Kuwait | FAWAZ ALFARAJ | President of Civil Aviation | | 17/11/14 |
| Oman | Mubarak AL Ghelani | S. Director ASSURANCE & CONTR | | 26/11/2014 |
| Qatar | A. A L Ndaimi | Chairman | | 28.4.2015 |
| Saudi Arabia | Captain/Abdulhakem AP. POUL ALBOKRI | Safety Sec & Airport | | 31.8.2016 |
| Sudan | AHMED SATI BASOURI | Director General | | 26-05-14 |
| Syria | | | | |
| Unite Arab Emirates | A. ALSALLAF | ADG ANS | | 26/11/14 |
| Yemen | Amr al Saedi | Member to CIMA | | 18/4/2019. |

MIDDLE EAST REGIONAL MONITORING AGENCY (MIDRMA) BOARD
TERMS OF REFERENCE

The Terms of Reference of the MIDRMA Board are as follows:

1. The Board is responsible for overall supervision, direction, and management of the MIDRMA project.
2. The Board shall elect a Chairperson.
3. The elected Chairperson acts as the contact point/coordinator on behalf of the MIDRMA Board members to oversee the MIDRMA project in coordination with ICAO.
4. The Board shall review and update the MIDRMA work plan on a yearly basis and/or whenever required.
5. The Board shall meet at least once a year or when deemed necessary to review/update, consider, and approve:
 - i. the MIDRMA safety reports;
 - ii. matters related to funding mechanism, costs, accounting, etc; and
 - iii. the duties, responsibilities and scope of the MIDRMA.
6. The MIDRMA Board meetings should be hosted by Participating States on rotation basis.
7. The Board reports its activity to MIDANPIRG through the ATM Sub Group.

Composition:

The MIDRMA Board shall consist of focal points nominated by each Participating MID Region State as signatories on their behalf with ICAO Technical Cooperation Bureau (TCB) in relation with the MID RMA project.

The MID RMA Board meetings will be attended by:

- The Board members.
- ICAO Regional Office, as permanent observer.
- Other Organizations (EUROCONTROL, IATA, etc) as observes on ad-hoc basis and as required.

The MIDRMA's scope, duties and responsibilities

The MIDRMA has been assigned clear tasks in a step-by-step approach starting with RVSM height monitoring and RVSM post-implementation safety assessment. The MIDRMA duties and responsibilities include, but will not be limited to the following:

- collecting and analyzing RVSM data received from MID States as well as from Eurocontrol/FAA, IATA and airlines;
- collecting data on aircraft approved by various States for operation within RVSM airspace in the MID Region and enter such data in the MIDRMA database;
- verification of the effectiveness of the approval process by States;
- establishing a database for reporting height deviations of aircraft;
- verification that the Safety Objectives as set out by MIDANPIRG related to RVSM continue to be met and develop the MID RVSM Safety Monitoring Reports (SMR);
- monitoring the effectiveness of the altimetry system modifications to enable aircraft to meet the required height keeping performance criteria;
- evaluation of the stability of altimetry system error;
- undertake monitoring missions to States as required;
- determine in the light of analysis made of data received and of missions conducted, whether compliance with required safety standards is maintained and initiate corrective action as needed in each case;
- submit a report to each Board meeting on MIDRMA activities, its analysis of data and any identified departure from RVSM Safety limits, for its consideration and action as appropriate; and
- report the outcome of its activities to the ATM Sub-group and MIDANPIRG.

**Custodian Agreement
between ICAO, the Middle East Regional Monitoring Agency
(MID RMA), and Bahrain.**

Whereas the Middle East Regional Monitoring Agency (MID RMA) desires to request the International Civil Aviation Organization (ICAO) to perform certain custodian functions with respect to the funds collected from the member States of the MID RMA;

Whereas the member States of the MID RMA, under the Memorandum of Agreement on the Establishment, Operation and Management of the Middle East Regional Monitoring Agency (MID RMA) and its Funding by the Participating States, have authorized the MID RMA Board Chairman to negotiate on behalf of the MID RMA an agreement with ICAO and Bahrain specifying ICAO's role as the custodian of the funds collected for the purpose of the Memorandum of Agreement;

Whereas Bahrain agrees under the Memorandum of Agreement to host the MID RMA in Bahrain and undertakes to monitor the progress of the MID RMA, maintain financial accounting and provide general support and timely reporting;

The Parties have agreed as follows:

1. The Custodian Functions of ICAO

1.1 In accordance with the apportionment provided by the MID RMA Board, ICAO shall use its best efforts to assist in collecting the funds from each of the member States of the MID RMA by issuing a request for payment to each member State.

1.2 ICAO shall act as the custodian of the funds collected under subparagraph 1.1, to the extent defined as follows:

- a) Creating a fund for the MID RMA, in compliance with existing ICAO financial Rules and Regulations.
- b) depositing the funds received into the MID RMA fund mentioned in subparagraph 1.1 and issuing acknowledgements of receipts to individual States when funds are received;
- c) recording the funds received in the MID RMA fund and tracking accrued interest;
- d) reporting on funds received and balance of funds to the RMA Board via its chairman on a quarterly basis;
- e) subject to availability of funds, reimbursing Bahrain on the basis of a certified request for payment by the Chairman of the MID RMA Board on a semi-annual basis;

2. Administration Fees of ICAO

2.1 ICAO shall be entitled to receive ten per cent (10%) of the funds collected, as administration fees.

3. Exclusion of ICAO's Responsibility and Liability

3.1 ICAO has no responsibility to certify that funds spent by Bahrain are for the purpose for which they were intended. Nor shall any form of verification or audit be performed on expenditure related to the MID RMA. Any request for audit shall be commissioned by the MID RMA Board and contracted with an independent external auditor.

3.2 ICAO is under no obligation to provide an itemized statement of expenditure since it has no responsibility for the budget of the MID RMA Board.

3.3 ICAO shall not receive invoices for payment to third parties nor shall it be required to make any disbursements other than to Bahrain for reimbursement of their costs.

3.4 In no event shall ICAO be held liable for any claim or damage arising from the execution of this Agreement. Without limiting the generality of the foregoing, ICAO shall not be liable for:

- a) the failure to collect from member States which are in default. Following two reminders sent to the States by ICAO, it shall be the sole responsibility of the MID RMA Board to engage in further collection action or to enforce any applicable sanctions with respect to members States which are in default;
- b) the loss of the funds, such as in the course of their deposits, transmissions or transfers;
- c) any deficit position of the MID RMA fund.

3.5 The MID RMA shall indemnify, hold and save harmless, and defend, at its own expense, ICAO, its officials, agents, servants and employees, from and against all suits, claims, demands and liability of any nature or kind, including their costs and expenses, arising out of the acts or omissions of the MID RMA or the MID RMA's employees, officers, agents or sub-contractors, in the performance of this Agreement. This provision shall extend, *inter alia*, to claims and liability in the nature of workmen's compensation claims, product liability and liability arising out of the use of patented inventions or devices, copyrighted material or other intellectual property by the MID RMA, its employees, officers, agents, servants, or sub-contractors. The obligations under this clause do not lapse upon termination of this Agreement.

4. Compliance with ICAO Financial Regulations and Rules

4.1 ICAO shall be bound by its Financial Regulations and Rules in all matters under this Agreement. No provision of this agreement shall be interpreted in conflict with the Financial Regulations and Rules.

5. Settlement of Disputes

5.1 Any dispute, controversy or claim arising out of or relating to this Agreement shall be settled amicably through negotiation and consultation between the Parties.

6. Immunity of ICAO

6.1 Nothing in or relating to this Agreement shall be deemed a waiver, express or implied, of any immunity from suit or legal process or any privilege, exemption or other immunity enjoyed or which may be enjoyed by ICAO, its officers and staff, either pursuant to the Convention on the Privileges and Immunities of the Specialized Agencies or other conventions, agreements, laws or decrees of an international character.

7. Language of Correspondence

7.1 All reports, correspondence and other information shall be in English.

8. Notices

8.1 All correspondence between the Parties shall be sent in writing to the following offices and addresses:

- a) **ICAO:** International Civil Aviation Organization
Technical Co-operation Bureau
999 University Street
Montreal, Québec
H3C 5H7
Tel: ++ 514-954-8219 Ext. 8082
Fax: ++ 514-954-6287
E-mail: vdorofeyev@icao.int

- b) **MID RMA:** Middle East Regional Monitoring Agency
(MID RMA)
C/o Civil Aviation Affairs
P.O. Box: 586
Manama, Bahrain
Tel: ++ 973 17 32 91 50
Fax: ++ 973 17 32 91 60
E-mail: midrma@batelco.com.bh

- c) **Bahrain:** The Under Secretary
Civil Aviation Affairs
Bahrain International Airport
Tel: ++ 973 17 321 100
Fax: ++ 973 17 329 066
E-mail: aralgaoud@caa.gov.bh

9. Amendment to the Agreement

9.1 This Agreement may be amended by an instrument in writing signed by each of the Parties.

Termination or Renewal of the Agreement

10.1 This Agreement is concluded initially for a term of two (2) years. It shall be automatically renewed at the time of expiration, unless one Party notifies the other Parties by a prior written notice of three (3) months that it intends to terminate this Agreement at the end of the term.

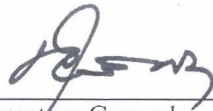
10.2 ICAO may terminate this Agreement at any time by providing prior written notice of three (3) months.

11. Entry into Force

11.1 This Agreement shall come into force at the time of signature by all the Parties.

Acknowledged and agreed:

For ICAO


Secretary General
9 May 2006

For Bahrain


Under Secretary Civil
Aviation Affairs
6/June/ 2006

For MID RMA Member
States


Chairman of MID RMA
Board
3rd June 2006

— END —

**Preliminary Results of the MID RVSM SMR 2022
(First Draft Version)**

1. INTRODUCTION

1.1 The MID RVSM Safety Monitoring Report (SMR) is developed and issued by the Middle East Regional Monitoring Agency (MIDRMA) on annual basis, for endorsement by the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG). The report should present evidence that according to the data and methods used, all safety objectives set out in the MID RVSM Safety Policy in accordance with ICAO Doc 9574 (2nd Edition) continue to be met in operational services. However, for SMR 2022 the MIDRMA faced difficulties in receiving Traffic Data Samples (TDS) from some Member States which have limited the conduct of the risk analysis, while the data from many other States found not compatible with the required format of the traffic data. The MIDRMA was unable to present a complete draft version of the SMR and instead it was agreed to present this paper which contains the preliminary results of the SMR.

1.2 Based on the calculations performed with the available data to measure both ICAO TLS (Technical and Overall risks), the MIDRMA concluded that the MID RVSM airspace did not meet the ICAO TLS for the overall risk, for reasons explained in this Working Paper.

2. DISCUSSION

Preliminary Results of the MID RVSM SMR 2022 (First Draft Version):

2.1 Implementation of RVSM should be based on a safety assessment, demonstrating that all RVSM Safety Objectives set out in the MID RVSM Safety Policy in accordance with ICAO Doc 9574 (2nd Edition) continue to be met in operational services within the Middle East RVSM Airspace.

2.2 The results calculated for the MID RVSM SMR 2022 presents evidence that according to the data and methods used that only Safety Objectives 1 & 3 have been met, while the MID RVSM Airspace failed to meet Safety Objective No. 2, due to high period of operational errors, which led the overall risk value to exceed the ICAO TLS.

Objective 1 The risk of collision in MID RVSM airspace due solely to technical height-keeping performance meets the ICAO target level of safety (TLS) of 2.5×10^{-9} fatal accidents per flight hour.

The value computed for technical height risk is estimated 1.564×10^{-10} , this meets RVSM Safety Objective 1.

Objective 2 The overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies in the MID RVSM airspace meets the ICAO overall TLS of 5×10^{-9} fatal accidents per flight hour.

The value computed for the overall risk is estimated 1.724×10^{-7} this is above the ICAO overall TLS.

Objective 3 Address any safety-related issues raised in the SMR by recommending improved procedures and practices; and propose safety level improvements to ensure that any identified serious or risk-bearing situations do not increase and, where possible, that

they decrease. This should set the basis for a continuous assurance that the operation of RVSM will not adversely affect the risk of en-route mid-air collision over the years.

| Middle East RVSM Airspace Estimated Annual Flying Hours = (2,161,356) Average Aircraft Speed = 441.36 kts | | | |
|---|---------------------------------|------------------------------|-----------------------|
| Risk Type | Risk Estimation | ICAO TLS | Remarks |
| Technical Risk | 1.564 x 10⁻¹⁰ | 2.5 x 10⁻⁹ | Below ICAO TLS |
| Overall Risk | 1.724 x 10⁻⁷ | 5 x 10⁻⁹ | Above ICAO TLS |

In conclusions:

- (i) The estimated risk of collision associated with aircraft height- keeping performance is **1.564 x 10⁻¹⁰** and meets the ICAO TLS of **2.5 x 10⁻⁹** fatal accidents per flight hour (RVSM Safety Objective 1).
- (ii) The estimated overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies is **1.724 x 10⁻⁷** this value is above the ICAO overall TLS of **5 x 10⁻⁹** fatal accidents per flight hour (RVSM Safety Objective 2).
- (iii) Although safety objective No 2 was not met for SMR 2022, based on currently-available information (Except for Tripoli, Kuwait and Beirut FIRs), there is no evidence available to MIDRMA that the continued operations of RVSM adversely affects the overall vertical risk of collision other than the violation of Non-RVSM approved aircraft to the MID RVSM airspace which is under continuous monitoring and review by MIDRMA.

Considerations on the Safety Objectives for MID RVSM SMRs

2.3 When considering the three safety objectives for RVSM, the following considerations should be borne in mind:

- a. The assessment of risk against the TLS, both for technical and overall risk estimates, relies on height keeping performance data to assess the risk in the vertical plane and studies of traffic density to calculate the risk in the horizontal plane. There are numbers of assumptions that must be verified to satisfy the reliability of the risk assessment, the verification of these assumptions deals primarily with monitoring of aircraft performance issues.
- b. The Aircraft performance is assessed by individual airframe and by monitoring group. A monitoring group consists of aircraft that are nominally of the same type with identical performance characteristics that are made technically RVSM compliant using a common compliance method. Monitoring group analysis is necessary to verify that the Minimum Aviation System Performance Standards (MASPS) for that group is valid. Aircraft that are made RVSM compliant on an individual basis are termed non-group.

4A-3

- c. RVSM Safety Objective 2, dealing with overall risk, takes into account the technical risk together with the risk from all other causes. In practice, this relates to the human influence and assessment of this parameter relies on adequate reporting of Large Height Deviation (LHD) Reports, and the correct interpretation of events for input to the CRM.
- d. RVSM Safety Objective 3 requires the RMA to monitor long-term trends and to identify potential future safety issues, this compare the level of risk bearing incidents for the current reporting period. It also highlights if there are issues that should be carried forward as recommendations to be adopted for future reports.

The Scope of the Safety Analysis

2.4 The geographic scope of the MID RVSM Safety Monitoring Report covers the MID RVSM airspace, which comprises the following FIRs/UIRs:

| | | | | | | |
|--------|---------|----------|---------|--------|----------|----------|
| Amman | Bahrain | Beirut* | Baghdad | Cairo | Damascus | Emirates |
| Jeddah | Kuwait* | Khartoum | Muscat | Sana'a | Tehran | Tripoli* |

Table 1: FIRs/UIRs of the Middle East RVSM Airspace

* Note: Kuwait, Beirut and Tripoli FIRs were excluded from the RVSM Safety Analysis due to lack of data.

2.5 The Data Sampling periods covered by SMR 2022 are as displayed in the below table

| Report Elements | Time Period |
|--------------------------------|-------------------------|
| Traffic Data Sample | 01/06/2022 - 30/06/2022 |
| Operational & Technical Errors | 01/01/2022 - 31/08/2022 |

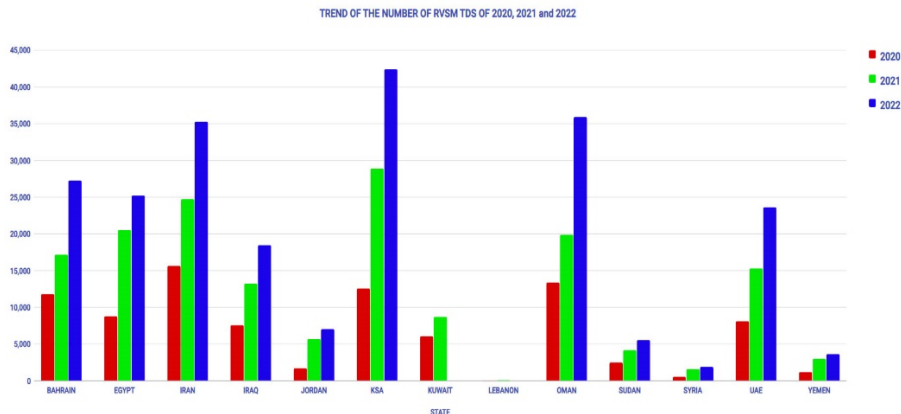
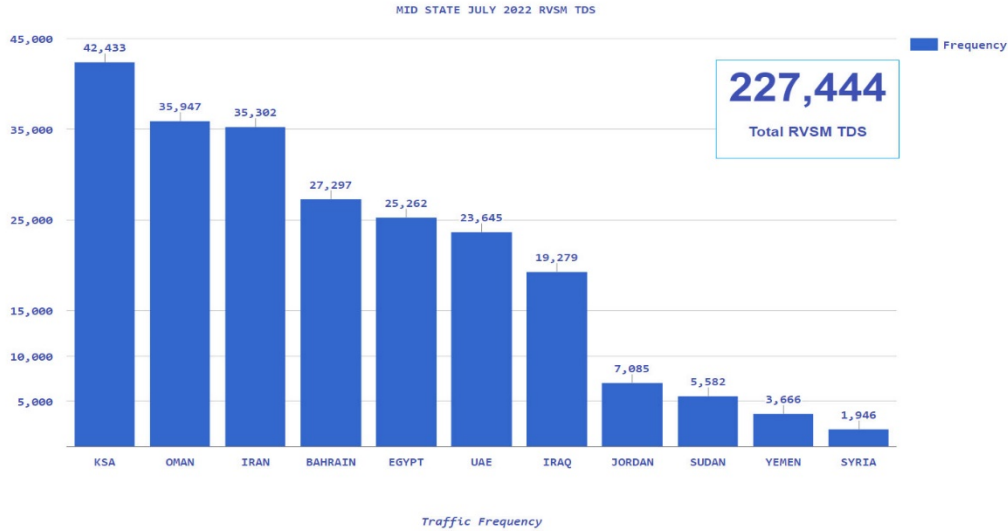
2.6 The descriptions of the traffic data collected from each MIDRMA Member State are depicted in table below:

| MID States | No. of Flights | Received Dates | Status |
|---------------------|----------------|----------------|-----------------------------|
| Bahrain FIR | 27297 | 01/08/2022 | Accepted (Lots of mistakes) |
| Cairo FIR | 25262 | 30/07/2022 | Accepted |
| Amman FIR | 7085 | 06/07/2022 | Accepted |
| Muscat FIR | 35947 | 27/07/2022 | Accepted |
| Tehran FIR | 35302 | 05/08/2022 | Accepted |
| Khartoum FIR | 5582 | 31/07/2022 | Accepted (Corrected TDS) |
| Emirates FIR | 23645 | 26/07/2022 | Accepted |
| Damascus FIR | 1946 | 22/07/2022 | Accepted |
| Sana'a FIR | 3666 | 28/07/2022 | Accepted |
| Baghdad FIR | 19279 | 05/07/2022 | Accepted (Corrected TDS) |

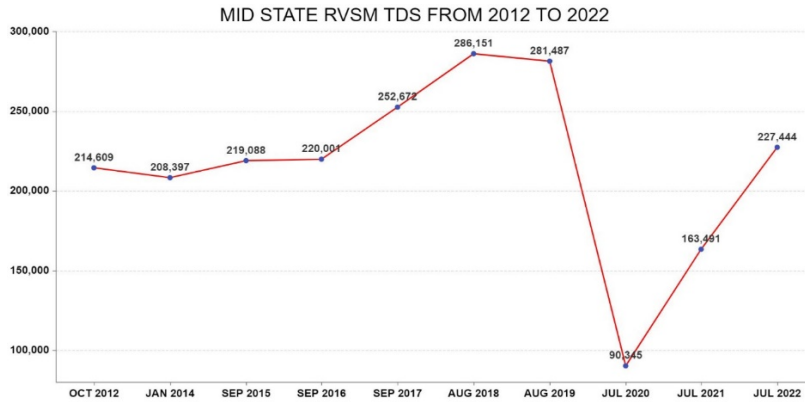
| | | | |
|--------------------|----------------|------------|-----------------------------|
| Kuwait FIR | - | 13/08/2022 | Rejected |
| Jeddah FIR | 42433 | 28/07/2022 | Accepted (Lots of mistakes) |
| Beirut FIR | - | | No Data Submitted |
| Tripoli FIR | - | | No Data Submitted |
| Total | 227,444 | | |

Table 2: Details of the MID States RVSM Traffic Data Sample (TDS) for July 2021.

2.7 The description of the traffic data processed for each MIDRMA member State by the MID Risk Analysis Software (MIDRAS) is depicted in the graphs below, a total of 227,444 flights were processed for the 11 FIRs, these flights were evaluated and processed very carefully to ensure accurate results according to the data submitted.



4A-5



Graphs 1: The description of the traffic data processed for each MIDRMA member State

| # | Waypoints | FIRs | Frequency |
|----|-----------|------------------|-----------|
| 1 | TASMI | BAGHDAD/KUWAIT | 8466 |
| 2 | DAVUS | BAHRAIN/KUWAIT | 6977 |
| 3 | SIDAD | BAGHDAD/KUWAIT | 6500 |
| 4 | NINVA | BAGHDAD/ANKARA | 6159 |
| 5 | RATVO | BAGHDAD/ANKARA | 5980 |
| 6 | TUMAK | BAHRAIN/EMIRATES | 5340 |
| 7 | ULADA | BAHRAIN/JEDDAH | 5005 |
| 8 | RASKI | MUSCAT/MUMBAI | 4761 |
| 9 | ALPOB | BAHRAIN/EMIRATES | 4631 |
| 10 | ULINA | CAIRO/AMMAN | 4465 |
| 11 | GABKO | TEHRAN/EMIRATES | 4156 |
| 12 | SODEX | EMIRATES/MUSCAT | 4147 |
| 13 | BONAM | TEHRAN/ANKARA | 3992 |
| 14 | MENSA | EMIRATES/MUSCAT | 3949 |
| 15 | KITOT | CAIRO/JEDDAH | 3801 |
| 16 | PASOV | EMIRATES/MUSCAT | 3619 |
| 17 | DEESA | AMMAN/JEDDAH | 3567 |
| 18 | NALPO | BAHRAIN/EMIRATES | 3514 |
| 19 | LONOS | BAHRAIN/KUWAIT | 3452 |
| 20 | DAROR | BAHRAIN/JEDDAH | 3341 |

Table 3: Top 20 Busiest Points in the MID RVSM Airspace

2.8 The meeting may wish to note that, after many years of issuing the RVSM SMR for the Region, the MIDRMA is still facing many difficulties and challenges in receiving the TDS from some member States in the required format. The requirement to collect the TDS is repeated every year in the same format and with no changes, but the TDS received with many errors and, in some cases, completely

corrupted and cannot be used for the Safety analysis.

2.9 MIDRMA was forced to reject the TDS from Kuwait, the data was completely corrupted with many errors and missing flights and could not be processed in MIDRAS, while the TDS from Iraq and Sudan were temporarily rejected in order to correct all errors and return them back to MIDRMA. The meeting may wish to note that no TDS was received from Lebanon despite several reminders being sent to the focal point to comply with the MIDANPIRG Conclusion 19/2 and the ICAO State Letter issued to submit the requested TDS.

2.10 Compiling the TDS and verifying its validity and suitability for use is a laborious task that necessitates a great deal of effort, time, and precision in order to produce reliable outcomes. As a result, the MIDRMA requires all Member States to double-check their data before sending it to avoid rejection and delaying work on the SMR development.

Large Height Deviation Reports (LHDs) 2022

2.11 The level of collision risk resulting from errors in ATC instructions, emergencies and operational procedures in the MID RVSM Airspace needs to be assessed, in addition to that resulting from technical height-keeping deviations, the primary source of reporting Large Height Deviation is the ATC units providing air traffic control services in the airspace where RVSM is applied, all MIDRMA Member States are required to submit Large Height Deviation Reports which occurred in their FIRs on a monthly basis (preferably as soon as they occur) even if none was reported during the month of reporting.

2.12 The vertical risk estimation due to atypical errors has been demonstrated to be the major contributor in the overall vertical-risk estimation for the ICAO MID RVSM Airspace, The MIDRMA noticed good improvement from some member states used not to submit LHD reports equivalent to their high volume of traffic while some other members remain the same and can't see much improvement despite the continuous monthly reminders sent to all member states.

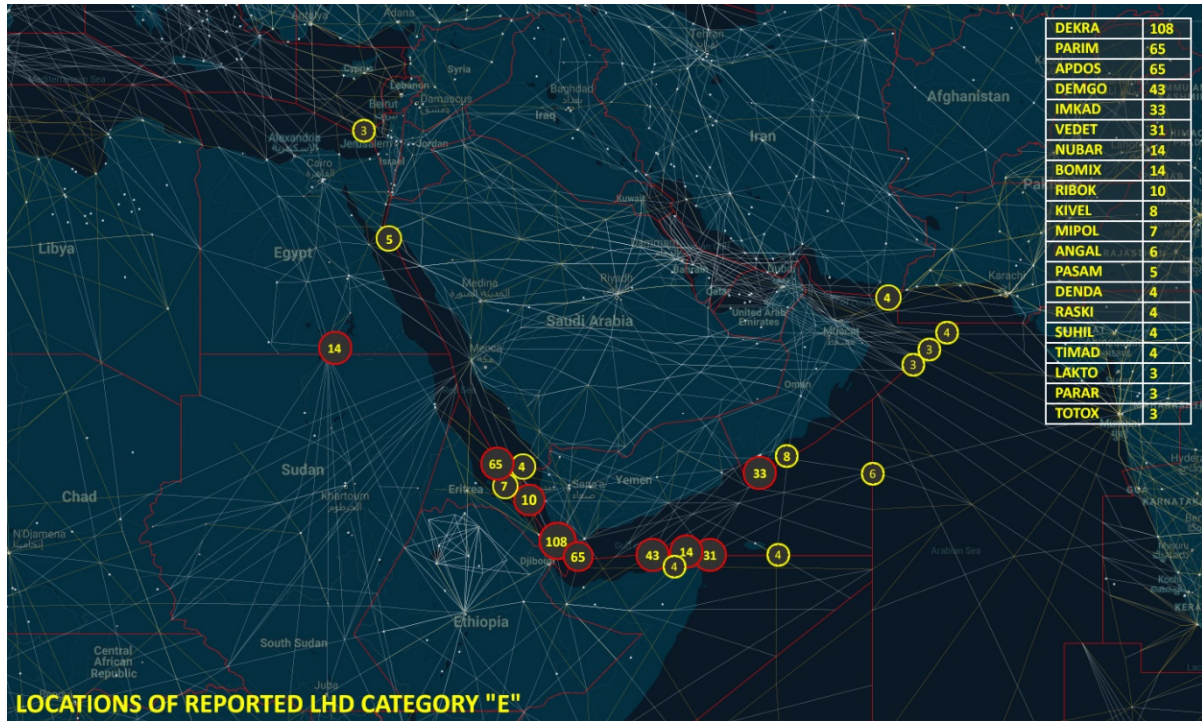
2.13 The estimation of total risk (Safety Objective 2) combines the results from Safety Objective 1 with the estimation of risk due to all other factors. This second component, often termed operational risk, is dependent on a large number of factors including, airspace configuration, traffic densities, ATC procedures, individual controller/pilot actions and specific sector operational characteristics. The operational risk is estimated by the evaluation of the magnitude and duration of events extracted from operational incident reports which transformed to Large Height Deviation reports.

2.14 Despite the fact that the MIDRMA Member States have submitted a small number of LHD reports to date, and that the SMR cycle is not yet complete (there are four months left), there is a chance that the results presented for Safety Objective No.2 will worsen if more critical LHD reports are submitted.

2.15 The Table below presents a summary of operational risk associated with Large Height Deviation (LHD) reports by LHD categories, these reports used to calculate the overall vertical collision risk for the MID RVSM airspace, visualized in the following graph.

| LHD Cat. | Large Height Deviation (LHD) Categories | No. of LHDs | LHD Duration (Seconds) |
|-----------------|---|--------------------|-------------------------------|
| A | Flight crew fails to climb or descend the aircraft as cleared | 3 | 35 |
| B | Flight crew climbing or descending without ATC clearance | 2 | 60 |
| C | Incorrect operation or interpretation of airborne equipment | 1 | 40 |
| D | ATC system loop error | - | - |
| E | ATC transfer of control coordination errors due to human factors | 14 | 660 |
| F | ATC transfer of control coordination errors due to technical issues | - | - |
| G | Aircraft contingency leading to sudden inability to maintain level | - | - |
| H | Airborne equip. failure and unintentional or undetected FL change | 1 | 30 |
| I | Turbulence or other weather related cause | - | - |
| J | TCAS resolution advisory and flight crew correctly responds | - | - |
| K | TCAS resolution advisory and flight crew incorrectly responds | - | - |
| L | ACFT being provided with RVSM separation is not RVSM approved | 1 | 3420 |
| M | Other | 1 | 40 |
| | Total | 21 | 4285 |

Table 4: Summary of Operational Risk associated with Large Height Deviation Reports



2.16 RVSM Safety Protocol at the Eastern Boundaries of Muscat FIR and the increased Number of LHD reports submitted by Yemen related to some its adjacent FIRs:

2.17 The MIDRMA continued to monitor the LHD reports at the eastern boundaries of Muscat FIR filed by Mumbai and Muscat ACCs. The MIDRMA would like to draw the meeting's attention to the fact that Muscat/Mumbai RVSM safety protocol is still open since 2017, and it is time to make a decision to close it provided the risk is eliminated or reduced to its bare minimum, which the MIDRMA cannot see it is happening without confirmation of installing OLDI/AIDC in both ACCs.

Note: Appendix A in this working paper details the LHD reports filed by both ATCUs from 01st January until 31st August 2022.

2.18 A virtual meeting arranged by the ATM officers in ICAO MID and ESAF Offices last March and was attended by MIDRMA, Yemen and Addis Ababa ATCUs to discuss the continued increasing number of LHD reports filed by Sana'a ACC related to its neighbouring FIRs. MIDRMA presented all the archived LHD reports filed by Yemen and requested to explore all possible solutions and agree in corrective measures to reduce the number of these LHDs as soon as possible because it started to affect the ICAO overall TLS. The attendees agreed to continue arranging for other meetings to discuss this issue with other neighbouring ACCs/ANSPs.

2.19 The MIDRMA pointed out during the last two Board meetings the issue of lack of response to the received LHD reports using the feature of direct response to the reporting unit to ensure that all responses are archived and referenced when needed. Unfortunately, the extreme majority of the Member States continue to ignore using this feature and don't bother to investigate and reply to the received LHD reports.

4A-9

2.20 The table below reflects the LHD reports received from all MIDRMA member States during the reporting period of SMR 2021:

| MID FIRs | No. of Reported LHDs | No. of Related LHDs |
|-----------------|-----------------------------|----------------------------|
| Bahrain | 5 | NIL |
| Baghdad | 1 | 1 |
| Amman | 2 | 2 |
| Tehran | 2 | 8 |
| Cairo | 25 | 13 |
| Damascus | NIL | 1 |
| Khartoum | 9 | 16 |
| Kuwait | NIL | 4 |
| Muscat | 28 | 36 |
| Jeddah/ Riyadh | 11 | 88 |
| Tripoli | NIL | NIL |
| Emirates | 5 | 1 |
| Sana'a | 363 | 3 |

TABLE 5: LHD Reports received from all MIDRMA member States

Appendix A

This appendix shows the LHD reports filed between Muscat and Mumbai, from 01st January until 31st August 2022.

1- LHD Reports Filed by Muscat Related to Mumbai

| # | ID | Date of Occasion | Reported by | Related to | Location | Nature of the occurrence | Category |
|----|-------|------------------|-------------|------------|----------|---------------------------------------|----------|
| 1 | 10527 | 06/02/2022 | Muscat | Mumbai | PARAR | Revised FL Not Coordinated | E |
| 2 | 10528 | 18/02/2022 | Muscat | Mumbai | KITAL | ACFT Entered FIR Without Coordination | E |
| 3 | 10529 | 27/02/2022 | Muscat | Mumbai | RASLI | ACFT Entered FIR Without Coordination | E |
| 4 | 10589 | 01/03/2022 | Muscat | Mumbai | LOTAV | Revised FL Not Coordinated | E |
| 5 | 10590 | 07/03/2022 | Muscat | Mumbai | TOTOX | Revised FL Not Coordinated | E |
| 6 | 10591 | 07/03/2022 | Muscat | Mumbai | TOTOX | Revised Estimate Not Coordinated | E |
| 7 | 10592 | 27/03/2022 | Muscat | Mumbai | RASKI | Revised FL Not Coordinated | E |
| 8 | 10837 | 01/07/2022 | Muscat | Mumbai | TOTOX | ACFT Entered FIR Without Coordination | E |
| 9 | 10838 | 03/07/2022 | Muscat | Mumbai | KITAL | ACFT Entered FIR Without Coordination | E |
| 10 | 10839 | 07/07/2022 | Muscat | Mumbai | PARAR | Revised FL Not Coordinated | E |
| 11 | 10840 | 17/07/2022 | Muscat | Mumbai | REXOD | ACFT Entered FIR Without Coordination | E |
| 12 | 10841 | 20/07/2022 | Muscat | Mumbai | RASKI | Revised FL Not Coordinated | E |
| 13 | 10842 | 20/07/2022 | Muscat | Mumbai | LOTAV | ACFT Entered FIR Without Coordination | E |
| 14 | 10843 | 27/07/2022 | Muscat | Mumbai | PARAR | Revised Estimate Not Coordinated | E |
| 15 | 10844 | 28/07/2022 | Muscat | Mumbai | RASKI | Revised FL Not Coordinated | E |
| 16 | 10845 | 30/07/2022 | Muscat | Mumbai | RASKI | Revised FL Not Coordinated | E |

2- LHD Reports Filed by Mumbai Related to Muscat

| # | ID | Date of Occurrence | Reported by | Related to | Location | Nature of the occurrence | |
|----|-----------|--------------------|-------------|------------|----------|-----------------------------------|---|
| 1 | LHD001574 | 21/07/2022 | Mumbai | Muscat | KITAL | No or late FL revision | E |
| 2 | LHD001572 | 30/08/2022 | Mumbai | Muscat | TOTOX | No or late FL revision | E |
| 3 | LHD001571 | 30/08/2022 | Mumbai | Muscat | REXOD | No or late FL revision | E |
| 4 | LHD001570 | 28/08/2022 | Mumbai | Muscat | REXOD | No or late FL revision | E |
| 5 | LHD001567 | 17/08/2022 | Mumbai | Muscat | PARAR | No or late FL revision | E |
| 6 | LHD001566 | 14/08/2022 | Mumbai | Muscat | RASKI | No or late FL revision | E |
| 7 | LHD001526 | 30/07/2022 | Mumbai | Muscat | RASKI | No or late FL revision | E |
| 8 | LHD001525 | 28/07/2022 | Mumbai | Muscat | RASKI | No or late FL revision | E |
| 9 | LHD001524 | 27/07/2022 | Mumbai | Muscat | PARAR | No or late estimate time revision | E |
| 10 | LHD001523 | 20/07/2022 | Mumbai | Muscat | LOTAV | No transfer information | E |
| 11 | LHD001522 | 20/07/2022 | Mumbai | Muscat | RASKI | No or late FL revision | E |
| 12 | LHD001521 | 17/07/2022 | Mumbai | Muscat | REXOD | No transfer information | E |
| 13 | LHD001520 | 07/07/2022 | Mumbai | Muscat | PARAR | No transfer information | E |
| 14 | LHD001519 | 03/07/2022 | Mumbai | Muscat | KITAL | No transfer information | E |
| 15 | LHD001518 | 01/07/2022 | Mumbai | Muscat | TOTOX | No transfer information | E |
| 16 | LHD001472 | 15/06/2022 | Mumbai | Muscat | RASKI | No or late FL revision | E |
| 17 | LHD001451 | 30/05/2022 | Mumbai | Muscat | REXOD | No transfer information | E |
| 18 | LHD001450 | 27/05/2022 | Mumbai | Muscat | RASKI | No or late FL revision | E |
| 19 | LHD001447 | 08/05/2022 | Mumbai | Muscat | RASKI | No or late FL revision | E |
| 20 | LHD001446 | 03/05/2022 | Mumbai | Muscat | RASKI | No transfer information | E |
| 21 | LHD001401 | 29/04/2022 | Mumbai | Muscat | LOTAV | No or late FL revision | E |
| 22 | LHD001373 | 01/03/2022 | Mumbai | Muscat | LOTAV | No or late FL revision | E |
| 23 | LHD001372 | 07/03/2022 | Mumbai | Muscat | TOTOX | No or late FL revision | E |
| 24 | LHD001369 | 07/03/2022 | Mumbai | Muscat | TOTOX | No or late estimate time revision | E |
| 25 | LHD001368 | 27/03/2022 | Mumbai | Muscat | RASKI | No or late FL revision | E |
| 26 | LHD001367 | 06/02/2022 | Mumbai | Muscat | PARAR | No or late FL revision | E |
| 27 | LHD001365 | 18/02/2022 | Mumbai | Muscat | KITAL | No transfer information | E |
| 28 | LHD001363 | 27/02/2022 | Mumbai | Muscat | RASKI | No transfer information | E |
| 29 | LHD001361 | 19/03/2022 | Mumbai | Muscat | LOTAV | No transfer information | E |
| 30 | LHD001360 | 13/03/2022 | Mumbai | Muscat | RASKI | No or late FL revision | E |
| 31 | LHD001359 | 12/03/2022 | Mumbai | Muscat | PARAR | No or late FL revision | E |
| 32 | LHD001358 | 09/03/2022 | Mumbai | Muscat | PARAR | No transfer information | E |
| 33 | LHD001357 | 05/03/2022 | Mumbai | Muscat | KITAL | No transfer information | E |
| 34 | LHD001356 | 05/03/2022 | Mumbai | Muscat | KITAL | No transfer information | E |
| 35 | LHD001355 | 03/03/2022 | Mumbai | Muscat | LOTAV | No or late FL revision | E |
| 36 | LHD001301 | 23/02/2022 | Mumbai | Muscat | PARAR | No or late FL revision | E |
| 37 | LHD001300 | 27/02/2022 | Mumbai | Muscat | KITAL | No or late FL revision | E |
| 38 | LHD001278 | 31/01/2022 | Mumbai | Muscat | TOTOX | No or late FL revision | E |

MIDRMA Board/18-REPORT
APPENDIX 4A

4A-12

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|----|-----------|------------|--------|--------|-------|-----------------------------------|---|
| 39 | LHD001277 | 09/01/2022 | Mumbai | Muscat | RASKI | No or late FL revision | E |
| 40 | LHD001276 | 09/01/2022 | Mumbai | Muscat | REXOD | No or late estimate time revision | E |
| 41 | LHD001275 | 09/01/2022 | Mumbai | Muscat | TOTOX | No or late estimate time revision | E |

LIST OF MIDRMA BOARD MEMBERS/ALTERNATES AND FOCAL PONTS

Chairman: Mr. Mohamed Zainal (Bahrain)

| STATE | MIDRMA BOARD MEMBER | ALTERNATE | ATC FOCAL POINT | AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT |
|---------|---|---|--|--|
| BAHRAIN | <p>Mr. Ahmed Mohammed Bucheery Chief Air Traffic Management Civil Aviation Affairs P.O. Box 586 BAHRAIN</p> <p>Fax: +973 17 329977 Tel: +973 17 321117 Mobile: +973 39522696 E-mail: a.ali@mtt.gov.bh</p> | <p>Mr. Isa Al-Khamiri Safety Manager Civil Aviation Affairs P.O. Box 586 – BAHRAIN</p> <p>Fax: +973 17 329977 Tel: +973 17 321118 Mobile: +973 3644768 E-mail: ialkhamiri@mtt.gov.bh</p> | <p>Same as MEMBER</p> | <p>Eng. Abdulrazzqaq Abdulwahid Aircraft Registration Specialist Civil Aviation Affairs P.O. Box 586 BAHRAIN Tel: +973 17 32 9031 E-mail: a.mohammed@mtt.gov.bh</p> |
| EGYPT | <p>Mr. Tayseer Mohamed Abdelkareem General Manager of ATS Egyptian Civil Aviation Authority (ECAA) General Manager of ATS Cairo - Egypt</p> <p>Fax: +202 2268 7849 Tel: +202 2267 8883 Mobile: +20100 522 8675 E-mail: tayseerkasem73@gmail.com tayseer.mohamed@civilaviation.gov.eg</p> | <p>Mr. Walid Saeed Rawash ATCO and R&D Specialist National Air Navigation Services Company (NANSC) Cairo Airport Road Cairo - EGYPT</p> <p>Mobile: +20100 242 7931 Email: walid.rawash@nansceg.net</p> | <p>Mrs. Asmaa ahmed Attiya ATCO and R&D Specialist National Air Navigation Services Company (NANSC) Cairo Airport Road Cairo - EGYPT</p> <p>Mobile: +20100 5861615 Email: asmaa.ahmed@nansceg.net</p> | <p>Mr. Mario Riad Mahrous Airworthiness Senior Inspector Egyptian Civil Aviation Authority Cairo Airport Road Cairo - EGYPT</p> <p>Mobile: +20122 7197389 Email: mario.riad@gmail.com</p> |

| STATE | MIDRMA BOARD MEMBER | ALTERNATE | ATC FOCAL POINT | AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT |
|-------|---|--|--|--|
| IRAN | <p>Mr. Manouchehr Lotfi General Director of Airworthiness Department (CAO) Tehran Mehrabad International Airport P.O. Box 13445-1798 Tehran – IRAN</p> <p>Fax: (+9821) 66078730 Tel: (+9821) 66078700 Ext 133 E-mail: m-lotfi@cao.ir</p> | <p>Mr. Mansour Sadri Koupaei Deputy Director of Airworthiness Department Civil Aviation Authority of Iran Mehrabad International Airport, Tehran, Iran P.O. Box 13445-1798</p> <p>Tel: (+9821) 66078700 Ext 133 Fax: (+9821) 66078730 Mobile: (+98) 9194406033 Email: m-sadri@cao.ir</p> | <p>Mr. Meisam shaker Arani Director ANS and Aerodrome Oversight bureau (CAO) Tehran Mehrabad International Airport P.O. Box 13445-1798</p> <p>Fax: +9821 660 78719 Mob: +989126454753 E-mail: m-shaker@cao.ir</p> <p>-----</p> <p>Mr. Asghar Tabaraei Chief of Radar and automation system in ATM (Iran Airports and ANS company)</p> <p>Tel Fax: +9821 44544106 Tel: +989126715242 E-mail: tbr1356@yahoo.com</p> | <p>Mr. Amir Hossein Hadian Technical Expert Airworthiness Department (CAO) Tehran Mehrabad International Airport P.O. Box 13445-1798 Tehran – IRAN</p> <p>Fax: (+9821) 4464 9274 Tel: (+9821) 61022128 Mobile: (+98) 9124403748 E-mail: a-hadian@cao.ir</p> <p>-----</p> <p>ALTERNATE Mr. Hussein Zare Toosi Pilot, Flight Operations Department (CAO) Tehran Mehrabad International Airport P.O. Box 13445-1798 Tehran – IRAN</p> <p>Fax: (+9821) 4464 9274 Tel: (+9821) 61022128 Mobile: (+98) 912 423 7891 E-mail: h-zare@cao.ir</p> |

| STATE | MIDRMA BOARD MEMBER | ALTERNATE | ATC FOCAL POINT | AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT |
|--------|---|---|--|--|
| IRAQ | <p>Mrs. Fatimah Hasan Mohammed ANS section/ flight safety Iraq Civil Aviation Authority Baghdad , Iraq</p> <p>Mobile: (964) 7737334481 Email: fatimah_hm_87@yahoo.com fatima@icaa.gov.iq</p> | <p>Mr. Tareq Rasool Director of Quality & Safety Department General Company for Air Navigation Services (GCANS) Baghdad – Iraq</p> <p>Mobile: +964 790 139 7642 Email: tariq.rasool@gcans.org quality.safety.gcans@gmail.com</p> | <p>Mr. Mohanad Ali Mohamed Jawad ATM Coordinator General Company for Air Navigation Services (GCANS) Baghdad – Iraq</p> <p>Mobile: +964 770 881 7030 Email: mohanad_ali1986@yahoo.com</p> | <p>Mr. Ali Kumail Airworthiness Inspector Iraq Civil Aviation Authority</p> <p>Mobile :00964 7703663075 Email : Alikumail@icaa.gov.iq -----</p> <p>Mr. Ahmed Abdulkhaliq Airworthiness Inspector Iraq Civil Aviation Authority</p> <p>Mobile :00964 7800947433 Email : Ahmedam@icaa.gov.iq</p> |
| JORDAN | <p>Mr. Khaled Arabiyat Commissioner Jordan Civil Aviation Regulatory Commission (CARC)</p> <p>Tel: +962 6 4892282, Ext: {3494} Fax : +962 6 4893337, Mobile: +962 0772 333 666 Email: khaled.arabiyat@carc.gov.jo Website: www.carc.jo</p> | <p>Ms. Narman As'ad Chief of ATM Training Division Jordan Civil Aviation Regulatory Commission</p> <p>Email : Narman.Asad@carc.gov.jo Office: +962 6 4892282- Ext :3420</p> | <p>Mr. Marwan Hani Ibrahim Al-Masri Air Traffic Control Officer ATCO/QA&IA Civil Aviation Regulatory Commission Queen Alia Airport</p> <p>Tel: +962-6 445 1672 Mobile: +962 795 990 890 Fax: +962-6 445 1667 Email: marwan.al-masri@carc.gov.jo</p> | <p>Eng. Majed Saltan Dmour Airworthiness Inspector Civil Aviation Regulatory Commission P.O. Box 7547/11110 Amman - JORDAN</p> <p>Fax : (962-6) 487 4710 Tel : (962-6) 489 2282 Ext 3733 Mobile : (962) 77 7413 263 E-mail: majeddmour@carc.gov.jo</p> |

| STATE | MIDRMA BOARD MEMBER | ALTERNATE | ATC FOCAL POINT | AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT |
|---------|---|---|--|---|
| KUWAIT | - | - | <p>Mr. Mustafa A. Al-tarrah Head of Air Navigation Services Inspectors Aviation Safety Department Directorate General of Civil Aviation P.O. Box 17 – Safat 13001 – safat – Kuwait</p> <p>Tel.: +965 244336699 Ext. 12370 Mob: +965 999 77440 E-mail: ma.altarrah@dgca.gov.kw</p> | <p>Engr. Hassan Alshatti Airworthiness Inspector</p> <p>Tel.: +965 24336699 Ext. 12360 Tel.: +9765 99723243 E-mail: h.alshatti@dgca.gov.kw</p> |
| LEBANON | <p>Mr. Kamal Nassereddine Chief Air Navigation Department Directorate General of Civil Aviation Beirut Airport Beirut – LEBANON</p> <p>Fax: +961-1 629 023 Tel: +961-1 628 178 Mobile: +961 3 331974 +961 71 309409 E-mail: atm@beirutairport.gov.lb</p> | <p>Mr. Tarek Mrad Head Division ACC Directorate General of Civil Aviation (DGCA) Raffic Harriri Int'l Airport Beirut – LEBANON</p> <p>Tel: +961 11 629026 Mobile: +961 3824719 E-mail: intorganisations@beirutairport.gov.lb</p> | <p>Same as ALTERNATE</p> | <p>Dr. Omar Kaddouha Chief of Safety Department Directorate General of Civil Aviation (DGCA) Raffic Harriri Int'l Airport Beirut – LEBANON</p> <p>Tel: +961 1 628185 Mobile: +961 1 629106 Email: okaddouha@beirutairport.gov.lb</p> |
| LIBYA | - | - | <p>Mr. Omar Abudabar Civil Aviation Authority (CAA)</p> <p>E-Mail: omar.aboudabar@caa.gov.ly ans@caa.gov.ly</p> | <p>Mr. Younis Amaara Civil Aviation Authority (CAA)</p> <p>E-Mail: yonos.amarh@caa.gov.ly ops@flightsafety.caa.gov.ly</p> |

| STATE | MIDRMA BOARD MEMBER | ALTERNATE | ATC FOCAL POINT | AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT |
|-------|--|--|---|---|
| OMAN | <p>Eng. Hamad Ali Mohammed Al-Abri Director General of Air Navigation. Public Authority for Civil Aviation P.O. Box 1. P.C 111 SEEB</p> <p>Fax: +968 24354506 Tel: +968 24354866 Mobile: +968 99350101 Email: h.alabri@caa.gov.om</p> | <p>Mr. Nasser Salim Al-Mazroui Chief of Muscat ACC Public Authority for Civil Aviation P.O. Box 1. P.C 111 SEEB</p> <p>Fax: +968 24354506 Tel: +968 24354939 Mobile: +968 99340405 E-mail: n.almazroui@caa.gov.om</p> | <p>Mr. Nasser Salim Al'Tuweya ATC Supervisor Public Authority for Civil Aviation P.O. Box 1. P.C 111 SEEB</p> <p>Fax: +968 24354506 Tel: +968 24519305 Mobile: +968 95180233 E-mail: nass2008@caa.gov.om</p> | <p>Mr. Mohammed Saif Al-Bimani Civil Aviation Authority</p> <p>Fax: +968 24354506 Tel: +968 24354075 Mobile : +968 99417381 E-mail : m.albimani@caa.gov.om</p> |
| QATAR | <p>Mr. Dhiraj Ramdoyal Head ANS Inspectorate/ SSP Administrator Qatar Civil Aviation Authority</p> <p>Tel: +9744445571563 Mob: +97433932711 Email: dhiraj.ramdoyal@caa.gov.qa</p> | <p>Mr. Ramy Saad ANS Inspector Qatar Civil Aviation Authority</p> <p>Tel: +974444571560 Mob: +97430060955 Email: ramy.saad@caa.gov.qa</p> | <p>Mr. Nasser Jassim Al-Khalaf Head of Air Traffic Operations Civil Aviation Authority P.O. Box 73 - Doha, QATAR</p> <p>Fax: +974 4465 6568 Tel: +974 4470 5151 Mob: +974 5550 8688 E-mail: nasser.alkhalaf@caa.gov.qa</p> | <p>AIRWORTHINESS FOCAL POINT: Mr. Majed Al Atawi Director Air Safety Department Qatar Civil Aviation Authority</p> <p>Tel: +974444557252 Mob: +97455558487 Email: majed.alatawi@caa.gov.qa</p> <p>-----</p> <p>FLIGHT OPERATIONS FOCAL POINT: Captain Christos Kalogirou Acting Head of Flight Operations Air Safety Department Civil Aviation Authority P.O. Box 73 - Doha, QATAR</p> <p>Tel: +974-4 4557425 Mobile: +974-33941716 E-mail: christos.kalogirou@caa.gov.qa</p> |

| STATE | MIDRMA BOARD MEMBER | ALTERNATE | ATC FOCAL POINT | AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT |
|--------------|--|---|--|---|
| SAUDI ARABIA | <p>Mr. Saleh Awad Alzahrani Airspace Management Manager Saudi Air Navigation Services (SANS) P.O. Box 15441 Jeddah 21444 Saudi Arabia</p> <p>Tel : +966 12 6717717 – Ext 1808 Mobile: +966 5555 49910 E-mail: salzahrani@sans.com.sa</p> | <p>Mr. Abdulhalim H. Bukhari Airworthiness Safety Inspector Aviation Standard P.O. Box: 887, Jeddah 21421</p> <p>Tel :+966 (12) 6847583 Mobile: +966555508024 E-mail: ahbukhari@gaca.gov.sa</p> | <p>Mr. Haitham Alrebdi Acting Manager, ATS Eastern Sector Saudi Arabia – Saudi Air Navigation Services SANS, P.O. Box: 15441, Jeddah: 21444</p> <p>Tel:+966118380400 Mobile: +966555181353 E-mail: halrebdi@sans.com.sa</p> | <p>Mr. Ali Alshehri Jeddah Control Center Manager GACA/SANS P.O. Box 7084 Makkah 21955 - KINGDOM OF SAUDI ARABIA</p> <p>Tel: +966 547778700 Email: Jed.acc@sans.com.sa alimalshehri@sans.com.sa</p> |
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6A-7

| STATE | MIDRMA BOARD MEMBER | ALTERNATE | ATC FOCAL POINT | AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT |
|-------|--|---|---|---|
| SYRIA | <p>Mr. Ammar TAwil ATCO Damascus Airport P.O. Box 5409 Damascus - SYRIA</p> <p>Fax: +963-11 5400312 Tel: +963-11 5400 312 Mobile: +963-944462249 E-mail: a.tawil@hotmail.com</p> | <p>Mr. Fissal Dayoub ATC SCAA Damascus International Airport</p> <p>Fax: +963-11 5400540 Tel: +963-11 5400312 Mobile: +963 3693807 E-mail: fdayoub@mail.sy</p> | <p>Same as MEMBER</p> | <p>-</p> |
| UAE | <p>Mr. Ahmed Al Jallaf Assistant Director General Air Navigation Services General Civil Aviation Authority Sheikh Zayed Air Navigation Centre P.O. Box 666 Abu Dhabi, UNITED ARAB EMIRATES</p> <p>Fax: +971-2 599 6883 Tel: +971-2 599 6888 Mobile: +971-50 614 9065 E-mail: aljallaf@szc.gcaa.ae</p> | <p>Mr. Muayyed Al Teneiji Director Air Traffic Management General Civil Aviation Authority Sheikh Zayed Air Navigation Centre P.O. Box 666 Abu Dhabi United Arab Emirates</p> <p>Fax: (971-2) 599 6830 Tel: (971-2) 599 6836 Mobile: (971-56) 685 4505 Email: mtenaiji@szc.gcaa.ae</p> | <p>Mr. Faisal Al Khaja Senior Specialist Unit Operations General Civil Aviation Authority Sheikh Zayed Air Navigation Centre P.O. Box 666 Abu Dhabi, UNITED ARAB EMIRATES</p> <p>Fax: +971-2 599 6836 Tel: +971-2 599 6841 Mobile: +971-50 642 4812 E-mail: fkhaja@szc.gcaa.ae</p> | <p>Capt. Anaziaz Zikir Sr. Inspector, Priv. & Spec Ops General Civil Aviation Authority Abu Dhabi, UNITED ARAB EMIRATES</p> <p>Tel: +971 4 2111 586 Mob: +971-50 6152931 Email: azzy@gcaa.ae</p> |

| STATE | MIDRMA BOARD MEMBER | ALTERNATE | ATC FOCAL POINT | AIRWORTHINESS/FLIGHT OPERATIONS FOCAL POINT |
|--------|---|--|---|---|
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ATTACHMENT A



LIST OF PARTICIPANTS

| State | Name type | Participant | Title | |
|---------|-----------|----------------------------------|---|---|
| BAHRAIN | Mr. | Abdulla Hasan Al Qadhi | Director Air Traffic | Bahrain Civil Aviation Affairs |
| | Mr. | Ahmed Yousif Al Malki | A/Chief Air Traffic Management | Bahrain Civil Aviation Affairs |
| | Mr. | Mohamed Abdulla Zainal | Advisor Aviation Security & Chairman | Bahrain Civil Aviation Affairs |
| IRAQ | Mr. | Ahmed Saad Muneer Almkhtar | Safety Manager | General Company for Air Navigation Services (GCANS) |
| | Mr. | Mohanad Ali Mohamed Jawad | ATM Coordinator | General Company for Air Navigation Services (GCANS) |
| | Mr. | Tariq Rasool Jawad Nawkhas | Director of Quality and Safety Dept. | General Company for Air Navigation Services (GCANS) |
| JORDAN | Mr. | Ahmad Al Hiyari | Director Air Navigation Services | Civil Aviation Regulatory Commission (CARC) |
| | Mr. | Ahmad Odeh | Training Supervisor | Civil Aviation Regulatory Commission (CARC) |
| | Mr. | Marwan Hani Ibrahim AlMasri | MIDRMA Board Member / Air Traffic Controller | Civil Aviation Regulatory Commission (CARC) |
| | Mr. | Bassem Mohammed Saleh Al-Negresh | Chief of Air Traffic Controller and Navigation Branch | Royal Jordanian Air Force |
| LIBYA | Mr. | Ezdeen Mohamed Ahmed Alnas | Head of ATC Section | Libyan Civil Aviation Authority |
| | Mr. | Hisham Alhadi Al Meslati | ATFM - ANS Department | |
| OMAN | Mr. | Nasser Salim Al Tuwaiya | ATC Supervisor | Oman CAA |
| | Mr. | Nasser Salim Al-Mazroui | Act. Director of ATC | Oman CAA |
| QATAR | Capt. | Christos Kalogirou | Head of Flight Operations | Qatar Civil Aviation Authority (QCAA) |
| | Mr. | Dhiraj Ramdoyal | Head of ANS Inspectorate | Qatar Civil Aviation Authority (QCAA) |

| State | Name type | Participant | Title | |
|--------------|-----------|------------------------------|---|--|
| QATAR | Mr. | Eissa Abdulrahman Al-Meabid | Deputy Head of Approach | Qatar Civil Aviation Authority (QCAA) |
| | Mr. | Erwin Obergruber | ATM Advisor | Qatar Civil Aviation Authority (QCAA) |
| | Mr. | Majed Al Atawi | Director Air Safety Department | Qatar Civil Aviation Authority (QCAA) |
| | Mr. | Marco Proietti | QCAA Adviser (ENAV - FUSION) | Qatar Civil Aviation Authority (QCAA) |
| | Miss. | Marion Murel | ANS - Deputy Safety Manager | Qatar Civil Aviation Authority (QCAA) |
| | Miss. | Maryam Alnaimi | Acting Head of IMS - ANS Safety | Qatar Civil Aviation Authority (QCAA) |
| | Mr. | Mathiyazhagan Durairajan | Airworthiness Inspector | Qatar Civil Aviation Authority (QCAA) |
| | Mr. | Merwyn Lobo | Flight Operations Technical | Qatar Civil Aviation Authority (QCAA) |
| | Mr. | Mohamed Al-Asmakh | SATCO | Qatar Civil Aviation Authority (QCAA) |
| | Mr. | Mohamed Abdulaziz Almuhamadi | ATC / Head of Training, Air Navigation Department | Qatar Civil Aviation Authority (QCAA) |
| | Ms. | Noof Al-Sheebi | Air Traffic Expert | Qatar Civil Aviation Authority (QCAA) |
| | Mr. | Paul Lyth | ANS - Safety Manager | Qatar Civil Aviation Authority (QCAA) |
| Dr. | Ramy Saad | ANS Inspector | Qatar Civil Aviation Authority (QCAA) | |
| SAUDI ARABIA | Mr. | Abdulhalim H. Bukhari | Airworthiness Safety Inspector | General Authority of Civil Aviation (GACA) |
| | Mr. | Ahmad Abughallab | ATFM Chief | Saudi Air Navigation Services Company (SANS) |
| | Mr. | Saleh A. Alzahrani | ATM Executive Director | Saudi Air Navigation Services Company (SANS) |

| State | Name type | Participant | Title | |
|--------------------------|-----------|------------------------------|---|---|
| UNITED ARAB EMIRATES | Mr. | Ahmed Ibrahim Al Jallaf | Assistant Director General Air Navigation Services | General Civil Aviation Authority (GCAA) Sheikh Zayed Air Navigation Centre |
| | Mr. | Saqr Al Marashda | Senior Manager - Airspace Management | General Civil Aviation Authority (GCAA) Sheikh Zayed Air Navigation Centre |
| UNITED STATES OF AMERICA | Mr. | Mohammad Kushan | Senior Representative – Abu Dhabi Office of International Affairs | Federal Aviation Administration (FAA) |
| YEMEN | Mr. | Mahmood Mohamed Abdul Razak | Director General of Air Navigation Consultant | CAMA |
| | Mr. | Younis Saeed Ahmed Al-Khader | Director General of Air Navigation | CAMA |
| IATA | Ms. | Sharron Caunt | Regional Director Safety and Flight Operations Africa and Middle East | International Air transport Association (IATA) |
| MIDRMA | Mr. | Fareed Al Alawi | MIDRMA Manager | ICAO MIDRMA |
| | Mr. | Fathi Al-thawadi | MIDRMA Officer | ICAO MIDRMA |
| ICAO MID | Mr. | Mohamed Smaoui | Deputy Regional Director (DRD) | ICAO Middle East Regional Office |
| | Mr. | Ahmad Amireh | Regional Officer, Air Traffic Management and Search and Rescue (RO/ATM/SAR) | ICAO Middle East Regional Office |
| | Ms. | Dina El karimy | Technical Assistant (ATM/SAR & ASF) | ICAO Middle East Regional Office |