



International Civil Aviation Organization

Middle East Regional Monitoring Agency Board

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

Agenda Item 4: RVSM Monitoring and related Technical Issues

EXPAND MIDRMA DATA TO EXCEED RVSM LEVELS

(Presented by Secretariate)

SUMMARY

This working paper outlines the necessary data for the assessment of Airspace Management subjects.

Action by the meeting is in paragraph 3.

REFERENCES

- ASM WG/1 Meeting (Doha, Qatar, 1 – 2 October 2024)
- ATM SG/10 Meeting (Jeddah, Saudi Arabia, 20 – 23 October 2024)
- MIDANPIRG/11 Meeting (Cairo, Egypt 9 – 13 February 2009)

1. INTRODUCTION

1.1 Continuity of RVSM operations can be based on safety assessments undertaken at least annually, demonstrating that RVSM safety objectives are being maintained. Where practicable, assessments may be undertaken on a more frequent basis to ensure any change to system risk is identified and controlled as early as possible. The safety assessment may include using a CRM for the airspace in accordance with the guidance provided in ICAO Doc 9574. Alternatively, safety assessments may be part of a continuing monitoring process based on a safety management system (SMS) approach to monitoring safety. This ongoing process seeks to capture data on a continuing basis and is aimed at identifying system risk at its earliest stages. This SMS process aims to capture safety performance indicators in order to measure their levels of safety when compared to safety performance targets. These safety performance targets are set in agreement with oversight authorities in order to meet higher-level acceptable levels of safety.

1.2 In the Middle East region, the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG) has approved to establish the Middle East Regional Monitoring Agency (MIDRMA) with the primary responsibility of supervising the implementation of Reduced Vertical Separation Minima (RVSM) within the Middle East airspace.

1.3 Global RMAs Duties and Responsibilities

1.3.1 The duties and responsibilities of all regional monitoring agencies are listed in the **ICAO Doc 9574** (*Operating Procedures and Practices for Regional Monitoring Agencies in Relation to the Use of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive*), as follows:

- a) establish and maintain a database of aircraft approved by the respective State authorities for operations within RVSM airspace in that region.
- b) receive reports of height deviations of aircraft observed to be non-compliant based on the criteria.
- c) take the necessary action with the relevant State and operator to:
 - i. determine the likely cause of the height deviation; and
 - ii. verify the approval status of the relevant operator.
- d) recommend, wherever possible, remedial action.
- e) analyze data to detect height deviation trends and, hence, take action as in “d”;
- f) undertake such data collections as are required by the PIRG to:
 - i. investigate height-keeping performance of the aircraft in the core of the distribution;
 - ii. establish or add to a database on the height-keeping performance of:
 - the aircraft population.
 - aircraft types or categories; and
 - individual airframes.
- g) monitor the level of risk as a consequence of operational errors and in-flight contingencies as follows:
 - i. establish a mechanism for collation and analysis of all reports of height deviations of 90 m (300 ft) or more resulting from the above errors/actions.
 - ii. determine, wherever possible, the root cause of each deviation together with its size and duration.
 - iii. calculate the frequency of occurrence.
 - iv. assess the overall risk (technical combined with operational and in-flight contingencies) in the system against the overall safety objectives (see Doc 9574); and
 - v. initiate remedial action as required.
- h) initiate checks of the “approval status” of aircraft operating in the relevant RVSM airspace, identify non-approved operators and aircraft using RVSM airspace, and notify the appropriate State of Registry/State of the Operator accordingly.

- 3 -

- i) circulate regular reports on all height-keeping deviations, together with such graphs and tables necessary to relate the estimated system risk to the TLS, employing the criteria detailed in Doc 9574, for which formats are suggested in Appendix A to Doc 9574; and
- j) submit annual reports to the PIRG.

1.4 MIDRMA Duties and Responsibilities

1.4.1 The Middle East Regional Monitoring Agency (MIDRMA) has the following duties and responsibilities, which were endorsed by MIDANPIRG/11:

- a) to establish and maintain a central registry of State RVSM approvals of operators and aircraft using the Middle East Region airspace where RVSM is applied.
- b) to initiate checks of the “approval status” of aircraft operating in the relevant RVSM airspace, identify non-approved operators and aircraft using RVSM airspace and notify the appropriate State of Registry/State of the Operator and other RMAs, accordingly.
- c) to establish and maintain a database containing the results of height-keeping performance monitoring and all altitude deviations of 300 ft or more within Middle East Region airspace, and to include in the database the results of MIDRMA requests to operators and States for information explaining the causes of observed large height deviations.
- d) provide timely information on changes of monitoring status of aircraft type classifications to State Authorities and operators.
- e) to assume overall responsibility for assessing compliance of operators and aircraft with RVSM height, keeping performance requirements in conjunction with RVSM introduction in the Middle East Region.
- f) to facilitate the transfer of approval data to and from other RVSM Regional Monitoring Agencies.
- g) to establish and maintain a database containing the results of navigation error monitoring.
- h) to conduct safety analysis for RVSM operations in the MID Region and prepare RVSM Safety Monitoring Reports (SMR) as instructed by MIDANPIRG and the MIDRMA Board.
- i) to conduct readiness and safety assessments to aid decision-making in preparation for RVSM implementation in those FIRs where RVSM is not yet implemented.
- j) to carry out post-implementation safety assessments, as appropriate.
- k) based on information provided by States related to planned changes to the ATS routes structure, advise States and MIDANPIRG on the effects of such changes on the safe RVSM operations in the MID Region.

- l) To liaise with other Regional Monitoring Agencies and organizations to harmonize implementation strategies.
- m) receive reports of non-compliance (Performance-Based Communication and Surveillance (PBCS) Manual (Doc 9869) refers) with RSP 180 and RCP 240 from other RMAs and transmitting reports to the respective State of the operator/aircraft.
- n) receive and maintain records of RCP and RSP approvals issued by States of Operator/Registry associated with current State responsibility and incorporating into expanded RVSM/PBCS approvals database and follow-up as appropriate instances of non-approved aircraft being identified in PBCS Airspace. This would be determined by augmenting the existing monthly RVSM approvals check to incorporate a similar check against PBCS Approvals where these have been included in the flight plan, but no approvals record is held by RMAs.
- o) share records of RCP and RSP approvals between RMAs in line with current sharing practices of RVSM approvals for the ability of States/ANSPs to verify that aircraft operators filing PBCS capabilities in the flight plan are authorized to do so.

2. DISCUSSION

2.1 The meeting may wish to recall MIDANPIRG Conclusion 14/35, regarding provision of data and information to the MIDRMA in a timely manner to support the ongoing RVSM safety monitoring in the MID Region:

CONCLUSION 14/35: PROVISION OF REQUIRED DATA TO THE MIDRMA

That, considering the on-going requirement for RVSM safety monitoring in the MID Region:

a) States provide the required data to the MIDRMA on a regular basis and in a timely manner. The data is to include, but is not necessarily limited to:

i) approval of operators and aircraft for RVSM operations (on monthly basis or whenever there's a change);

ii) Large Height Deviations (LHD) (on monthly basis);

iii) traffic data (as requested by the MIDRMA Board);

iv) radar data as, when and where required; and

v) airway structure (above FL 290) and waypoints.

b) States not providing the required data to the MIDRMA on a regular basis and in a timely manner:

- 5 -

- i) be included in the MIDANPIRG list of air navigation deficiencies; and*
- ii) might not be covered by the MID RVSM Safety Monitoring Report (SMR).*

2.2 The meeting may wish to recall that MIDANPIRG/21 meeting established the MID ASM Working Group, through Decision 21/10:

MIDANPIRG DECISION 21/10: MID AIRSPACE MANAGEMENT WORKING GROUP (ASM WG)

That,

- a) MID Airspace Management Working Group (ASM WG) be established to ensure the continuous development of airspace structure, Free Route Airspace, GNSS vulnerability and FF-ICE implementation at regional level in the most efficient and harmonized manner;*
- b) The ASM TF to elect Chairperson and develop Terms of Reference during the first meeting of MID ASM Task Force; and*
- c) States support the MID ASM WG through:*
 - i. assignment of Focal Point to contribute to the work of the Task Force; and*
 - ii. sharing states' experience and provision of required data in timely manner.*

2.3 To accomplish the aforementioned tasks, the Secretariat requires the necessary data to encompass all international operations at the regional level in order to compute the following:

- a) MID Region main flows to:
 - i. optimize ATS route designators;
 - ii. allocate SSR codes; and
 - iii. develop required ATS route network to support MID region main flows.
- b) monitor the progress of reduction of longitudinal separation in the MID Region;
- c) evaluate the progress of airspace restructuring aimed at enhancing flight efficiency and minimizing environmental emissions;
- d) effectiveness of coordination mechanism (equipment and procedure) between adjacent ACCs;
- e) define MID region priority 1 ASBU threads/elements or change applicability area i.e. FRTO B1/1 (FRA) and FF-ICE B0/1 (AIDC/OLDI).

2.4 Based on the above, the Secretariat requests that the information provided by MID States to MIDRMA be expanded to include not only the RVSM bands but also the airspace both below and above the RVSM levels. The information should be provided to ICAO MID in the following:

- a) consolidated one month Traffic Data Sample (TDS) outcome as indicated in **Appendix A**; and

- b) LHD reports on monthly basis.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) encourage MID States to submit the necessary data to MIDRMA in accordance with the requirements outlined in paragraph 2.4.; and
- b) request that MIDRMA provide the results of the TDS analysis and LHD reports as outlined in paragraph 2.4 to ICAO MID.

STATE	ENTRY POINT	EXIT POINT	FREQUENCY
BAHRAIN	TUMAK	DAVUS	5338
BAHRAIN	ALPOB	ULADA	5211
BAHRAIN	DAROR	NALPO	3447
BAHRAIN	RABAP	OBNET	2448
BAHRAIN	LONOS	GIRMO	2244
BAHRAIN	LADNA	LUBET	1757
BAHRAIN	TUMAK	KUMBO	1320
BAHRAIN	KINID	DAVUS	1027
BAHRAIN	LONOS	GESIT	994
BAHRAIN	NARMI	TULUB	984
BAHRAIN	IMLAD	DAVUS	852
EGYPT	HECA	ULINA	2285
EGYPT	PASAM	HECA	1981
EGYPT	LAKTO	ULINA	1787
EGYPT	KITOT	HECA	1635
EGYPT	SALUN	DEDLI	1371
EGYPT	KUMBI	HECA	1315
EGYPT	HECA	SILKA	1077
EGYPT	RASDA	HEGN	940
EGYPT	PASAM	RASDA	921
EGYPT	SALUN	SILKA	912
EGYPT	HECA	DEDLI	844
EGYPT	PASAM	ANTAR	755
EGYPT	RASDA	DEDLI	696
IRAN	BONAM	ORSAR	2668
IRAN	KEBUD	DASIS	2045
IRAN	AGINA	DERBO	1448
IRAN	GABKO	ASVIB	1433
IRAN	ASVIB	PATAT	1172
IRAN	GABKO	ULDUS	986
IRAN	GABKO	DASIS	942
IRAN	OIIE	DASIS	718
IRAN	DASUT	ASVIB	691
IRAN	OIMM	OIII	690
IRAN	OIII	OIMM	687
IRAN	BONAM	OIIE	687
IRAQ	TASMI	NINVA	6919
IRAQ	RATVO	SIDAD	5900
IRAQ	TASMI	KABAN	2123
JORDAN	ULINA	DEESA	4742
JORDAN	OSAMA	TULEP	1065
KSA	OEJN	PASAM	2092
KSA	ULADA	KITOT	1746
KSA	OEJN	OERK	1694
KSA	OERK	OEJN	1595
KSA	OERK	PASAM	1417

APPENDIX A

A-2

KSA	DEESA	DAROR	1381
KSA	DEDLI	RASKA	1344
KSA	DEDLI	OEJN	1304
KSA	ULADA	OERK	1296
KSA	OEJN	MIDGU	1292
KSA	DEESA	LADNA	1193
KSA	PEKEM	OEJN	1075
KSA	ULADA	GENEX	1023
KSA	OERK	DAROR	1003
KSA	SILKA	OERK	909
KSA	ULADA	OEJN	764
KSA	NIDAP	KITOT	710
KSA	RASKA	PASAM	709
KSA	SILKA	OEMA	702
KUWAIT	DAVUS	TASMI	8013
KUWAIT	SIDAD	LONOS	3359
KUWAIT	SIDAD	RABAP	1760
OMAN	RASKI	MENSA	1985
OMAN	TONVO	RASKI	1546
OMAN	RASKI	PASOV	1477
OMAN	TAPDO	MENSA	1211
OMAN	PARAR	MENSA	1160
OMAN	REXOD	SODEX	1075
OMAN	GOMTA	RASKI	1011
OMAN	MEMTU	IMKAD	985
OMAN	IMKAD	MUSAP	945
OMAN	LOTAV	SODEX	905
OMAN	TOTOX	SODEX	852
OMAN	PARAR	PASOV	820
OMAN	TARDI	OOMS	794
OMAN	TARDI	LOTAV	784
OMAN	TAPDO	PASOV	782
OMAN	OOMS	ITRAX	775
OMAN	TONVO	ALPOR	744
OMAN	LABRI	TOTOX	692
QATAR	ORMID	OBROS	1389
QATAR	KINID	TOSNA	986
QATAR	GESIT	OVONA	976
UAE	OMDB	ALPOB	2098
UAE	OMDB	TUMAK	2089
UAE	KUPRO	TONVO	1787
UAE	MENSA	TOSNA	1536
UAE	LUDID	PEKEM	1463
UAE	SODEX	TOVOX	1321
UAE	NALPO	TONVO	1251
UAE	BUNDU	LABRI	951
UAE	MENSA	TUMAK	821

A-3

UAE	TOSNA	OMAA	798
UAE	MENSA	ORMID	794
UAE	OBNET	TONVO	727
UAE	OVONA	OMAA	725
YEMEN	IMKAD	DEMGO	879
YEMEN	DEMGO	IMKAD	715
YEMEN	VEDET	IMKAD	695

- END -