



International Civil Aviation Organization

MIDANPIRG/20 and RASG-MID/10 Meetings

(Muscat, Oman, 14-17 May 2023)

**Agenda Item 2.2: Update from States and International Organizations
(Achievements/Success Stories and Challenges)**

**AIRSPACE OPTIMIZATION OVER HIGH SEAS AT THE INTERFACE BETWEEN THE MIDDLE
EAST AND ASIA PACIFIC REGIONS**

(Presented by Sultanate of Oman, Kingdom of Saudi Arabia and United Arab Emirates)

SUMMARY

This paper highlights the need for optimizing the airspace over the high seas between the Middle East and Asia Pacific regions to enhance safety, address capacity and inefficiencies constraints, reduce fuel consumption, thus CO2 emissions from aircraft operations., and optimize available navigation systems. The paper provides evidence to highlight the significance of these issues with proposal to address them.

Action by the meeting is at paragraph 3.

REFERENCES

- MIDANPIRG/13 REPORT
- 41st ICAO Assembly Resolution A41-21
- MIDRMA Board/18-REPORT
- DGCA-MID/6 meeting
- MIDANPIRG/19 REPORT
- MID RVSM SMR [2021]
- MIDRMA Board/15 meeting

1. INTRODUCTION

1.1 The meeting may wish to acknowledge the substantial investment and advancements made by Oman, Saudi Arabia, and the United Arab Emirates in developing their national airspace, aviation infrastructure and implementing advanced air navigation systems since 2009 onwards, to accommodate the sustained growth of air traffic.

1.2 The initiatives undertaken by these States have extended beyond national levels. Bilateral and joint initiatives have been established among these States to foster seamless air traffic flow, high level of integration between their respective airspaces and air traffic

management systems. This collaborative approach has significantly enhanced safety, efficiency, and capacity within the region.

1.3 However, development has not occurred at the same level in the airspace over the high seas between the Middle East and the Asia-Pacific regions. The last comprehensive development in this area was the EMARSH project (Europe, Middle East, Asia Route Structure South of Himalayas) on November 28, 2002. This project which involved 32 contracting States and several aviation organizations aimed to accommodate air traffic growth at that time. Nonetheless, since then, the volume of air traffic has increased by 250% without a fundamental change in the structure of airspace and air routes at the interface between Middle East and Asia Pacific regions.

1.4 This paper emphasizes the critical need to improve airspace over the high seas between the Middle East and the Asia-Pacific regions to enhance safety, address inefficiencies capacity and constraints, reduce operating costs and carbon emissions, and optimize the current and future CNS/ATM system capabilities.

2. DISCUSSION

2.1 MIDRMA indicated in **SMR 2017** the level of LHD reports filed by Muscat and Mumbai ATCUs related to each other at their transfer of control points reached to a critical level and started to affect the ICAO TLS of RVSM implementation in the MID and APAC regions, therefore the MIDRMA **Board/15 meeting** requested to open a Safety Protocol for the purpose of resolving this issue as soon as possible

2.2 The MIDRMA Board/18 meeting held in **Doha, Qatar, 19 – 20 September 2022**, drew the 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.

2.3 In the light of the above mentioned, Oman carried out a number of meetings with: Mumbai (28th February 2023) and with Pakistan on **2nd** May 2023, in an ongoing effort to explore the possibilities of association with adjacent Asia Pacific States to enhance & optimise the airspace.

2.4 The meeting is reminded that the second principle of the MID DOC 004 MID REGION HIGH LEVEL AIRSPACE CONCEPT stipulates the implementation, to the fullest extent feasible, of parallel ATS route networks throughout the region.

2.5 The airspace in the Middle East region adjacent to the Asia-Pacific region is characterized by RNAV5 ATS routes. The separation minimum within the Muscat FIR is 5NM, 10NM at the boundary with the **Emirates FIR** and 20NM at the boundary with **Jeddah FIR**. However, the current operational procedures in the Asia-Pacific region mandate a lateral separation minimum of 50NM and a longitudinal separation minimum of 10 minutes at the interface with Mumbai FIR and 30NM at the interface with Karachi FIR.

2.6 The 41st ICAO Assembly through Resolution A41-21 (Consolidated statement of continuing ICAO policies and practices related to environmental protection - Climate change), *Requested States to:*

- a) *work together with manufacturers, Air Navigation Service Providers (ANSPs), aircraft operators and airport operators to accelerate the development and implementation of fuel-efficient routings and air navigation procedures and ground operations to reduce*

aviation emissions, and work with ICAO to bring the environmental benefits to all regions and States, taking into account the Aviation System Block Upgrades (ASBUs);

2.7 According to forecasts by Boeing, Middle East airlines will require an additional 2980 new airplanes over the next decade, with two-thirds of those deliveries enabling growth and one-third replacing older, less fuel-efficient models.

2.8 The Asia/Pacific region is expected to be the fastest-growing region over the next two decades, with an average annual rate of 4.5%. To keep pace with this growth, States and aviation stakeholders in the region must prioritize the restructuring and modernization of airspace infrastructure to meet the demands of the rapidly expanding aviation industry.

2.9 It is becoming increasingly clear that the current airspace infrastructure may not be able to accommodate the projected surge in demand for air travel. This significant increase in aircraft numbers will require the development of more efficient and advanced airspace infrastructure to enable safe and efficient air travel.

2.10 In order to accommodate this projected growth, States CAA, ANSPs, airspace users, and aviation stakeholders in the Middle East and Asia Pacific must work together to restructure and modernize airspace, implement new technologies and systems that can meet the demands of the rapidly expanding aviation industry.

2.11 Based on the above, the meeting is invited to endorse the following Draft Conclusion:

Why	To enhance safety, address capacity and inefficiencies constraints, decrease airline operating costs, reduce emissions, and optimize available navigation systems.
What	<i>to collaborate and support airspace development initiatives aiming at enhancing safety, improve efficiency of the airspace over the high seas at the interface with Asia pacific</i>
Who	MIDANPIRG/20
When	May 2023

DRAFT MIDANPIRG Conclusion 20/XX:

That,

- a) ICAO MID is tasked to initiate and foster regional and sub-regional initiatives that aim to enhance the airspace at the interface with the Asia Pacific region.*
- b) States and aviation stakeholders are encouraged to collaborate and support airspace development initiatives aiming at enhancing safety, improve efficiency of the airspace over the high seas at the interface with Asia pacific.*

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) acknowledge Oman, Saudi Arabia and United Arab Emirates efforts to optimize the airspace in the Middle East Region and its initiatives to explore the possibilities of collaboration with adjacent states and the APAC Region in order to enhance airspace safety, subsequently improve efficiency & capacity between the Asia Pacific & Middle East regions; and
- b) endorse the draft conclusion at para.2.11.

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