International Civil Aviation Organization

MIDANPIRG Air Traffic Management Sub-Group

Tenth Meeting (ATM SG/10)
(Jeddah, Saudi Arabia, 20 – 23 October 2024)

Agenda Item 3:   Planning and Implementation issues related to ATM/SAR

OUTCOMES OF THE ASM WG/1 MEETING AND FREE ROUTE AIRSPACE WORKSHOP

(Presented by the Secretariat)

SUMMARY

This paper presents the outcomes of the First meeting of the Airspace Management Working Group and the Free Airspace Workshop

Action by the meeting is at paragraph 3.

REFERENCES

- Airspace Management Working Group (ASM WG) Report (Doha, Qatar, 1 - 2 October 2024)

- MIDANPIRG/21 & RASG-MID/11 Meeting Report (Abu Dhabi, UAE, 4 – 8 March 2024)

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1.   INTRODUCTION

1.1   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.*

1.2   The MIDANPIRG/21 Meeting tasked the ICAO MID Office to conduct FRA workshop through Conclusion 21/22:

> *MIDANPIRG DECISION 21/22:*   *FREE ROUTE AIRSPACE (FRA) IMPLEMENTATION WORKSHOP*
>
> *That, the ICAO MID Office organize a Workshop in 2024 with support of IATA and concerned States and Stakeholder, to foster the implementation of FRA in the MID Region.*

2.   DISCUSSION

2.1   The Airspace Management Working Group was established to address the challenges in Airspace Management and provide a forum for the ATM specialists in the Region to work collaboratively to improve safety and efficiency, increase airspace capacity to meet future demand requirements; and reduce the environmental impact of the increased air traffic by offering improved ATM operations.

2.2   The meeting may wish to note that ASM WG conducted its first meeting in Doha, Qatar; during the period 1 – 2 October 2024 back-to-back with the Free Route Airspace (FRA) Workshop. 65 participants from 10 States and 2 international organizations attended the events.

2.3   The ASM WG/1 meeting elected the chairpersons and drafted Terms of Reference of the ASM Working Group at **Appendix A**.

2.4   The ASM WG/1 meeting emphasized that the involvement and cooperation of States and stakeholders were vital for the achievement of the ASM WG mandate; and encouraged the States and international organizations to support the activities of the ASM WG.

2.5   The meeting may wish to note that the ASM WG agreed on a working methodology to identify specific subjects that need to be addressed by specific States/stakeholders, with clear deliverables and agreed timeframe, for improved efficiency and in order to achieve tangible results in a timely manner. Accordingly, the ASM WG developed an initial Action plan for ASM enhancement initiatives as a live document to be used as the main tool for advancement of the activities. The ASM WG requested the ATM SG meeting to review and update the ASM WG Draft Action Plan at **Appendix B**.

2.6   Additionally, the ASM WG reviewed and supported the outcomes (key takeaways) of the FRA Workshop at **Appendix C**.

2.7   The meeting commended Qatar, Saudi Arabia and UAE for sharing their experience related to the implementation of FRA within their Airspaces; and encouraged States to use the key takeaways to support further implementation of the FRA within the MID Region.

2.8   Based on the above, the meeting is invited to review and agree on the following draft Decision:

> ***DRAFT DECISION 10/X:***   ***AIRSPACE MANAGEMENT WORKING GROUP (ASM WG) TERMS OF REFERENCE***
>
> *That, the Terms of Reference of the Airspace Management Working Group, at **Appendix A**, is endorsed.*

2.9　　　　The meeting may wish to encourage the MID States to support the activities of the ASM WG and if not yet done so, nominate focal points to the group.

2.10　　　　The meeting may wish to review the ATM ToRs, to avoid duplication and redundancy.

3.　　ACTION BY THE MEETING

3.1　　　　The meeting is invited to:

　　　a) note the information in this paper related to the establishment of ASM WG;

　　　b) review and update the ASM WG Action Plan;

　　　c) note the outcomes of the FRA Workshop; and

　　　d) review and agree on the draft Decision at para. 2.8 above.

**TERMS OF REFERENCE (TOR) OF THE
MIDANPIRG AIRSPACE MANAGEMENT WORKING GROUP
(ASM WG)**

I.   TERMS OF REFERENCE

1.1   The Airspace Management Working Group was established by the MIDANPIRG/21 meeting to address the challenges in Airspace Management and provide a forum for the ATM specialists in the Region to work together to improve safety and efficiency, increase airspace capacity to meet future demand requirements; and reduce the environmental impact of increasing air traffic by offering improved ATM operations. Therefore, the **Airspace Management Working Group (ASM WG)** Terms of Reference are as follows:

    a) Address the MID Region Airspace Management challenges:

        i. conduct a holistic review and perform gap analysis of the MID ATS Routes Network in order to assess the regional capacity, hotspots and constraints;

        ii. identify requirements and improvements for enhancing safety and achieving an efficient airspace structure within the MID Region;

        iii. support states on coordinating the identified airspace and ATS route network requirements with relevant stakeholders (International Organizations, airspace user representative organizations and other ICAO Regions);

        iv. address areas of conflicting traffic highlighted in the MIDRMA Annual Safety Monitoring Report (SMR);

        v. support States in resolving interface issues with adjacent ICAO Regions;

        vi. identify the Priority 1 ASBU elements with low level of implementation and support the States to overcome the challenges for the implementation of these elements; and

        vii. address MID ATS route designators and 5LNCs challenges.

    b) Support the enhancements of MID airspace structure and ATS route network:

        i. improve connectivity and accessibility (specification, trajectory, spacing, etc.), considering the ability to offer additional routing options, to support operational requests, including contingency situations;

        ii. foster a harmonized implementation of Performance Based Navigation (PBN) within the enroute environment;

        iii. coordinate with the MIDRMA and IATA/airspace users to collect and analyse traffic data related to the proposed changes to the ATS Routes Network, as required;

        iv. develop a working repository for route proposals to be used as a dynamic reference for the

establishment / modification of ATS routes; and

    v. support the development, coordination and submission of Proposals for Amendment (PfA) for processing to ensure the continuous and coherent development and update of the MID ANP in the respective subjects.

c) Endeavour to enhance safety and efficiency; increase capacity and reduce the environmental impact of increasing air traffic through the implementation of improved ATM operations:

    i. support States to review and update their Letter of Agreement with adjacent FIRs to optimize utilization of the MID airspace in a harmonized manner;

    ii. develop regional procedure to regulate and harmonize implementation of TOS, RAD and FLAS;

    iii. foster the implementation of reduced Longitudinal Separation between FIRs;

    iv. foster the implementation of Civil-Military Cooperation (CMC) and Flexible Use of Airspace (FUA);

    v. support the planning and harmonized implementation of Free Route Airspace (FRA); and

    vi. foster the implementation of (FF-ICE).

d) Support the planning for the operation/integration of new entrants such as Remotely Piloted Aircraft System (RPAS)/Unmanned Traffic Management (UTM) into the MID Region airspace;

e) Considering global and regional developments related to ATM, identify/propose necessary amendments to the MID Air Navigation Strategy for review by the ATM SG;

f) Report its activities to the ATM SG; and

g) Review periodically its Terms of Reference and propose amendments, as necessary.

II. COMPOSITION

2.1 The Working Group is composed of:

a) MIDANPIRG Member States;

b) concerned International and Regional Organizations; and

c) other representatives from States from other ICAO Regions; provider States and Industry may be invited on ad hoc basis, as observers, when required.

III.   WORKING ARRANGEMENTS

3.1   The Chairperson, in close co-operation with the Secretariat, shall make all necessary arrangements for the most efficient working of the Working Group. The Working Group shall at all times conduct its activities in the most efficient manner possible with a minimum of formality and paperwork (paperless meetings). Permanent contact shall be maintained between the Chairperson, Secretary and Members of the Working Group to advance the work. Best advantage should be taken of modern communications facilities, particularly videoconferencing (Virtual Meetings) and e-mails.

3.2   In person meetings will be conducted once a year and when deemed necessary.

Action plan for ASM enhancement initiatives

List of ASM priority focus areas:

1. *Implementation of PBN in Enroute*
2. *Implementation of reduction of longitudinal separation*
3. *ATS route network (including ATS route designators and 5LNCs)*
4. *ASM improvements (CMC and FUA, FRA, RAD, TOS, FLAS & LoA)*
5. *RPAS/UTM*
6. *FF-ICE implementation*

Focus area number	Action		Target date	Deliverable	Champion	Reference	Status / RMK
	No.	Description					
1	1.1	Publish implementation of RNAV 5 in their FIRs		RNAV 5 routes should be published in the AIP, ENR 3.2.	Lebanon		
					Libya		
					Syria		
	1.2	Implement RNAV 5 in the level band FL160 - FL460		Update State AIP, ENR 3.3 to indicate implementation of the RNAV 5 in the level band FL160 - FL460 (inclusive).	Iran		
					Lebanon		
					Libya		
					Syria		
					Sudan		
	1.3	Publish RNAV routes in relevant part in the AIP		All RNAV routes either defined by RNAV designator or non-RNAV designator publish in ENR 3.2	Egypt		
					Kuwait		
					Yemen		
2	2.1	Coordinate with neighboring States to reduce surveillance longitudinal separation down to 10 NM		Detailed implementation plan	**Iran** – Turkey & Pakistan		
					Iraq – Turkey, **Kuwait** & **Jordan**		
					Libya – Chad		
					Oman – Pakistan & India		
					Yemen – Somalia		
	3.1				**Iraq** (UL602, UM860, UP975, etc.)		

Focus area number	Action		Target date	Deliverable	Champion	Reference	Status / RMK
	No.	Description					
3		Remove prefix "U" from ATS route designators		Revise AIP, ENR 3 to remove prefix "U"	**Jordan** (UM690, UR785, UB544, etc.)		
					Lebanon (UM425, UL620, UN438, etc.)		
					Oman (UB424, UL425, UB535, etc.)		
	3.2	Change ATS route designators		Revise AIP, ENR 3 to change the required ATS route designators in accordance with ANP volume II.	**Bahrain** (T557 to L557, Y604 to L704, Y856 to M556, T308 to M708, Z622 to M722, T872 to N572, T602 to N702, T319 to P319, T430 to P550, T444 to P700, T934 to P713)		
					Oman (L695, M303, M681, M877, N430, P304, P316, P513, R402 to non-regional T507 to L559, T980 to L700, Q620 to M700, Z515 to M717, T970 to N570, Q978 to N718)		
					Qatar (Y604 to L704, T665 to N700, T430 to P550, T444 to P700)		
					Saudi Arabia (G674, G799, M309 to non-regional H732 to M553, H741 to M320, J735 to P703, J749 to N709, J852 to M702, J874 to N704, T136 to L716, Y415 to M705, Y511 to M711, Z515 to M717, Q332 to N323, V13 to N703, J874 to N704, Y517 to N707, J749 to N709, T513 to N713, V975 to P705, Q510 to P710, T100 to P711, Q212 to		

Focus area number	Action		Target date	Deliverable	Champion	Reference	Status / RMK
	No.	**Description**					
					P712, Q21 to P721, Q143 to P723, Q615 to P753, Q624 to P752)		
					UAE (T665 to N700, Q415 to N715)		
					Yemen (L566 to Y101, P552 to Y103, R799 to Y105, Z515 to M717 and establish LADLI-PUTSO)		
4	**4.1**	Continuation of FRA volume between UAE and Qatar		Detailed implementation plan	Qatar and UAE		

FRA Workshop Key-Takeaways

- *Implementation of FRA at national level:*

1) Implementation of FRA contributes to operational efficiency by allowing for more flexible route planning and reducing air traffic complexity, enhances airspace utilization and contributes to the reduction of emissions.

2) States planning to implement FRA are encouraged to:

   a) follow a step-by-step approach;

   b) collect required data and coordinate with concerned stakeholders, including Military Authorities, ATCOs, flight procedure designers, airspace planners and airspace users, to assess the needs for implementation of FRA;

   c) consider the traffic flows in adjacent FIRs and the impact of the FRA implementation;

   d) in determining the vertical and horizontal dimensions of the airspace where FRA would be implemented, ensure that the selected airspace is able to accommodate the main traffic flows and the needs of airspace users (civil and Military);

   e) foster the implementation of the pre-requisites for FRA implementation (FUA, ASBU FRTO B0/1 Direct Route, FICE B0/1 (AIDC/OLDI);

   f) consider the neighboring ANSP's requirements in regards to use of certain routes/waypoints for certain destinations;

   g) study and determine the most suitable flight level for the transition between FRA and non-FRA;

   h) conduct necessary safety assessments and change management studies;

   i) conduct necessary testing including through the use of simulators;

   j) conduct a benchmarking exercise with a leading ANSP that has successfully implemented FRA;

   k) consider the capabilities/upgrade of their ATM systems to accommodate the flight planning in a FRA environment and Medium-Term Conflict Detection (FRTO B0/4 Basic conflict detection and conformance monitoring (MTCD);

   l) develop training package for ATCOs and concerned stakeholders and provide appropriate training to ATC personnel to acquire the skills necessary to properly conduct FRA operations (before implementation);

   m) develop specific procedures for air traffic controllers and assistants to manage FRA operations effectively; and publish these procedures for all operational staff to ensure uniform understanding and application;

   n) use real-time simulations to test and validate FRA procedures; and

   o) coordinate with the ICAO MID Office and concerned AIS data service providers for the publication of the FRA related sections/parts in the AIP in a harmonized manner.

3) FRA implementation (ASBU FRTO B1/1):

In order to ensure a seamless and safe implementation/integration of FRA, States are encouraged to:

a) finalize the FRA design and ensure the readiness of all operational staff through comprehensive training and coordination with stakeholders;

b) monitor initial operations closely to identify and address any emerging issues;

c) maintain regular communication with stakeholders to provide updates and address any emerging challenge;

d) consider the implementation of Dynamic sectorization (ASBU FRTO B1/4 Dynamic Sectorization); and

e) measure the benefits accrued from FRA implementation using specific KPIs.
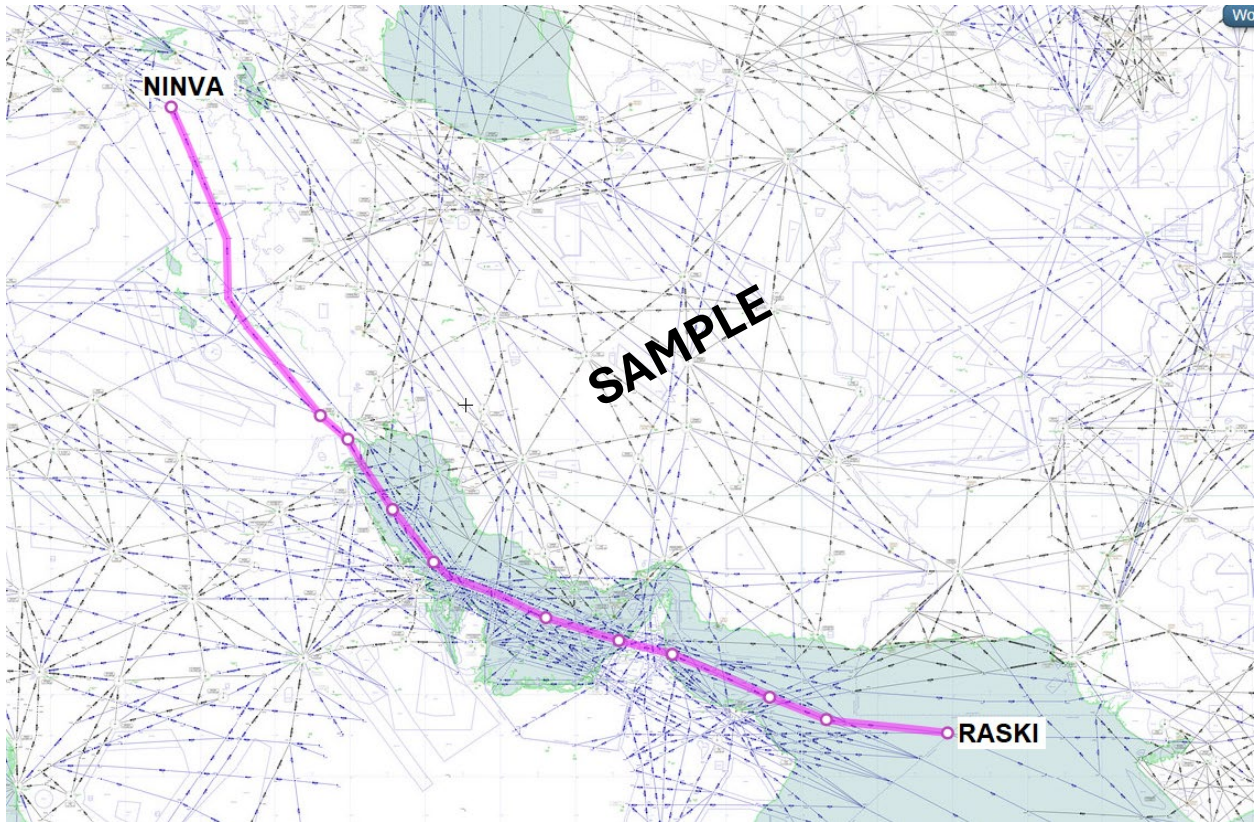
- Implementation of FRA at regional level:

The expansion of FRA implementation cross borders and ultimately across regions will increase operational efficiency and contribute to reduced fuel consumption.

Example for implementation of cross-border implementation of FRA.

1- Based on traffic statistic, identify the main flow which will bring maximum efficiency with minimum complexity;

2- Determine the horizontal delineation of the FRA in each consecutive FIRs to cover operational needs including buffer;

3- Determine the vertical dimension of the volume in a coordinated manner considering that this portion of airspace should be free from conflict;

4- Make sure that FRA implementation prerequisites have been implemented and required enablers are available to support implementation of FRA at concerned FIRs;

5- Amend relevant agreements and procedures such as LoAs including longitudinal separation to be considered; and

6- Publish required procedures and FRA specifications in the AIPs of the concerned States in a harmonized manner and agree on a common implementation date in accordance with the AIRAC procedures.

- END -