



ICAO

# Fourteenth Meeting of the MIDANPIRG Communication, Navigation and Surveillance Sub-Group (CNS SG/14)

2025



*Hosted by the United Arab Emirates*

*Held in Abu Dhabi, 19 – 23 October 2025*



**CNS SG/14 Final Report**



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**THE MIDDLE EAST AIR NAVIGATION PLANNING  
AND IMPLEMENTATION REGIONAL GROUP  
(MIDANPIRG)**

**REPORT OF THE FOURTEENTH MEETING OF  
CNS SUB-GROUP**

**(CNS SG/14)**

*(Abu Dhabi, UAE, 19 – 23 October 2025)*

The views expressed in this Report should be taken as those of the MIDANPIRG CNS Sub-Group and not of the Organization. This Report will, however, be submitted to the MIDANPIRG and any formal action taken will be published in due course as a Supplement to the Report.

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.....	2
5.	Language.....	2
6.	Agenda.....	2
7.	Conclusions and Decisions - Definition.....	2
8.	List of Draft Conclusions and Draft 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 .....	3-1/3-5
Report on Agenda Item 4 .....	4-1/4-4
Report on Agenda Item 5 .....	5-1/5-4
Report on Agenda Item 6 .....	6-1/6-4
Report on Agenda Item 7 .....	7-1/7-3
Report on Agenda Item 8 .....	8-1/8-2
Report on Agenda Item 9 .....	9-1

### APPENDICES

Appendix 2A

Appendices 3A & 3B

Appendix 4A

Appendices 6A & 6B

Appendices 7A – 7C

Appendices 8A – 8C

**ATTACHMENT**

List of Participants ..... Attachment A

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## **PART I – HISTORY OF THE MEETING**

### **1. PLACE AND DURATION**

1.1 The Fourteenth meeting of the MIDANPIRG Communication, Navigation and Surveillance Sub-Group (CNS SG/14) and the Eleventh meeting of the MIDANPIRG Air Traffic Management Sub-Group (ATM SG/11) were kindly hosted by the General Civil Aviation Authority (GCAA) in Abu Dhabi, United Arab Emirates, at the GRAND HYATT HOTEL EMIRATES PEARL, Abu Dhabi, from 19 to 23 October 2025. A plenary session was organised at the first day of the meetings to discuss common subjects between both Sub-Groups.

### **2. OPENING**

#### ***Common ATM/CNS Day (19 October 2025)***

2.1 The meetings were jointly opened by Mr. Ahmed Ibrahim Al Jallaf, Assistant Director General, Air Navigation Services, General Civil Aviation Authority (GCAA), United Arab Emirates, and Mr. Mohamed Abubaker Farea, Regional Director, ICAO Middle East Office, Cairo, Egypt.

2.2 In his opening remarks, Mr. Al Jallaf thanked ICAO for organizing these important meetings in the United Arab Emirates and extended a warm welcome to all participants, wishing them a pleasant stay in Abu Dhabi. He highlighted that holding the CNS SG/14 and ATM SG/11 meetings in parallel provides a valuable opportunity for technical and operational experts to engage in productive discussions, strengthen coordination, and enhance cooperation on common subjects. He emphasized that such interaction will contribute to improving the overall safety, efficiency, and performance of Air Navigation Services in the MID Region.

2.3 Mr. Mohamed Abubaker Farea, ICAO Regional Director, welcomed all participants and expressed his appreciation to the United Arab Emirates for hosting the meetings and for its continuous support to ICAO's regional work programme. He commended the UAE's active role and commitment to the development and implementation of regional air navigation priorities, noting their significant contribution to enhancing the safety and efficiency of the air navigation system in the MID Region.

2.4 The elected CNS Sub-Group Chairperson, Eng. Ibrahim Faraj, Director of CNS, Civil Aviation Regulatory Commission (CARC), Jordan, also welcomed the participants and underlined the importance of maintaining effective coordination and collaboration between the CNS and ATM communities to ensure that operational requirements are effectively supported by technical solutions. He wished all participants fruitful deliberations.

2.5 In conclusion, Eng. Faraj thanked the United Arab Emirates for its hospitality and support, and expressed appreciation to all participants for their contributions, wishing the meetings every success and a pleasant stay in Abu Dhabi.

### **3. ATTENDANCE**

3.1 The meeting was attended by a total of forty (40) participants, from eight (8) States (Egypt, Iran, Jordan, Oman, Qatar, Saudi Arabia, Syria and UAE) and one (1) International Organization (IATA). The list of participants is at **Attachment A**.

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**4. OFFICERS AND SECRETARIAT**

4.1 Mr. Mohamed Iheb Hamdi, ICAO MID Regional Officer for Aerodromes and Ground Aids and CNS/Cybersecurity Coordinator, was the Secretary of the meeting.

**5. LANGUAGE**

5.1 The discussions were conducted in English. Documentation was issued in English.

**6. AGENDA**

6.1 The following Agenda was adopted:

Agenda Item 1: Election of Chairpersons and adoption of the provisional agenda

Agenda Item 2: Review the outcome of CNS SG/13 and MIDANPIRG/22 related to CNS

Agenda Item 3: CNS Planning and Implementation Framework

Agenda Item 4: MID ATS Messaging Management Centre Matters including AMHS  
AMC and SWIM infrastructure

Agenda Item 5: Frequency Management Matters

Agenda Item 6: ASBU Threads/ Elements related to CNS

Agenda Item 7: Review of Air Navigation Deficiencies in the CNS Field

Agenda Item 8: Future Work Programme

Agenda Item 9: Any other Business

**7. CONCLUSIONS AND DECISIONS - DEFINITIONS**

7.1 All MIDANPIRG Sub-Groups and Task Forces record their actions in the form of Conclusions and Decisions with the following significance:

a) **Conclusions** deal with the matters which, in accordance with the Group's terms of reference, merit directly the attention of States on which further action will be initiated by ICAO in accordance with established procedures; and

b) **Decisions** deal with matters of concern only to the MIDANPIRG and its contributory bodies.

**8. LIST OF DRAFT CONCLUSIONS AND DRAFT DECISIONS**

*DRAFT DECISION 14/1: UPDATE OF THE AMC ROUTING DIRECTORY AND NETWORK INVENTORY*

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- DRAFT CONCLUSION 14/2: ORGANIZATION OF AMHS/AMC WORKSHOP/  
TRAINING*
- DRAFT CONCLUSION 14/3: INTERREGIONAL CONNECTIONS BETWEEN MID AND  
ADJACENT ICAO REGIONS*
- DRAFT DECISION 14/4: AMENDMENT OF ACCREDITATION PROCEDURE FOR MID  
EXTERNAL COM OPERATORS*
- CNS DRAFT DECISION 14/5: REVIEW AND UPDATE OF THE MID REGION  
ALLOTMENT PLAN*
- CNS DRAFT CONCLUSION 14/6: ALIGNMENT OF AIP DATA WITH ICAO FREQUENCY  
FINDER (FF) DATABASE*
- CNS DRAFT CONCLUSION 14/7: FREQUENCY MANAGEMENT TOOLS TRAINING*
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**PART II: REPORT ON AGENDA ITEMS****REPORT ON AGENDA ITEM 1: ELECTION OF CHAIRPERSONS AND ADOPTION OF THE PROVISIONAL AGENDA**

1.1 The meeting congratulated Eng. Ibrahim Faraj, Director of CNS, Civil Aviation Regulatory Commission (CARC), Jordan who was elected as the Chairperson and Eng. Abdulla Alsayed, Senior CNS Inspector, General Civil Aviation Authority (GCAA), UAE, who was elected as the Vice Chairperson of the CNS SG, respectively.

1.2 The subject was addressed in WP/1 presented by the Secretariat. The meeting reviewed and adopted the Provisional Agenda as at paragraph 6 of the History of the Meeting.

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**REPORT ON AGENDA ITEM 2:            REVIEW THE OUTCOME OF CNS SG/13 AND MIDANPIRG/22  
RELATED TO CNS**

2.1            The subject was addressed in WP/2 presented by the Secretariat. The meeting recalled the Conclusions and Decisions, as at **Appendix 2A**, adopted by the MIDANPIRG/22 meeting in relation to CNS field and agreed to revise some of them notably those related to technical matters. Based on global and regional developments, the meeting agreed to propose, as deemed necessary, Draft Conclusions and Decisions to be presented to the MIDANPIRG/23 meeting for endorsement.

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**REPORT ON AGENDA ITEM 3: CNS PLANNING AND IMPLEMENTATION FRAMEWORK*****GNSS Radio Frequency Interference (GNSS RFI)***

3.1 The subject was addressed in:

- WP/27 presented by the Secretariat;
- WP/5 and WP/7 presented by the United Arab Emirates;
- WP/9 presented by Oman, and
- WP/29 presented by Saudi Arabia.

3.2 The meeting recalled the outcome of the MIDANPIRG/22–RASG-MID/12 and the 42<sup>nd</sup> ICAO Assembly, which recognized GNSS interference (RFI) as a major operational and safety concern and recalled the MID Region Regional Approach to GNSS RFI Management through PIRG/RASG Conclusion 2 and Decision 22/20 establishing the MID NAV-MON Action Group. The meeting noted that GNSS interference incidents have increased globally and regionally, with safety implications for navigation, surveillance, and communication systems.

3.3 The meeting highlighted that Assembly Resolution A42-24/3 emphasised on ensuring the resilience of CNS/ATM systems and the introduction of the Resilient Navigation Operational Network (NAV RON) concept, which evolves from the NAV-MON approach by integrating ground- and space-based infrastructures to ensure service continuity in case of GNSS degradation. The meeting reaffirmed the importance of maintaining a network of conventional aids (VOR/DME/ILS) as part of regional navigation resilience, enhancing civil-military coordination, and sharing operational data through ICAO mechanisms.

3.4 The meeting noted the UAE national best practices for detecting, investigating, and mitigating GNSS interference and spoofing within the surveillance data processing system (SDPS). The meeting noted that the operational workflow applied to preserve surveillance data integrity, the use of multi-sensor validation (radar, ADS-B, multilateration), and the coordination with the national Telecommunications Regulatory Authority. The meeting supported the UAE proposal for regional cooperation and data exchange on interference events to strengthen collective situational awareness and resilience which is in line with the endorsed MID Region Regional Approach to GNSS RFI Management

3.5 The meeting noted UAE experience in mitigating GNSS and ADS-B vulnerabilities through regional radar data sharing and the development of a Surveillance Data Governance Framework. The meeting underlined that ADS-B dependency introduces cybersecurity risks and recommended establishing bilateral or multilateral radar-sharing arrangements based on EUROCONTROL's guidelines that been noted with appreciation during the previous CNS SG/13 meeting. In addition, the meeting noted a Service-Oriented Architecture (SOA) would also ensure encrypted, authenticated, and redundant data exchange. The meeting agreed that radar sharing constitutes a practical means of enhancing regional surveillance resilience and continuity.

3.6 The meeting noted the operational importance of multi-constellation GNSS and multi-source time synchronization for preserving both positional and temporal integrity within CNS systems. The meeting encouraged States to adopt Complementary PNT (C-PNT) architectures integrating atomic clocks, terrestrial time networks, and cross-validation among ANSP servers.

3.7 The meeting further recalled that GNSS vulnerabilities at international, regional, and national levels. The meeting noted Oman initiative including the issuance of a Civil Aviation Safety Bulletin 2024-01 on GNSS outages and alternative navigation procedures. The meeting agreed on the Oman

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proposal to explore the need to review the ICAO MID Doc. 011 to incorporate the latest developments from ICAO Annex 10, the RASG-MID Safety Advisory 14 (RSA-14), and the 2024 EUR/MID Radio Navigation Symposium recommendations. The meeting agreed that CNS focal points to go through the aforementioned provisions and provide their proposal for the amendment of the ICAO MID Doc. 011, as deemed necessary.

3.8 The meeting expressed appreciation to the UAE and Oman for their valuable contributions and best practices and encourage MID Stats to proactively contribute to the development of a regional GNSS RFI management and resilience framework and support the collaboration between the NAV-MON Action Group, the Frequency Management Working Group (FM WG), and relevant MIDANPIRG Subgroups.

3.9 The meeting noted Saudi Arabia feedback about the DME/DME network which plays a critical role in providing backup navigation capability. The meeting agreed that the resilience of the MID navigation infrastructure should be addressed through improved DME coverage and optimization rather than expansion of legacy systems.

3.10 The meeting acknowledged Saudi Arabia's proposal to further analyze operational aspects of NAV RON and to engage the MID NAV-MON Action Group in reviewing data on ATS route structures and existing ground-based aids to support regional GNSS RFI resilience planning.

3.11 The meeting also noted that the upcoming GNSS Inter-Regional Workshop in Doha, Qatar (18–20 November 2025), jointly organized by ICAO MID and EUR/NAT Offices, will focus on GNSS RFI resilience, and will provide a great platform and opportunity to address related operational navigation continuity measures, including the emerging NAV RON concept and regional coordination requirements.

#### ***Operational inputs to AIDC-OLDI Applicability Area***

3.12 The subject was addressed in WP/11, presented by the Secretariat.

3.13 The meeting recalled the discussion during the MIDANPIRG/21 meeting related to extension of the timeline for implementation of AIDC/OLDI Priority 1 in the MID Region to the end of December 2026.

3.14 The meeting reiterated the criteria that were agreed in ATM SG/10 for determination of MID Priority 1 AIDC/OLDI implementation:

- if the traffic exchange rate between two adjacent ACCs has exceeded 30 flights per hour; or
- if two consecutive FIRs implemented longitudinal separation 10 NM or less at common FIR boundary point(s); or
- if two adjacent FIRs implemented cross border Free Route Airspace (FRA); or
- if the number of LHD recorded by MIDRMA related to adjacent ACCs has exceeded 10 reports per month and it lasts for more than 6 months; or
- if traffic movement at the common FIR boundary significantly increased during contingency situations; or
- where decided by both concerned States.

3.15 Consequently, the ICAO MID developed draft AIDC/OLDI applicability area in **Appendix 3A**, in accordance with the agreement reached in the ATM SG/10 meeting.

3.16 Based on the above, the ATM SG/11 meeting granted authorization to the ASM WG/3 to review and finalize the draft applicability area outlined in **Appendix 3A**. The ATM SG will subsequently convey the applicability area, based on ATM operational requirements, to the CNS SG for their feedback on the Implementation of the infrastructure to accommodate the implementation of the required AIDC/OLDI interfaces.

3.17 Consequently, the ICAO MID will proceed with the Proposal for Amendment (PfA) of the eANP Vol II, as deemed necessary.

### ***FF-ICE Implementation***

3.18 The subject was addressed in IP/6, IP/7 and IP/8A – 8E presented by the Secretariat, IATA, EUROCONTROL, respectively.

3.19 The meeting recalled ICAO plan related to the planning for implementation of Flight and Flow-Information for a Collaborative Environment (FF-ICE) and cessation of FPL2012, as essential advancement in air traffic management, with envisaged proposed implementation date by 2034.

3.20 The meeting noted with appreciation that the ICAO APAC MID FF-ICE Seminar was successfully conducted in Dubai, during the period 23 – 26 February 2025, hosted by General Civil Aviation Authority of the United Arab Emirates (GCAA/UAE). The Seminar provided comprehensive background information on the ATFM and FF-ICE, including the operational requirements and the prerequisites for the implementation on planning phase.

3.21 IATA reiterated their support to the development of harmonized regional transition roadmap to avoid fragmented implementation, and underlined that successful implementation requires a coordinated transition plan from FPL2012 to FF-ICE, supported by compatible automation systems, clear communication procedures, and contingency measures.

3.22 The meeting recalled that the MIDANPIRG/22 meeting reviewed the outcomes of the Seminar at **Appendix 3B**, noting that the majority of the MID States indicated their intension to transit to FF-ICE and cessation of FPL2012 ahead of the planned date in 2034. Accordingly, the MIDANPIRG/22 meeting tasked the AIM SG, ATM SG, and CNS SGs to include FF-ICE as part of their work programme and agreed that a joint FF-ICE workshop would be organized, and to recommend to the MIDANPIRG/23 meeting (planned to be organized in Egypt mid 2026) the best way forward for planning and implementing FF-ICE in the MID Region.

3.23 The meeting noted with appreciation that the joint FF-ICE Workshop was conducted during the ATM SG/11 and CNS SG/14 meetings. in order to commonly raise awareness and consider the implementation constraints towards the development of regional transition plan.

3.24 The Workshop provided detailed view of the FF-ICE implementation as follows:

- FF-ICE Concept and related provisions (IP/8A)
- IATA perspective related to FF-ICE implementation (IP/8B)
- EUROCONTROL - NM Experience in FF-ICE implementation (IP/8C)
- EUROCONTROL - Understanding FF-ICE through Scenarios (IP/8D)

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- FF-ICE Regulatory Requirements, Template, ASBU Enablers, Dependencies and Relations (IP/8E).

3.25 The meeting recalled that, at the initial phases the Airspace Management Working Group (ASM WG) main task was to ensure continues development of airspaces and air traffic management, including the development of regional FF-ICE roadmap.

3.26 Accordingly, based on the information provided in the Workshop, the meeting agreed that the ASM WG to develop an initial roadmap including the operational requirements from ATM perspective, and share it with the CNS and AIM SGs for their feedback (Virtual meeting to be organized). The consolidated roadmap will be therefore provided to the MIDANPIRG/23 for review and endorsement.

3.27 The meeting noted with appreciation the support provided by EUROCONTROL and IATA in sharing the views and experience in the workshop, and stressed on the need for harmonized plans to support operation of many carries of the MID Region operating globally.

### *ANS Cybersecurity*

3.28 The subject was addressed in WP/6, presented by the UAE.

3.29 The meeting noted the growing cybersecurity threats to Communication, Navigation and Surveillance (CNS) systems resulting from increased interconnectivity, digitalization, and the migration to IP-based architectures.

3.30 The meeting outlined that the main vulnerabilities affecting CNS systems, including weak access controls, insufficient network segmentation, insecure remote connections, and lack of continuous monitoring, noting that such deficiencies may expose Air Navigation Services (ANS) infrastructure to network intrusions, data manipulation, or service disruption.

3.31 The meeting noted with appreciation the UAE's National Civil Aviation Cybersecurity Framework, developed by the General Civil Aviation Authority (GCAA) in alignment with the UAE National Cybersecurity Strategy. The framework includes a Civil Aviation Cybersecurity Policy, Guidelines, and the Reporting of Security Breaches (ROSB) mechanism, providing a structured model for threat reporting, coordination with national authorities, and incident response. The meeting noted the best practice of ROSB mechanism to ensure a secure and confidential cybersecurity incident reporting and encouraged other MID States to consider establishing similar systems.

3.32 The meeting further emphasized that, in line with ICAO's Cybersecurity Action Plan (CyAP) and Assembly Resolution A40-10, States should integrate CNS cybersecurity governance within their national civil aviation cybersecurity strategies and safety oversight frameworks. The meeting encouraged the adoption of security-by-design and defense-in-depth principles across CNS infrastructure, including the implementation of identity and access management (IAM), network segregation between operational and maintenance systems, intrusion detection and prevention systems (IDS/IPS), secure remote access, and regular vulnerability assessments.

3.33 The meeting also recognized the importance of fostering cybersecurity culture and awareness through continuous training, drills, and exercises targeting technical and operational CNS personnel. The meeting agreed that regional cooperation on incident information-sharing, threat intelligence exchange, and harmonization of national cybersecurity frameworks would significantly strengthen collective resilience across the MID Region.

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3.34 Accordingly, the meeting supported the UAE proposal to encourage MID State to share their cybersecurity resilience initiatives, under the framework of the CNS Sub-Group, to potentially establish a MID Regional Cybersecurity Awareness Toolkit for CNS systems, including role-based training modules and best practices adapted to CNS operations.

***Innovation: Accelerating Innovation in ATM Service Provision (Use of AI in ANS)***

3.35 The subject was addressed in IP/9, prepared by UAE. The meeting was appraised with the developments related to AI within SZC, including the generation and analysis of the training and simulation exercise, analysis of safety monitoring reports, AIP AI Bot, and communication compliance; beside the integration on regular business related to personal learning, content creation and admin support; to enhance efficiency, cost saving, service level enhancement, accessibility and quality.

3.36 Additionally, the meeting noted with appreciation that the Middle East Regional Monitoring Agency (MIDRMA), the MIDRMA Risk Analysis Software (MIDRAS), was recently upgraded to a new version that integrates advanced Artificial Intelligence (AI) capabilities, enabling the MIDRMA to calculate the ICAO Target Level of Safety (TLS) with higher precision, while substantially reducing the analytical workload. The AI component has also allowed the system to identify and compute complex safety parameters that previously required considerable manual effort and time consuming. In addition, the MIDRMA is currently exploring the use of AI within the framework of the MID ADS-B Height Monitoring System (MID-AHMS) Project, particularly to enhance and simplify the existing process of calculating the Altimetry System Error (ASE). This process has traditionally been highly technical and resource-intensive, but with the continued collaboration of the software developers, the MIDRMA aims to make ASE computation more efficient, accurate, and less dependent on extensive manual intervention.

3.37 The meeting appreciated the efforts made by UAE and the MIDRMA, in integrating AI in their daily work, and encouraged the States to explore opportunities for AI implementation within the ANS areas to enhance efficiency, safety and sustainability, utilizing modern technologies.

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**REPORT ON AGENDA ITEM 4: MID ATS MESSAGING MANAGEMENT CENTRE MATTERS INCLUDING AMHS-AMC AND SWIM INFRASTRUCTURE**

***MIDAMC Progress Report***

4.1 The subject was addressed in PPT/10, presented by the MIDAMC.

4.2 The meeting noted the progress achieved under the MIDAMC mechanism, including the continuous expansion of AMHS inter-regional connections with the EURNAT, APAC, and AFI Regions. Updates included:

- Nine AMHS links with the EUR Region (e.g., HECA–LGGG, OJAM–LCNC, OIGN–LCNC) and new connections with Qatar and Bahrain.
- Five connections with APAC (OOMS–VABB, OKKK–OPKC, etc.), with Oman planning migration from AFTN to AMHS.
- Calls for more AFI links to be migrated to AMHS to reduce asymmetric routing.

4.3 The meeting recalled that MIDANPIRG Decision 22/19 amended the MID AMC Steering Group ToRs to include SWIM transition oversight. The meeting requested MID States to update routing directory, focal points, and AMHS configurations in the EUR AMC platform and have a clear regional approach about the establishment of a Regional IP Network and decide about participation in the available IP network solutions (e.g. APAC CRV or EUROCONTROL New PENS).

4.4 The meeting agreed that the ICAO MID Office should coordinate with EUROCONTROL to organize a virtual meeting on the IP Network subject, to be scheduled at EUROCONTROL's convenience.

***Update of The AMC Routing Directory and Network Inventory***

4.5 The meeting noted that several operational problems had occurred due to delays in updating the AMHS addressee tables. The meeting emphasized that new addressee tables should be updated on Day 28 of each AIRAC cycle at 1100 UTC to ensure network synchronization and operational continuity.

4.6 The meeting also noted that several MIDAMC focal point contact details were outdated. The meeting encouraged States to ensure that their contact information is kept current in the Network Inventory.

4.7 The meeting agreed to the following Draft Decision regarding the periodic review and update of the AMC Routing Directory and Network Inventory:

***DRAFT DECISION 14/1: UPDATE OF THE AMC ROUTING DIRECTORY AND NETWORK INVENTORY***

*That, MID External COM Operators shall review and update the AMC Routing Directory and Network Inventory on **each AIRAC cycle**, in coordination with the MIDAMC Team, to ensure data accuracy and operational consistency across the MID Region.*

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### ***Update of IWXXM Implementation Status***

4.8 The meeting recalled that the implementation of the AMHS Extended Service and the establishment of AMHS interregional connections are prerequisites for the exchange of IWXXM messages and for supporting the operation of Regional OPMET Centres (ROCs). The meeting recognized that the IWXXM data format is an essential enabler of System Wide Information Management (SWIM) and that timely implementation across the MID Region will facilitate the digital exchange of meteorological information and enhance data interoperability with adjacent Regions. The meeting encouraged States to coordinate closely with their CNS and MET authorities to ensure the availability of the required AMHS capabilities to support IWXXM message exchange.

4.9 The meeting requested States provide updates on the status of their IWXXM implementation to the ICAO MID Office, including information on system capability, interregional connectivity, and planned timelines, in order to facilitate regional monitoring and support coordinated SWIM transition planning. Therefore, the meeting agreed that the MIDAMC focal points should provide a detailed status to the upcoming MIDAMC STG/11 meeting.

### ***Capacity Building on AMHS/AMC***

4.10 The meeting supported the MIDAMC team’s proposal for an AMHS/AMC Workshop/Training to strengthen COM Centre staff capabilities and endorsed actions for all States to:

- Migrate remaining AFTN/CIDIN links to AMHS;
- Update routing directories and focal points in EUR AMC; and
- Report on IWXXM implementation progress as part of the SWIM readiness framework.

4.11 The meeting requested the ICAO MID Office, in coordination with the MIDAMC Chairperson, to organize an AMHS/AMC Workshop/Training for AMC users, focusing on the use of the routing management function and the development of routing directories in AMC format. Accordingly, the meeting agreed to the following Draft Conclusion:

***DRAFT CONCLUSION 14/2: ORGANIZATION OF AMHS/AMC WORKSHOP/  
TRAINING***

*That, the ICAO MID Office, in coordination with the MIDAMC Chairperson, organizes, in 2026, an AMHS/AMC Workshop/Training for AMC users to enhance their technical capability in utilizing the routing management function; developing, and maintaining routing directories in the AMC format.*

### ***Rationalization of the AFTN/AMHS network***

4.12 The meeting discussed the need to rationalize the AFTN/AMHS network in the MID Region based on operational requirements. The meeting agreed that States should review their bilaterally established connections to ensure that they remain operationally justified and in line with regional planning objectives. Accordingly, the meeting agreed to the following Draft Conclusion:

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***DRAFT CONCLUSION 14/3: INTERREGIONAL CONNECTIONS BETWEEN MID AND ADJACENT ICAO REGIONS***

*That, in order to enhance the efficiency and performance of the Aeronautical Fixed Service (AFS) network, States are urged to:*

- a) rationalize interregional connections established on a bilateral basis, taking into account the regional requirements defined in the MID ANP, Volume II, and operational needs; and*
- b) submit to CNS SG/15 their AFTN/CIDIN interregional communication links migration plan to AMHS.*

***Asymmetric Routing in a Mixed AFTN-AMHS Environment***

4.13 The subject was addressed in PPT/12, presented by the MIDAMC.

4.14 The meeting discussed challenges caused by AFTN/AMHS asymmetric routing, where outbound and return messages take different network paths. The meeting noted the potential causes such as coexistence of AFTN and AMHS systems, inconsistent routing tables, or dynamic path selection, which may lead to missing acknowledgements, loop detection issues, or message delays.

4.15 The meeting highlighted that, although asymmetry cannot be completely avoided, it can be minimized by:

- Maintaining **consistent routing tables** across COM Centres,
- Implementing **automated validation tools** in AMC to detect potential loops or incomplete paths, and
- Coordinating through the **MIDAMC team** for rectification actions.

4.16 The meeting encouraged MID States to strengthen coordination between their national COM Centres and AMC to ensure symmetrical routing and robust message delivery within the AFS network.

***Accreditation Procedure for MID External COM Operators***

4.17 The subject was addressed in PPT/13, presented by the MIDAMC.

4.18 The meeting reviewed the updated accreditation procedure for MID External COM Operators, developed jointly by the MID AMC team and EUROCONTROL. The meeting highlighted that the procedure replaces outdated the previous modalities highlighted in in EUR Doc 021 and establishes a harmonized process for user registration and account activation in the OneSky Online Extranet.

4.19 The meeting noted that each MID COM Centre shall designate one External COM Operator and one backup, register via the OneSky portal, and update contact details in the Network Inventory on Day 1 of each AIRAC cycle. Account activation is coordinated through the MID AMC team and EUROCONTROL. The meeting agreed on the amended procedure and encouraged States that have not yet registered their MIDAMC users as External COM Operators to do so by 31 December 2025 and update all focal points accordingly.

4.20 Accordingly, the meeting agreed to the following Draft Decision:

***DRAFT DECISION 14/4: AMENDMENT OF ACCREDITATION PROCEDURE FOR  
MID EXTERNAL COM OPERATORS***

*That, amended Accreditation Procedure for MID External COM Operators, at  
Appendix 4A, is endorsed.*

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**REPORT ON AGENDA ITEM 5: FREQUENCY MANAGEMENT MATTERS**
***Frequency Spectrum Management: Updates on the ICAO Position for WRC-27***

- 5.1 The subject was addressed in WP/15, presented by the Secretariat.
- 5.2 The meeting reviewed the ICAO presentation on WRC-27 preparations and the recently approved ICAO Position, endorsed by the Council at its 235<sup>th</sup> Session (25 June 2025). The State Letter SL (E 3/5-25/65) issued on 16 July 2025 urged States and international organizations to support ICAO's position and incorporate it in national preparations for ITU WRC-27.
- 5.3 The meeting recalled Assembly Resolution A41-7, as amended by the 42<sup>nd</sup> Assembly (A42), which emphasizes active State participation in the international spectrum process and prioritization of aviation safety and spectrum protection. ICAO's Frequency Spectrum Strategy, developed under the FSMP, aims to ensure sustainable access to and protection of aeronautical bands supporting evolving CNS systems.
- 5.4 The meeting encouraged MID States to coordinate closely with national telecommunication authorities to safeguard aviation spectrum needs and to actively contribute to regional telecommunication organization meetings and ITU preparatory groups leading to WRC-27.

***Review and Update of the MID Region Allotment Plan***

- 5.5 The subject was addressed in WP/17, presented by the Secretariat.
- 5.6 The meeting recalled that the MID Region VHF Allotment Plan (117.975–137 MHz) has not been revised for several years and no longer reflects current operational demand. The Secretariat presented a proposal to review and update the plan to improve the efficient use of spectrum and expand availability for ATC services.
- 5.7 The meeting recalled MIDANPIRG/21 Decision on the Review of the MID Region Allotment Plan (D. 21/23). The meeting agreed that MID States should submit, as deemed necessary, their current and forecast frequency requirements to the ICAO MID Office, enabling the FM Working Group to perform a technical reassessment and prepare a revised VHF Allotment Plan. The updated version will be then reviewed by the CNS SG prior to submission to MIDANPIRG/23 for endorsement. Consequently, the meeting agreed on the following Draft Decision to replace and supersede the D. 21/23 and represent the proposed Decision to MIDANPIRG/23 meeting for endorsement:

***CNS DRAFT DECISION 14/5:***
***REVIEW AND UPDATE OF THE MID REGION  
ALLOTMENT PLAN***

*That, in order to enhance the efficient use of the aeronautical spectrum and increase the availability of frequencies for ATC communications, the meeting agreed that:*

- a) *States should provide, as deemed necessary, to the ICAO MID Office their current and forecast frequency requirements for the band 117.975 – 137 MHz, based on operational and technological developments;*

- 
- b) *the Frequency Management Working Group (FM WG), should conduct the necessary technical assessments and, as deemed necessary, prepare a revised version of the MID Region VHF Allotment; and*
- c) *the CNS Sub-Group (CNS SG) should review and agree on any revised version of the allotment plan, then be submitted to the upcoming MIDANPIRG for endorsement.*

### ***Alignment of AIP Data with ICAO Frequency Finder (FF) Database***

5.8 The subject was addressed in WP/18, presented by the Secretariat.

5.9 The meeting noted discrepancies between AIP publications and the ICAO Frequency Finder Tool database, particularly for NAV facilities, resulting in potential safety and coordination risks. The meeting highlighted that some operational facilities were found to be transmitting on uncoordinated frequencies not recorded in ICAO's database, which could expose them to interference and deprive them of international protection.

5.10 The meeting agreed that States should:

- Verify and align AIP-published frequency data with the ICAO FF database;
- Avoid commissioning facilities on uncoordinated frequencies; and
- Regularly update FF entries to maintain synchronization with national records.

5.11 Consequently, the meeting agreed on the following Draft Conclusion:

***CNS DRAFT CONCLUSION 14/6:                   ALIGNMENT OF AIP DATA WITH ICAO  
FREQUENCY FINDER (FF) DATABASE***

*That, in order to ensure the accuracy of frequency assignment records and to mitigate the risk of harmful interference, States should:*

- a) *verify and align the frequency information published in their AIP with the assignments registered and coordinated through the ICAO Frequency Finder (FF) tool;*
- b) *refrain from placing into operation NAV or COM facilities whose frequency assignments have not been coordinated and registered with ICAO; and*
- c) *regularly update the FF tool with any changes to their national frequency assignments to ensure consistency with published AIP information.*

### ***Optimization of Frequency Assignment in the MID Region***

5.12 The subject was addressed in PPT/19, presented by the Secretariat.

5.13 The meeting discussed the status of 8.33 kHz channel-spacing consideration in the MID Region and recalled that previous simulation exercises could not be completed due to insufficient data

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submissions. The meeting agreed that there is no immediate operational requirement for 8.33 kHz implementation; instead, emphasis should be placed on optimizing existing VHF assignments and updating the regional Allotment Plan. In addition, IATA proposed to provide the CNS SG with the latest fleet equipage data relating to 8.33 kHz in the MID Region, if available

5.14 The meeting also stressed the need to implement the use of 8.33 kHz channel spacing for new assignments at a unified time to be agreed upon among Member States, in order to provide additional frequencies to meet the growing demand. The meeting agreed to issue a Survey requesting States to express the States' needs on implementing the 8.33 kHz channel spacing and their projected deadline prior reaching congestion.

5.15 Consequently, the meeting recalled the MIDANPIRG/21 Conclusion 21/24 on the Optimization of Frequency Assignment in the MID Region and agreed that to close the conclusion. The meeting reiterated the standard process whereby States coordinate all new frequency assignments with the ICAO MID Office and ensuring consistency with the FF database and avoiding congestion.

5.16 In addition, the meeting recalled the technical synchronization issue encountered in the ICAO Frequency Finder (FF) Tool, which affected compatibility checks and, consequently, the registration of validated frequencies. The United Arab Emirates (UAE) noted that, to ensure business continuity, it would be prudent to explore the use of a secondary tool alongside the Frequency Finder as the main platform, and proposed that the EUROCONTROL tool could serve as an appropriate alternative, as it can be synchronized with the ICAO FF Tool.

5.17 The meeting supported the proposal by the UAE and requested the ICAO MID Office to coordinate with EUROCONTROL to explore the modalities of such synchronization and to inform the CNS Sub-Group of the outcomes of this coordination.

#### ***Strengthening Air Traffic Safety with ILS/DME Channel Allocation Oversight***

5.18 The subject was addressed in WP/16, represented by the UAE.

5.19 The meeting highlighted the importance of CAA oversight of ILS/DME channel pairing allocations to prevent duplication, ensure interference-free operation, and verify data integrity in the ICAO FF Tool.

5.20 The meeting noted the UAE's practice of pre-allocating ILS/DME channels for planned projects as a best-practice model for regional adoption. The meeting encouraged States to establish systematic verification of ILS/DME data accuracy, maintain consistent national databases, and strengthen navigational frequency management governance. ICAO was invited to provide guidance on the minimum separation distance required between co-channel ILS/DME systems.

#### ***Frequency Spectrum Congestion for ATC Tower Services***

5.21 The subject was addressed in WP/20, presented by Saudi Arabia.

5.22 The meeting was apprised of Saudi Arabia experience on frequency congestion at Jeddah (OEJN) for Aerodrome Surface Control (ASC) and Tower (TWR) services, as high communication density and overlapping spectrum usage were identified as principal causes of interference.

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5.23 The meeting noted with appreciation Saudi Arabia mitigation strategy that was implemented by using a combination of Double-Cavity, Notch, and Crystal Filters to minimize inter-modulation effects, supported by theoretical path-loss analysis (Egli Model). Although effective, this approach increased system cost and complexity.

***Regional and Interregional Coordination on Space-Based VHF***

5.24 The subject was addressed in WP/21, presented by the Secretariat.

5.25 The meeting reviewed the draft coordination mechanism developed by ICAO HQ for regional and interregional management of Space-Based VHF (SB-VHF) frequencies.

5.26 The mechanism outlines responsibilities and notification flows between States, Regional Offices, and ICAO HQ to ensure global compatibility between space-based and terrestrial VHF systems. However, the meeting agreed that CNS Focal points should analyse in depth the proposal provide their feedback to the CNS SG/15 Meeting.

**Capacity building on Frequency Management Tools**

5.27 The meeting emphasized that training on frequency management tools, including the ICAO Frequency Finder (FF) Tool and the EUROCONTROL frequency management platform, is deemed necessary and urgent for all Frequency Management Working Group (FM WG) focal points. The meeting recognized that enhanced technical proficiency in using these tools is essential to ensure accurate frequency coordination, compatibility verification, and efficient spectrum utilization across the MID Region.

5.28 The meeting therefore encouraged the organization of a dedicated regional training workshop to strengthen the capacity of national frequency management experts and ensure harmonized use of available tools.

***CNS DRAFT CONCLUSION 14/7: FREQUENCY MANAGEMENT TOOLS TRAINING***

*That, the ICAO MID Office, in coordination with ICAO HQ and/or EUROCONTROL, organizes, by 2026 a regional training workshop on frequency management available operational tools, including the ICAO Frequency Finder (FF) Tool and/or the EUROCONTROL platform, to build the technical capacity of FM WG focal points and enhance regional frequency coordination and compatibility analysis.*

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**REPORT ON AGENDA ITEM 6: ASBU THREADS/ELEMENTS RELATED TO CNS*****Harmonizing Regional Air Navigation***

6.1 The subject was addressed in WP/14, presented by IATA.

6.2 IATA emphasized on the need for regional and global harmonization of Air Navigation Services implementation across all ASBU threads to achieve seamless, interoperable operations. Based on the data provided by IATA, the meeting highlighted disparities in deployment timelines across regions and States, particularly regarding ATFM, FF-ICE/TBO, SWIM, and the transition from AIS to AIM.

6.3 The meeting noted IATA's position supporting enhanced Civil/Military Cooperation (CMAC), Flexible Use of Airspace (FUA), Free Route Airspace (FRA), and Direct Routing Operations (DRO) as enablers of flight efficiency and environmental sustainability.

6.4 The meeting agreed on the importance of aligning national plans with the GANP's PIA 1 (Airspace Optimization) and PIA 2 (Global Interoperability) objectives and encouraged continued coordination among ANSPs, States, and users to ensure harmonized deployment of CNS and ATM systems across the MID Region.

***Implementation of ADS-B: State Experience***

6.5 The subject was addressed in WP/22, presented by Saudi Arabia.

6.6 The meeting noted with appreciation Saudi Arabia successful deployment of a nationwide ADS-B ground-station network to enhance ATS surveillance within the Jeddah FIR. The meeting was informed that fourteen ADS-B ground stations and eight WAM co-located sites were installed to complement radar coverage and improve situational awareness.

6.7 The meeting recognized ADS-B implementation as a key enabler under ASBU SURF-B0/1 (Improved Surveillance), contributing to PIA 2: Globally Interoperable Systems and Data and PIA 3 : Optimum Capacity and Flexible Flights. The meeting commended the progress achieved under the Saudi National Air Navigation Plan (SNAP) and invited other MID States to share their ADS-B deployment status and lessons learned to support regional harmonization.

***Deployment of A-SMGCS from CNS Perspective***

6.8 The subject was addressed in WP/23, presented by Saudi Arabia.

6.9 The meeting reviewed the deployment of A-SMGCS Level 2 systems at Riyadh (OERK) and Madinah (OEMA) airports by Saudi Arabia, which have received regulatory approval and are fully operational. The meeting was informed that the system integrates MLAT, SMR, and ADS-B to improve surveillance of aircraft and vehicles on the surface, providing runway-incursion alerts and low-visibility operation support.

6.10 The meeting recognized the deployment as a key contribution to ASBU SURF-B1/2 (Enhanced Surface Operations) under PIA 1: Airport Operations and Capacity, enhancing safety and efficiency in ground movement management. The meeting encouraged other States to consider similar implementations, and requested ICAO MID Office to reflect this progress in the MID Air Navigation Report 2025.

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***Controller–Pilot Data Link Communications (CPDLC)***

6.11 The subject was addressed in WP/24, presented by Saudi Arabia.

6.12 The meeting noted the successful introduction of CPDLC service within the Jeddah FIR by Saudi Arabia in July 2025, following a six-month operational trial. The system enables non-urgent ATC communications through digital messaging between controllers and pilots, reducing voice-frequency congestion and improving operational efficiency.

6.13 The meeting recognized CPDLC implementation as aligned with ASBU FICE-B0/1 (Improved Flight and Flow Information through Interoperability and Data Link Applications) under PIA 2: Globally Interoperable Systems and Data. The meeting encouraged States to share updates on data-link deployments and to coordinate with the ICAO MID Office for inclusion of CPDLC progress in the regional ASBU monitoring plan.

***Expanding PBN Implementation with DME Optimization and Development***

6.14 The subject was addressed in WP/25, presented by Saudi Arabia.

6.15 The meeting noted with appreciation Saudi Arabia effort on strengthening Performance-Based Navigation (PBN) through DME-to-DME optimization and deployment of omnidirectional DME antennas. The initiative aims to enhance DME coverage, increase redundancy, and ensure navigation continuity during GNSS outages, thus supporting resilience against RFI events.

6.16 The meeting recognized the proposal's alignment with ASBU NAVS-B1/B2 (Improved Performance of Navigation Systems) under PIA 2: Globally Interoperable Systems and PIA 3: Optimum Capacity and Flexible Flights. The meeting agreed that the MID NAV-MON Action Group should analyze regional DME/DME coverage and develop recommendations to enhance PBN continuity in line with the Navigation Minimum Operational Network (NAV MON) strategy.

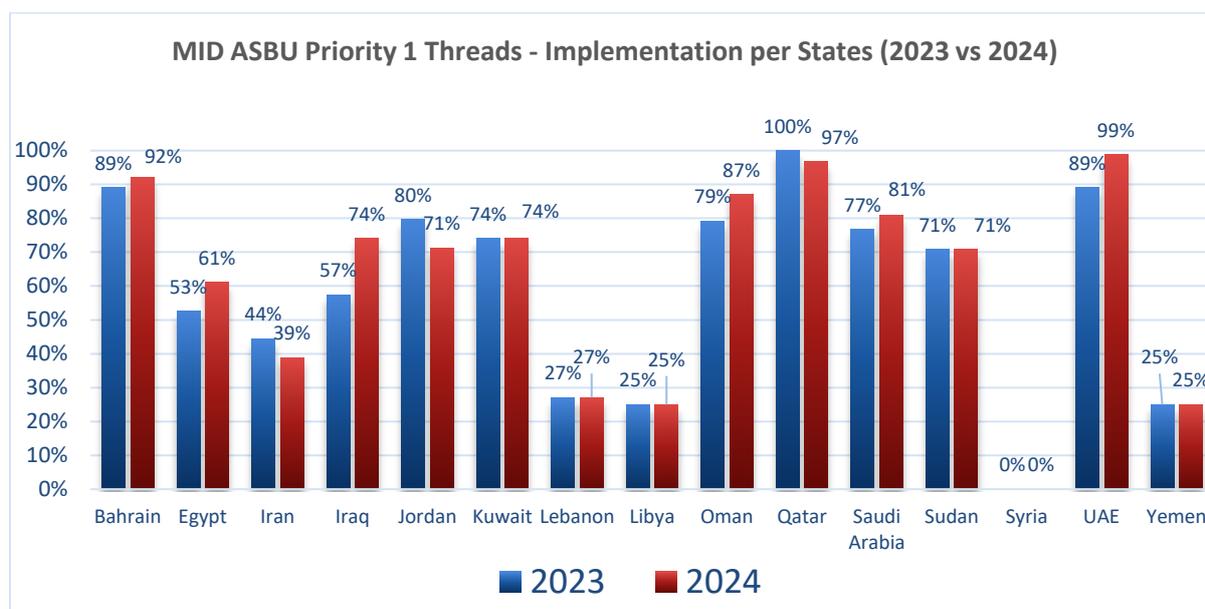
***MID Air Navigation Report-2024***

6.17 The subject was addressed in WP/3, presented by the Secretariat.

6.18 The meeting was apprised with the reported level of implementation of the MID priority one ASBU Threads/Elements available in the MID Air Navigation Report-2024. The Report was published under the ICAO MID Website at the link: <https://www.icao.int/MID/MIDANPIRG-RASG-MID/middle-east-air-navigation-reports>.

6.19 The meeting noted with concern the low level of implementation (50% or less) of the following Priority 1 elements:

- a) FICE (B0/1), the regional level of implementation is increased to 45.31% compared to 39.39% in 2023;
- b) NOPS (B0/1), the regional level of implementation is increased to 45.83% compared to 41.67%, in 2023;
- c) RSEQ (B0/1), the regional level of implementation is increased to 50% compared to 35.71%, in 2023;
- d) NAVS (B0/4), the regional level of implementation is decreased to 30% compared to 40% in 2023.



6.20 The meeting underlined that States are required to establish a national multidisciplinary team from all Air Navigation Services (ANS) areas to submit progress reports to ICAO MID in response to MIDANPIRG Conclusion 22/4 regarding the Air Navigation Report for 2025.

***New ASBU Elements Blocks 0, 1 & 2 relevant to CNS/ATM/SAR***

6.21 The subject was addressed in WP/27, presented by the Secretariat.

***STATUS OF MID ASBU PRIORITY 1 IMPLEMENTATION BLOCKS 0 & 1***

6.22 The meeting noted that as per the ASBU timeline detailed in the ICAO GANP portal, Block 1 has concluded, and Block 2 commenced at the beginning of 2025. Consequently, utilizing data supplied by MID States and additional analysis performed by ICAO MID, the following key points were emphasized:

***a) ASBU Block 0 (2013-2018)***

- 28 elements out of 52 are priority 1; the average level of implementation of priority 1 ASBU block 0 elements is 68.94%;
- Qatar, Bahrain, UAE, Oman, Saudi Arabia & Jordan have the highest level of implementation;
- NAVS B0/4, RSEQ B0/1, ASUR B0/2, FICE B0/1 & NOPS B0/1 have the lowest level of implementation with 20.00%, 35.71%, 37.50%, 40.63% and 41.67%, respectively;
- Block 0, related CNS including 6 elements; the average level of implementation is 63.75%; and
- Block 0, related ATM/SAR including 8 elements; the average level of implementation is 70.32.

***b) ASBU Block 1 (2019-2024)***

- 6 elements out of 58 are priority 1; the average level of implementation of priority 1 ASBU block 1 elements is 63.60%;
- Bahrain, Qatar, Saudi Arabia & UAE have the highest level of implementation with 100%; and
- DAIM B1/4 and DAIM B1/3 have the lowest level of implementation with 33.47% & 42.11% respectively.
- Block 1, related CNS including 1 element; the average level of implementation is 73.33%; and
- Block 1, related ATM/SAR including 2 elements; the average level of implementation is 83.33%.

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*New elements for MID ASBU Priority 1*

6.23 The meeting noted with appreciation to Bahrain, Qatar, Saudi Arabia and UAE for their efforts in implementing additional ASBU elements from Block 0, 1 and 2, which have not been identified as priority 1 at the regional level presented in **Appendix 6A**.

6.24 The meeting recalled MIDANPIRG Conclusion 22/4 regarding the provision of MID Region Air Navigation Report as follows:

*MIDANPIRG CONCLUSION 22/4: MID REGION AIR NAVIGATION REPORT (2025)*

*That,*

- a) *States urged to provide the ICAO MID Office with the following data for the development of the MID Region Air Navigation Report-2025 by **31 December 2025**:*
  - i. *the status of implementation of Priority 1 ASBU elements;*
  - ii. *major achievements and success stories*
  - iii. *information about any additional ASBU elements from Block 0, 1 and 2 that have been identified as a priority for implementation at National level; and*
  - iv. *progress achieved for the implementation of the Performance Based Approach and development of National Air Navigation Plan (NANP).*
- b) *the MID Air Navigation Report (2025) be presented to the MIDANPIRG/23 for endorsement.*

6.25 Based on the above Conclusion, the meeting noted that ICAO MID conducted additional review on ASBU elements in Blocks 0, 1 & 2 and proposed new elements, applicability area, indicators and metrics in MID Air Navigation Strategy at **Appendix 6B**.

6.26 The meeting also urge States to review and assess the MID ASBU priority 2 elements and block 2 related to CNS/ATM/SAR elements at **Appendices 6A** and **6B** in order to identify and propose new MID ASBU Priority 1 to the RANP/NANP TF/3 meeting for further study and draft new version of MID Air Navigation Strategy which will be presented to the MIDANPIRG/23 meeting for endorsement before 31 December 2025.

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**REPORT ON AGENDA ITEM 7: REVIEW OF AIR NAVIGATION DEFICIENCIES IN THE CNS FIELD**

7.1 The meeting noted that the majority of deficiencies listed in the MANDD have no specific Corrective Action Plan (CAP) and do not have a valid completion date. In this respect, the MIDANPIRG meeting agreed on Conclusion 22/33 to supersede MIDANPIRG Conclusion 15/35 related to elimination of Air Navigation Deficiencies as follows:

*MIDANPIRG CONCLUSION 22/33: AIR NAVIGATION DEFICIENCIES*

*That,*

*a) States be urged to:*

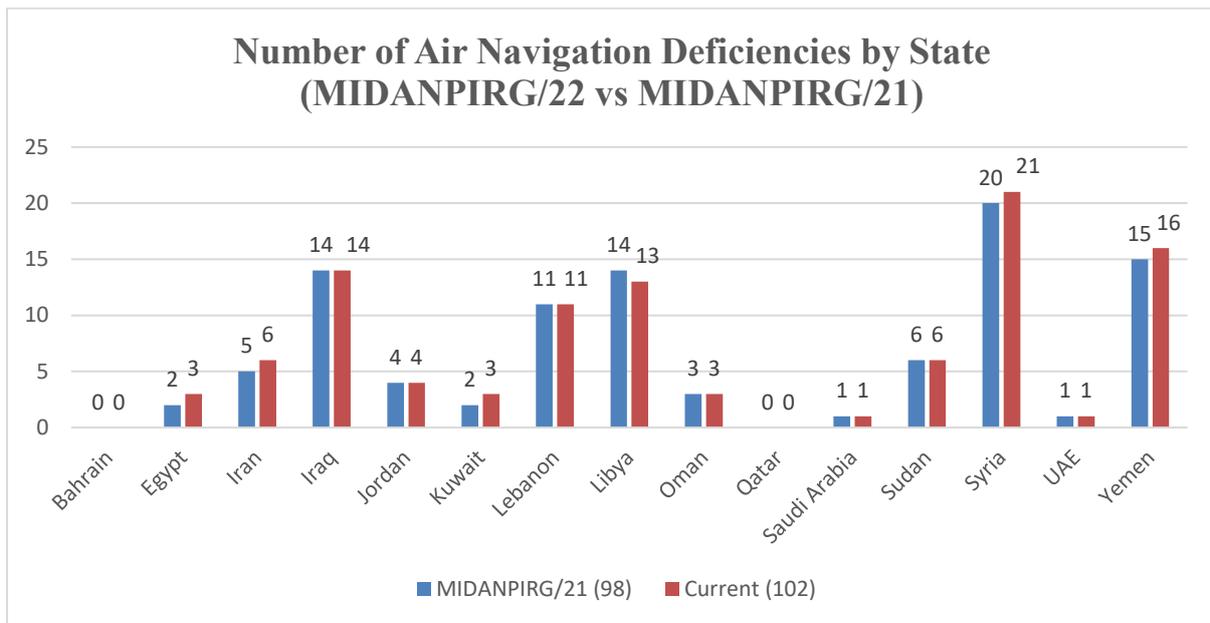
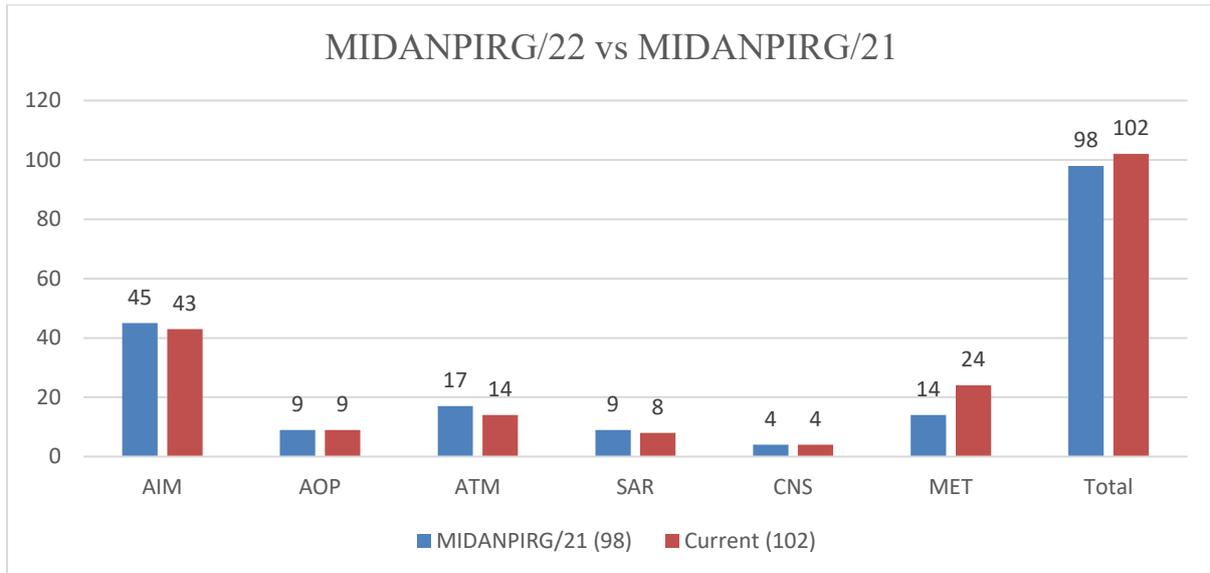
- i. use the MID Air Navigation Deficiency Database (MANDD) for the submission of requests for addition, update, and elimination of Air Navigation Deficiencies, including the submission of a specific Corrective Action Plan (CAP) and completion date for each deficiency; and*
- ii. submit a Formal Letter to the ICAO MID Regional Office containing the evidence(s) that mitigation measures have been implemented for the elimination of deficiency(ies) when requesting the elimination of deficiency(ies) from the MANDD.*

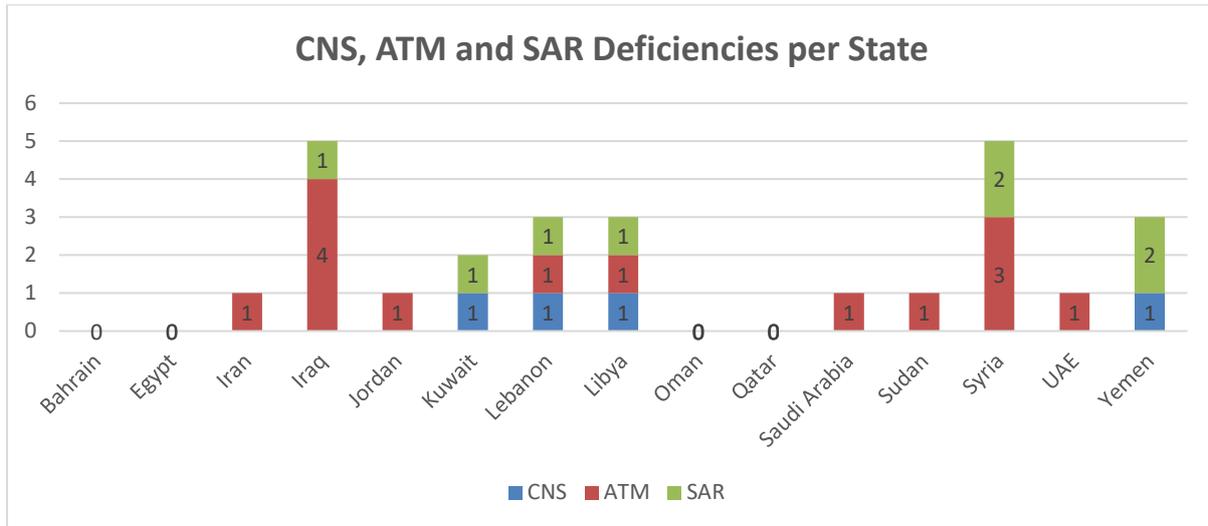
*b) ICAO MID be urged to:*

- i. review the status of the recorded deficiency in MANDD on a quarterly basis and send reminder to States focal point(s) to ensure MANDD is kept up to date; and*
- ii. technically support MID States to eliminate recorded deficiencies in MANDD.*

7.2 The meeting reviewed the list of deficiencies in the MANDD under the CNS, ATM and SAR fields as at **Appendices 7A, 7B** and 7C respectively; and urged States to take necessary measures to implement the provisions of the MIDANPIRG/15 Conclusion 15/35, in particular the submission of a specific Corrective Action Plan (CAP) for each deficiency and update the status accordingly.

7.3 The meeting noted the list of deficiencies in the CNS, ATM, and SAR fields as reflected in the MID Air Navigation Deficiency Database (MANDD) at: <https://mandd.icao.int>. The number of Air Navigation Deficiencies in MANDD reported to MIDANPIRG/22 meeting was 102 deficiencies compared to 98 deficiencies reported to MIDANPIRG/21 meeting as shown in the charts below and distributed as follows:





- a) *In the ATM field:* as reported by MIDRMA, the MIDANPIRG/22 meeting agreed to remove the deficiency against Lebanon, Libya and Sudan related to provision of TDS to MIDRMA; the total number of deficiencies is fourteen (14); seven (7) priority “A” and seven (7) priority “B”. Seven (7) related to the uncompleted signature of contingency agreements and seven (7) related to the non-implementation of planned regional ATS Routes.
- b) *In the SAR field:* based on documents provided by Libya, the MIDANPIRG/22 meeting agreed to remove the deficiency against Libya related to provision of SAR service; the total number of deficiencies was eight (8) priority “A”. Four (4) related to the lack of implementation of SAR provisions; and four (4) related to non-compliance with the carriage of Emergency Locator Transmitter (ELT) requirements.
- c) *In the CNS field:* the total number of CNS deficiencies is four (4); two (2) priority “A” and two (2) priority “B”. Two (2) deficiencies are related to ATS Direct speech circuits, one (1) related to Inter-Regional Communication link with ICAO EUR/NAT Region and one (1) for HF service.

7.4 Based on the above, the meeting strongly urged States to take required action per MIDANPIRG Conclusion 22/33 and tasked the ICAO MID Office to make required follow up with State Focal Points to develop required Corrective action plan for elimination of deficiencies and keep update ICAO MANDD.

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**REPORT ON AGENDA ITEM 8: FUTURE WORK PROGRAMME**

- 8.1 The subject was addressed in PPT/4, presented by the Secretariat.
- 8.2 The meeting agreed on the CNS SG Terms of References (TORs) as at **Appendix 8A**.
- 8.3 The meeting agreed on the MIDAMC STG Terms of References (TORs) as at **Appendix 8B**.
- 8.4 The meeting agreed on the FM WG Terms of References (TORs) as at **Appendix 8C**, and confirmed that the FM WG is reporting directly to CNS SG.
- 8.5 The meeting noted that States are encouraged to send the updated list of all focal points of CNS SG, MIDAMC STG, and NAV-MON Action Group. The meeting emphasized that the CNS focal points will be responsible for supporting the workflow related to FF-ICE implementation.
- 8.6 The meeting noted the following Tentative CNS related Actions/Activities planned for 2026:

#	Action / Expected Output	Responsible Entity	Coordination With	Target Date / Cycle
1	Review and update AMC Routing Directory and Network Inventory each AIRAC cycle	MID External COM Operators	MIDAMC Team / ICAO MID Office	Every AIRAC (28-day cycle)
2	Provide updates on IWXXM implementation status	MID States / MIDAMC Focal Points	ICAO MID Office / CNS & MET Authorities	Q2 2026 (MIDAMC STG/11)
3	Coordinate with EUROCONTROL on virtual IP network meeting	ICAO MID Office	EUROCONTROL / MIDAMC Chair	Early 2026
4	Organize AMHS/AMC Workshop/Training	ICAO MID Office	MIDAMC Chairperson / States	Q4 2026
5	Rationalize AFTN/AMHS inter-regional connections and migrate to AMHS	MID States	ICAO MID Office / FM WG	By end 2026 (target in AI 4)
6	Submit current and forecast VHF frequency requirements (117.975–137 MHz)	MID States	ICAO MID Office / FM WG	Before MIDANPIRG/23 (2026)
7	Perform technical assessment and prepare revised VHF Allotment Plan	FM WG	CNS SG / ICAO MID Office	2026 (Q3–Q4)
8	Coordinate with EUROCONTROL to explore synchronization between FF and EUROCONTROL Tools	ICAO MID Office	EUROCONTROL	2026 progress report to CNS SG/15
9	Organize Regional Training Workshop on Frequency Management Tools	ICAO MID Office / ICAO HQ	EUROCONTROL / FM WG	By end 2026
10	Analyze regional DME/DME coverage for PBN continuity (NAV-MON Action Group)	NAV-MON Action Group	ICAO MID Office / FM WG	2026 cycle

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8.7 The meeting agreed that the CNS SG/15 meeting will be tentatively held by Qatar in Q4 2026. The meeting noted with appreciation Qatar generous offer to host the CNS SG/15.

8.8 Furthermore, the meeting invited the States and Organizations to review and support the conduct of the ICAO MID Tentative Working Programme for 2026, which will be posted under the ICAO MID website, by the end of 2025; and which comprise all regional activities including the CNS ones.

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**REPORT ON AGENDA ITEM 9: ANY OTHER BUSINESS**

9.1 Nothing has been discussed under this Agenda Item.

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# *APPENDICES*

FOLLOW-UP ACTION PLAN ON PIRG/22 & RASG-MID/12 CONCLUSIONS AND DECISIONS

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
C. 2	<p><b><i>CONSOLIDATED REGIONAL APPROACH TO GNSS RFI MANAGEMENT</i></b></p> <p>That, a consolidated regional approach for the management of GNSS RFI be established with the following actions:</p> <p>a) States be urged to:</p> <ol style="list-style-type: none"> <li>i. Support the establishment of regional GNSS RFI monitoring and reporting mechanisms through the appropriate MID regional frameworks;</li> <li>ii. maintain an adequate network of conventional navigation aids to ensure continuity of air navigation services in case of GNSS signal degradation;</li> <li>iii. strengthen civil-military coordination and ensure timely sharing of information related to intentional GNSS interference;</li> <li>iv. define reversion scenarios and associated contingency procedures to maintain safe and efficient operations in the event of GNSS unavailability.</li> </ol> <p>b) ICAO MID Office be requested to:</p> <ol style="list-style-type: none"> <li>i. coordinate the development of the regional GNSS RFI management framework and potential reporting mechanism;</li> <li>ii. support States through regional capacity building and awareness activities on GNSS interference detection and mitigation;</li> <li>iii. liaise with ICAO Headquarters to contribute to the deployment of global guidance material specifications,</li> </ol>	<p>Missing a consolidated regional approach for the management of GNSS radio frequency interference (RFI)</p>	<p>a) establish regional GNSS RFI monitoring and reporting mechanism through the appropriate MID regional frameworks;</p>	<p>States</p>	<p>TBD</p>	<p><b>Ongoing</b></p> <p>SL Ref: AN7/30.21 -25/130 Dated 24 June 2025</p>
			<p>b) maintain an adequate network of conventional navigation aids to ensure continuity of air navigation services in case of GNSS signal degradation;</p>	<p>States</p>	<p>Continuous</p>	
			<p>c) review aircraft minimum equipage lists and implement measures to enhance aircraft system resilience to GNSS RFI;</p>	<p>States</p>	<p>Continuous</p>	

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
	including the GNSS RFI mitigation iPack and available information exchange mechanisms.		d) strengthen civil-military coordination and ensure timely sharing of information related to intentional GNSS interference; and	States	Continuous	
			e) define reversion scenarios and associated contingency procedures to maintain safe and efficient operations in the event of GNSS unavailability	States	Continuous	
			f) coordinate the development of the regional GNSS RFI management framework and potential reporting templates;	ICAO	TBD	
			g) support States through regional Capacity Building and awareness activities on GNSS	ICAO	TBD	

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
			interference detection and mitigation; and  h) liaise with ICAO Headquarters to contribute to the development of global guidance material, including the GNSS RFI mitigation iPack and available information exchange mechanisms.	ICAO MID		
D. 3	<b>AMENDED RASG-MID SAFETY ADVISORY 14</b> <i>That, the amended RASG-MID Safety Advisory 14 (RSA-14) at Appendix 2B is endorsed.</i>	Up to date RASG-MID Safety Advisory 14 (RSA-14)	Updated RSA 14	States	May 2025	<b>Completed</b>
C. 4	<b>CAPACITY BUILDING ON GNSS RFI</b> <i>That, ICAO, in collaboration with ICAO partners, organize a Regional Capacity Building event on GNSS Interference during 2025.</i>	Raise awareness on the GNSS RFI management and Resilience	Interregional Workshop on GNSS RFI	ICAO	November 2025	<b>On-going</b>  Invitation Letter Ref: AN 7/30.21 - 25/193 and EUR/NAT 25-0288 dated 3 September 2025

No.	CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
D.20	<p><b><i>MID NAV-MON ACTION GROUP</i></b></p> <p><i>That:</i></p> <p>a) <i>NAV-MON Action Group be established to develop a proposal for a Regional Navigational Minimum Operational Network supporting the ANS operations;</i></p> <p>b) <i>the terms of reference of the NAV-MON Action Group be developed during the first meeting of the Action Group; and</i></p> <p>c) <i>States support the NAV-MON Action Group through the assignment of CNS and ANS Subject matter experts and sharing states' experience and provision of required data for developing the MID NAV-MON Network.</i></p>	<p><i>No clear visibility on the current situation of the Navigational Minimum Operational Network supporting the ANS operations in the MID Region</i></p>	<p><i>a proposal for a Regional Navigational Minimum Operational Network supporting the ANS operations.</i></p>	States	Q1 2025	<p><b>On-going</b></p>

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**ANP Volume II, MID Region AIDC/OLDI Applicability Area**

(Priority 1 and 2 for Implementation)

ACC	Adjacent ACCs											
<b>Amman</b>	Baghdad (2)	Cairo (1)	Damascus (2)	Jeddah (1)	Riyadh (1)	Tel Aviv (2)						
<b>Baghdad</b>	Amman (2)	Ankara (1)	Damascus (2)	Jeddah (2)	Kuwait (1)	Riyadh (2)	Tehran (2)					
<b>Bahrain</b>	Doha (1)	Emirates (1)	Jeddah (1)	Kuwait (1)	Riyadh (1)	Tehran (1)						
<b>Beirut</b>	Damascus (2)	Tel Aviv (2)	Nicosia (2)									
<b>Cairo</b>	Amman (1)	Athena (1)	Jeddah (1)	Khartoum (2)	Nicosia (1)	Tel Aviv (2)	Tripoli (2)					
<b>Damascus</b>	Amman (2)	Ankara (2)	Baghdad (2)	Beirut (2)	Nicosia (2)	Tel Aviv (2)						
<b>Doha</b>	Bahrain (1)	Emirates (1)	Jeddah (1)	Riyadh (1)	Tehran (1)							
<b>Emiratis</b>	Bahrain (1)	Doha (1)	Jeddah (1)	Muscat (1)	Riyadh (1)	Tehran (1)						
<b>Jeddah</b>	Amman (1)	Asmara (2)	Baghdad (2)	Bahrain (1)	Cairo (1)	Doha (1)	Emirates (1)	Khartoum (2)	Kuwait (1)	Muscat (1)	Riyadh (1)	Sana'a (2)
<b>Riyadh</b>	Amman (1)	Baghdad (2)	Bahrain (1)	Doha (1)	Emirates (1)	Kuwait (1)	Jeddah (1)	Muscat (1)	Sana'a (2)			
<b>Khartoum</b>	Addis (2)	Asmara (2)	Cairo (2)	Jeddah (2)	Juba (2)	N'Djamena (2)	Tripoli (2)					
<b>Kuwait</b>	Baghdad (1)	Bahrain (1)	Jeddah (1)	Riyadh (1)	Tehran (2)							
<b>Muscat</b>	Emirates (1)	Jeddah (1)	Karachi (1)	Mumbai (1)	Riyadh (1)	Sana'a (2)	Tehran (1)					
<b>Sana'a</b>	Addis Ababa (2)	Asmara (2)	Jeddah (2)	Mogadishu (2)	Mumbai (2)	Muscat (2)	Riyadh (2)					
<b>Tehran</b>	Ankara (1)	Ashgabat (2)	Baghdad (2)	Bahrain (1)	Baku (2)	Doha (1)	Emirates (1)	Kabul (2)	Karachi (1)	Kuwait (2)	Muscat (1)	Yerevan (2)
<b>Tripoli</b>	Algiers (2)	Athena (2)	Cairo (2)	Khartoum (2)	Malta (2)	N'Djamena (2)	Niamey (2)	Tunis (2)				

(1) = Priority 1 for implementation based on the following criteria)

(2) = Priority 2 for implementation based on the following criteria)

To determine MID Priority 1 AIDC/OLDI, the subsequent criteria were considered:

- if the traffic exchange rate between two adjacent ACCs has exceeded 30 flights per hour; or
- if two consecutive FIRs implemented longitudinal separation 10 NM or less at common FIR boundary point(s); or
- if two adjacent FIRs implemented cross border Free Route Airspace (FRA); or

- d) *if the number of LHD recorded by MIDRMA related to adjacent ACCs has exceeded 10 reports per month and it lasts for more than 6 months; or*
- e) *if traffic movement at the common FIR boundary significant increased during contingency situations; or*
- f) *where decided by both concerned States.*

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**Outcomes of the  
ICAO APAC/MID ATFM and FF-ICE Seminar 2025  
Dubai, UAE, 23 – 26 February 2025**

1. The Seminar was hosted by the General Civil Aviation Authority (GCAA) of the United Arab Emirates (UAE) in Dubai from 23 to 26 February 2025 and attended by 154 participants from APAC and MID States and international organizations.
2. The Seminar provided comprehensive background information on the ATFM and FF-ICE, including the requirements and the prerequisites, services and planning phases. In addition, the Seminar provided a forum for sharing experiences, lessons learned and perspectives from the States/ANSPs and airspace users with a highlight on cross-border solutions.
3. The Seminar was apprised of the ongoing work concerning the amendments of the ICAO provisions and guidance material related to ATFM and the cessation of FPL 2012.
4. The Seminar recalled the benefits of trajectory-based operations (TBO) and relationships between its key enablers (ATFM, SWIM, FF-ICE, Data Link).
5. The Seminar noted the importance of optimizing the airspace to enhance efficiency and increase capacity through the implementation of more efficient longitudinal separation, enhanced civil-military cooperation and flexible use of airspace, free route airspace, to meet growing air traffic demand.
6. The Seminar acknowledged that the level of preparedness to implement ATFM and FF-ICE would differ across various States and ICAO Regions. The Seminar stressed the importance of a well-prepared and coordinated implementation of these initiatives in order to achieve more substantial and immediate benefits on regional and global levels.
7. There is a strong need to expand the training and knowledge sharing among all stakeholders to support the planning and implementation of ATFM and FF-ICE.
8. The Seminar reminded of the critical importance of engaging all stakeholders at an early stage in planning the implementation of ATFM and FF-ICE.
9. The Seminar recalled the requirement of the PANS-ATM concerning the use of information services for the implementation of FF-ICE.
10. The Seminar recalled the importance of States taking necessary measures to support and foster the implementation of ATFM at the national level, which is essential for any sub-regional and regional solutions. It was highlighted that promulgating necessary ATFM civil aviation regulations and the development of a National ATFM Concept of Operations, among others, are key elements for the establishment of the ATFM Service.
11. The Seminar noted that the main enabler for effective ATFM service is strategic and operational capacity determination, accordingly, States must take necessary measures to determine these capacities.
12. The Seminar noted that the majority of the States indicated that the target date for the cessation of the ICAO 2012 Flight Plan could be met between 2032 – 2034.
13. Active participation and contributions in regional ATFM and FF-ICE meetings are essential to ensure harmonized procedures.
14. The Seminar observed that there is a need to establish a regional target date to terminate the mixed-mode operations.

15. The Seminar noted the necessity for a broader work programme to enhance the planning and synchronization of the development and execution of all pertinent TBO enablers, particularly the implementation of FF-ICE and ATFM.
16. The Seminar noted that the APAC FF-ICE Ad Hoc Group and MID ASM Working Group would draft the FF-ICE regional transition plan, for their respective region, for further review by the ATM SGs and endorsement by APANPIRG and MIDANPIRG.
17. The Seminar noted the benefits of integrating A-CDM into ATFM implementation.
18. ATFM post-operations analysis to be conducted as appropriate and data are shared to identify bottlenecks and areas for improvement.
19. The Seminar received with appreciation an offer from CANSO to further support the training and knowledge sharing on ATFM implementation.
20. Participants appreciated the value of joint events and invited ICAO to organize more joint events to support inter-regional cooperation and harmonization.

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# ATS Messaging Management Centre



**Tenth Meeting of the MID ATS Messaging Management Centre  
Steering Group (MIDAMC STG/10)  
(Abu Dhabi, UAE, 19-23 October 2025)**

## **Accreditation Procedure for MID External COM Operators**

By MIDAMC



# ATS Messaging Management Centre



## AMC USER ACCREDITATION PROCEDURE FOR MID COM CENTERS

- The accreditation procedures found in Para (2.5.2) in ATS Messaging Management Manual (EUR Doc 021) are no longer applicable to MID COM centers.
- The MID AMC Team has developed new accreditation procedures for MID External COM Operators based on a co-operation between the MID AMC team and Eurocontrol.
- All MID COM centers are considered as **External COM Operators**.

## The new Accreditation of MID External COM Operators

### 1) Each MID COM Centre shall be allowed to designate:

- One External COM Operator
- One backup associated to its COM Centre

The External COM Centre can register an account in the OneSky Online Extranet using the following link :

<https://ext.eurocontrol.int/elsh/registerNewUserForApplication.do?eurocontrolresourceid=circa>

## OneSky Online Extranet registration

### Contact details

First name \*

Last name \*

Job title

Work e-mail \*

Confirm Work e-mail \*

Phone \*

Mobile

Your organisation \*

Your department

Gender \*

Language \*

### Address

Address \*

Postcode \*

City \*

Country \*

### Login details

Username \*

Suggest

Choose your username: your username must have at least 9 characters. You can ask the system to suggest one for you by clicking on 'Suggest'. You can always modify the suggested username.

Password \*

Re-type password \*

The passwords are case-sensitive and its length must be at least 8 characters. Your password must respect at least 3 of 4 of the following rules: 1)It must at least contain an upper case letter. 2)It must at least contain a lower case letter. 3)It must at least contain a digit. 4)It must at least contain a special character.

Submit

2) MID COM Centre shall update focal points in *Persons & Contacts* in *Network Inventory* on Day 1 of the next AIRAC cycle when the AMC entry phase is open with the following information

- One user with Personal Role: “**Operator**”, First name: “**COM Centre**”, Surname: “**H24**”
- One External COM Operator
- One backup associated to its COM Centre.
- And any additional users relevant to particular COM Centre operations

Operational A

### Network Inventory

Persons & Contacts
Com Centers
AFTN / CIDIN Capabilities
AMHS Capabilities
VCG's
Connections

<b>Region or Country</b> MID	<b>COM Centre</b> OMAE	<b>Location</b> EMIRATES FIR	<b>Country</b> United Arab Emirates	<a href="#">Home</a>
<b>MD Common Name</b> UAE	<b>Country-Name</b> XX	<b>ADMD-Name</b> ICAO	<b>PRMD-Name</b> UAE	

Personal Role	Firstname	Surname	Phone	E-Mail
External COM Operator	Hamad	ALMarzooqi	+971557725551	hmalmarzooqi@szc.gcaa.ae
Operator	COM Centre	H24	+97125996851	aftncomms@szc.gcaa.ae
Back Up External COM Operator	Mohamed	Nasseem	+971505728217	mnaseem@szc.gcaa.ae



# ATS Messaging Management Centre



- 3) The MID External COM Centre requests an account activation of the registered users by sending an email to **MID AMC Team** including the following information :

First Name	Last Name	OneSky username	Email	Telephone	Main or Backup

## MIDAMC Team Email

[midamc@carc.gov.jo](mailto:midamc@carc.gov.jo)



## ATS Messaging Management Centre



- 4)The MID AMC Team submits a request of account activation to EUROCONTROL who accepts the request;
- 5)The MID External COM Centre is notified by the MID AMC team when the request is approved and the account is active.

## Action by the Meeting

The meeting is invited to:

- a) adopt the updated Accreditation Procedure of this paper ;
- b) states who didn't register MIDAMC users on the EUR AMC as external AMC operator to do so in coordination with the MIDAMC Team by 31 December 2025; and
- c) update focal points in Network Inventory.







**MID Doc 002**

**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**MIDDLE EAST AIR NAVIGATION PLANNING  
AND IMPLEMENTATION REGIONAL GROUP  
(MIDANPIRG)**

**MID REGION  
AIR NAVIGATION STRATEGY**

**EDITION XXXX**

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontier or boundaries.

## TABLE OF CONTENTS

### AIR NAVIGATION PRIORITIES AND MONITORING OF THE STATUS OF IMPLEMENTATION

1. Introduction.....	1
2. Strategic Air Navigation Capacity and Efficiency Objective.....	1
3. MID Air Navigation Objectives.....	1
4. MID Region ASBU Threads/Elements Prioritization and Monitoring .....	2
Table 1. MID Region ASBU Threads & Elements (block 0 & 1) prioritization and monitoring	
5. Implementation and Monitoring of the priority 1 ASBU Elements.....	9
Table 2. Monitoring the implementation of the priority 1 ASBU Threads/Elements (block 0 & 1) in the MID Region	
6. Governance .....	9

# AIR NAVIGATION PRIORITIES AND MONITORING OF THE STATUS OF IMPLEMENTATION

## 1. Introduction

1.1 As traffic volume increases throughout the world, the demands on air navigation service providers in a given airspace increase, and air traffic management becomes more complex.

1.2 It is foreseen that the implementation of the components of the ATM operational concept will provide sufficient capacity to meet the growing demand, generating additional benefits in terms of more efficient flights and higher levels of safety. Nevertheless, the potential of new technologies to significantly reduce the cost of services will require the establishment of clear operational requirements.

1.3 Taking into account the benefits of the ATM operational concept, it is necessary to make many timely decisions for its implementation. An unprecedented cooperation and harmonization will be required at both global and regional level.

1.4 ICAO introduced the Aviation System Block Upgrades (ASBU) framework as a systemic manner to achieve a harmonized implementation of the air navigation services. An ASBU designates a set of improvements that can be implemented globally from a defined point in time to enhance the performance of the ATM system.

1.5 In accordance, with the Resolutions of the 40th Session of the ICAO Assembly, particularly Resolution A40-1 "ICAO global planning for safety and air navigation", the ICAO Assembly urged States and PIRGs to utilize the guidance provided in the GANP for planning and implementation activities which establish priorities, targets and indicators consistent with globally-harmonized objectives, taking into account operational needs. In response to this, the MID Region developed the MID Region Air Navigation Strategy – Part 1, which is aligned with the GANP and ASBU Framework.

1.6 Stakeholders including service providers, regulators, airspace users and manufacturers are facing increased levels of interaction as new, modernized ATM operations are implemented. The highly integrated nature of capabilities covered by the block upgrades requires a significant level of coordination and cooperation among all stakeholders. Working together is essential for achieving global harmonization and interoperability.

## 2. Strategic Air Navigation Capacity and Efficiency Objective

2.1 The Strategic Objective related to Air Navigation Capacity and Efficiency is to realize sound and economically-viable civil aviation system in the MID Region that continuously increases in capacity and improves in efficiency with enhanced safety while minimizing the adverse environmental effects of civil aviation activities.

## 3. MID Air Navigation Objectives

3.1 The MID Region air navigation objectives are set in line with the global air navigation objectives and address specific air navigation operational improvements identified within the framework of the Middle East Regional Planning and Implementation Group (MIDANPIRG).

3.2 Blocks '0' and '1' feature Elements are characterized by operational improvements, which have already been developed and implemented in many parts of the world. The MID Region priority 1 Block 0 & 1 Elements are reflected in **Table 1** below.

3.3 The MID Region Air Navigation Strategy aims to maintain regional harmonisation. The States should develop their National Air Navigation Plan (NANP), including action plans for the implementation of relevant priority 1 ASBU Elements and other ASBU elements or non ASBU solutions based on the States' operational requirements and cost benefits analysis.

3.4 The implementation of the ASBU Block 0 Elements in the MID Region started before 2013 and is continuing. For the short and medium term, the MID Region priorities include identified ASBU Elements from Block 0 and Block 1.

#### 4. MID Region ASBU Threads/Elements Prioritization and Monitoring

4.1 On the basis of operational requirements and taking into consideration the associated benefits, **Table 1** below shows the priority associated for each ASBU element from Block 0 and Block 1, as well as the MIDANPIRG subsidiary bodies that will be monitoring and supporting the implementation of these Threads/Elements:

**Priority 1 ASBU Element:** Elements that have the highest contribution to the improvement of air navigation safety and/or efficiency in the MID Region. These Elements should be implemented where applicable and will be used for the purpose of regional air navigation monitoring and reporting.

**Priority 2 ASBU Element:** Elements recommended for implementation based on identified operational needs and benefits by States.

**Priority 1 Thread:** Any Thread with at least one priority 1 element

**Table 1. MID REGION ASBU THREADS & ELEMENTS (BLOCK 0 & 1) PRIORITIZATION AND MONITORING**

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
<b>Information Threads</b>							
<b>DAIM</b>							
<b>DAIM</b>	<b>B1/1</b>	Provision of quality-assured aeronautical data and information	<b>1</b>	2021	AIM SG and AIMDP TF	RANP/ NANP TF	
	<b>B1/2</b>	Provision of digital Aeronautical Information Publication (AIP) data sets	1	2025	AIM SG and AIMDP TF	RANP/ NANP TF	
	<b>B1/3</b>	Provision of digital terrain data sets	<b>1</b>	2021	AIM SG and AIMDP TF	RANP/ NANP TF	
	<b>B1/4</b>	Provision of digital obstacle data sets	<b>1</b>	2021	AIM SG and AIMDP TF	RANP/ NANP TF	
	<b>B1/5</b>	Provision of digital aerodrome mapping data sets	2				
	<b>B1/6</b>	Provision of digital instrument flight procedure data sets	2				
	<b>B1/7</b>	NOTAM improvements	2				
<b>AMET</b>							
<b>AMET</b>	<b>B0/1</b>	Meteorological observations products	<b>1</b>	2014	MET SG	RANP/ NANP TF	
	<b>B0/2</b>	Meteorological forecast and warning products	<b>1</b>	2014	MET SG	RANP/ NANP TF	

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
	B0/3	Climatological and historical meteorological products	1	2014	MET SG	RANP/ NANP TF	
	B0/4	Dissemination of meteorological products	1	2014	MET SG	CNS SG RANP/ NANP TF	
	B1/1	Meteorological observations information	2				
	B1/2	Meteorological forecast and warning information	2				
	B1/3	Climatological and historical meteorological information	2				
	B1/4	Dissemination of meteorological information	2				
<b>FICE</b>							
FICE	B0/1	Automated basic inter facility data exchange (AIDC)	1	2014	CNS SG ATM SG	RANP/ NANP TF	
<i>Operational Threads</i>							
<b>APTA</b>							
APTA	B0/1	PBN Approaches (with basic capabilities)	1	2014	PBN SG	ATM SG AIM SG CNS SG RANP/ NANP TF	
	B0/2	PBN SID and STAR procedures (with basic capabilities)	1	2014	PBN SG	ATM SG AIM SG RANP/ NANP TF	
	B0/3	SBAS/GBAS CAT I precision approach procedures	2				
	B0/4	CDO (Basic)	1	2014	PBN SG	ATM SG RANP/ NANP TF	
	B0/5	CCO (Basic)	1	2014	PBN SG	ATM SG RANP/ NANP TF	
	B0/6	PBN Helicopter Point in Space (PinS) Operations	2				
	B0/7	Performance based aerodrome operating minima – Advanced aircraft	1	2021	PBN SG	AIM SG CNS SG ASPIG RANP/ NANP TF	

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
	B0/8	Performance based aerodrome operating minima – Basic aircraft	2				
	B1/1	PBN Approaches (with advanced capabilities)	2				
	B1/2	PBN SID and STAR procedures (with advanced capabilities)	2				
	B1/4	CDO (Advanced)	2				
	B1/5	CCO (Advanced)	2				
<b>FRTO</b>							
<b>FRTO</b>	B0/1	Direct routing (DCT)	1	2026	ATM SG and ASM WG	RANP/ NANP TF	
	B0/2	Airspace planning and Flexible Use of Airspace (FUA)	1	2014	ATM SG and ASM WG	RANP/ NANP TF	
	B0/3	Pre-validated and coordinated ATS routes to support flight and flow	1	2027	ATM SG and ASM WG	RANP/ NANP TF	
	B0/4	Basic conflict detection and conformance monitoring	1	2014	ATM SG	CNS SG RANP/ NANP TF	
	B1/1	Free Route Airspace (FRA)	1	2028	ATM SG and ASM WG	RANP/ NANP TF	
	B1/2	Required Navigation Performance (RNP) routes	2				
	B1/3	Advanced Flexible Use of Airspace (FUA) and management of real time airspace data	2				
	B1/4	Dynamic sectorization	1	2028	ATM SG and ASM WG	RANP/ NANP TF	
	B1/5	Enhanced Conflict Detection Tools and Conformance Monitoring	2				
	B1/6	Multi-Sector Planning	2				
B1/7	Trajectory Options Set (TOS)	2					
<b>NOPS</b>							
<b>NOPS</b>	B0/1	Initial integration of collaborative airspace management with air traffic flow management	1	2015	ATM SG ATFM TF	RANP/ NANP TF	

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
	B0/2	Collaborative Network Flight Updates	2				
	B0/3	Network Operation Planning basic features	2				
	B0/4	Initial Airport/ATFM slots and A-CDM Network Interface	2				
	B0/5	Dynamic ATFM slot allocation	2				
	B1/1	Short Term ATFM measures	2				
	B1/2	Enhanced Network Operations Planning	2				
	B1/3	Enhanced integration of Airport operations planning with network operations planning	2				
	B1/4	Dynamic Traffic Complexity Management	2				
	B1/5	Full integration of airspace management with air traffic flow management	2				
	B1/6	Initial Dynamic Airspace configurations	1	2028	ATM SG and ASM WG	RANP/ NANP TF	
	B1/7	Enhanced ATFM slot swapping	2				
	B1/8	Extended Arrival Management supported by the ATM Network function	2				
	B1/9	Target Times for ATFM purposes	2				
	B1/10	Collaborative Trajectory Options Program (CTOP)	2				
<b>ACAS</b>							
ACAS	B1/1	ACAS Improvements	1	2014	ATM SG CNS SG	RANP/ NANP TF	
<b>SNET</b>							
SNET	B0/1	Short Term Conflict Alert (STCA)	1	2017	ATM SG	CNS SG RANP/ NANP TF	
	B0/2	Minimum Safe Altitude Warning (MSAW)	1	2017	ATM SG	CNS SG RANP/ NANP TF	
	B0/3	Area Proximity Warning (APW)	1	2020	ATM SG	CNS SG RANP/ NANP TF	
	B0/4	Approach Path Monitoring (APM)	2				

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
	B1/1	Enhanced STCA with aircraft parameters	2				
	B1/2	Enhanced STCA in complex TMA	2				
<b>GADS</b>							
GADS	B1/1	Aircraft Tracking	2				
	B1/2	Operational Control Directory	1	2021	ATM SG	RANP/ NANP TF	
<b>RSEQ</b>							
RSEQ	B0/1	Arrival Management	1	2021	ATM SG ATFM TF	CNS SG ASPIG RANP/ NANP TF	
	B0/2	Departure Management	2				
	B0/3	Point merge	2				
	B1/1	Extended arrival metering	2				
<b>SURF</b>							
SURF	B0/1	Basic ATCO tools to manage traffic during ground operations	1	2014	ASPIG	ATM SG CNS SG RANP/ NANP TF	
	B0/2	Comprehensive situational awareness of surface operations	1	2014	ASPIG	ATM SG CNS SG RANP/ NANP TF	
	B0/3	Initial ATCO alerting service for surface operations	1	2021	ASPIG	ATM SG CNS SG RANP/ NANP TF	
	B1/1	Advanced features using visual aids to support traffic management during ground operations	2				
	B1/2	Comprehensive pilot situational awareness on the airport surface	2				
	B1/3	Enhanced ATCO alerting service for surface operations	2				
	B1/4	Routing service to support ATCO surface operations management	2				
	B1/5	Enhanced vision systems for taxi operations	2				
<b>ACDM</b>							
ACDM	B0/1	Airport CDM Information Sharing (ACIS)	1	2014	ASPIG	CNS SG, AIM SG, ATM SG,	

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
						RANP/ NANP TF	
	<b>B0/2</b>	Integration with ATM Network function	<b>1</b>	2014	ASPIG	CNS SG, AIM SG, ATM SG, RANP/ NANP TF	
<b>CSEP</b>	<b>B1/1</b>	Basic airborne situational awareness during flight operations (AIRB)	<b>2</b>				
	<b>B1/2</b>	Visual Separation on Approach (VSA)	<b>2</b>				
	<b>B1/3</b>	Performance Based Longitudinal Separation Minima	<b>2</b>				
	<b>B1/4</b>	Performance Based Lateral Separation Minima	<b>2</b>				
<b>DATS</b>	<b>B1/1</b>	Remotely Operated Aerodrome Air Traffic Services	<b>2</b>				
<b>OPFL</b>	<b>B0/1</b>	In Trail Procedure (ITP)	<b>2</b>				
	<b>B1/1</b>	Climb and Descend Procedure (CDP)	<b>2</b>				
<b>TBO</b>	<b>B0/1</b>	Introduction of time-based management within a flow centric approach	<b>2</b>				
	<b>B1/1</b>	Initial Integration of time-based decision making processes	<b>2</b>				
<b>Technology Threads</b>							
<b>ASUR</b>							
<b>ASUR</b>	<b>B0/1</b>	Automatic Dependent Surveillance – Broadcast (ADS-B)	<b>1</b>	2021	CNS SG	ATM SG, ASPIG, RANP/ NANP TF	
	<b>B0/2</b>	Multilateration cooperative surveillance systems (MLAT)	<b>1</b>	2021	CNS SG	ATM SG, ASPIG, RANP/NA NP TF	
	<b>B0/3</b>	Cooperative Surveillance Radar Downlink of Aircraft Parameters (SSR-DAPS)	<b>1</b>	2021	CNS SG	ATM SG, ASPIG, RANP/ NANP TF	
	<b>B1/1</b>	Reception of aircraft ADS-B signals from space (SB ADS-B)	<b>2</b>				
<b>NAVS</b>							
<b>NAVS</b>	<b>B0/1</b>	Ground Based Augmentation Systems (GBAS)	<b>2</b>				

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
	B0/2	Satellite Based Augmentation Systems (SBAS)	2				
	B0/3	Aircraft Based Augmentation Systems (ABAS)	1	2021	CNS SG	PBN SG, ATM SG, AIM SG, RANP/ NANP TF	
	B0/4	Navigation Minimal Operating Networks (Nav. MON)	1	2021	CNS SG	PBN SG, RANP/ NANP TF	
	B1/1	Extended GBAS	2				
<b>COMI</b>							
<b>COMI</b>	B0/1	Aircraft Communication Addressing and Reporting System (ACARS)	2				
	B0/2	Aeronautical Telecommunication Network/Open System Interconnection (ATN/OSI)	2				
	B0/3	VHF Data Link (VDL) Mode 0/A	2				
	B0/4	VHF Data Link (VDL) Mode 2 Basic	2				
	B0/5	Satellite communications (SATCOM) Class C Data	2				
	B0/6	High Frequency Data Link (HFDL)	2				
	B0/7	AMHS	1	2014	CNS SG	RANP/ NANP TF	
	B1/1	Ground-Ground Aeronautical Telecommunication Network/Internet Protocol Suite (ATN/IPS)	1	2021	CNS SG	RANP/ NANP TF	
	B1/2	VHF Data Link (VDL) Mode 2 Multi-Frequency	2				
	B1/3	SATCOM Class B Voice and Data	2				
	B1/4	Aeronautical Mobile Airport Communication System (AeroMACS) Ground-Ground	2				
<b>COMS</b>							

Thread	Element code	Title	Priority	Start Date	Monitoring		Remarks
					Main	Supporting	
COMS	B0/1	CPDLC (FANS 1/A & ATN B1) for domestic and procedural airspace	2				
	B0/2	ADS-C (FANS 1/A) for procedural airspace	2				
	B1/1	PBCS approved CPDLC (FANS 1/A+) for domestic and procedural airspace	2				
	B1/2	PBCS approved ADS-C (FANS 1/A+) for procedural airspace	2				
	B1/3	SATVOICE (incl. routine communications) for procedural airspace	2				

## 5. Implementation and Monitoring of the priority 1 ASBU Elements

5.1 The monitoring of air navigation performance and its enhancement is achieved, inter-alia, through identification of relevant air navigation Metrics and Indicators as well as the adoption and attainment of air navigation system Targets. The monitoring of the priority 1 ASBU Threads/Elements is carried out through the MID eANP Volume III.

5.2 MIDANPIRG through its activities under the various subsidiary bodies will continue to update and monitor the implementation of the ASBU Threads and elements to achieve the air navigation targets.

5.3 The priority 1 Threads/Elements along with the associated elements, applicability, performance Indicators, supporting Metrics, and performance Targets are shown in the **Table 2** below.

*Note: Further details on the ASBU elements objectives, description, implementation requirements and performance impact assessment can be found on the ICAO GANP Portal <https://www4.icao.int/ganpportal/ASBU>*

## 6. Governance

6.1 Progress report on the status of implementation of the different priority 1 Threads/Elements should be developed by MIDANPIRG Subsidiary bodies. A consolidated MID Air Navigation Report showing the status of implementation of the different priority 1 ASBU Elements by Thread will be developed by the RANP/NANP TF on annual basis and presented to MIDANPIRG for endorsement.

6.2 The MIDANPIRG will be the governing body responsible for the review and update of the MID Region Air Navigation Strategy.

6.3 The MID Region Air Navigation Strategy will guide the work of MIDANPIRG and its subsidiary bodies and all its member States and partners.

6.4 Progress on the implementation of the MID Region Air Navigation Strategy and the achievement of the agreed air navigation targets will be reported to the ICAO Air Navigation Commission (ANC), through the review of the MIDANPIRG Reports, MID Air Navigation Reports, etc.; and to the stakeholders in the Region within the framework of MIDANPIRG.

**Table 2. MONITORING THE IMPLEMENTATION OF THE PRIORITY 1 ASBU  
THREADS/ELEMENTS (Block 0 & 1) IN THE MID REGION**

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI
<i>Information Threads</i>							
<b>DAIM</b>							
<b>DAIM B1/1</b>	Provision of quality-assured aeronautical data and information	All States	Indicator*: Regional average implementation status of DAIM B1/1 (provision of quality-assured aeronautical data and information).  Supporting Metrics: 1. Number of States that have migrated to AIM automated data-centric environment based on (AIXM V5.1+)  2. Number of States Implementing Quality Assurance and Quality Control (QA/QC) Processes  3. Number of States that have established formal arrangements with at least 50% of their AIS data originators.	(2023) 53%	80%	Dec 2024	N/A
<b>DAIM B1/2</b>	Provision of digital Aeronautical Information Publication (AIP) data sets	Egypt, Jordan, Oman, Qatar, Saudi Arabia and UAE	Indicator*: Regional average implementation status of DAIM B1/2 (Provision of digital Aeronautical Information Publication (AIP) data set).  Supporting Metrics: Number of States that provide digital Aeronautical Information Publication (AIP) data sets	15%	75%	Dec 2027	N/A
<b>DAIM B1/3</b>	Provision of digital terrain data sets	All States	Indicator*: Regional average implementation status of DAIM B1/3 (Provision of Terrain digital datasets).  Supporting Metric: Number of States that provide required Terrain digital datasets.	(2022) 35%	60%	Dec 2024	N/A
<b>DAIM B1/4</b>	Provision of digital obstacle data sets	All States	Indicator*: Regional average implementation status of DAIM B1/4(Provision of obstacle digital datasets).	(2022) 35%	60 %	Dec 2024	N/A

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI
			Supporting Metric: Number of States that provide required obstacle digital datasets.				
<b>AMET</b>							
<b>AMET B0/1</b>	Meteorological observations products	All states	<p>Indicator*: Regional average implementation status of B0/1 (Meteorological observations products).</p> <p>Supporting Metrics: Number of States that provide the following Meteorological observations products, as required:</p> <ol style="list-style-type: none"> <li>1. Automatic Weather Observation System (AWOS) information (including real-time exchange of wind and RVR data)</li> <li>2. Local reports (MET REPORT/SPECIAL)</li> <li>3. Aerodrome reports (METAR/SPECI)</li> <li>4. Lightning Information</li> <li>5. Ground-based weather radar information.</li> <li>6. Meteorological satellite imagery</li> <li>7. Aircraft meteorological report (ie. ADS-B, AIREP, etc.)</li> <li>8. Vertical wind and temperature profiles</li> <li>9. Wind shear alerts</li> </ol>	(2022) 65%	80%	Dec 2021	N/A
<b>AMET B0/2</b>	Meteorological forecast and warning products	All states	<p>Indicator*: Regional average implementation status of B0/2 (Meteorological forecasts and warning products)</p> <p>Supporting Metrics: Number of States that provides the following Meteorological forecast and warning products, as required:</p> <ol style="list-style-type: none"> <li>1. World Area Forecast System (WAFS) gridded products.</li> <li>2. Significant Weather (SIGWX)</li> <li>3. Aerodrome Forecast (TAF)</li> <li>4. Trend Forecast (TREND)</li> </ol>	(2022) 60%	90%	Dec 2021	N/A

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI
			5. Take-off Forecast 6. SIGMET 7. Aerodrome Warning 8. Wind Shear Warning				
<b>AMET B0/3</b>	Climatological and historical meteorological products	All states	Indicator: % of States that provide Climatological and historical meteorological products, as required.  Supporting Metric: Number of States that provide Climatological and historical meteorological products, as required.	(2022) 60%	85%	Dec 2021	N/A
<b>AMET B0/4</b>	Dissemination of meteorological products	All states	Indicator: % of States disseminating Meteorological products using a variety of formats and means (TAC, Gridded, Graphical, BUFR code, IWXXM)  Supporting Metric: Number of States disseminating Meteorological products using a variety of formats and means (TAC, Gridded, Graphical, BUFR code, IWXXM)	(2022) 60%	85%	Dec 2021	N/A
<b>FICE</b>							
<b>FICE B0/1</b>	Automated basic inter facility data exchange (AIDC)	According to the MID Region AIDC/OLDI Priority 1 Applicability Area	Indicator*: % of priority 1 AIDC/OLDI Interconnection have been implemented.  Supporting metric: Number of AIDC/OLDI interconnections implemented between adjacent ACCs.	(2023) 26%	70%	Dec 2026	N/A
<b>Operational Threads</b>							
<b>APTA</b>							
<b>APTA B0/1</b>	PBN Approaches (with basic capabilities)	All RWYs ENDS at International Aerodromes	Indicator: % of Runway ends at international aerodromes served by PBN approach procedures with basic functionalities - down to LNAV or LNAV/VNAV minima.  Supporting metric: Number of Runways ends at international aerodromes served by PBN approach procedures with basic functionalities - down to	(2017) 46.7%	100%	Dec 2018	Capacity/ KPI 10

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI
			LNAV or LNAV/VNAV minima.				
<b>APTA B0/2</b>	PBN SID and STAR procedures (with basic capabilities)	All RWYs ENDS at International Aerodromes	Indicator: % of Runway ends at international aerodromes provided with PBN SID and STAR (basic capabilities).  Supporting Metric: Number of Runway ends at international aerodromes provided with PBN SID and STAR (basic capabilities).	(2022) 55%	70%	Dec 2022	Efficiency Capacity/  KPI 10 KPI 11 KPI 17 KPI 19/
<b>APTA B0/4</b>	CDO (Basic)	OBBI, OIIE, OIKB, OIFM, OJAI, OLBA, OOMS, OTHH, OTBD, OEJN, OEMA, OEDF, OERK, HSSK, HSPN, OMAA, OMAL, OMAD, OMDW, OMDB, OMSJ, OMRK and OMFJ	Indicator*: % of International Aerodromes with CDO implemented and published as required.  Supporting Metric: Number of International Aerodromes with CDO implemented and published as required.  *As per the applicability area	(2022) 65%	100%	Dec 2022	Efficiency/  KPI 19
<b>APTA B0/5</b>	CCO (Basic)	OBBI, OIIE, OIKB, OIFM, OJAI, OLBA, OOMS, OTHH, OTBD, OEJN, OEMA, OEDF, OERK, HSSK, HSPN, OMAA, OMAL, OMAD, OMDW, OMDB, OMSJ, OMRK and OMFJ	Indicator*: % of International Aerodromes with CCO implemented and published as required.  Supporting Metric: Number of International Aerodromes with CCO implemented and published as required.  *As per the applicability area	(2022) 65%	100%	Dec 2022	Efficiency/  KPI 17
<b>APTA B0/7</b>	Performance based aerodrome operating minima – Advanced aircraft	All States	Indicator: % of States authorizing Performance-based Aerodrome Operating Minima for Air operators operating Advanced aircraft.  Supporting Metric: Number of States 1- having provisions for operational credits to enable lower minima based on advanced aircraft capabilities. (Reference: Annex 6 Part I para. 4.2.8.2.1)  2- Number of States Putting in place an approval process for the operational credit to Aircraft operator conducting PBAOM	(2022) 50%	80%	Dec 2025	Capacity/  KPI 10

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI
			operations for low visibility operations ( Reference: Doc 9365 (AWO Manual)), as applicable.				
<b>FRTO</b>							
<b>FRTO B0/1</b>	Direct routing (DCT)	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE	Indicator*: % of ACCs using and implementing appropriate means (procedures and tools (automation)) to support implementation of Direct routing to improve efficiency of Airspace.  Supporting metric: Number of ACCs using and implementing appropriate means (procedures and tools (automation)) to support implementation of Direct routing to improve efficiency of Airspace.  * As per the applicability area	30% (2024)	80%	Dec 2028	Efficiency  KPI 04
<b>FRTO B0/2</b>	Airspace planning and Flexible Use of Airspace (FUA)	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Oman, Qatar, Saudi Arabia (2 ACCs), Sudan, UAE	Indicator*: % of ACCs using and implementing appropriate means (procedures and tools (automation)) to support Airspace planning and FUA and improve data exchange between Civil and Military to improve efficiency of Airspace.  Supporting metric: Number of ACCs using and implementing appropriate means (procedures and tools (automation)) to support Airspace planning and FUA and improve data exchange between Civil and Military to improve efficiency of Airspace.  * As per the applicability area	(2022) 63%	70%	Dec 2022	Efficiency Access and equity/  KPI 04 KPI 05 KPI 17 KPI 18/ KPI 19
<b>FRTO B0/3</b>	Pre-validated and coordinated ATS routes to support flight and flow	Bahrain, Egypt, Iran, Iraq, Jordan, Oman, Qatar, Saudi Arabia, UAE	Indicator*: % of ACCs using Playbook routes that ATC can utilize to fit a particular set of circumstances, when the preferred routes are not available to improve capacity and flexibility of Airspace.  Supporting metric: Number of ACCs using Playbook routes that ATC can utilize to fit a particular set of circumstances, when the preferred routes are not	10% (2024)	50%	Dec 2028	Capacity Flexibility

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI
			available to improve capacity and flexibility of Airspace.  * As per the applicability area				
<b>FRTO B0/4</b>	Basic conflict detection and conformance monitoring	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia (2 ACCs), Sudan, UAE	Indicator*: % States that implemented MTCD and MONA, for ACCs, as required.  Supporting metric: The number of States that implemented MTCD and MONA for ACCs, as required.  * As per the applicability area	(2022) 63%	100%	Dec 2022	Capacity/  KPI 06  Safety/  KPI 20 KPI 23
<b>FRTO B1/1</b>	Free Route Airspace (FRA)	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE	Indicator*: % of ACCs using and implementing appropriate means (procedures and tools (automation)) to support implementation of Free Route Airspace to improve efficiency of Airspace.  Supporting metric: Number of ACCs using and implementing appropriate means (procedures and tools (automation)) to support implementation of Free Route Airspace to improve efficiency of Airspace.  * As per the applicability area	20% (2024)	80%	Dec 2028	Efficiency  KPI 04
<b>FRTO B1/4</b>	Dynamic sectorization	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Sudan, UAE	Indicator*: % of ACCs using and implementing appropriate means (procedures and tools (automation)) to real-time support supervisor to select the most appropriate sector configuration (change of the ATC sector shapes by adding/removing the elementary sectors based on traffic demand and complexity).  Supporting metric: Number of ACCs using and implementing appropriate means (procedures and tools (automation)) to real-time support supervisor to select the most appropriate sector configuration (change of the ATC sector shapes by adding/removing the elementary sectors based on traffic demand and complexity).	20% (2024)	60%	Dec 2028	Capacity

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI
			* As per the applicability area				
<b>NOPS</b>							
<b>NOPS B0/1</b>	Initial integration of collaborative airspace management with air traffic flow management	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE	Indicator*: % of States implementing ASM/ATFM techniques, procedures and tools for the initial establishment of an integrated collaborative airspace management and air traffic flow and capacity management process.  Supporting metric: number of States implementing ASM/ATFM techniques, procedures and tools for the initial establishment of an integrated collaborative airspace management and air traffic flow and capacity management process.  * As per the applicability area	(2022) 42%	70%	Dec 2022	Efficiency Capacity/  KPI 04 KPI 05 KPI 17 KPI 18 KPI 19/
<b>NOPS B1/6</b>	Initial Dynamic Airspace configurations	Bahrain, Oman, Qatar, Saudi Arabia, UAE	Indicator*: % of ACCs using and implementing appropriate means (procedures and tools (automation)) to support ASM solutions and initial dynamic airspace configurations for ATFM planning, synchronisation of traffic flows and demand/capacity balancing.  Supporting metric: Number of ACCs using and implementing appropriate means (procedures and tools (automation)) to support ASM solutions and initial dynamic airspace configurations for ATFM planning, synchronisation of traffic flows and demand/capacity balancing.  * As per the applicability area	10% (2024)	50%	Dec 2028	Capacity
<b>ACAS</b>							
<b>ACAS B1/1</b>	ACAS Improvements Operational	All States	Indicator: % of States requiring carriage of ACAS (TCAS v 7.1) for aircraft with a max certificated take-off mass greater than 5.7 tons  Supporting metric: Number of States requiring carriage of ACAS (TCAS v 7.1) for	(2022) 87%	100%	Dec 2024	Safety/  KPI 20 KPI 23

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI
			aircraft with a max certificated take-off mass greater than 5.7 tons				
<b>SNET</b>							
<b>SNET B0/1</b>	Short Term Conflict Alert (STCA)	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE	Indicator*: % of ACCs that have implemented Short-term conflict alert (STCA)  Supporting metric: number of States that have implemented Short-term conflict alert (STCA)  * As per the applicability area	(2018) 100%	100%	Dec 2018	Safety/  KPI 20 KPI 23
<b>SNET B0/2</b>	Minimum Safe Altitude Warning (MSAW)	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE	Indicator*: % of ACCs that have implemented Minimum safe altitude warning (MSAW)  Supporting metric: number of States that have implemented Minimum safe altitude warning (MSAW)  * As per the applicability area	(2018) 100%	100%	Dec 2018	Safety/  KPI 20
<b>SNET B0/3</b>	Area Proximity Warning (APW)	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE	Indicator*: % of ACCs that have implemented Area Proximity Warning (APW) for ACCs, as required.  Supporting metric: number of States that have Implemented Area Proximity Warning (APW) for ACCs, as required.  * As per the applicability area	(2022) 67%	100%	Dec 2022	Safety/  KPI 20
<b>GADS</b>							
<b>GADS B1/2</b>	Operational Control Directory	All States	Indicator: % of States that provided GADSS Point of Contact (PoC) information  Supporting Metric: Number of States that provided GADSS Point of Contact (PoC) information.	(2022) 73%	100%	Dec 2022	N/A
<b>RSEQ</b>							
<b>RSEQ B0/1</b>	Arrival Management	OBBI, HECA, HEBA, HELX, HESN, HESH, OTBD, OTHH, OEJN, OEDF, OEMA, OERK, OMDB, OMAA	Indicator*: % of Aerodromes that have implemented arrival manager (AMAN), where required/applicable.  Supporting Metric: Number of Aerodrome that have implemented arrival manager (AMAN), where required/applicable.	(2022) 36%	80%	Dec 2024	Capacity Efficiency/  KPI 08 KPI 10 KPI 11 KPI 14/

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI
			* As per the applicability area				
<b>SURF</b>							
<b>SURF-B0/1</b>	Basic ATCO tools to manage traffic during ground operations	All International Aerodromes	Indicator: % of Aerodromes having implemented Basic ATCO tools to manage traffic during ground operations  Supporting metric: Number of Aerodromes having implemented Basic ATCO tools to manage traffic during ground operations	(2022) 90%	100%	Dec 2022	Efficiency/  KPI 02 KPI 13  Safety/  KPI 20 KPI 21
<b>SURF-B0/2</b>	Comprehensive situational awareness of surface operations	OBBI, HECA, OIII, OOMS, OTBD, OTHH, OEDF, OEJN, OERK, OEMA, OMDB, OMAA.	Indicator*: % of Airports having implemented the surveillance service of A-SMGCS  Supporting metric: Number of Airports having implemented the surveillance service of A-SMGCS  * As per the applicability area	(2022) 61%	80%	Dec 2022	Safety/  KPI 20 KPI 21
<b>SURF-B0/3</b>	Initial ATCO alerting service for surface operations	OBBI, HECA, OIII, OOMS, OTBD, OTHH, OEDF, OEJN, OERK, OEMA, OMDB, OMAA.	Indicator*: % of Airports having implemented the A-SMGCS alerting service.  Supporting metric: Number of Airports having implemented the A-SMGCS alerting service.  * As per the applicability area	(2022) 74%	80%	Dec 2022	Safety/  KPI 20
<b>ACDM</b>							
<b>ACDM B0/1</b>	Airport CDM Information Sharing (ACIS)	HECA, OBBI, OIII, OKKK, OOMS, OTHH, OEJN, OERK, OMDB, OMAA	Indicator*: % of Airports having implemented ACIS.  Supporting metric: number of Airports having implemented ACIS.  * As per the applicability area	(2022) 75%	90%	Dec 2024	N/A
<b>ACDM B0/2</b>	Integration with ATM Network function	HECA, OBBI, OIII, OKKK, OOMS, OTHH, OEJN, OERK, OMDB, OMAA.	Indicator*: % of Airports having integrated ACDM with the ATM Network function.  Supporting metric: Number of Airports having integrated ACDM with the ATM Network function  * As per the applicability area	(2022) 25%	50%	Dec 2024	N/A

Element	Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI	
<b>Technology Threads</b>							
<b>ASUR</b>							
<b>ASUR B0/1</b>	Automatic Dependent Surveillance – Broadcast (ADS-B)	Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, , Sudan, UAE	Indicator*: % of ACCs that have implemented ADS-B to improve surveillance coverage/capabilities for provision of ATS.  Supporting Metric: Number of States that have implemented ADS-B to improve surveillance coverage/capabilities for provision of ATS.  * As per the applicability area	(2022) 60%	80%	Dec 2022	N/A
<b>ASUR B0/2</b>	Multilateration cooperative surveillance systems (MLAT)	Bahrain, , Kuwait, Oman, Qatar, Saudi Arabia, UAE	Indicator*: % of ACCs that have implemented Multi-lateration (M-LAT) for provision of ATS.  Supporting Metric: Number of States that have implemented Multi-lateration (M-LAT) for provision of ATS.  Indicator*: % of States that have implemented ADS-B to improve surveillance coverage/capabilities for provision of ATS.  Supporting Metric: Number of States that have implemented ADS-B to improve surveillance coverage/capabilities for provision of ATS.  * As per the applicability area	(2022) 63%	80%	Dec 2022	N/A
<b>ASUR B0/3</b>	Cooperative Surveillance Radar Downlink of Aircraft Parameters (SSR-DAPS)	Bahrain, Egypt, Iran, Iraq, Kuwait, Lebanon, Jordan, Oman, Qatar, Saudi Arabia, Sudan and UAE	Indicator*: % of ACCs that have implemented Downlink of Aircraft Parameters (SSR-DAPS)  Supporting Metric: Number of States that have implemented Downlink of Aircraft Parameters (SSR-DAPS)  * As per the applicability area	(2022) 83%	90%	Dec 2023	N/A
<b>NAVS</b>							
<b>NAVS B0/3</b>	Aircraft Based Augmentation Systems (ABAS)	All States	Indicator: % of States requiring Aircraft Based Augmentation System (ABAS) equipage for aircraft with a max certificated take-	(2022) 40%	70%	Dec 2022	N/A

Element		Applicability	Performance Indicators/ Supporting Metrics	Baseline	Target	Timeline	KPA/ KPI
			off mass greater than 5,700 Kg to enable PBN Operations  Supporting metric: Number of States requiring Aircraft Based Augmentation System (ABAS) equipage for aircraft with a max certificated take-off mass greater than 5,700 Kg to enable PBN Operations				
<b>NAVS B0/4</b>	Navigation Minimal Operating Networks (Nav. MON)	All States	Indicator: % of States that have developed a plan of rationalized conventional NAVAIDS network to ensure the necessary levels of resilience for navigation  Supporting metric: Number of States that have developed a plan of rationalized conventional NAVAIDS network to ensure the necessary levels of resilience for navigation.	(2022) 47%	70%	Dec 2022	N/A
<b>COMI</b>							
<b>COMI B0/7</b>	ATS Message Handling System (AMHS)	All States	Indicator: % of States that have established AMHS interconnections with adjacent COM Centres  Supporting metric: Number of States that have established AMHS interconnections with adjacent COM Centres	(2022) 73%	90%	Dec 2022	N/A
<b>COMI B1/1</b>	Ground-Ground Aeronautical Telecommunication Network/Internet Protocol Suite (ATN/IPS)	All States	Indicator: % of States that have established National IP Network for voice and data communication  Supporting metric: Number of States that have established National IP Network for voice and data communication	(2022) 60%	80%	Dec 2022	N/A

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**Deficiencies in the CNS field**

**KUWAIT**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	MID eANP VOI II, Table CNS II-2	Inter-regional Communication link with ICAO EUR/NAT Region	The Inter-regional Communication Link between Kuwait COM Centre and one of the entry/exit points of the ICAO EUR/NAT Region is not implemented	Mar 2019	- O	-	Kuwait	Dec 2021	B

**Deficiencies in the CNS field**

**LEBANON**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	MID eANP VOL II, Table CNS II-3	ATS Direct Speech circuit Ankara - Beirut	ATS Direct Speech Circuit between Ankara and Beirut is not implemented	Mar 2019	- O	-	Lebanon and Turkey	Dec 2021	B

<sup>(1)</sup> Rationale for non-elimination: "F" = Financial

"H" = Human Resources

"S" = State (Military/political)

"O" = Other unknown causes

**Deficiencies in the CNS field**

**LIBYA**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	MID eANP Vol II, Table CNS II-4	HF Service	HF Service in Tripoli is unserviceable	Mar 2019	- O	-	Libya	Dec 2021	A

**Deficiencies in the CNS field**

**YEMEN**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	MID eANP VOL II Table CNS II-3	ATS Direct speech Circuits Sana'a-Asmara, Sana'a-Djibouti, Sana'a-Mogadishu and Sana'a-Mumbai	ATS Direct speech circuits are not implemented between Sana'a-Mumbai a	Oct 1998	- O	Corrective Action Plan has not been formally provided by the State	Yemen and India	Dec 2021	A

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<sup>(1)</sup> Rationale for non-elimination: “F” = Financial

“H” = Human Resources

“S” = State (Military/political)

“O” = Other unknown causes

Deficiencies in the ATM field										
IRAN										
Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action	
1	MID ANP TABLE ATM II-MID-1 MID REGION ATS ROUTE NETWORK	-	ATS routes A418/UP574 not implemented	Dec 2006	KUMUN-PAPAR segment not implemented.	S O	Corrective Action Plan has not been formally provided by the State	Iran-UAE	Dec 2021	B

Deficiencies in the ATM field										
IRAQ										
Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action	
1	MID ANP Table ATM II-MID-1 MID REGION ATS ROUTE NETWORK	-	ATS route G667 not implemented	Sep 2006	Segment ALSAN-ABD not implemented	S	Corrective Action Plan has not been formally provided by the State	Iraq- Iran- Kuwait	Dec 2021	B
2	Annex 11 Para. 2.31	-	Development of contingency plan for implementation in the event of disruption or potential disruption of ATS and related supporting services. The Plan should also address natural disasters and public health emergencies. Contingency agreements should be signed with all adjacent ACCs.	Nov 2006	Contingency Agreement to be signed with Syria	S	Corrective Action Plan has not been formally provided by the State	Iraq	Dec 2021	A
3	MID ANP Table ATM II-MID-1 MID REGION	-	ATS route G795 not implemented	May 2008	RAF-BSR segment not implemented	S	Corrective Action Plan has not been formally	Iraq- Saudi Arabia	Dec 2021	B

7B-3

	ATS ROUTE NETWORK						provided by the State			
4	MID ANP Table ATM II-MID-1 MID REGION ATS ROUTE NETWORK	-	ATS route A424 not implemented	May 2008	LOTAN- LOVEK segment not implemented	O	Corrective Action Plan has not been formally provided by the State	Iraq	Dec 2021	B

Deficiencies in the ATM field									
JORDAN									
Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	Annex 11 Para. 2.31	-	Development of contingency plan for implementation in the event of disruption or potential disruption of ATS and related supporting services. The Plan should also address natural disasters and public health emergencies. Contingency agreements should be signed with all adjacent ACCs.	Nov 2006	Contingency agreements not signed with Syria.	H Corrective Action Plan has not been formally provided by the State. State comment: due to political impact in the region Jordan is not able to complete the signature of contingency agreements with all adjacent States	Jordan	Dec 2021	A

7B-5

Deficiencies in the ATM field									
LEBANON									
Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	Annex 11 Para. 2.31	-	Development of contingency plan for implementation in the event of disruption or potential disruption of ATS and related supporting services. The Plan should also address natural disasters and public health emergencies. Contingency agreements should be signed with all adjacent ACCs.	Nov 2006	Contingency agreements not signed with Syria	S	Lebanon	Dec 2021	A

Deficiencies in the ATM field									
LIBYA									
Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	Annex 11 Para. 2.31	-	Development of contingency plan for implementation in the event of disruption or potential disruption of ATS and related supporting services. The Plan should also address natural disasters and public health emergencies. Contingency agreements should be signed with all adjacent ACCs	Dec 2014	Agreement signed only with Egypt	S O	Libya	Dec 2021	A
						Corrective Action Plan has not been formally provided by the State			

7B-7

Deficiencies in the ATM field										
SAUDI ARABIA										
Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action	
1	Annex 11 Para. 2.31	-	Development of contingency plan for implementation in the event of disruption or potential disruption of ATS and related supporting services. The Plan should also address natural disasters and public health emergencies. Contingency agreements should be signed with all adjacent ACCs.	Nov 2006	Contingency Agreements not signed with Iraq, Qatar and Sudan.	S	Corrective Action Plan has not been formally provided by the State	Saudi Arabia	Dec 2021	A

Deficiencies in the ATM field										
SUDAN										
Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action	
1	Annex 11 Para. 2.31	-	Development of contingency plan for implementation in the event of disruption or potential disruption of ATS and related supporting services. The Plan should also address natural disasters and public health emergencies. Contingency agreements should be signed with all adjacent ACCs.	Dec 2014	Contingency Agreement signed only with Egypt	H S O	Corrective Action Plan has not been formally provided by the State	Sudan	Dec 2021	A

7B-9

Deficiencies in the ATM field											
SYRIA											
Item No	Identification		Deficiencies			Corrective Action					
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action		
1	MID ANP Table ATM II-MID-1 MID REGION ATS ROUTE NETWORK	-	ATS route G202 not implemented	Dec 1997	Segment DAKWE - Damascus not implemented	S		Corrective Action Plan has not been formally provided by the State	Syria	Dec 2021	B
2	MID ANP Table ATM II-MID-1 MID REGION ATS ROUTE NETWORK	-	ATS route UL602 not implemented	Dec 2003	Segments ELEXI-DRZ-GAZ not implemented.	S		Corrective Action Plan has not been formally provided by the State	Syria	Dec 2021	B
3	Annex 11 Para. 2.31	-	Development of contingency plan for implementation in the event of disruption or potential disruption of ATS and related supporting services. The Plan should also address natural disasters and public health emergencies. Contingency agreements should be signed with all adjacent ACCs.	Nov 2006	No signed agreement yet	H O		Corrective Action Plan has not been formally provided by the State	Syria	Dec 2021	A

Deficiencies in the ATM field									
UAE									
Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	MID ANP Table ATM II-MID-1 MID REGION ATS ROUTE NETWORK	-	ATS routes A418/UP574 not implemented	Dec 2006	KUMUN-PAPAR segment not implemented.	S	Iran- UAE	Dec 2021	B

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Deficiencies in the SAR field									
IRAQ									
Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr 2012	- O	Corrective Action Plan has not been formally provided by the State	Iraq	Dec 2021	A

Deficiencies in the SAR field										
KUWAIT										
Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Facilities/ Services	Executing body	Date of completion	Priority for action
1	Annex 6 Part I chap. 6 and Part II chap. 2 Annex 10, Vol III, Chap. 5 Annex 12 para. 2.6.4	ELT	Non-compliance with carriage of Emergency Locator Transmitter (ELT) requirements	Apr 2012	-	0	Corrective Action Plan has not been formally provided by the State	Kuwait	Dec 2021	A

Deficiencies in the SAR field									
LEBANON									
Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr 2012	- 0	Corrective Action Plan has not been formally provided by the State	Lebanon	Dec 2021	A

Deficiencies in the SAR field									
LIBYA									
Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination	Facilities/ Services	Executing body	Date of completion	Priority for action
1	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Dec 2014	- H S O	Corrective Action Plan has not been formally provided by the State	Libya	Dec 2021	A

7C-5

Deficiencies in the SAR field										
SYRIA										
Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Facilities/ Services	Executing body	Date of completion	Priority for action
1	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr 2012	-	0	Corrective Action Plan has not been formally provided by the State	Syria	Dec 2021	A
2	Annex 6 Part I chap. 6 and Part II chap. 2 Annex 10, Vol III, Chap. 5 Annex 12 para. 2.6.4	-	Non-compliance with carriage of Emergency Locator Transmitter (ELT) requirements	Apr 2012	-	0	Corrective Action Plan has not been formally provided by the State	Syria	Dec 2021	A

Deficiencies in the SAR field										
YEMEN										
Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Facilities/ Services	Executing body	Date of completion	Priority for action
1	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr 2012	-	0	Corrective Action Plan has not been formally provided by the State	Yemen	Dec 2021	A
2	Annex 6 Part I chap. 6 and Part II chap. 2 Annex 10, Vol III, Chap. 5 Annex 12 para. 2.6.4	-	Non-compliance with carriage of Emergency Locator Transmitter (ELT) requirements	Apr 2012	-	0	Corrective Action Plan has not been formally provided by the State	Yemen	Dec 2021	A

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## COMMUNICATION, NAVIGATION AND SURVEILLANCE SUB-GROUP (CNS SG)

### 1. TERMS OF REFERENCE

#### 1.1 The Terms of Reference of the CNS Sub-Group are:

- a) ensure that the implementation of CNS in the MID Region is coherent and compatible with developments in adjacent Regions, and is in line with the Global Air Navigation Plan (GANP), the Aviation System Block Upgrades (ASBU) framework and the MID Region Air Navigation Strategy;
- b) monitor the status of implementation of the MID Region CNS-related ASBU Modules included in the MID Region Air Navigation Strategy as well as other required CNS supporting infrastructure, identify the associated difficulties and deficiencies and provide progress reports, as required;
- c) keep under review the MID Region CNS performance objectives/priorities, develop action plans to achieve the agreed performance targets and propose changes to the MID Region CNS plans/priorities, modernization programmes through the MIDANPIRG, as appropriate;
- d) seek to achieve common understanding and support from all stakeholders and involved in or affected by the CNS developments/activities in the MID Region;
- e) provide a platform for harmonization of developments and deployments of CNS facilities and procedures within Region and inter regional;
- f) monitor and review the latest developments in the area of CNS, provide expert inputs for CNS-related issues; and propose solutions for meeting ATM operational requirements;
- g) follow-up the developments of ICAO position for future ITU World Radio Communication (WRC) Conferences and provide expert advises to States;
- h) follow-up the operation of the MID ATS Message Management Center (MIDAMC);
- i) provide regular progress reports to the MSG and MIDANPIRG concerning its work programme; and
- j) review periodically its Terms of Reference and propose amendments, as necessary.

#### 1.2 In order to meet the Terms of Reference, the CNS Sub-Group shall:

- a) provide necessary assistance and guidance to States to ensure harmonization and interoperability in line with the GANP, the MID ANP and ASBU framework;
- b) provide necessary inputs to the MID Region Air Navigation Strategy through the monitoring of the agreed Key Performance Indicators related to CNS facilities and procedures;
- c) identify and review those specific deficiencies and problems that constitute major obstacles to the provision of efficient CNS implementation, and recommend necessary remedial actions;
- d) lead the work programme of the MID-AMC including the conduct of trainings and upgrades;

- e) assist, coordinate, harmonize and support in the implementation of CNS facilities and procedures;
- f) seek States support to ICAO Position at WRCs, and encourage States for the proper utilization of the Frequency Spectrum and Interrogation Code Allocations;
- g) follow-up surveillance technologies implementation to be in line with the MID Region surveillance plan and the operational improvements in coordination with other Sub-Groups;
- h) review, identify and address major issues in technical, operational, safety and regulatory aspects to facilitate the implementation or provision of efficient Surveillance services in the MID Region;
- i) follow-up Global GNSS evolution, and provide assistance/guidance to states on available GNSS services;
- j) address Datalink communication services and support implementation where operationally required;
- k) review and identify inter-regional and intra-regional co-ordination issues in the field of CNS, harmonize and recommend actions to address those issues; and
- l) Coordinate with relevant MIDANPIRG and RASG-MID Subsidiary bodies issues with common interests.

## **2. COMPOSITION**

2.1 The Sub-Group is composed of:

- a) MIDANPIRG Member States;
- b) Concerned International and Regional Organizations as observers; and
- c) other representatives from provider States and Industry may be invited on ad-hoc basis, as observers, when required.

## **3. WORKING ARRANGEMENTS**

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

3.2 Face-to-face meetings will be conducted when it is necessary to do so.

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**MIDAMC Steering Group**  
**(MIDAMC STG)**

**1. TERMS OF REFERENCE (TOR)**

**1.1 The Terms of Reference of the MIDAMC Steering are:**

- a) to promote the efficiency and safety of aeronautical fixed services in the MID Region through the operation and management, on a sound and efficient basis, of a permanent MID Regional ATS Messaging Management Center (MIDAMC);
- b) foster the implementation of the Air traffic service Message handling service in the MID Region through provision of the guidance materials and running facilitation tools, utilizing the MIDAMC;
- c) MIDAMC Steering Group will consist of a focal point from each Participating MID State who would represent the State and acts as the Steering Group Member;
- d) MIDAMC Steering Group will be responsible for overall supervision, direction, evaluation of the MIDAMC project and will review/update the MIDAMC work plan whenever required;
- e) the MID Region is considering the establishment of a Regional MID IP Network; the MIDAMC STG will drive the project which is called Common aeRonautical Virtual Private Network (CRV), until the Operation Group is established;
- f) develop and maintain a regional plan for the transition from AFS to SWIM services; and
- g) provide regular progress reports to the CNS SG, and MIDANPIRG concerning its work programme.

**1.2 In order to meet the Terms of Reference, the MIDAMC Steering Group shall:**

- a) develop/update the accreditation procedure for all users on the MIDAMC;
- b) develop and maintain guidance materials for MIDAMC users;
- c) discuss and identify solution for operational problems that may be arising;
- d) provide support/guidance to States for AMHS Implementation, and monitor the AMHS activities;
- e) assist and encourage States to conduct trial on the Implementation of the ATS extended services, and identify operational requirements;
- f) provide guidance/support to States on implementation of XML-based data models (IWXXM, FIXM, AIXM, ...etc) over AMHS;
- g) monitor States' readiness to implement XML based data models over extended AMHS;
- h) identify the need for any enhancement for the MIDAMC and prepare functional and technical specifications, and define its financial implications;
- i) follow-up on ICAO standards and recommendations on the ATS messaging management and SWIM;

- j) define future liabilities and new participating States and ANSPs in the progressive introduction of SWIM services;
- k) follow-up and review the work of similar groups in other ICAO Regions including successful implementations of SWIM services to identify and adopt best practices;
- l) Identify SWIM prerequisites in terms of infrastructure, including IP-based network; and monitor the status of implementation of those elements in the MID Region;
- m) follow-up the implementation of IP Network in the MID Region supporting SWIM services, through joining relevant projects, like CRV and act as project manager;
- n) propose appropriate actions for the early implementation also support the IP Network supporting the progressive introduction of SWIM services until the Operational Group is establish;
- o) develop and amend the relevant ICAO MID Regional documentation considering the progress made in SWIM implementation and considering the need for harmonization with the adjacent Regions in compliance with the GANP;
- p) coordinate with the relevant ICAO MID Regional Groups to ensure a gradual transition of AFS services to SWIM in the MID Region ensuring operational continuity and develop guidance material accordingly; and
- q) provide guidance and training to MID States and stakeholders involved in SWIM implementation.

**2. COMPOSITION**

- a) ICAO MID Regional Office;
- b) Members appointed by the MIDANPIRG member States; and
- c) Other representatives, who could contribute to the activity of the Steering Group, could be invited to participate as observers, when required.

**3. WORKING ARRANGEMENTS**

3.1 The Chairperson, in close co-operation with the Secretary, shall make all necessary arrangements for the most efficient working of the Study Group. The Study 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 Study Group to advance the work. Best advantage should be taken of modern communications facilities, particularly video-conferencing (Virtual Meetings) and e-mails.

3.2 Face-to-face meetings will be conducted when it is necessary to do so.

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## Frequency Management Working Group (FMWG)

### 1. TERMS OF REFERENCE (TOR)

The FMWG will undertake the following tasks in the work required to manage the MID Region frequency assignments in order to ensure sufficient access to the resource for the provision of aeronautical communication, navigation and surveillance services (CNS) in an efficient and safe manner:

- a) develop MID Region frequency assignment plan including long term spectrum usage of radio systems;
- b) validate the ICAO Global database and keep it up to date;
- c) resolve current frequency assignments conflict in the ICAO Global database;
- d) develop recommendation or proposal for improvement to the existing regional VHF frequency assignment process based on the ICAO Global Spectrum Management tool, ICAO 9718 Volume II Handbook provision and current coordination issues;
- e) propose solutions for the interference incidents occurred in MID Region states in a timely manner;
- f) escalate the intentional frequency interference matters and coordinate with other relevant international organizations, as and when required;
- g) provide guidance/support to States to protect the GNSS signals;
- h) collaborate with ITU and other relevant international organization to address frequent interference incidents;
- i) support for ICAO Position at World Radio Communication Conference (WRC) and ensure MID States' support ICAO at ITU meetings;
- j) collaborate with Regional Groups; Arab Spectrum Management Group (ASMG) African Telecommunication Union (ATU), and Asia/Pacific Telecommunication Group (APT) to support ICAO position at WRC;
- k) ensure the continuous and coherent development of the relevant sections of the MID eANP, taking into account the evolving operational requirements in the MID Region and the need for harmonization with the adjacent regions in compliance with the Global Air Navigation Plan;
- l) develop recommendations for CNS SG about how to address the future operational needs and limitations in VHF voice communications, aiming at avoiding introduction of 8.33 kHz spacing in the MID Region for as long as practicable;
- m) Frequency Management Working Group will be responsible for overall supervision of the frequency issues in the MID Region and will review/update the FMWG work plan whenever required;
- n) collect and share information on the best practices implemented by States and Regional Organizations to mitigate potential radio altimeters (RADALT) interference that caused by 5G operation; and
- o) develop guidance material to protect aircraft operations from potential Radio Altimeter interference associated with the deployment of 5G ground infrastructure.

### 2. COMPOSITION

- a) ICAO MID Regional Office;
  - b) MIDANPIRG CNS Sub Group Chairpersons;
  - c) Members appointed by the MIDANPIRG member States; and
  - d) other representatives, who could contribute to the activity of the Working Group, could be invited to participate as observers.
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# **ATTACHMENT A**

## List of Participants

State & Administration / Organization:	Name / Name in Full:	Job Title / Official Position:
Egypt / Egyptian Civil Aviation Authority (ECAA)	Mr. Ahmed Mostafa Mohamead Arman	ANS/CNS Inspector
Egypt / Egyptian Civil Aviation Authority (ECAA)	Ms. Aya Ashraf Mostafa Ibrahim	ANS/CNS Inspector
Iran / Airport and Air Navigation Company	Mr. Ali Asghari	Aeronautical Expert
Iran / Airport and Air Navigation Company	Mr. Alireza Khodadoost	Deputy Director General of Aeronautical Telecommunications and Information Technology
Iran / Airport and Air Navigation Company	Mr. Esmael Mahgoli	Deputy Director (CNS Department)
Iran / Airports and Air Navigation Company	Mr. Hamid Abazari	Head of Com & Robex Center of Tehran
Iran / Airports and Air Navigation Company	Mr. Kaveh Parto	Senior Expert of Radio Navigation Aids
Iran / Airport and Air Navigation Company	Mr. Mojtaba Chatrooz	Senior expert of Aeronautical Frequency Affairs
Jordan / Civil Aviation Regulatory Commission	Eng. Ibrahim Faraj	Director of CNS
Jordan / Civil Aviation Regulatory Commission	Mr. Yaser Mustafa Issa Ziad	Chief of AFS Engineering Division
Oman / Civil Aviation Authority (CAA)	Mr. Abdullah AbdulRahman Al-Farsi	Act. CNS Director
Oman / Civil Aviation Authority (CAA)	Mr. Ibrahim Said Amer Alhajri	Head of Air Traffic Control Systems
Oman / Civil Aviation Authority (CAA)	Mr. Mohammed Ahmed Ba Abood	Head of Surveillance and ATC Systems
Oman / Civil Aviation Authority (CAA)	Mr. Said Hussein Biri Al Balushi	Chief of Aeronautical Communication Section
Oman / Civil Aviation Authority (CAA)	Mr. Salim Omar Said Almarhoon	Head of Navigational Aids
Qatar / Civil Aviation Authority	Ms. Shikha Nasser Al-Temais	Head of Air Navigation Equipment Engineering Section
Qatar / Civil Aviation Authority / Air Navigation	Mr. Mohammed Alnuaimi	Electronic Engineering Consultant
Qatar / Civil Aviation Authority	Mr. Nawaf Abdulrab Alyafei	Electronics Engineer
Saudi Arabia / Air Navigation Safety / GACA	Mr. Anas Abdulmohsen Hussain Alhazmi	Head of CNS Section
Saudi Arabia / Saudi Air Navigation Services (SANS)	Mr. Sameer Qttlan	CNS Systems Engineering Manager
Saudi Arabia / Saudi Air Navigation Services (SANS)	Mr. Zaki Omar Alamri	Surveillance System Advisor
Syria / General Authority of Civil Aviation (GACA)	Mr. Alaa Aldin Alrifai	Communication and IT Director
Syria / General Authority of Civil Aviation (GACA)	Mr. Ihsan Alowaidat	General Director of the General Organization of Civil Aviation
Syria / General Authority of Civil Aviation (GACA)	Mr. Kaleem Sharaf	Assistant of Communication and IT Director
Syria / General Authority of Civil Aviation (GACA)	Mr. Nadim Salim	CNS Director
UAE / General Civil Aviation Authority (GCAA)	Mr. Abdulla Alsayed Ahmed Almarzooqi	Senior CNS Inspector
UAE / General Civil Aviation Authority (GCAA)	Ms. Asma Alshkeik	Senior Specialist ANS Engineering
UAE / General Civil Aviation Authority (GCAA)	Mr. Basel Mohammed AL Awlaqi	Senior Specialist
UAE / General Civil Aviation Authority (GCAA)	Mrs. Fareeda Ebrahim Kamal	Officer - CNS
UAE / General Civil Aviation Authority (GCAA)	Mr. Hamad Mohamed Al Marzooqi	AFTN Comms Supervisor
UAE / General Civil Aviation Authority (GCAA)	Mr. Jacob Avis	Air Navigation Inspector - CNS
UAE / General Civil Aviation Authority (GCAA)	Mr. Mohamed Al Ahmed	Senior Specialist ANS Engineering
UAE / Dubai Air Navigation Services	Ms. Orefile Mthombeni	ATES Engineer
UAE / General Civil Aviation Authority (GCAA)	Mr. Rashed Ahmed AlShehhi	Senior Manager ANS Engineering
UAE / Department of Civil Aviation Sharjah	Mr. Yassen Omar Yassen Abu Baker	Head of CNS
UAE / General Civil Aviation Authority (GCAA)	Mr. Yousif Al Awadhi	DCNS
UAE / Telecommunications and Digital Government Regulatory Authority (TDRA)	Mr. Saleh Al Messabi	Director
IATA	Mrs. Lindi-Lee KIRKMAN	Head Flight Operations, ATM & Infrastructure - Africa & Middle East
ICAO MID Office	Mr. Mohamed Iheb Hamdi	AGA Regional Officer & CNS Coordinator
ICAO MID Office	Ms. Dina El Karimy	ICAO MID Technical Assistant, ATM/SAR & ASF

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