**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

# REPORT OF THE TENTH MEETING OF THE PERFORMANCE BASED NAVIGATION SUB-GROUP

**PBN SG/10 Meeting**

***(Amman, Jordan, 10 – 11 December 2025)***

The views expressed in this Report should be taken as those of the PBN 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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# PART I – HISTORY OF THE MEETING

## 1. PLACE AND DURATION

1.1 The Tenth meeting of the Performance Based Navigation Sub-Group (PBN SG/10) was successfully held in Amman, Jordan, from 10 to 11 December 2025.

## 2. OPENING

2.1 Eng. Feras Turki Yousef Hendawi, Commissioner at the Jordanian Civil Aviation Regulatory Commission (CARC), delivered the opening remarks and warmly welcomed all participants to Amman to attend the Tenth Meeting of the ICAO MID PBN Sub-Group (PBN SG/10).

2.2 Mr. Radhouan Aissaoui, Regional Officer, Information Management at the ICAO Middle East Regional Office, also welcomed the participants to the PBN SG/10 meeting. He expressed his sincere appreciation to the Hashemite Kingdom of Jordan and the Civil Aviation Regulatory Commission (CARC), particularly to Captain Dhaifallah Al Farajat, Chief Commissioner/CEO of CARC, for kindly hosting both the IFPD Provision and Oversight Workshop and the Tenth Meeting of the ICAO MIDANPIRG PBN Sub-Group (PBN SG/10) in Amman. He thanked CARC for the warm welcome, excellent hospitality, and the outstanding organization of these important events, as well as for the facilities provided for the meetings.

2.3 Mr. Radhouan Aissaoui also expressed his appreciation to all participants for accepting the invitation to attend these events and acknowledged the valuable contributions of speakers from States, namely Egypt, Jordan, Oman, Saudi Arabia, and the United Arab Emirates, as well as speakers from organizations and industry partners including DANS, DCAA, CGX, PVS Aero, R.I.S.K., and UATS, who shared their experience and expertise.

2.4 Mr. Radhouan Aissaoui highlighted that the IFP Design and Oversight Workshop aims to strengthen State capabilities in safety oversight responsibilities, enhance understanding of the USOAP-CMA Critical Elements, and promote regional harmonization through case studies, panel discussions, and practical examples. At the same time, the PBN SG/10 Meeting will review progress in PBN implementation, align regional priorities with the ICAO Strategic Plan 2026–2050, and consider updates to the MID Region PBN Implementation Plan, including timelines, guidance on Continuous Climb and Descent Operations (CCO/CDO), Performance-Based Aerodrome Operating Minima (PBAOM), and GNSS contingency strategies.

2.5 Mr. Radhouan Aissaoui emphasized that the discussions would not only focus on reviewing provisions but also on shaping the future of PANS-OPS and PBN implementation in the region, with the aim of achieving a more resilient, harmonized, and inclusive aviation system. He underlined that the outcomes of the workshop and meeting would support ICAO's objectives of operational excellence, environmental sustainability, and capacity building under the "No Country Left Behind" initiative.

2.6 Finally, Mr. Radhouan Aissaoui encouraged participants to actively engage in the discussions and activities throughout the week. He thanked all delegates for their participation and wished them productive and successful events.

## 3. ATTENDANCE

3.1 The meeting was attended by a total of seventy-three (73) participants from ten (11)

States (Egypt, Iran, Iraq, Jordan, Libya, Oman, Qatar, Saudi Arabia, Sudan, UAE and Yemen) and Seven (7) Organizations/Industries (IATA, RISK, CGX AERO, UATS, DCAA, DANS and PVS AERO). The list of participants is at **Attachment A**.

3.2 The participants from member States, Organizations and Industries were multi-disciplinary experts in various fields related to PBN implementation including CAA Regulators, Inspectors, ANSPs, instrument flight procedure designers, engineers and airlines.

## 4. OFFICERS AND SECRETARIAT

4.1 The meeting was chaired by Dr. Mohamed Farghaly, General Manager of R&D NANSC, Egypt, and Mr. Yasir Mohammed Ahmed Ali Abdalla, Instrument Flight Procedures Designer, Sudan Civil Aviation Authority (SCAA).

4.2 Mr. Radhouan Aissaoui, Regional Officer, Information Management was the Secretary of the meeting.

## 5. LANGUAGE

5.1 The discussions were conducted in the English language and documentation was issued in English.

## 6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item 1: Adoption of the Provisional Agenda and election of Chairperson

Agenda Item 2: Follow-up on MIDANPIRG/22 Conclusions and Decisions relevant to PBN

Agenda Item 3: Global and Regional Developments related to PBN

Agenda Item 4: PBN Planning and Implementation in the MID Region

Agenda Item 5: State's PBN Implementation Journey: Experiences and Challenges

Agenda Item 6: Working Arrangements and Future Work Programme

Agenda Item 7: Any other business

## 7. CONCLUSIONS AND DECISIONS – DEFINITION

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

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

b) **Decisions** relate solely to matters dealing with the internal working arrangements of the Group and its Sub-Groups.

## 8. LIST OF DRAFT CONCLUSIONS AND DRAFT DECISIONS

*DRAFT CONCLUSION 10/1: PBN AND CCO/CDO WORKSHOP*

*DRAFT DECISION 10/2: PERFORMANCE BASED NAVIGATION SUB-GROUP (PBN SG) TERMS OF REFERENCE*

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## PART II: REPORT ON AGENDA ITEMS

### REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA AND ELECTION OF CHAIRPERSON

1.1 The subject was addressed in WP/1, presented by the Secretariat.

1.2 Dr. Mohamed Farghaly, General Manager of R&D NANSC, Egypt, and Mr. Yasir Mohammed Ahmed Ali Abdalla, Instrument Flight Procedures Designer, Sudan Civil Aviation Authority (SCAA), unanimously elected as the Chairperson and Vice-Chairperson of the MIDANPIRG Performance Based Navigation Sub-Group (PBN SG), respectively.

1.3 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: FOLLOW-UP ON MIDANPIRG/22 CONCLUSIONS AND DECISIONS RELEVANT TO PBN

2.1 The meeting noted the status of the MIDANPIRG/22 Conclusions and Decisions relevant to PBN and the follow-up actions taken by concerned parties as at **Appendix 2A**.

2.2 With reference to Conclusion 22/20, IATA recalled the need to take appropriate follow-up actions in response to the Conclusion. IATA reiterated the importance of expediting the development of the Regional Minimum Operational Network (MON). In addition, IATA reconfirmed its willingness to provide data and information related to GNSS radio frequency interference (RFI) events.

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## REPORT ON AGENDA ITEM 3: GLOBAL AND REGIONAL DEVELOPMENTS RELATED TO PBN

***Latest developments & groups update***

3.1 The subject was addressed in PPT/4 presented by Mr. Debotosh Moitra, Technical Officer, Procedure Design and the Secretary IFPP, Air Navigation Bureau, ICAO HQ. The meeting noted the main outcomes and working group activities of the seventeenth meeting of the Instrument Flight Procedure Panel (IFPP) which was held in Montreal, from 28 October to 06 November 2025.

3.2 The meeting recalled that Performance-Based Navigation (PBN) is a core ICAO concept, founded on the principle of defining the required navigation performance, specifying how that performance can be achieved, and ensuring appropriate protection of that performance. However, it was noted that current instrument flight procedure design criteria remain largely sensor-based, rather than fully performance-based. In this context, the Instrument Flight Procedures Panel (IFPP) is considering the development of a more "performance-driven" PBN scenario, taking into account the operational experience gained since the introduction of the PBN concept.

3.3 The meeting noted that existing procedure design criteria for PBN differ depending on the navigation sensor used. Where a PBN navigation specification allows the use of multiple sensors, this may require the same procedure to be designed multiple times. This approach was considered to be inconsistent with the fundamental performance-based philosophy, since, where a required navigation performance is defined and the aircraft is appropriately certified, it would be logical to protect the required performance itself, rather than the specific sensor used to achieve it.

3.4 It was further noted that, under current criteria, cases may arise where more accurate navigation sensors require larger protection areas, or where an RNP navigation specification, which includes performance monitoring and alerting, results in larger protection areas than an RNAV specification with a higher required navigation performance. While the underlying rationale for such differences was acknowledged, these outcomes were considered counter-intuitive from a purely performance-based perspective. In addition, the meeting noted situations where protection areas may be smaller than the required navigation performance value, raising further questions regarding consistency.

3.5 The meeting also noted that this may be an appropriate time to review the buffer value currently applied in addition to 1.5 times the Total System Error (TSE). It was recalled that, when the existing criteria were developed, it was recognized that PBN error distributions are not strictly Gaussian. As a result, an additional buffer was introduced to provide sufficient protection against the tails of the distribution, based on the assumption that Flight Technical Error (FTE) is a major contributor to navigation error. Given that FTE is directly observable by the flight crew, it was assumed that timely corrective action could be taken in the event of an excursion. However, it was noted that the buffer value is based on several assumptions, and its continued appropriateness may warrant further consideration in light of accumulated operational experience.

***Global Developments related Radio Navigation and ICAO roadmap to address the effect of GNSS RFI***

3.6 The subject was addressed in PPT/5 presented by Ms. Muna Alnadaf – Technical Officer CNS, Air Navigation Bureau, ICAO HQ. The meeting was provided with an overview of global developments related to radio navigation, with particular emphasis on the increasing reliance on Global Navigation Satellite Systems (GNSS) for civil aviation operations and the emerging safety risks associated with GNSS radio frequency interference (RFI). The presentation also provided an update on relevant ICAO provisions, recent regulatory developments, and the outcomes of the 14th Air Navigation Conference (AN-Conf/14), as well as guidance stemming from recent ICAO Assembly resolutions.

3.7 It was highlighted the operational importance of GNSS across multiple aviation applications, including Performance-Based Navigation (PBN), surveillance (ADS-B/ADS-C), airborne safety net systems, and time synchronization for CNS/ATM systems. The increasing occurrence of GNSS jamming and spoofing events was discussed, including their potential impact on navigation, surveillance, communication, and aircraft systems, with associated safety risks such as loss of control, controlled flight into terrain, and mid-air collision.

3.8 The meeting noted the outcomes of AN-Conf/14, particularly Recommendation 2.2/2, which addresses GNSS interference and contingency planning. State responsibilities include implementing mitigation measures, maintaining sufficient conventional navigation infrastructure, developing regional reporting procedures, and coordinating with industry and adjacent States. ICAO responsibilities include the development of guidance material, civil-military coordination frameworks, globally harmonized minimum aircraft equipage recommendations, and a standardized implementation package (iPack) to support States.

3.9 The meeting was also informed of ICAO outreach activities, including regional radio navigation symposia and workshops in the EUR/MID, AFI, APAC, and NAM/SAM regions, aimed at raising awareness and developing GNSS RFI reporting and mitigation guidance. The ICAO roadmap to address GNSS RFI was presented, outlining short-, medium-, and long-term actions, including the development of the GNSS RFI iPack, enhancement of NOTAM coding, implementation of Resilient Navigation Operational Networks (NAV RON), authentication solutions, Complementary PNT (C-PNT), and the future introduction of DFMC GNSS.

3.10 The meeting took note of the information presented on global GNSS developments, associated risks, and ICAO's roadmap to address GNSS interference. The importance of a multi-layered approach combining operational, procedural, and technological measures was acknowledged, as well as the need for continued regional and global cooperation. States were encouraged to actively participate in GNSS RFI reporting initiatives, maintain adequate conventional navigation infrastructure as contingency, and follow the evolving ICAO guidance and implementation packages aimed at enhancing navigation resilience.

***Update on True North Advisory Group (True-AG) activities***

3.11 The subject was addressed in PPT/6, presented by Mr. Mohamed Al Ameri, True North Advisory Group (True-AG) Adviser from the GCAA of the United Arab Emirates. The meeting was provided with an awareness briefing on the work of the True North Advisory Group (True-AG), a closed ICAO advisory group established to assist ICAO in developing a framework for a safe and efficient global transition from magnetic north to true north reference. The presentation outlined the mandate, scope of work and ongoing studies of the True-AG, including the development of a Concept of Operations (CONOPS), transition planning, and the provision of strategic advice to ICAO on standards, procedures and system-wide impacts.

3.12 In his presentation, Mr. Mohamed Al Ameri explained the underlying issue related to the increasing discrepancy between ground-based magnetic variation values used by ANSPs, AIM services and aeronautical charts, and aircraft onboard systems, which often rely on magnetic variation tables that are outdated or cannot be updated. It was noted that the accelerated rate of global magnetic drift, combined with the lack of regulatory requirements to ensure timely updates of aircraft magnetic models, creates latent and systemic safety risks, including navigation inaccuracies, interoperability issues, and data inconsistencies between air and ground systems

3.13 The scope of the True-AG work was outlined, covering impacts across the entire airspace system, including navaid infrastructure, aerodrome operations, ANSP systems, air traffic control, procedure

design and publication, avionics compatibility, standards development, training, and human factors. Several transition options under consideration were presented, including a phased transition to true north, continued updating of magnetic variation tables, or a hybrid model combining both approaches. Factors influencing transition planning were highlighted, such as aircraft capability, cost implications, regulatory changes, training needs, and operational boundaries.

3.14 The meeting was also informed of the outcomes of the AIRP/12 Working Paper, which identified the need for regulatory clarification to ensure continued airworthiness for aircraft operating with magnetic variation systems that are either not updated or cannot be updated. The importance of a globally coordinated and harmonized approach was emphasized to avoid regional inconsistencies.

***Updates on GANP 8th Edition***

3.15 The subject was addressed in PPT/7 presented by the Secretariat. The meeting was presented with an overview of the Global Air Navigation Plan (GANP) 8th Edition (2025), with a particular focus on updates related to the Approach Procedures with Vertical Guidance (APTA) thread within the Aviation System Block Upgrade (ASBU) framework. The presentation recalled the evolution of the GANP and highlighted that the 8th Edition reflects the global priorities set by the ICAO Strategic Plan 2026–2050, as approved by the ICAO Council and endorsed by the Assembly, and introduces major updates to the ASBU framework and its performance-driven approach.

3.16 The presentation outlined the key changes introduced in the APTA thread under the GANP 8th Edition, including the addition of new elements in Blocks 3 and 4, the removal of one element, and the deferral of several elements to later Blocks due to enabler availability. Updates to maturity levels for certain elements were also highlighted, as well as enhanced consideration for applicability to new entrants and the use of automation and machine learning where relevant.

3.17 Further details were provided on enabler updates, including changes to element identifiers due to block shifts, the status of unchanged, new, removed, modified or delayed enablers, and reference updates. The impact of these changes on the ICAO work programme was discussed, particularly in relation to the status of SARPs and PANS development, industry standardization activities, and alignment with other standards-setting organizations. Updates to performance assessments were also presented, indicating changes to performance objectives and key performance indicators across relevant Key Performance Areas (KPAs).

3.18 Building on the priorities established by the 41st Session of the ICAO Assembly and aligned with ICAO's Strategic Plan for 2026–2050, the eighth edition of the Global Air Navigation Plan (GANP) was noted as presenting an updated global strategy, supported by implementation mechanisms at the global, regional and national levels. The meeting noted that, by fostering collaboration across the aviation community and promoting an inclusive approach, the eighth edition of the GANP aims to support the development of an agile, safe, secure, sustainable, high-performing and interoperable global air navigation system.

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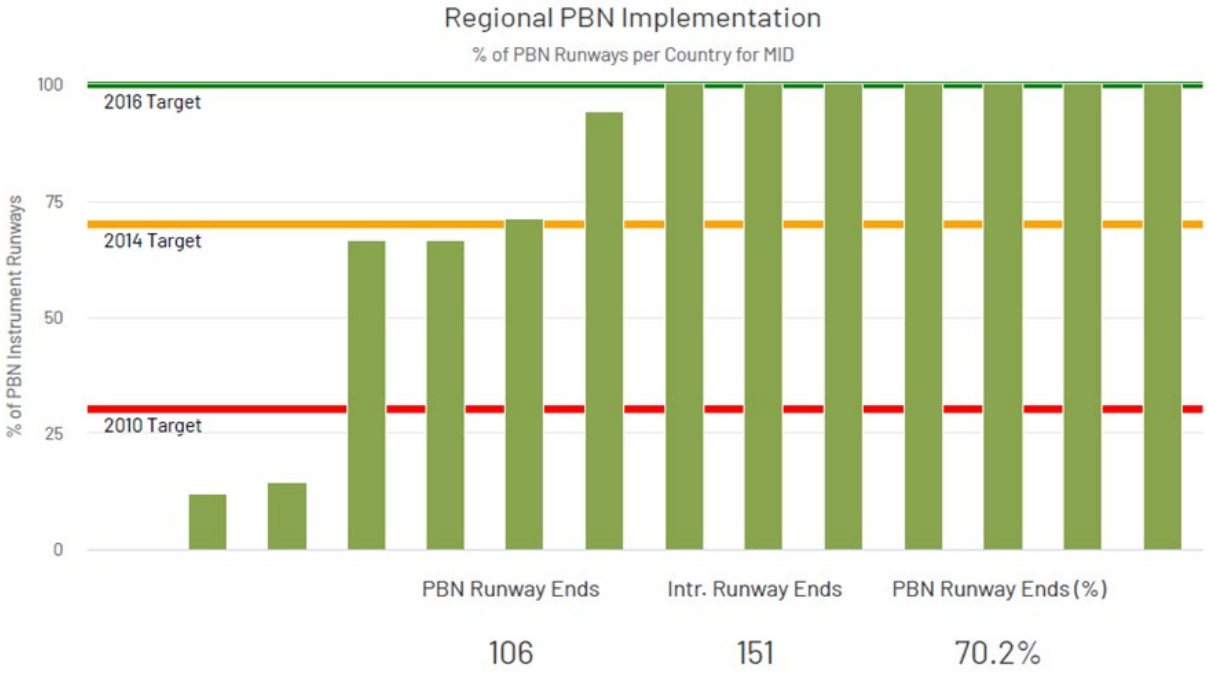
## REPORT ON AGENDA ITEM 4: PBN PLANNING AND IMPLEMENTATION IN THE MID REGION

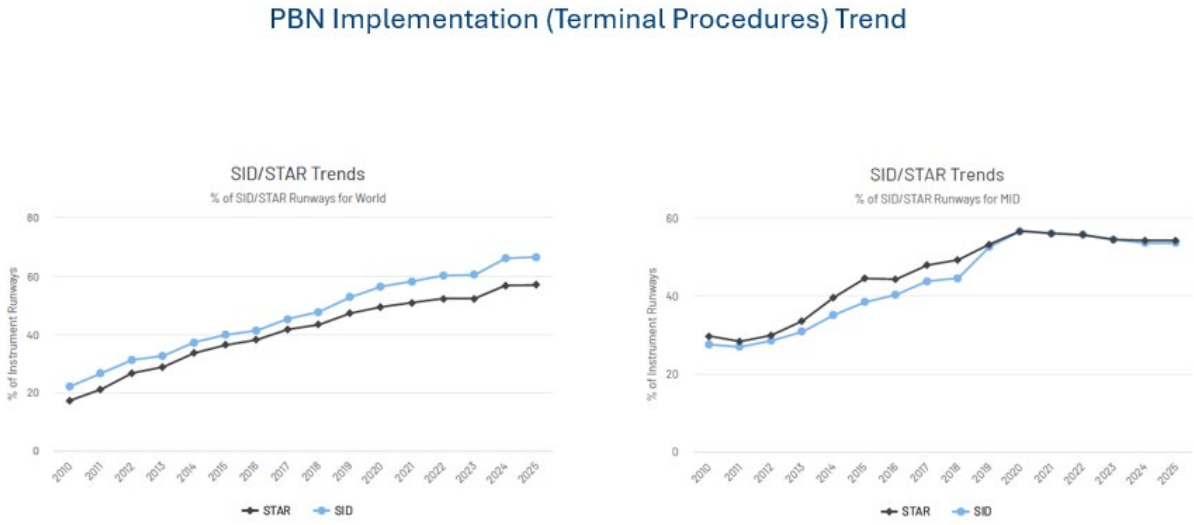
### *PBN Implementation status in MID*

4.1 The subject was addressed in PPT/8 presented by the Secretariat. The meeting was presented with an overview of the status of Performance-Based Navigation (PBN) implementation in the MID Region, in relation to ICAO Assembly Resolution A37-11. The presentation recalled the Resolution objectives, including the implementation of RNAV and RNP operations in en-route and terminal airspace, the provision of approach procedures with vertical guidance (APV), and the availability of LNAV-only procedures, where applicable.

4.2 It was noted that, based on iSTARS data updated as of March 2025, the level of compliance with the Resolution targets in the MID Region remains below the global average for the applicable milestone years. While progress has been achieved, particularly in the implementation of PBN approach procedures, the overall percentage of runway ends provided with PBN approaches in the MID Region stands at approximately 70 per cent, indicating that further efforts are required to reach full implementation (Ref Chart 1 below).




4.3 The presentation highlighted positive trends in the implementation of PBN approach, SID and STAR procedures across the Region, with a gradual increase observed over recent years. However, disparities remain among States, both in terms of coverage and the types of procedures implemented. With regard to national PBN planning, it was reported that out of 15 MID States, only seven have submitted a National PBN Plan, with one updated plan, while eight States have yet to submit a plan, which continues to be a concern for coordinated regional progress (Ref Chart 2 below).




4.4 Information was also provided on the implementation status of relevant Aviation System Block Upgrades (ASBU) APTA elements (B0/1, B0/2, B0/4, B0/5 and B0/7). The average regional implementation across these elements was reported at approximately ***69.6 per cent***, with varying levels of achievement among States. In particular, challenges persist in the implementation of Continuous Descent Operations (CDO), Continuous Climb Operations (CCO), and performance-based aerodrome operating minima.

4.5 The meeting reviewed and updated the status of implementation of the APTA Thread Block 0 and Block 1 in the MID Region, as reflected in **Appendix 4A**. A summary of the implementation status is provided in the table below.

| Module | Elements | Bahrain | Egypt | Iran | Iraq | Jordan | Kuwait | Lebanon | Libya | Oman | Qatar | KSA | Sudan | Syria | UAE | Yemen |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **B0-APTA** | B0/1 | | | | | | | | | | | | | | | |
| | B0/2 | | | | | | | | | | | | | | | |
| | B0/4 | | | | | | | | | | | | | | | |
| | B0/5 | | | | | | | | | | | | | | | |
| | B0/7 | | | | | | | | | | | | | | | |

4.6 The meeting recalled that the ICAO Assembly Resolution A37-urged States to complete a PBN implementation plan by 2009. To date, seven out of the fifteen MID States have submitted plans to the ICAO MID Office.

4.7 The meeting invited States that have yet to develop and submit PBN implementation plans

to do so and meet their obligation with the greatest urgency. States with existing plans should ensure that their plans are robust and are aligned with the Regional plan and ICAO PBN requirements.

4.8 The presentation identified a number of common challenges affecting PBN implementation in the Region, including institutional, technical, operational and financial constraints, as well as issues related to the usability of PBN procedures and the training. In this context, the meeting emphasized the need for PBN capacity-building activities under the MID Regional Programme framework and agreed to plan a dedicated workshop covering training on PBN planning and the implementation of CCO and CDO procedures.

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

***DRAFT CONCLUSION 10/1: PBN AND CCO/CDO WORKSHOP***

*That,*
*a) A PBN and CCO/CDO Workshop be organized in 2026; and*
*b) States and stakeholders are encouraged to actively participate in the workshop to exchange experiences, address challenges, and foster collaboration.*

***MID eANP Volume III***

4.10 The meeting reviewed and updated the MID eANP Volume III (APTA Tables), as at **Appendix 4B**.

***Advancing PBN to Achieve ICAO's Strategic Goals for the Future Aviation System***

4.11 The subject was addressed in WP/9 presented by the Secretariat. The working paper outlined the strategic role of Performance-Based Navigation (PBN) in supporting the ICAO Strategic Plan 2026–2050. The paper also highlighted PBN as a key enabler of ICAO's long-term vision for a safe, secure, resilient and environmentally sustainable global aviation system, contributing to system-wide performance improvement, sustainability and digital transformation.

4.12 It was noted that Performance-Based Navigation (PBN) enhances safety through improved predictability, precision and repeatability of flight paths, in particular through the implementation of advanced approach procedures such as RNP APCH and RNP AR, which significantly reduce the risk of Controlled Flight Into Terrain (CFIT) and support stabilized operations in challenging operational environments. The contribution of PBN to environmentally sustainable aviation was also emphasized, as it enables more direct routing and the implementation of Continuous Climb and Descent Operations (CCO/CDO), thereby supporting ICAO's Long-Term Global Aspirational Goal of net-zero carbon emissions by 2050.

4.13 The role of Performance-Based Navigation (PBN) in improving air navigation capacity, efficiency and operational resilience, while supporting seamless, accessible and reliable air transport, was underlined. In this context, the importance of regional harmonization and the "No Country Left Behind" initiative was highlighted, with emphasis on updated regional implementation plans and guidance to address varying levels of State readiness and infrastructure maturity.

***Review of PBN Implementation Priorities in the MID Region***

4.14 The subject was addressed in PPT/10, presented by the Secretariat. The meeting recalled that the MID Region PBN Implementation Plan (MID Doc 007, May 2023) provides the regional PBN roadmap aligned with the ICAO Global Air Navigation Plan (GANP) and the Aviation System Block Upgrades (ASBU) framework, and emphasized the need for its timely update to reflect recent global and regional developments.

4.15 Several key shortcomings were identified in the current regional PBN Plan, including outdated targets, limited guidance on the implementation of Continuous Climb and Descent Operations (CCO/CDO), the absence of a structured and phased rollout strategy, the lack of reference to Performance-Based Aerodrome Operating Minima (PBAOM), the absence of GNSS contingency and reversion procedures, and other emerging operational concepts.

4.16 The meeting further stressed the need to review PBN implementation priorities across the MID Region, introduce phased implementation strategies reflecting State readiness and available resources, and integrate guidance on GNSS contingency and reversion procedures to enhance operational resilience, and the expansion of guidance material on CCO/CDO with a clear distinction between basic and advanced implementation and PBAOM.

4.17 The meeting tasked the Secretariat to update MID Doc 007 – MID Region PBN Implementation Plan, taking into account the shortcomings identified, the proposed strategic enhancements, and aligning its content with the priorities set forth by the 41st Session of the ICAO Assembly and ICAO's Strategic Plan 2026–2050, and to present the revised Plan to PBN SG/11 for review and MIDANPIRG/24 for endorsement.

***Radio Navigation Aids: Publication and Operational Role***

4.18 The subject was addressed under PPT/11, presented by the Secretariat. The meeting recalled the ICAO Standards and guidance related to the publication of Radio Navigation Aids (NAVAIDs) and GNSS information in States' AIPs, particularly AIP sections GEN 2.5 (List of Radio Navigation Aids), ENR 4.1 (Radio Navigation Aids — En-route), AD 2.19 (Radio Navigation and Landing Aids), and ENR 4.3 (GNSS), noting the distinction between En-route and Terminal NAVAIDs and their corresponding technical data requirements. Reference was also made to MIDANPIRG Conclusion 22/23, which urges States to publish GNSS-related information in accordance with ICAO SARPs.

4.19 The meeting noted the importance of structured AIP templates to accurately map NAVAIDs' operational roles in supporting approach procedures, En-route operations, and SID/STAR procedures, as well as the need for infrastructure planning to address expected service life, replacement strategies, and decommissioning timelines for relevant navigation facilities.

4.20 The meeting noted inconsistencies identified in some MID States' AIPs, including missing technical details, discrepancies between published NAVAIDs and their actual operational use, and inconsistencies between GEN 2.5 and AD 2.19 entries. It was emphasized that harmonized and accurate AIP publication is essential to support PBN implementation, GNSS contingency planning, and navigation infrastructure optimization, and that such inconsistencies may impact PBN procedure safety and operational continuity.

4.21 The meeting urged States to review and harmonize their AIPs, particularly sections GEN 2.5, ENR 4.1, AD 2.19, and ENR 4.3 (GNSS), to ensure full alignment with ICAO SARPs and associated

guidance, and tasked the ICAO MID Regional Office Secretariat to monitor State progress and provide the necessary implementation support.

***MID FPP Updates***

4.22 The subject was addressed in WP/15 presented by the Secretariat providing an update on the MID Flight Procedure Programme (MID FPP).

4.23 The meeting recalled that MIDANPIRG/22 and RASG-MID/12 acknowledged the effectiveness of the MID Flight Procedure Programme (FPP) in supporting States in PANS-OPS and PBN implementation. However, the Programme continues to face significant financial challenges due to unpaid contributions, outstanding training payments, and limited participation, posing a serious risk to the Programme's long-term sustainability.

4.24 It was also recalled that MIDANPIRG/22 agreed to extend the Programme for one additional year under the management of the ICAO MID Office, and tasked the MID Office and the MID FPP Steering Committee to explore alternative business models for consideration at MIDANPIRG/23.

4.25 It was noted that the MID FPP Steering Committee (SC/8) reviewed three sustainability options: continuation under ICAO MID Office management, hosting by a State, or transformation into an ICAO Capacity Development and Implementation (CDI) project. The Steering Committee unanimously endorsed the Host State model, whereby a State would assume day-to-day management responsibilities, provide infrastructure and operational support, and facilitate capacity-building and consultancy services through regional experts.

4.26 The meeting was informed that a State Letter was issued inviting Expressions of Interest from States willing to host the Programme; however, no formal submissions had been received as of the date of this meeting.

4.27 The meeting took note of the updates on the MID FPP and urged States to actively participate in the upcoming MID FPP SC/9 meeting. The meeting further encouraged States to give favourable consideration to hosting the Programme and to submit a formal Expression of Interest to the ICAO MID Office at the earliest opportunity, given the critical importance of ensuring the Programme's continuity and long-term sustainability.

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## REPORT ON AGENDA ITEM 5: STATE'S PBN IMPLEMENTATION JOURNEY: EXPERIENCES AND CHALLENGES

### *PBN Implementation progress in Jordan*

5.1 The subject was addressed in PPT/12, presented by Jordan. the meeting was apprised in particular with the implementation of new PBN Instrument Flight Procedures (IFPs) across major aerodromes, including RNP approaches, ILS transitions, and conventional procedures to ensure redundancy. All runway ends at OJAI, OJAQ and OJAM are supported, enabling CDO/CCO operations and contributing to airspace modernization.

5.2 The meeting noted also that the En-route structure has been updated with new routes linking SIDs and STARs to upper airspace routes, improved traffic segregation, ICAO-compliant route designations, and review of bearings and distances considering magnetic variation.

5.3 Jordan further briefed the meeting on the DME/DME infrastructure project aimed at providing navigation redundancy in case of GNSS interference, enhancing integrity, and supporting RNAV 1 (TMA) and RNAV 5 (En-route) operations. The project was implemented in two phases: Amman and Aqaba TMAs (RNAV 1), followed by En-route (RNAV 5). Coverage studies were conducted to determine optimum DME distribution, minimum required stations, identification of critical DMEs, and required coverage levels, with cooperation from ICAO MID and Oman. Flight inspection and corresponding AIP/chart updates were also addressed.

5.4 Jordan indicated that the next phase will expand coverage to the entire FIR and strengthen cooperation with adjacent FIRs to enhance regional navigation infrastructure.

5.5 The meeting commended Jordan for the progress achieved and took note of the information provided.

### *Egypt's GNSS Interference Mitigation Strategies*

5.6 The subject was addressed in PPT/13, presented by Egypt. The meeting noted the presentation by Egypt on GNSS interference mitigation strategies within the Cairo FIR.

5.7 Egypt highlighted the increasing reliance on GNSS as the backbone of PBN, ADS-B, and ADS-C operations, and informed the meeting of the significant rise in GNSS jamming and spoofing reports since October 2023. Interference events have been reported by airlines operating in Cairo FIR, particularly along traffic flows from Jeddah, Nicosia, and Amman FIRs. The impact has been observed along specific entry points and airways, affecting SID, STAR and RNP operations, especially in the Sinai Peninsula area.

5.8 The presentation emphasized that GNSS interference poses a direct threat to PBN implementation and operational safety. Egypt recalled the applicable regulatory framework, including ICAO Annex 11 provisions on coordination of activities that may endanger civil aviation, and relevant ITU requirements concerning radio frequency interference.

5.9 To mitigate the risks, NANSC implemented a series of operational, procedural, and technical measures, including targeted awareness and training programmes for ACC and aerodrome controllers, issuance of an information bulletin on GNSS interference, development of a simplified reporting form to improve data collection, and a technical feasibility study using EUROCONTROL's DEMETER tool to assess RNAV 5 operations based on DME/DME as a contingency solution.

5.10 Egypt also recalled its working paper presented to MIDANPIRG/22 on enhancing GNSS resilience in the MID Region, which highlighted the need for standardized ICAO guidance on publishing alternative navigation sensors, development of national mitigation strategies, and strengthened regional coordination and information sharing.

5.11 The meeting recognized the regional safety implications of GNSS interference and emphasized the importance of coordinated action among MID States to enhance resilience, improve reporting mechanisms, and ensure adequate contingency arrangements to safeguard PBN operations.

***Feasibility Study of DME/DME RNAV: A Case Study for Aqaba and Amman TMAs***

5.12 The meeting considered WP/14 presented jointly by Oman and Jordan on the feasibility of DME/DME RNAV operations within Aqaba and Amman TMAs as a contingency navigation solution in GNSS-degraded environments.

5.13 The meeting recalled that the study was conducted as a collaborative regional initiative, facilitated by the ICAO MID Office, following PBNSG/9. A joint technical team from Oman and Jordan carried out a detailed assessment using the EUROCONTROL DEMETER tool to evaluate the adequacy of existing and proposed DME infrastructure to support RNAV 1 terminal operations.

5.14 The methodology included analysis of DME siting data (25 existing and proposed stations), terrain data, airspace and procedure design data, geometric constraints, and system parameters in accordance with ICAO Doc 9613 and Doc 8168 criteria. Coverage simulations were conducted at multiple altitude levels within Aqaba and Amman TMAs to determine whether DME/DME updating could be maintained along SID, STAR, holding and approach paths.

5.15 The results indicated that DME/DME-based RNAV 1 operations are generally feasible within the assessed TMAs, particularly at intermediate and higher altitudes. Some terrain-driven limitations were identified at lower altitudes, especially in Aqaba TMA, which may require additional DME installations or optimized configurations. Overall, the evaluated DME configuration provides sufficient geometric strength to support RNAV 1 as a resilient multi-sensor backup to GNSS-based navigation in contingency scenarios.

5.16 The study also highlighted limitations, including the restricted number of DME stations assessed and the focus on terminal airspace only. Recommendations included publishing RNAV 1 procedures with clear PBN requirements and sensor specifications, promoting fleet equipage with multi-sensor capability (GNSS, DME/DME and DME/DME/IRU), considering cross-border DME utilization through bilateral arrangements, and encouraging similar feasibility studies across the MID Region to enhance navigation resilience.

5.17 The meeting welcomed the collaborative effort between Oman and Jordan, recognized the importance of multi-sensor navigation environments to mitigate GNSS vulnerabilities, and emphasized the value of regional cooperation in optimizing ground-based NAVAID infrastructure.

***CCO Implementation: IFP Design Case at Dubai International (OMDB)***

5.18 The meeting noted the presentation PPT/15 by Dubai Air Navigation Services (DANS) on the implementation of Continuous Climb Operations (CCO) at Dubai International Airport (OMDB).

5.19 The presentation recalled the ICAO CCO concept as outlined in Doc 9993, emphasizing that CCO is enabled through appropriate airspace design, instrument flight procedure (IFP) design, and ATC clearances to optimize aircraft performance, reduce fuel burn, and lower emissions.

5.20 Using the ANVIX SID (RWY 30L/R) as a case study, DANS highlighted the operational and design constraints affecting CCO implementation, including obstacle environment, VFR Mandatory Broadcast Zones, restricted areas, military activities, parachute climb boxes, and interaction with arrival flows.

5.21 The presentation described the need for lateral and vertical avoidance strategies, speed restrictions to prevent overshooting, and sequencing considerations to maintain capacity and efficiency.

5.22 Alternative design options were evaluated, including modification of departure tracks and waypoint separation adjustments. Nominal altitude profiles and climb gradients were analyzed to ensure compliance with obstacle clearance criteria while supporting optimized climb performance.

5.23 The presentation highlighted the strategic benefits of CCO implementation, including improved fuel efficiency, environmental gains, reduced ATC and flight crew workload, fewer radio transmissions, and potential capacity and noise management advantages, in line with ICAO strategic airspace concepts.

5.24 The meeting acknowledged the practical case study presented by DANS and noted the importance of integrated airspace and procedure design to achieve environmental and operational benefits through CCO implementation.

***Saudi Arabia – Standardization of Arrival Procedures Based on Traffic Density (SFAC)***

5.25 The meeting noted the presentation PPT/17 by Saudi Air Navigation Services (SANS) on the standardization of arrival procedures under the Saudi Future Airspace Concept (SFAC), a comprehensive airspace modernization initiative aligned with Vision 2030 to accommodate projected traffic growth through 2040.

5.26 Saudi Arabia briefed the meeting on the objectives of standardizing arrival procedures, including enhancing capacity, efficiency, safety, environmental performance, flexibility, and controller workload management, while ensuring scalability to meet future traffic demand. Traffic forecasts indicate significant growth across KSA airports, necessitating structured and harmonized TMA and arrival design concepts.

5.27 The presentation introduced a traffic density-based categorization of airports and corresponding arrival structures:

- Low-density airports (≤ 50 daily movements): T-Bar structure;
- Medium-density airports (≤ 200 daily movements): Two parallel base legs (Trombone);
- High-density airports (> 200 daily movements, e.g. Riyadh and Jeddah): Point Merge System (PMS) combined with Trombone procedures

5.28 For high-density airports, the PMS + Trombone concept is designed to efficiently absorb peak traffic loads, reduce vectoring, support Continuous Descent Operations (CDO), and improve controller workload management. The STAR concept is designed to meet forecast demand up to 2040.

5.29 Saudi Arabia also presented the structure of the national TMA system, composed of seven TMA systems (Riyadh, Jeddah, Dammam, Abha, Hail, Madinah, and Red Sea), noting that a TMA may encompass more than one aerodrome and is designed to protect the lateral and vertical profiles of SIDs and STARs.

5.30 A combination of geographical and functional sectorization is applied at major TMAs, such as Riyadh, to optimize traffic management.

5.31 The meeting acknowledged the structured and scalable approach adopted by Saudi Arabia and noted its relevance as a model for managing increasing traffic demand through harmonized PBN-based arrival designs in the MID Region.

***Jordan Airspace Design Acceptance Procedures***

5.32 The subject was addressed in PPT/18, presented by Jordan. The meeting noted the "Amman Resilient Airspace" redesign project and the associated regulatory oversight framework.

5.33 The presentation highlighted the need for harmonized PBN airspace usage requirements to enhance safety, efficiency, and capacity in response to traffic growth. It emphasized strict quality assurance in Instrument Flight Procedure (IFP) design in accordance with ICAO Doc 8168 (PANS-OPS) and Doc 9906, including documented processes for data acquisition, verification, validation, and oversight.

5.34 Jordan outlined a structured airspace design process based on ICAO guidance, including: initiation, data collection and reference scenario analysis, conceptual design, stakeholder review, criteria application, documentation, safety assessment (in line with Doc 10068, Doc 9859 and national SMS), validation (ground and flight validation per Doc 9906 Vol. 5), formal approval, publication, post-implementation review, and continuous maintenance.

5.35 The importance of robust aeronautical data management (AIXM), ARINC 424 coding standards, data quality verification, and clear agreements between the CAA, ANSP and design providers was underlined. Oversight measures include multi-designer criteria evaluation, safety case development, regulatory involvement from the outset, and structured post-implementation monitoring.

5.36 Operational concepts presented included the use of closed STARs, Point Merge, Trombone procedures for CDO optimization, and future-oriented concepts such as FRA supported by adequate automation and safety nets (e.g. MTCD). The presentation also addressed resilience considerations, including GNSS contingency planning and DME/DME/IRU alternatives.

5.37 The meeting acknowledged Jordan's comprehensive approach to airspace redesign, combining regulatory governance, safety oversight, operational efficiency, and long-term resilience planning.

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**REPORT ON AGENDA ITEM 6: FUTURE WORK PROGRAMME**

6.1 The subject was addressed in WP/19, presented by the Secretariat.

6.2 The meeting reviewed and updated the PBN SG ToRs **at Appendix 6A** and agreed on the following Draft Decision:

***DRAFT DECISION 10/2: PERFORMANCE BASED NAVIGATION SUB-GROUP (PBN SG) TERMS OF REFERENCE***

*That, the Terms of Reference of the Performance Based Navigation Sub-Group, as at **Appendix 6A**, is endorsed.*

6.3 The meeting agreed that the PBN SG/11 meeting be held during Q4 2026.

6.4 The meeting noted with appreciation the generous offer received from Kuwait to host the PBN SG/11 meeting. The exact venue will be communicated with the PBN SG members in due time.

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**REPORT ON AGENDA ITEM 7: ANY OTHER BUSINESS**

***THE IFP PROVISION AND OVERSIGHT WORKSHOP TAKE AWAYS***

7.1 The subject was addressed in PPT/23 presented by the Secretariat.

7.2 The meeting recalled that MIDANPIRG/22, through Conclusion 22/27, agreed that the FP Provision and Safety Oversight Workshop be organized in 2025, to share experiences, tackle common challenges and foster collaboration and to support Civil Aviation Authorities in establishing and implementing a robust safety regulatory and oversight framework for Instrument Flight Procedure Design Services (IFPDS).

7.3 The meeting noted that FP Provision and Safety Oversight Workshop was successfully conducted in Amman, Jordan during the period 7 - 9 December 2025. The Workshop was generously hosted by CARC.

7.4 The meeting was apprised of the main key takeaways from the Provision and Safety Oversight Workshop, which include:

- States retain ultimate responsibility for the provision, approval, and safety oversight of all IFPs published within their territory and airspace, regardless of the delivery model adopted.
- States shall establish and maintain a documented regulatory and oversight framework covering IFP design, approval, validation, publication, documentation retention, and periodic review.
- A formal, traceable approval process verifying compliance with PANS-OPS and national criteria prior to publication is essential.
- Competency requirements for IFP designers and CAA inspectors must be clearly defined in national regulations, with structured training and recurrent competency maintenance (referencing ICAO Doc 9906 and Doc 10070).
- Surveillance of IFP Design Service Providers (IFPDSPs) must be systematic and risk-based, supported by annual surveillance plans, audit checklists, corrective action tracking systems, and findings logs.
- IFPDSPs shall establish and maintain a documented Quality Management System (QMS) covering the entire IFP lifecycle, including post-publication feedback and periodic review.
- Separate safeguarding processes for IFPs are required in addition to OLS protection, due to differences in protection surfaces and obstacle assessment criteria.
- Aeronautical Data Quality (ADQ) controls must be integrated end-to-end within the IFP design and publication workflow, with clear responsibilities between IFPDSPs and AIS/AIM providers.
- Procedure design automation tools should be validated in accordance with the State regulatory framework, with reference to ICAO Doc 9906 (Vol. 3).
- Published IFPs shall be subjected to periodic review at intervals defined by the State, not exceeding five years (Annex 11 requirement).
- States must establish policies governing IFP validation (ground and flight validation), including qualification and approval requirements for flight validation pilots (ICAO Doc 9906, Vol. 6).
- MIDFPP can serve as a regional support mechanism to assist States in IFP approval, ground validation, independent technical review, and capacity-building activities.
- States requiring assistance in IFP provision and oversight are encouraged to inform the ICAO MID Office of their needs.

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# *APPENDICES*

**FOLLOW-UP ON MIDANPIRG/22 CONCLUSIONS & DECISIONS**

| No. | CONCLUSIONS AND DECISIONS | CONCERNS/ CHALLENGES (RATIONALE) | DELIVERABLE/ TO BE INITIATED BY | | TARGET DATE | STATUS/REMARKS |
|---|---|---|---|---|---|---|
| C. 2 | **CONSOLIDATED REGIONAL APPROACH TO GNSS RFI MANAGEMENT**<br>*That, a consolidated regional approach for the management of GNSS RFI be established with the following actions:*<br>*a) States be urged to:*<br>*i. Support the establishment of regional GNSS RFI monitoring and reporting mechanisms through the appropriate MID regional frameworks;*<br>*ii. maintain an adequate network of conventional navigation aids to ensure continuity of air navigation services in case of GNSS signal degradation;*<br>*iii. strengthen civil-military coordination and ensure timely sharing of information related to intentional GNSS interference;*<br>*iv. define reversion scenarios and associated contingency procedures to maintain safe and efficient operations in the event of GNSS unavailability.*<br>*b) ICAO MID Office be requested to:*<br>*i. coordinate the development of the regional GNSS RFI management framework and potential reporting mechanism;*<br>*ii. support States through regional capacity building and awareness activities on GNSS interference detection and mitigation;*<br>*iii. liaise with ICAO Headquarters to contribute to the deployment of global guidance material specifications, including the GNSS RFI mitigation iPack and available information exchange mechanisms.* | The need for a consolidated regional approach for the management of GNSS radio frequency interference (RFI)<br><br>The need to develop CMC plan<br><br>The need to update State contingency plan | a) establish regional GNSS RFI monitoring and reporting mechanism through the appropriate MID regional frameworks;<br><br>develop CMC plan<br><br>update State contingency plan | ICAO MID<br><br>States<br><br>States | TBD | **Ongoing**<br>SL Ref: AN7/30.21 -25/130 Dated 24 June 2025 |
| D. 3 | **AMENDED RASG-MID SAFETY ADVISORY 14**<br>That, the amended RASG-MID Safety Advisory 14 (RSA-14) at **Appendix 2B** is endorsed. | need for its revision to incorporate inputs from both ATM, CNS and PBN SGs operational response measure | Revised version of RSA-14 | MIDANPIRG/22 | 2025 | **Completed** |

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| C.5 | **MID FPP SUSTAINABILITY AND FUTURE PLAN**<br>*That:*<br>*a) ICAO MID Office and the MID FPP SC explore alternative options for the continuation of the MID FPP with a different business model; and*<br>*b) ICAO MID Office continue to manage the Programme until a final decision regarding the future of the Programme is taken by the MIDANPIRG/23.* | To address the financial challenges and ensure the continued success and sustainability of the MID FPP. | Options to ensure Continuity and Sustainability of the MID FPP | ICAO MID and MIDFPP SC | 2025 | **On-going** |
| C. 22/1 | **MID AIR NAVIGATION REPORT - 2024**<br>*That, the MID Air Navigation Report-2024 is endorsed and be published by the ICAO MID Office.* | Reflect the implementation Status of RANP within the MID Region | MID Air Navigation Report 2024 | ICAO MID | March 2025 | **Completed**<br>ANR 2024 posted at |
| C. 22/2 | **MID AIR NAVIGATION PLAN VOLUME III EDITION 2025)**<br>*That, MID Air Navigation Plan Volume III (Edition 2025) be endorsed and published under the ICAO MID Office website.* | Need to update the ANP Vol III to align with the GANP and the Performance Based Approach | Revised MID ANP Vol III | ICAO MID | 2025 | **Completed**<br>MID ANP Vol III posted and available on the ICAO MID web site |
| C. 22/3 | **MID AIR NAVIGATION STRATEGY (EDITION MARCH 2024 REVISION FEBRUARY 2025)**<br>*That, the MID Air Navigation Strategy (ICAO MID DOC 002, Edition March 2024,Revision February 2025) be endorsed and published under the ICAO MID Office website.* | To publish the status of ASBU implementation in the MID Region | MID Air Navigation report (2024) | ICAO MID | May 2025 | **Completed**<br>Air Navigation Report 2024 posted and available on the ICAO MID web site |
| C. 22/4 | **MID REGION AIR NAVIGATION REPORT (2025)**<br>*That,*<br>*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**:*<br>*i. the status of implementation of Priority 1 ASBU elements;*<br>*ii. major achievements and success stories*<br>*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*<br>*iv. progress achieved for the implementation of the Performance Based Approach and development of National Air Navigation Plan (NANP).*<br>*b) the MID Air Navigation Report (2025) be presented to the MIDANPIRG/23 for endorsement.* | Monitoring and Reporting on ASBU and PBA implementation in the MID Region | State Letter<br><br>Data for web based AN Report 2025 | ICAO MID<br><br>States | February 2026 | **On-going** |

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| D. 22/13 | **FREE ROUTE IMPLEMENTATION GUIDANCE MATERIAL**<br>That, the Guidance material for Free Route implementation at Appendix 5I, is endorsed. | Development of FRA guidance material supported by the expertise of states implemented the FRA within their FIRs | FRA guidance material | MID States | 2025 | **Completed** |
| C. 22/20 | **MID NAV-MON ACTION GROUP**<br>*That,*<br>*a) NAV-MON Action Group be established to develop a proposal for a Regional Navigational Minimum Operational Network supporting the ANS operations;*<br>*b) the terms of reference of the NAV-MON Action Group be developed during the first meeting of the Action Group; and*<br>*c) 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.* | Development of Regional Navigational Minimum Operational Network supporting the ANS operations. | MID NAV-MON Network | MIDANPIRG/22 | 2026 | **On-going** |
| C. 22/23 | **PUBLICATION OF GNSS-RELATED INFORMATION IN STATES' AIPS**<br>*That,*<br>*a) States that have not yet done so are urged to promptly publish GNSS information in the relevant sections of their AIPs, including AD 2.19 (Radio Navigation and Landing Aids) and ENR 4.3 (Global Navigation Satellite System - GNSS), ensuring compliance with ICAO Standards and Recommended Practices (SARPs) and associated guidelines; and*<br>*b) ICAO MID monitor the publication status of GNSS-related information in States' AIPs and regularly report progress to the relevant subsidiary bodies of MIDANPIRG.* | To promote and foster the harmonization and consistency in the publication of GNSS-related information within MID States' Aeronautical Information Publications (AIPs) | Publication of GNSS-related information within MID States' Aeronautical Information Publications (AIPs) | States | 2025 | **Completed**<br>State Letter Ref.: AN 8/2.1 – 25/107 dated 2 June 2025 |
| D. 22/25 | **PBN SID/STAR CHARTS HARMONIZED AIP PUBLICATION**<br>*That, ICAO MID Office:*<br>*a) promotes the PBN SID and STAR Charting factsheet at* ***Appendix 5T*** *along with the* complementary explanatory guidance at ***Appendix 5U*** *to enhance harmonization in the publication of these procedures across the MID Region, ensuring their widespread* | To support standardization and promote harmonization and consistency in the publication of PBN SID and STAR Charts | PBN SID/STAR charts Harmonised AIP Publication' factsheet | ICAO MID | 2025 | **Completed**<br>State Letter Ref.: AN 6/28 – 25/109 dated 2 June 2025 |

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| | *dissemination among member states; and*<br>*b) monitors the implementation status of PBN SID/STAR charts and the harmonized AIP*<br>*publication and provides progress reports to the relevant subsidiary bodies of MIDANPIRG.* | | | | | |
| C. 22/26 | **GUIDANCE MATERIAL ON RNP APPROACH**<br>*That, ICAO MID promotes the guidance material on RNP Approach (RNP APCH) outlined*<br>*in EUR Doc 025, at **Appendix 5V**, and ensuring its widespread dissemination among MID States.* | To promote the guidance material on RNP Approach (RNP APCH) outlined in EUR Doc 025 | Guidance material on RNP Approach (RNP APCH) outlined in EUR Doc 025 | ICAO MID | 2025 | **Completed**<br>State Letter Ref.: AN 6/28 – 25/110 dated 2 June 2025 |
| C. 22/27 | **IFP PROVISIONS AND SAFETY OVERSIGHT WORKSHOP**<br>*That,*<br>*a) IFP Provision and Safety Oversight Workshop be organized in 2025; and*<br>*b) States and stakeholders are encouraged to actively participate in the workshop to exchange experiences, address challenges, and foster collaboration.* | To strengthen and support Civil Aviation Authorities (CAAs) in establishing a robust oversight framework for IFP | Workshop on IFP provisions and oversight | ICAO MID | 2025 | **Completed** |
| C. 22/34 | **REVISED TERMS OF REFERENCE FOR MIDANPIRG SUBSIDIARY BODY**<br>*That, all Subsidiary bodies include in its meeting agenda revision of Terms of Reference, in a collaborated manner with other subgroups to ensure less duplication of assigned tasks and responsibilities.* | Need to revise the TOR of SGs | Revised TOR | PBN SG | 2026 | **Completed** |
| C.21/7 | **WORKSHOP ON PBN/GNSS**<br>*That, ICAO, jointly with ACAO organize a Workshop on PBN/GNSS in 2024.* | To provide a forum for sharing the current developments and future evolutions related to GNSS along with implementation of different GNSS elements/options and associated challenges. | Workshop | ICAO | 2026 | ICAO Workshop on PBN/GNSS is postponed to 2026 |

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| C.5 | **MID FPP SUSTAINABILITY AND FUTURE PLAN**<br>*That:*<br>*a) ICAO MID Office and the MID FPP SC explore alternative options for the continuation of the MID FPP with a different business model; and*<br>*b) ICAO MID Office continue to manage the Programme until a final decision regarding the future of the Programme is taken by the MIDANPIRG/23.* | To address the financial challenges and ensure the continued success and sustainability of the MID FPP. | Options to ensure Continuity and Sustainability of the MID FPP | ICAO MID and MIDFPP SC | 2025 | **On-going** |
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| C. 22/23 | **PUBLICATION OF GNSS-RELATED INFORMATION IN STATES' AIPS**<br>*That,*<br>*a) States that have not yet done so are urged to promptly publish GNSS information in the relevant sections of their AIPs, including AD 2.19 (Radio Navigation and Landing Aids) and ENR 4.3 (Global Navigation Satellite System - GNSS), ensuring compliance with ICAO Standards and Recommended Practices (SARPs) and associated guidelines; and*<br>*b) ICAO MID monitor the publication status of GNSS-related information in States' AIPs and regularly report progress to the relevant subsidiary bodies of MIDANPIRG.* | To promote and foster the harmonization and consistency in the publication of GNSS-related information within MID States' Aeronautical Information Publications (AIPs) | Publication of GNSS-related information within MID States' Aeronautical Information Publications (AIPs) | States | 2025 | **Completed**<br>State Letter Ref.: AN 8/2.1 – 25/107 dated 2 June 2025 |
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| | *dissemination among member states; and*<br>*b) monitors the implementation status of PBN SID/STAR charts and the harmonized AIP*<br>*publication and provides progress reports to the relevant subsidiary bodies of MIDANPIRG.* | | | | | |
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| C.21/7 | **WORKSHOP ON PBN/GNSS**<br>*That, ICAO, jointly with ACAO organize a Workshop on PBN/GNSS in 2024.* | To provide a forum for sharing the current developments and future evolutions related to GNSS along with implementation of different GNSS elements/options and associated challenges. | Workshop | ICAO | 2026 | ICAO Workshop on PBN/GNSS is postponed to 2026 |

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## MID REGION PBN IMPLEMENTATION STATUS

**Updated on 01st December 2025**

| Legend | | |
|---|---|---|
| | | Not implemented |
| | | Not feasible |
| | | Not applicable |
| | | Data not available |
| | | Implemented |

| State | Airport | RWY ends | LNAV | LNAV/ VNAV | RNAV SID | RNAV STAR | CDO | CCO | PB-AOM |
|---|---|---|---|---|---|---|---|---|---|
| Bahrain | OBBI | RWY 12R | | | | | | | |
| | | RWY 12L | | | | | | | |
| | | RWY 30R | | | | | | | |
| | | RWY 30L | | | | | | | |
| Egypt | HEBA | RWY 14R | | | | | | | |
| | | RWY 32L | | | | | | | |
| | | RWY 32 | | | | | | | |
| | HESN | RWY 17 | | | | | | | |
| | | RWY 35 | | | | | | | |
| | HECA | RWY 05L | | | | | | | |
| | | RWY 23R | | | | | | | |
| | | RWY 05C | | | | | | | |
| | | RWY 23C | | | | | | | |
| | | RWY 05R | | | | | | | |
| | | RWY 23L | | | | | | | |
| | HEGN | RWY 16L | | | | | | | |
| | | RWY 34R | | | | | | | |
| | | RWY 16R | | | | | | | |
| | | RWY 34L | | | | | | | |

| State | Airport | RWY ends | LNAV | LNAV/ VNAV | RNAV SID | RNAV STAR | CDO | CCO | PB-AOM |
|---|---|---|---|---|---|---|---|---|---|
| | HELX | RWY 02 | | | | | | | |
| | | RWY 20 | | | | | | | |
| | HEMA | RWY 15 | | | | | | | |
| | | RWY 33 | | | | | | | |
| | HESH | RWY 04L | | | | | | | |
| | | RWY 22R | | | | | | | |
| | | RWY 04R | | | | | | | |
| | | RWY 22L | | | | | | | |
| **Iran** | OIKB | RWY 03R | | | | | | | |
| | | RWY 21L | | | | | | | |
| | OIFM | RWY 08L | | | | | | | |
| | | RWY 26R | | | | | | | |
| | | RWY 08R | | | | | | | |
| | | RWY 26L | | | | | | | |
| | OIMM | RWY 13L | | | | | | | |
| | | RWY 31R | | | | | | | |
| | | RWY 13R | | | | | | | |
| | | RWY 31L | | | | | | | |
| | OISS | RWY 29L | | | | | | | |
| | | RWY 29R | | | | | | | |
| | OITT | RWY 12L | | | | | | | |
| | | RWY 30R | | | | | | | |

| State | Airport | RWY ends | LNAV | LNAV/ VNAV | RNAV SID | RNAV STAR | CDO | CCO | PB-AOM |
|---|---|---|---|---|---|---|---|---|---|
| | OIIE | RWY 11L | | | | | | | |
| | | RWY 29R | | | | | | | |
| | OIII | RWY 11R | | | | | | | |
| | | RWY 29L | | | | | | | |
| | | RWY 11L | | | | | | | |
| | | RWY 29R | | | | | | | |
| | OIYY | RWY 13 | | | | | | | |
| | | RWY 31 | | | | | | | |
| | OIZH | RWY 17R | | | | | | | |
| | | RWY 35L | | | | | | | |
| Iraq | ORNI | RWY 28 | | | | | | | |
| | | RWY 10 | | | | | | | |
| | ORBI | RWY 15R | | | | | | | |
| | | RWY 33L | | | | | | | |
| | | RWY 15L | | | | | | | |
| | | RWY 33R | | | | | | | |
| | ORMM | RWY 32 | | | | | | | |
| | | RWY 14 | | | | | | | |
| | ORER | RWY 18 | | | | | | | |
| | | RWY 36 | | | | | | | |
| | ORSU | RWY 31 | | | | | | | |
| | | RWY 13 | | | | | | | |
| Jordan | OJAM | RWY 06 | | | | | | | |

| State | Airport | RWY ends | LNAV | LNAV/ VNAV | RNAV SID | RNAV STAR | CDO | CCO | PB-AOM |
|---|---|---|---|---|---|---|---|---|---|
| | | RWY 24 | | | | | | | |
| | OJAI | RWY 08R | | | | | | | |
| | | RWY 26L | | | | | | | |
| | | RWY 08L | | | | | | | |
| | | RWY 26R | | | | | | | |
| | OJAQ | RWY 01 | | | | | | | |
| | | RWY 19 | | | | | | | |
| Kuwait | OKBK | RWY 15R | | | | | | | |
| | | RWY 33L | | | | | | | |
| | | RWY 15L | | | | | | | |
| | | RWY 33R | | | | | | | |
| Lebanon | OLBA | RWY 03 | | | | | | | |
| | | RWY 21 | | | | | | | |
| | | RWY 16 | | | | | | | |
| | | RWY 17 | | | | | | | |
| Libya | HLLB | RWY 15L | | | | | | | |
| | | RWY 33R | | | | | | | |
| | | RWY 15R | | | | | | | |
| | | RWY 33L | | | | | | | |
| | HLLS | RWY 13 | | | | | | | |

| State | Airport | RWY ends | LNAV | LNAV/ VNAV | RNAV SID | RNAV STAR | CDO | CCO | PB-AOM |
|---|---|---|---|---|---|---|---|---|---|
| | | RWY 31 | | | | | | | |
| | HLLT | RWY 09 | | | | | | | |
| | | RWY 27 | | | | | | | |
| Oman | OOMS | RWY 08L | | | | | | | |
| | | RWY 26R | | | | | | | |
| | OOSA | RWY 07 | | | | | | | |
| | | RWY 25 | | | | | | | |
| Qatar | OTBD | RWY 15 | | | | | | | |
| | | RWY 33 | | | | | | | |
| | OTHH | RWY 16L | | | | | | | |
| | | RWY 34R | | | | | | | |
| | | RWY 16R | | | | | | | |
| | | RWY 34L | | | | | | | |
| Saudi Arabia | OEDF | RWY 16L | | | | | | | |
| | | RWY 34R | | | | | | | |
| | | RWY 16R | | | | | | | |
| | | RWY 34L | | | | | | | |
| | OEJN | RWY 16R | | | | | | | |
| | | RWY 34L | | | | | | | |
| | | RWY 16C | | | | | | | |
| | | RWY 34C | | | | | | | |

| State | Airport | RWY ends | LNAV | LNAV/ VNAV | RNAV SID | RNAV STAR | CDO | CCO | PB-AOM |
|---|---|---|---|---|---|---|---|---|---|
| | | RWY 16L | | | | | | | |
| | | RWY 34R | | | | | | | |
| | OEMA | RWY 17 | | | | | | | |
| | | RWY 35 | | | | | | | |
| | | RWY 18 | | | | | | | |
| | | RWY 36 | | | | | | | |
| | OERK | RWY 15L | | | | | | | |
| | | RWY 33R | | | | | | | |
| | | RWY 15R | | | | | | | |
| | | RWY 33L | | | | | | | |
| **Sudan** | HSOB | RWY 01 | | | | | | | |
| | | RWY 19 | | | | | | | |
| | HSSK | RWY 18 | | | | | | | |
| | | RWY 36 | | | | | | | |
| | HSNN | RWY 04 | | | | | | | |
| | | RWY 22 | | | | | | | |
| | HSPN | RWY 16 | | | | | | | |
| | | RWY 34 | | | | | | | |
| **Syria** | OSAP | RWY 09 | | | | | | | |
| | | RWY 27 | | | | | | | |
| | OSDI | RWY 05L | | | | | | | |
| | | RWY 23R | | | | | | | |

| State | Airport | RWY ends | LNAV | LNAV/ VNAV | RNAV SID | RNAV STAR | CDO | CCO | PB-AOM |
|---|---|---|---|---|---|---|---|---|---|
| | | RWY 05R | | | | | | | |
| | | RWY 23L | | | | | | | |
| | OSLK | RWY 17 | | | | | | | |
| | | RWY 35 | | | | | | | |
| UAE | OMAA | RWY 13 R | | | | | | | |
| | | RWY 31 L | | | | | | | |
| | | RWY 13 L | | | | | | | |
| | | RWY 31 R | | | | | | | |
| | OMAD | RWY 13 | | | | | | | |
| | | RWY 31 | | | | | | | |
| | OMAL | RWY 01 | | | | | | | |
| | | RWY 19 | | | | | | | |
| | OMDW | RWY 12 | | | | | | | |
| | | RWY 30 | | | | | | | |
| | | RWY 13 | | | | | | | |
| | | RWY 31 | | | | | | | |
| | OMDB | RWY 12L | | | | | | | |
| | | RWY 30R | | | | | | | |
| | | RWY 12R | | | | | | | |
| | | RWY 30L | | | | | | | |
| | OMFJ | RWY 11 | | | | | | | |
| | | RWY 29 | | | | | | | |

| State | Airport | RWY ends | LNAV | LNAV/ VNAV | RNAV SID | RNAV STAR | CDO | CCO | PB-AOM |
|---|---|---|---|---|---|---|---|---|---|
| | OMRK | RWY 16 | | | | | | | |
| | | RWY 34 | | | | | | | |
| | OMSJ | RWY 12 | | | | | | | |
| | | RWY 30 | | | | | | | |
| Yemen | OYAA | RWY 08 | | | | | | | |
| | | RWY 26 | | | | | | | |
| | OYHD | RWY 03 | | | | | | | |
| | | RWY 21 | | | | | | | |
| | OYRN | RWY 06 | | | | | | | |
| | | RWY 24 | | | | | | | |
| | OYSN | RWY 18 | | | | | | | |
| | | RWY 36 | | | | | | | |
| | OYTZ | RWY 01 | | | | | | | |
| | | RWY 19 | | | | | | | |

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***APTA : Improve arrival and departure operations***

**TABLE -APTA 3-1**

EXPLANATION OF THE TABLE

| Column | |
|---|---|
| 1 | Name of the State / International Aerodromes' Location Indicator |
| 2 | Runway Designator |
| 3, 4, 5 | Conventional Approaches (ILS / VOR or NDB) |
| 6, 7, 8, 9 | Elements of APTA B0/1 PBN Approaches with basic capabilities (Status of PBN Plan and implementation of LNAV, LNAV/VNAV), where:<br>Y – Yes, implemented<br>N – No, not implemented |
| 10 | PBN Runway: where any type of PBN approach is implemented |
| 12, 15 | Elements of APTA B0/2 PBN SID and STAR procedures (with basic capabilities)<br>Y – Yes, implemented<br>N – No, not implemented |
| 11, 13 | Elements of APTA B0/5 CCO basic (Status of implementation of CCO) per runway end and per aerodrome, where:<br>Y – Yes, implemented<br>N – No, not implemented |
| 14, 16 | Elements of APTA B0/4 CDO basic (Status of implementation of CDO) per runway end and per aerodrome, where: |

| | |
|---|---|
| | Y – Yes, implemented |
| | N – No, not implemented |
| 17 | Elements of APTA B0/7 Performance based aerodrome operating minima – Advanced aircraft (Compliance with the requirements for PB AOM) per State, where: |
| | FC – Fully compliant |
| | NC – Not compliant |
| 18 | Remarks |

| Int'l AD (Ref. MID ANP) (1) | RWY (2) | Conventional Approaches (3) | | | APTA (6) | | | | CCO (11) | | | | CDO (14) | | | | PBAOM (17) | Remarks (18) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Precision (4) | | VOR or NDB (5) | PBN PLAN (7) | LNAV (8) | LNAV / VNAV (9) | PBN RWY (10) | RNAV SID (12) | | CCO (13) | | RNAV STAR (15) | | CDO (16) | | | |
| | | xLS | CAT | | Update date | | | | RWY | AD | RWY | AD | RWY | AD | RWY | AD | | |
| **BAHRAIN** | | | | | | | | | | | | | | | | | | |
| OBBI | 12L | ILS | II | VORDME | | Y | Y | Y | N | N | Y | Y | Y | Y | Y | Y | Y | |
| | 12R | | | VORDME | | Y | Y | Y | N | N | N | N | N | N | N | N | | |
| | 30L | | | VORDME | | Y | Y | Y | N | N | N | N | N | N | N | N | | |
| | 30R | ILS | II | VORDME | | Y | Y | Y | N | N | Y | N | Y | N | Y | N | | |
| Total | 4 | 2 | | 4 | Y | 4 | 4 | 4 | 0 | 0 | 2 | 1 | 2 | 1 | 2 | 1 | - | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % | | 50 | | 100 | Y | 100 | 100 | 100 | 0 | 0 | 50 | 100 | 50 | 100 | 50 | 100 | 100 | |
| **EGYPT** | | | | | | | | | | | | | | | | | | |
| HEBA | 14 | | | | | Y | N | Y | N | Y | N | N | N | N | N | N | | |
| | 32 | ILS | I | | | Y | N | Y | Y | N | N | N | N | N | N | N | | |
| HESN | 17 | | | VORDME | | Y | Y | Y | Y | Y | N | N | Y | Y | N | N | | |
| | 35 | ILS | I | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| HECA | 05L | ILS | I | VORDME | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| | 05C | ILS | II | VORDME | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| | 05R | ILS | II | | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| | 23L | ILS | II | VORDME | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| | 23C | ILS | II | VORDME | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| | 23R | ILS | I | VORDME | | Y | N | Y | N | N | N | N | N | N | N | N | Y | |
| HEGN | 16L | | | VORDME | | Y | Y | Y | N | Y | N | N | N | Y | N | N | | |
| | 16R | | | VORDME | | Y | Y | Y | N | N | N | N | N | N | N | N | | |
| | 34L | | | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| | 34R | ILS | I | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| HELX | 2 | ILS | I | VORDME | | Y | Y | Y | Y | Y | N | N | Y | Y | N | N | | |
| | 20 | ILS | I | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| HEMA | 15 | | | VORDME | | Y | N | Y | Y | Y | N | N | Y | Y | N | N | | |
| | 33 | | | VORDME | | Y | N | Y | Y | N | N | N | Y | N | N | N | | |
| HESH | 04L | ILS | I | VORDME | | Y | Y | Y | Y | Y | N | N | Y | Y | N | N | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 04R | | | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| | 22L | | | | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| | 22R | | | | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| Total | 22 | 12 | | 17 | Y | 22 | 12 | 22 | 13 | 6 | 0 | 0 | 12 | 5 | 0 | 0 | - | |
| % | | 55 | | 77 | Y | 100 | 55 | 100 | 59 | 86 | 0 | 0 | 55 | 71 | 0 | 0 | 100 | |
| **I.R. IRAN** | | | | | | | | | | | | | | | | | | |
| OIKB | 03L | | | | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 03R | | | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 21L | ILS | I | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 21R | | | | | N | N | N | N | N | N | N | N | N | N | N | | |
| OIFM | 08L | | | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 08R | | | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 26L | | | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 26R | ILS | I | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | | |
| OIMM | 13L | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 13R | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 31L | | | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | |
| | 31R | ILS | I | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | |
| OISS | 11L | | | | | N | N | N | N | N | N | N | N | N | N | N | |
| | 11R | | | | | N | N | N | N | N | N | N | N | N | N | N | |
| | 29L | ILS | I | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | |
| | 29R | | | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | |
| OITT | 12L | | | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | |
| | 12R | | | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | |
| | 30L | ILS | I | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | |
| | 30R | ILS | I | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | |
| OIIE | 11L | IL S | I | VORDME | | Y | Y | Y | N | N | N | N | Y | Y | N | N | |
| | 11R | | | VORDME | | N | N | N | N | N | N | N | Y | N | N | N | |
| | 29L | | | | | N | N | N | N | N | N | N | Y | N | N | N | |
| | 29R | ILS | II | VORDME | | Y | Y | Y | N | N | N | N | Y | Y | N | N | |
| OIII | 11L | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11R | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 29L | ILS | I | VORDME | | Y | Y | Y | N | N | N | N | N | N | N | N | | |
| | 29R | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| OIZH | 17R | | | | | Y | Y | Y | N | N | N | N | Y | Y | N | N | | |
| | 17L | | | | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 35L | ILS | I | VORDME | | Y | Y | Y | N | N | N | N | Y | N | N | N | | |
| | 35R | | | | | N | N | N | N | N | N | N | N | N | N | N | | |
| OIYY | 13 | | | VORDME | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| | 31 | ILS | I | VORDME | | Y | Y | Y | N | N | N | N | N | N | N | N | | |
| Total | 34 | 11 | | 26 | Y | 7 | 6 | 7 | 0 | 0 | 0 | 0 | 6 | 3 | 0 | 0 | - | |
| % | | 32 | | 76 | Y | 21 | 18 | 21 | 0 | 0 | 0 | 0 | 18 | 9 | 0 | 0 | 100 | |
| **IRAQ** | | | | | | | | | | | | | | | | | | |
| ORBI | 15L | ILS | I | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 15R | | | | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| | 33L | | | | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| | 33R | ILS | I | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| ORMM | 14 | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | N | |
| | 32 | ILS | I | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| ORER | 18 | ILS | II | | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| | 36 | ILS | I | | | Y | N | Y | N | N | N | N | N | N | N | N | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ORSU | 13 | ILS | I | VOR | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| | 31 | ILS | I | VOR | | Y | N | Y | N | N | N | N | N | N | N | N | | |
| ORNI | 10 | ILS | I | VOR | | Y | Y | Y | Y | Y | N | N | Y | Y | N | N | | |
| | 28 | ILS | I | VOR | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| ORBM | 15 | | | | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 33 | | | | | N | N | N | N | N | N | N | N | N | N | N | | |
| Total | 14 | 9 | | 8 | N | 8 | 2 | 8 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | - | |
| % | | 64 | | 57 | | 57 | 14 | 57 | 14 | 17 | 0 | 0 | 14 | 16.67 | 0 | 0 | 0 | |
| **JORDAN** | | | | | | | | | | | | | | | | | | |
| OJAI | 08L | ILS | I | NDB | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 08R | | | NDB | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| | 26L | ILS | II | VOR | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| | 26R | ILS | I | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | Y | |
| OJAQ | 1 | ILS | I | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 19 | ILS | I | | | Y | N/A | Y | Y | N | N | N | Y | N | N | N | | LNAV/VNAV not feasible |
| Total | 6 | 5 | | 4 | Y | 6 | 6 | 6 | 6 | 2 | 2 | 2 | 6 | 2 | 2 | 2 | - | |
| % | | 83 | | 67 | | 100 | 100 | 100 | 100 | 100 | 33 | 100 | 100 | 100 | 33 | 100 | 100 | |
| KUWAIT | | | | | | | | | | | | | | | | | | |
| OKBK | 15L | ILS | II | VORDME | | Y | Y | Y | Y | Y | N | N | Y | Y | N | N | N | |
| | 15R | ILS | II | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 33L | ILS | II | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| | 33R | ILS | II | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| Total | 4 | 4 | | 4 | Y | 4 | 4 | 4 | 4 | 1 | 0 | 0 | 4 | 1 | 0 | 0 | - | |
| % | | 100 | | 100 | | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 | 100 | 0 | 0 | 0 | |
| **LEBANON** | | | | | | | | | | | | | | | | | | |
| OLBA | 3 | ILS | I | VORDME | | Y | N | Y | N | N | Y | Y | Y | Y | Y | Y | | |
| | 16 | ILS | I | VORDME | | Y | N | Y | N | N | Y | N | Y | N | Y | N | | |
| | 17 | ILS | I | VORDME / NDB | | Y | N | Y | N | N | Y | N | Y | N | Y | N | | |
| | 21 | | | | | Y | N | Y | N | N | Y | N | Y | N | Y | N | Y | |
| | 34 | N/A | | N/A | | N | N | N | N | N | Y | N | N | N | N | N | | Not used for landing |
| | 35 | N/A | | N/A | | N | N | N | N | N | Y | N | N | N | N | N | | Not used for landing |
| Total | 4 | 5 | | 5 | N | 4 | 0 | 4 | 0 | 0 | 6 | 1 | 4 | 1 | 4 | 1 | - | |
| % | | 125 | | 125 | | 100 | 0 | 100 | 0 | 0 | 150 | 100 | 100 | 100 | 100 | 100 | 100 | |
| **LIBYA** | | | | | | | | | | | | | | | | | | |
| HLLB | 15R | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 15L | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 33R | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | Y | |
| | 33L | ILS | I | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| HLLS | 13 | ILS | I | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 31 | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| HLLT | 9 | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 27 | ILS | I | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| Total | 8 | 3 | | 8 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| % | | 38 | | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | |
| **OMAN** | | | | | | | | | | | | | | | | | | |
| OOMS | 08L | ILS | I | VORDME | | Y | Y | Y | Y | Y | N | N | Y | Y | N | N | | |
| | 26R | ILS | I | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | Y | |
| OOSA | 7 | ILS | I | VORDME | | Y | Y | Y | Y | Y | N | N | Y | Y | N | N | | |
| | 25 | ILS | I | VORDME | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| Total | 4 | 4 | | 4 | Y | 4 | 4 | 4 | 4 | 2 | 0 | 0 | 4 | 2 | 0 | 0 | - | |
| % | | 100 | | 100 | | 100 | 100 | 100 | 100 | 100 | 0 | 0 | 100 | 100 | 0 | 0 | 100 | |
| **QATAR** | | | | | | | | | | | | | | | | | | |
| OTBD | 15 | ILS | I | VORDME | | Y | N/A | Y | Y | Y | Y | Y | Y | Y | Y | Y | | LNAV/VNAV not feasible |
| | 33 | ILS | II/III | VORDME/NDB | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | Y | CCO/CDO tactically achieved |
| OTHH | 16L | ILS | I/II/III | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | CCO/CDO tactically achieved |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 16R | ILS | I/II/III | VORDME | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | | CCO/CDO tactically achieved |
| | 34L | ILS | I/II/III | VORDME | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | | CCO/CDO tactically achieved |
| | 34R | ILS | I/II/III | VORDME | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | | CCO/CDO tactically achieved |
| Total | 6 | 6 | | 6 | Y | 6 | 6 | 6 | 6 | 2 | 6 | 2 | 6 | 2 | 6 | 2 | - | |
| % | | 100 | | 100 | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| **SAUDI ARABIA** | | | | | | | | | | | | | | | | | | |
| OEDF | 16L | ILS | I | - | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 16R | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 34L | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 34R | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| OEJN | 16L | ILS | I | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 16C | ILS | I | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 16R | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 34L | ILS | I | VORDME | | NP | NP | N | Y | Y | Y | Y | Y | Y | Y | Y | | (NP): Not Published due to operationally unacceptable |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | OCA |
| | 34C | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 34R | ILS | I | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| OEMA | 17 | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 18 | | | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 35 | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 36 | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| OERK | 15L | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 15R | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 33L | ILS | I | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| | 33R | ILS | I | VORDME | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | | |
| Total | 18 | 17 | | 13 | Y | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | | |
| % | | 94 | | 72 | Jan 2023 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| **SUDAN** | | | | | | | | | | | | | | | | | | |
| HSNN | 4 | | | | | Y | N | Y | Y | Y | N | N | Y | Y | N | N | | |
| | 22 | | | | | Y | N | Y | Y | N | N | N | Y | N | N | N | | |
| HSOB | 1 | | | | | Y | N | Y | Y | Y | N | N | Y | Y | N | N | N | |
| | 19 | | | | | Y | N | Y | Y | N | N | N | Y | N | N | N | | |
| HSSS | 18 | ILS | I | VORDME | | Y | N | Y | Y | Y | N | N | Y | Y | N | N | | |
| | 36 | ILS | I | VORDME | | Y | N | Y | Y | N | N | N | Y | N | N | N | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HSPN | 17 | | | VORDME / NDB | | Y | N | Y | Y | Y | N | N | Y | Y | N | N | | |
| | 35 | ILS | I | VORDME / NDB | | Y | N | Y | Y | N | N | N | Y | N | N | N | | |
| Total | 8 | 4 | | 4 | Y | 8 | 0 | 8 | 8 | 4 | 0 | 0 | 8 | 4 | 0 | 0 | - | |
| % | | 50 | | 50 | | 100 | 0 | 100 | 100 | 100 | 0 | 0 | 100 | 100 | 0 | 0 | 0 | |
| **SYRIA** | | | | | | | | | | | | | | | | | | |
| OSAP | 9 | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 27 | ILS | II | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | | |
| OSLK | 17 | ILS | I | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 35 | | | | | N | N | N | N | N | N | N | N | N | N | N | N | |
| OSDI | 05L | | | VOR | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 05R | ILS | II | VORDME / NDB | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 23L | | | VORDME / NDB DME | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 23R | ILS | II | VORDME | | Y | Y | Y | N | N | N | N | N | N | N | N | | |
| Total | 8 | 4 | | 7 | | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | |
| % | | 50 | | 88 | | 13 | 13 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| **UNITED ARAB EMIRATES** | | | | | | | | | | | | | | | | | | |
| OMAA | 13L | ILS | II | | | AR | AR | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | RNP AR |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13R | ILS | I | VOR | | AR | AR | Y | Y | N | Y | N | Y | N | Y | N | RNP AR |
| | 31L | ILS | II/III | VOR | | AR | AR | Y | Y | N | Y | N | Y | N | Y | N | RNP AR |
| | 31R | ILS | II | | | AR | AR | Y | Y | N | Y | N | Y | N | Y | N | RNP AR |
| OMAD | 13 | | | VORDME | | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 31 | ILS | I | VORDME | | Y | N | Y | Y | N | Y | N | Y | N | Y | N | |
| OMAL | 1 | ILS | I | VOR | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 19 | | | VOR | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | |
| OMDB | 12L | ILS | I/II/III | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 12R | ILS | I/II/III | | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | |
| | 30L | ILS | I/II/III | | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | |
| | 30R | ILS | I/II/III | | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | |
| OMDW | 12 | ILS | II/III | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 30 | ILS | II/III | | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | |
| OMFJ | 11 | | | | | N/A | N/A | N/A | Y | Y | Y | Y | N | Y | N | Y | Not used for landing |
| | 29 | ILS | I | VOR | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | |
| OMRK | 16 | | | VOR | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | 34 | ILS | I | VOR | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | |
| OMSJ | 12 | ILS | I | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | RNP AR |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | ILS | II | | | Y | Y | Y | Y | N | Y | N | Y | N | Y | N | | RNP AR |
| Total | 20 | 16 | | 9 | Y | 20 | 18 | 20 | 20 | 8 | 20 | 8 | 19 | 8 | 19 | 8 | - | |
| % | | 80 | | 45 | | 100 | 90 | 100 | 100 | 100 | 100 | 100 | 95 | 100 | 95 | 100 | 100 | |
| **YEMEN** | | | | | | | | | | | | | | | | | | |
| OYAA | 8 | ILS | I | VORDME | | N | N | N | N | N | N | N | N | N | N | N | Y | |
| | 26 | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| OYHD | 3 | | | VOR | | N | N | N | N | N | N | N | N | Y | N | N | | |
| | 21 | | | VOR / NDB | | Y | N | Y | N | N | N | N | Y | N | N | N | | |
| OYRN | 6 | | | | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 24 | | | VORDME | | N | N | N | N | N | N | N | N | N | N | N | | |
| OYSN | 18 | ILS | I | VORDME/NDB | | Y | Y | Y | Y | Y | N | | Y | Y | N | N | | |
| | 36 | | | VOR | | Y | Y | Y | Y | N | N | N | Y | N | N | N | | |
| OYTZ | 1 | | | | | N | N | N | N | N | N | N | N | N | N | N | | |
| | 19 | | | | | N | N | N | N | N | N | N | N | N | N | N | | |
| Total | 10 | 2 | | 7 | | 3 | 2 | 3 | 2 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | - | 58 |
| % | | 20 | | 70 | | 30 | 20 | 30 | 20 | 20 | 0 | 0 | 30 | 40 | 0 | 0 | 100 | |
| Results | | | | | Plans | LNAV | LNAV/VNAV | PBN RWYs | | SID | | CCO | | STAR | | CDO | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 168 | 104 | | 126 | 13 | 106 | 83 | 115 | 79 | 30 | 49 | 14 | 94 | 35 | 51 | 17 | 10 PBN APV + 101 ILS (111/166) |
| Percentage (%) | | 63 | | 76 | 87 | 64 | 50 | 69 | 48 | 45 | 30 | 24 | 57 | 52 | 31 | 24 | 67% RWY Ends with Vertical guidance |
| 58 | Aerodromes | | | | | | | | | | | | | | | | |
| Note. 6 RNP AR Approach were implemented in UAE (OMAA and OMSJ) | | | | | | | | | | | | | | | | | |

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**PERFORMANCE BASED NAVIGATION SUB-GROUP (PBN SG)**

**1. Terms of Reference**

**1.1 The terms of reference of the PBN Sub-Group are:**

a) ensure that the implementation of PBN 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 PBN-related ASBU threads/elements included in the MID Region Air Navigation Strategy as well as other required PBN supporting infrastructure, identify the associated difficulties and deficiencies and provide progress reports, as required;

c) keep under review the MID Region PBN performance objectives/priorities, develop action plans to achieve the agreed performance targets and propose changes to the MID Region PBN plans/priorities, as appropriate;

d) seek to achieve common understanding and support from all stakeholders involved in or affected by the PBN and GNSS developments/activities in the MID Region;

e) provide a platform for harmonization of developments and deployments of PBN concentrating on PBN for approach and terminal areas;

f) monitor and review the latest developments in the area of PBN and procedure design, provide expert inputs for PBN-related issues; and propose solutions for meeting ATM operational requirements;

g) monitor and review the latest GNSS developments and activities;

h) provide regular progress reports to MIDANPIRG concerning its work programme; and

i) review periodically its Terms of Reference and propose amendments, as necessary.

**1.2 In order to meet the Terms of Reference, the PBN 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 PBN;

c) identify and review those specific deficiencies and problems that constitute major obstacles to the provision of efficient PBN implementations, and recommend necessary remedial actions;

d) Address PBN implementation aspects of States in the MID Region, including States National PBN Implementation Plans, Share and exchange best PBN Implementation practices between States

within the Region

e) review and support the MID Flight Procedure Programme activities, as required, including coordination of capacity building activities related to training and qualification of the procedure design personnel and all other personnel involved in PBN implementation;

f) monitor the progress of studies, projects, trials and demonstrations by the MID Region States, and other ICAO Regions in PBN and GNSS;

g) in coordination with MIDANPIRG CNS SG :

- develop and maintain strategies for navigation infrastructure to support contingency operations and ensure service continuity during GNSS disruptions;
- identify and propose solutions to operational challenges arising from GNSS Radio Frequency Interference (RFI)

h) Review and update MID PBN Regional Plan (MID Doc 007), as needed

i) Address and promote operational improvements and benefits accrued from PBN implementation, through review of the existing global and regional guidance materials; and provide further guidance, as needed; and

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

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*ATTACHMENT A*

ICAO MID

**ATTACHMENT A**

## Tenth Meeting of the MIDANPIRG PBN Sub-Group (PBN SG/10)
## (Amman, Jordan, 10 – 11 December 2025)

## List of Participants

| State Org/Industries | | Name | Title |
|---|---|---|---|
| Egypt | 1. | Mohamed Farghaly Mohamed | General Manager of R & D Directorate |
| | 2. | Mamdouh Hassan A. Sayed | Director of Air Routes Design Dept |
| | 3. | Mostafa Mohamed A. Hassan | General Manager of Air Navigation (Sharm El Shiekh) |
| | 4. | Mohamed Abdelmonaim M. Amin | General Manager of Tower & Approach |
| | 5. | Mohamed Nabil Ibrahim | Air Traffic Controller |
| | 6. | Hossam Mohamed Omran | Head of Central Admin. for ANS |
| | 7. | Abdelaziz M. Abouelmal | GD Airspace Affairs & AIS |
| | 8. | Khaled I. Mostafa Mohamed | General Director of Safeguarding |
| Iran | 9. | Rohallah Modarreszadeh | Director of NAVAIDs |
| | 10. | Mehdi Pahavani | Flight Procedure Designer Senior Expert |
| | 11. | Seyed Amir Hossein Kassaie | Flight Procedure Designer Expert |
| | 12. | Majid Mahdavi Zafarghandi | Deputy of IAC Safety Manager |
| | 13. | Mohsen Kazemi | Deputy of CNS Dept at Mehrabad Airport |
| | 14. | Abdorrahim Kashef Alipour | Flight Validation Pilot |
| | 15. | Ali Bagherian | Flight Validation Pilot |
| Iraq | 16. | Mustafa Shakir Amoori Hamad | Director of Safety and licensing Dept |
| | 17. | Ali Abdulwahab Alwaeli | Safety Officer |
| | 18. | Ali Waleed Abdulameer | AIS Manager |
| | 19. | Aws Asaad Abdulhadi Alani | Approach Training Manager |
| | 20. | Muntadher Salman Abed | Approach Manager |
| Jordan | 21. | Mohammed Farouq Othman Doqa | Air Navigation Oversight Director |
| | 22. | Mohammad Jamil Jamal Abusalah | ANS Inspector |
| | 23. | Ahmad Odeh | Director of JANS |
| | 24. | Ali Taleb Nemer Emrazeeq | Director of ANS Operations |
| | 25. | Omar Al Omoush | Acting DANS of KHIA |
| | 26. | Marwan Hani Ibrahim AlMasri | Director of ANS (Acting) - QAIA |
| | 27. | Neveen Askar | Director of Planning & Training-Air Navigation Services |
| | 28. | Sameer Mohamad Rajab Abukhadra | Chief of Procedure Design |
| | 29. | Tarik M. Khalil Al-rabee | AIS HQ |
| | 30. | May Abdel Rahman Abu Hasan | Chief of Aerodrome Control Tower - Amman Civil Airport |

| State Org/Industries | | Name | Title |
|---|---|---|---|
| | 31. | Tamer Ahmad Alnabulsi | TACC supervisor |
| | 32. | William Daibes | ATC/ KHIA |
| | 33. | Yousef Abu Shalfa | Chief of ATM Planning and Studies Division |
| | 34. | Raed Ghazawi | ANS Inspector |
| | 35. | Khaleel Waleed Awad Alshuaib | Air Traffic Controller |
| | 36. | Yousef Ibrahimn Al-Aghwani | Air Traffic Controller |
| | 37. | Amani Jamal Tobtah | Queen Tower Chief |
| **Libya** | 38. | Abdulhamid Khalifa Alrimali | ATCO & Head of GNSS Committee |
| | 39. | Tariq Faraj Kashkar | Air Traffic Controller |
| **Oman** | 40. | Issa Saleh Al-Shabibi | Head of Muscat Approach Control |
| | 41. | Yousuf Moosa Al Raisi | ATC Supervisor |
| | 42. | Ali Bani Oraba | A/Chief of ACC Muscat |
| **Qatar** | 43. | Nayif Nasser El Jaber | Director of Air Safety Department |
| | 44. | Majed Kheder Al Atawi | Senior Aviation Safety Consultant |
| | 45. | Maryam Rashid Al Naimi | Air Traffic Controller Expert |
| **Saudi Arabia** | 46. | Mohammed bin Dhaifallah Al-Juhani | Section Head of Flight Procedure Design |
| | 47. | Nasser Al-Asmari | Senior Specialist – Flight Procedure Design |
| | 48. | Anas Ibrahim Fallatah | Airspace Design Manager |
| | 49. | Mohammed A. Alkhaibary | Instrument Flight Procedure Designer |
| | 50. | Talal Ayidh Alharthi | Airspace Planning Supervisor |
| **Sudan** | 51. | Yasir Mohammed A. Abdalla | Chief of IFPD |
| | 52. | Osman Mustafa Mohamed Elhag | PANS-OPS Inspector |
| **UAE** | 53. | Mohamed Abdulla S. Al Ameri | Senior Specialist – Airspace Management |
| | 54. | Ahmed Saleh Alshehhi | Senior Manager Airspace |
| | 55. | Ahmed Alshamsi | Analyst - Airspace |
| **Yemen** | 56. | Abdulkareem Manea Nasher Mohammed | AIS Manager |
| | 57. | Abdullah Nasser S. Bin Hawil | Aviation Accident Investigation Specialist |
| **IATA** | 58. | Jehad Faqir | Head Regional Safety Africa and MID |
| **RISK** | 59. | Maria-Andrada Mitea | |
| | 60. | Shahin Idrak Oglu Kazimov | |

| State Org/Industries | | Name | Title |
|---|---|---|---|
| | 61. | Jabir Sabir Oglu Jumshudov | |
| | 62. | Gazabfar Raouf Oglu Aghayev | |
| CGX AERO | 63. | Mohamed-Ali Mgalles | Chief Technology Officer & Business Development |
| | 64. | Amine Bach Chaouch | Airspace and IFP Design Expert |
| UATS | 65. | Reda El Madbouly | |
| | 66. | Sorin Dan | |
| DCAA | 67. | Herman Groenewald | |
| DANS | 68. | Manuel Martin | Team Leader Airspace & Procedure Design |
| | 69. | Rovshan Sultanov | Manager Airspace Design & Development |
| PVS AERO | 70. | Pieter-Bas Oortman | |
| | 71. | Nick Westphal | Validation |
| ICAO | 72. | Radhouan Aissaoui | Information Management Regional Officer |
| | 73. | Moitra, Debotosh | Technical Officer, Procedure Design, Secretary IFPP |

- END -