ATM SG/7

The MIDANPIRG Air Traffic Management Sub-Group, Seventh Meeting

Virtual Meeting   15 – 18 November 2021

Presented by: _____

State/ANSP/ORG: _____
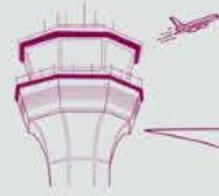
Agenda Item 7: AoB
PBN SG Outcomes

- Updates related to MID FPP

- CCO/CDO implementation

- Revision of MID Doc. 007 MID Region PBN Implementation Plan
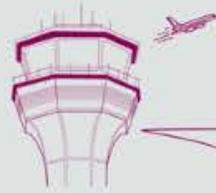
MIDFPP update

- **HISTORY:**
  - It was recognized the need for the MIDFPP since 2016, by many levels (ministerial, DGCA and SGs meetings), to foster the PBN implementation in the region.
  - The level of PBN implementation in below the global level and below the regional targets.
  - The MIDFPP will provide The assistance to States to develop sustainable capability in the instrument flight procedures (IFP) design, PBN airspace concepts and PBN OPS approval, including regulatory oversight. so as to support the States to meet their commitments under Assembly Resolutions A37-11 for Performance Based Navigation (PBN) implementation and the regional requirements, and comply with ICAO provisions related to flight procedure design and PBN.
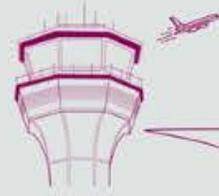
- **REGIONAL CHALLENGES:**

  – Insufficient number of procedure designers;

  – Insufficient design workloads in some States to attain or maintain proficiency;

  – Lack of airspace and procedure design training: initial, On-the-Job Training (OJT), and/or recurrent;

  – Lack of knowledge/experience to integrate procedure design efficiently into airspace design/AIM;

  – Insufficient procedure design organization to perform quality assurance (QA);

  – Insufficient expertise in procedure design organization to provide the services;

  – Lack of procedure design and obstacle data automation systems;

  – Lack of operational approval expertise to obtain proper operational approval and to perform oversight activities on air operators;

  – Lack of regulatory expertise to perform oversight activities on service providers and IFPs publications; and

  – Lack of ATC/ATM training related to PBN implementation.
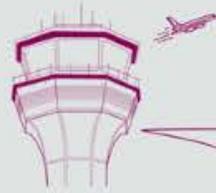
- **STRATEGIC OBJECTIVES OF THE PROGRAMME**

  - Building MIDFPP human resources (pool of experts);

  - Regulatory oversight framework;

  - Meeting the targets set out in the MID Region Air Navigation Strategy related to PBN;

  - Training Programmes.

• PROVIDED SERVICES:

– assisting States with sufficient number of procedures to establish a sustainable internal procedure design capability capable of meeting the requirements of PANS-OPS and their responsibility for the quality of their procedures;

– providing the appropriate level of technical expertise necessary to enable States that do not have the volume of procedures necessary to sustain an internal procedure design capability; and

– providing a vehicle to improve quality in the States' procedure design process through access to procedure design automation solutions and associated data storage; and assisting States with airspace design and operational approval functions.

– assist State's procedure and airspace planners in developing their Instrument Flight Procedures (IFP) with priority for PBN procedures;

- **PROVIDED SERVICES:**

  – assist State with the development of a Quality Assurance (QA) system for IFP, including flight procedure regulatory approval;

  – provide PANS-OPS refresher, recurrent and initial training courses and OJT to procedure designers, remotely, on-site or at the MID FPP location;

  – provide training course and OJT on QA for IFP including flight procedure regulatory approval;

  – provide training course and OJT on operators' approval for PBN operations;

  – assist State in PBN Plan implementation through operational assessment, business case, and activity planning for PBN Implementation;

  – assist States in the design of IAPs, SIDs, STARs, Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO);
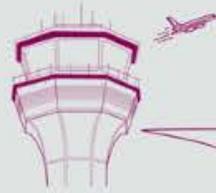
- **PROVIDED SERVICES:**

  - assist State in developing PBN-related regulations;
  - develop procedures implementation for States that have no or little procedure design capability;
  - assist State with data origination and validation;
  - assist State with ground and flight validation;
  - assist State in operators' approval for PBN operations;
  - provide training courses for air traffic controllers about PBN flight procedures operations;
  - provide State with any other associated assistance, as required;
  - provide training courses for newly recruited flight procedures designers in accordance with ICAO Doc 9906;
  - assist States with the estimation of environmental benefit accrued from the implementation of instrument flight procedures/PBN procedures; and
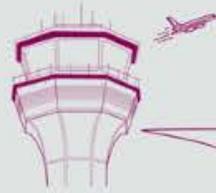
- **PROVIDED SERVICES:**

  – assist States with PBN airspace design.
  – provide training courses for newly recruited flight procedures designers in accordance with ICAO Doc 9906;
  – assist States with the estimation of environmental benefit accrued from the implementation of instrument flight procedures/PBN procedures; and
  – assist States with PBN airspace design.
  – provide States access to procedure design software applications at the MID FPP location; and
  – provide States access to available databases for training purposes.
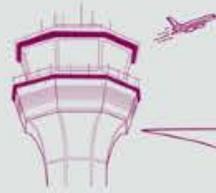
- **PARTICIPATING GROUP**

The programme will provide its services to participants, according to their group:

- – Active States,
- – User States,
- – Donors (States, ORGs, entities…) could also participate under a specific agreement,
- – Observer States.
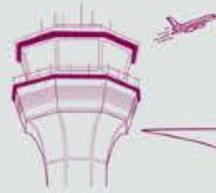
- **1ST YEAR WORK PLAN, TARGETS:**

  - Commence Phase I MIDFPP operations;
  - Conduct 4 Training activities; and
  - Conduct 2 Project-orientated implementation support activities.
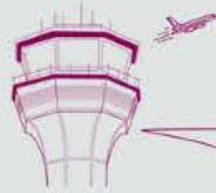
- **THE UPDATES:**

  - UAE hosting the Office,

  - MIDFPP Manager was recruited,

  - 1st MIDFPP SC/1 meeting is planned end of **26 – 27 January 2022** (Virtual).
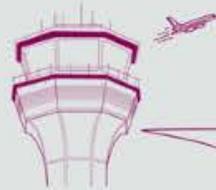
Continuous Descent Operations/ Continuous Climb Operations (CDO/CCO) in MID region
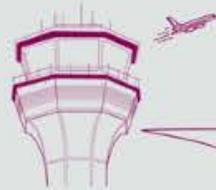
APTA THREAD/ELEMENTS PRIORITY 1 (Block 0 & 1 IN THE MID REGION)

APTA-B0/1	PBN Approaches (with basic capabilities)
APTA-B0/2	PBN SID and STAR procedures (with basic capabilities)
APTA-B0/4	CDO (Basic)
APTA-B0/5	CCO (Basic)
APTA-B0/7	Performance based aerodrome operating minima – Advanced aircraft
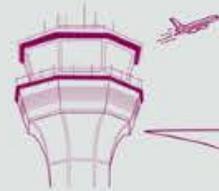
APTA: priority 1 Elements, applicability, performance Indicators, supporting Metrics, and Targets

| Elements	Applicability	Performance Indicators/Supporting Metrics	Targets
APTA B0/4 CDO (Basic)	OBBI, OIIE, OIKB, OIFM, OJAI, OLBA, OOMS, OTHH, OTBD, OEJN, OEMA, OEDF, OERK, HSSK, HSPN, OMAA, OMAL, OMAD, OMDW, OMDB, OMSJ, OMRK and OMFJ	Indicator: % of International Aerodromes/TMA with CDO implemented as required. Supporting Metric: Number of International Aerodromes/TMAs with CDO implemented as required.	100% Dec 2021
APTA B0/5 CCO (Basic)	OBBI, OIIE, OIKB, OIFM, OJAI, OLBA, OOMS, OTHH, OTBD, OEJN, OEMA, OEDF, OERK, HSSK, HSPN, OMAA, OMAL, OMAD, OMDW, OMDB, OMSJ, OMRK and OMFJ	Indicator: % of International Aerodromes/TMA with CDO implemented as required. Supporting Metric: Number of International Aerodromes/TMAs with CDO implemented as required.	100% Dec 2021
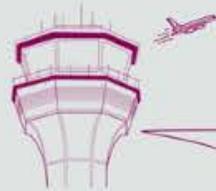
Implementation status of the APTA B0/4 & B0/5

Target vs Actual

65%

	BHR	IRN	JOR	LBN	OMN	QAT	SAU	SDN	UAE
#AP/TMA	1	3	1	1	1	2	4	2	8
#CCO	1	0	0	0	0	2	4	0	8
#CDO	1	0	0	0	0	2	4	0	8
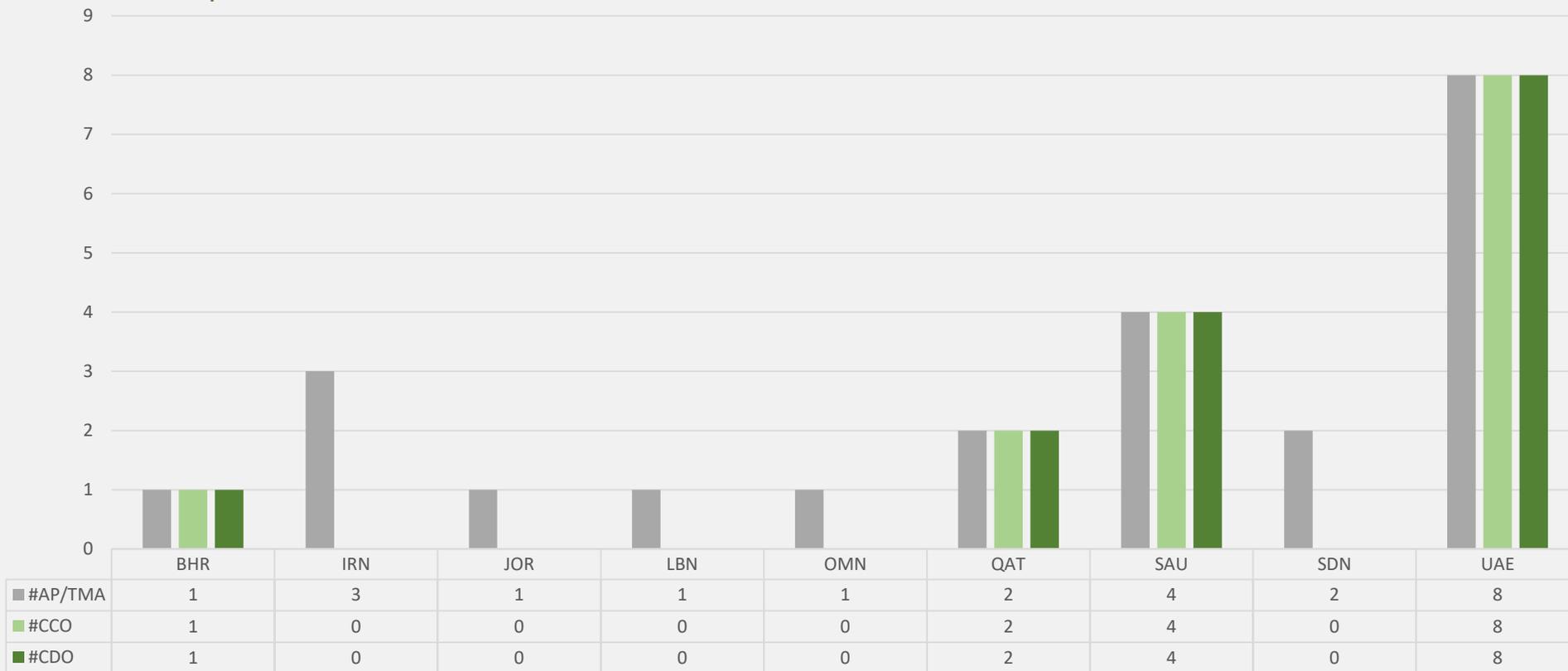
■ #AP/TMA ■ #CCO ■ #CDO
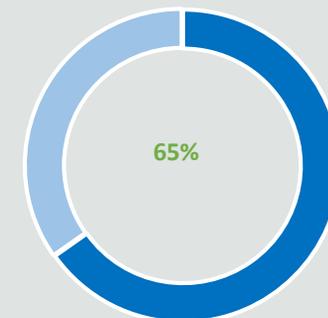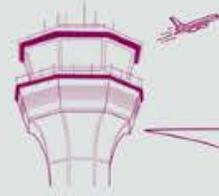
Support CCO/CDO implementation in MID

✈ The PBN SG/6 proposed to conduct a webinar, in collaboration with champion States and International Organizations, to provide an overview of Continuous Climb and Descent Operations (CCO/CDO) requirements as per ICAO Documents and to gain insight into lessons learned and/or best practices on CCO/CDO implementation and its operation.

✈ promote the sharing of good practices: (phraseology, publication/charting, assessment of ENV benefits, etc.

✈ Establish CCO/CDO Ad Hoc Working Group to develop guidance related to the publication of CCO/CDO information (text and Charts) in the AIP, in coordination with the relevant MIDANPIRG and RASG MID subsidiary bodies.
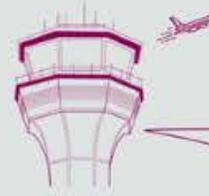
The PBN SG/6 meeting draft the following Conclusion :

That

- *a Workshop/Webinar on CCO/CDO implementation be organized in 2022, in collaboration with MID FPP, to provide necessary knowledge about the ICAO provisions on the subject and share experience and best practices on CCO/CDO implementation by States/Airspace users.*

- *States and International Organizations are strongly encouraged to participate actively in this Webinar.*
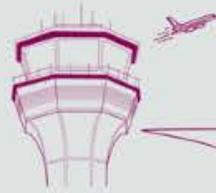
The PBN SG/6 meeting draft the following Conclusion :

That a CCO/CDO Ad Hoc Working Group ,

a) be established to develop guidance related to the publication of CCO/CDO information (text and Charts) in the AIP, in coordination with the relevant MIDANPIRG and RASG MID subsidiary bodies.
b) be composed of:
— Chairpersons of the PBN SG*, AIM SG and ATM SG
— Secretariat
— Sheila Brizo, PANS-OPS Specialist (Qatar)
— Saudi Arabia
— Bahrain (TBC)
— Airspace users (TBC)
c) present their outcome during the PBN SG/7 meeting.

* the rapporteur of the group is the Chairman of the PBN SG.
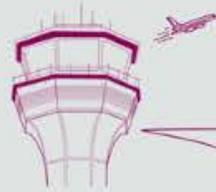
REVIEW & UPDATE OF THE MID REGION PBN IMPLEMENTATION PLAN (Doc 007)

✈ The MID Region Performance Based Navigation (PBN) Implementation Plan (MID Doc 007) has been developed to harmonize PBN implementation in the MID Region and to addresses the strategic objectives of PBN based on clearly established operational requirements, avoiding equipage of multiple on-board or ground based equipment, avoidance of multiple airworthiness and operational approvals and explains in detail contents relating to potential navigation applications.

✈ The MID Region PBN Implementation Plan was reviewed and endorsed by MSG/6 meeting (Cairo, Egypt, 3-5 December 2018).

✈ In accordance, with the Resolutions of the 40th Session of the ICAO Assembly, particularly Resolution A40-1 "ICAO global planning for safety and air navigation", the ICAO Assembly urged States and PIRGs to utilize the guidance provided in the GANP for planning and implementation activities, which establish priorities, targets and indicators consistent with globally harmonized objectives, taking into account operational needs. In response to this, the MID Region developed the MID Region Air Navigation Strategy – Part 1, which is aligned with the GANP 6th Edition and ASBU Framework.

✈ MIDANPIRG/18 meetings held virtually Meetings 15-22 February 2021, endorsed through C 18/12 the revised MID Region Air Navigation Strategy (MID Doc 002) .
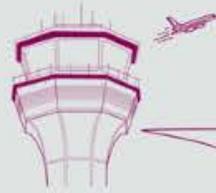
✈ In order to keep pace with changes in MID Region Air Navigation Strategy (MID Doc 002) and to ensure alignment with the GANP 6th edition, the MID Region PBN Implementation Plan should be constantly updated and refined throughout the implementation process.

✈ ICAO Assembly resolution 37-11 requires States to develop a PBN implementation plan. To prepare and submit its plan, it is necessary that MID Region Performance Based Navigation (PBN) Implementation Plan provides guidance to States and ANSPs on how to develop a PBN implementation and suggests what such a plan could contain.

✈ The MID Region PBN Implementation Plan summarizes the implementation targets of each PBN navigation specification in the MID Region as follows:
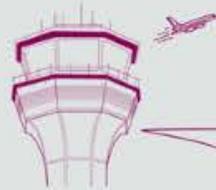
Airspace	Short term Up to 2020		Medium term 2021-2025	
	Navigation Specification Preferred	Targets	Navigation Specification Acceptable	Targets
En-route – Oceanic	RNAV 10 RNP 4*	100 % by 2016 50% by 2020	RNP 4*	100% by 2025
En-route - Remote continental	RNAV 5	100% by 2016	RNP 4*	50% by 2023 100% by 2025
En-route – Continental	RNAV 5 RNAV 1	100 % by 2017 W/A[1]		
En-route - Local / Domestic	RNAV 5 RNAV 1	100 % by 2017 W/A		
TMA – Arrival	RNAV 1 (surveillance environment) or RNP 1 (non-surveillance environment)	50% by December 2016 100% by 2020		
TMA – Departure	RNAV 1 (surveillance environment) or RNP 1 (non-surveillance environment)	50% by 2016 100% by 2020		
Approach	LNAV: for all RWY Ends at International Aerodromes LNAV/VNAV: for all RWY Ends at International Aerodromes	80 % by 2014. 100% by 2020 70% by 2016 100% by 2020	GLS (GBAS) For the defined RWY Ends Based on operational needs and CBA	TBD
CCO and CDO	W/A	50% by 2020	W/A	100 % by 2025
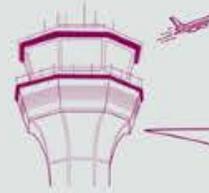
- The implementation phases of the MID Region PBN Implementation Plan should be broadly split into short, medium-to- long-term dates for introduction:

- Short-term (up to Dec 2024)

- Medium-to Long-Term (2025-2030+)

- Ensuring that the MID Region PBN Implementation Plan is aligned with MID Region Air Navigation Strategy (MID Doc 002) and with the GANP 6th edition.

- Providing guidance to States and ANSPs on how to develop a PBN implementation and suggests what such a plan could contain (National PBN plan Template).

- Removing the redundant and obsolete parts.

The PBN SG/6 meeting drafted the following Conclusion :

D*RAFT *D*ECISION *6/xx: Update of the MID Region PBN Implementation (MID Doc 007)

That,

a)   an Ad Hoc Working Group be established to review the MID Region PBN Implementation Plan and develop a revised version for submission to the MIDANPIRG/20 meeting for endorsement, to keep pace with the developments, including the GANP 6th Edition and the MID Region Air Navigation Strategy (MID Doc 002, Edition April 2021); and

b)   be composed of:
–   Chairpersons of the PBN SG and ATM SG
–   Secretariat
–
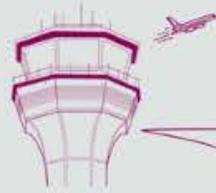
Action by the meeting

- note the information provided in this presentation;
- designate members of the ATM SG of experts to join the Ad Hoc Working groups referred to in slides 19 and 25.

THANK YOU