



International Civil Aviation Organization

MIDANPIRG/21 & RASG-MID/11 Meetings

(Abu Dhabi, UAE, 4 – 8 March 2024)

Agenda Item 5.3: ANS Planning and Implementation

UPDATE ON THE MID FPP

(Presented by the secretariat)

SUMMARY

This paper provides an update on the MID FPP achievements, challenges, and the future of the Programme (sustainability).

Action by the meeting is at paragraph 3.

REFERENCES

- Report of the Fifth meeting of the MID FPP Steering Committee (SC/5)
- ICAO Financial Status Report RAB18801 as of 31 Dec 2023

1. INTRODUCTION

1.1 The MID Flight Procedure Programme (MID FPP) is established to support States in fulfilling their obligations related to PANS-OPS and in particular for the implementation of Performance Based Navigation (PBN) regulatory approval and services provision.

1.2 The Programme financial sustainability should be assured through following sources: (1) Annual contributions paid by the Active States, (2) Cash and/or in-kind contribution provided by Donors and, (3) Services (training and project consultancy) fees paid by the beneficiaries.

2. DISCUSSION

MID FPP Achievements and Advantages (“Success Story”)

2.1 MID FPP has demonstrated to be a viable and beneficial solution to support States in regard of assistance for PANS-OPS and PBN.

2.2 The Matrix at **Appendix A** clearly evidences the importance and benefits of MID FPP activities since the start of its operations in 2022.

2.3 The MID FPP has offered a broad spectrum of services i.e., initial/advanced/RNP AR (online & onsite) PANS OPS classes, PBN 3-course package for database coding, design, and charting/AIP

promulgation, PBN operational approval, PBN airspace design workshops, GBAS/SBAS webinar as well as IFPD and Airspace & Route consultancy projects.

MID FPP Challenges and Sustainability

2.4 The meeting may wish to recall that the MID FPP business model is based on cost-recovery mechanisms (non-profit).

2.5 Based on the ICAO Financial Status Report as at 31 Dec 2023, the **Summary** below provides the financial status of the MID FPP project (RAB18801) as follows:

| Fund available as of 30 Sep 23 | | Payments received after 30 Sep 23 | | Arrears 2022 & 2023 | | Pending fees in 2023 | |
|------------------------------------------|--------------------------|-----------------------------------|--------------------------------|---------------------|------------------------------------------------|----------------------|------------------|
| 4,273 | Airspace Project | 28,000 | Iran Active State | 20,000 | PBN 3-courses package | 8,200 | |
| | Iraq Active State | 9,975 | Kuwait Active State | 20,000 | | | |
| | PANS OPS course Module 2 | 3,975 | PANS OPS online classes (Iran) | 9,000 | IFPD Projects (Erbil and Kirkuk) (30% in 2023) | 15,600 | |
| | PBN DB Coding | 1,797 | | | | | Airspace Project |
| Total | 4,273 | Total | 43,747 | Total | 49,000 | Total | 26,800 |
| Expenditures as of 31 Dec 23 | | | | USD 52,092 | | | |
| Available Balance as of 31 Dec 23 | | | | -USD 3,819 | | | |

2.6 It is to be underlined that one of the financial challenges for the Programme, is the existence of payment arrears from 2022 (training activities) and for the 2023 annual contributions with a total amount of **USD 49,000** as well as the pending fees for 2023 activities with a value of **USD 26,800**.

2.7 The meeting may wish to note that after 1 Jan 2024, some pending fees – refer to **Summary** table of paragraph 2.5 above - were received/confirmed as follows:

- (1) Erbil project (30% = 1st payment, **USD 4,297**),
- (2) Kirkuk project (30% = 1st payment, **USD 11,955**),
- (3) Erbil project (30% = 2nd payment, **USD 3,580**) and,
- (4) PBN 3-courses package (**USD 6,400**).

2.8 As an outcome of the SC/5 meeting, it has been recognized that MID FPP financial status is critical and agreed that, regardless of the demonstrated technical effectiveness of the Programme, the future of the MID FPP is at risk and there might be a need to reconsider its business model.

2.9 The meeting may wish to note that the separation date of the MID FPP Manager was 15 February 2024.

2.10 The meeting may wish to note that the continuation of the MID FPP as an ICAO TC project, through the recruitment of another Manager (even part time) would be challenging, since this process could not be started until the necessary (estimated) budget of (# USD 250K) is secured in order to run the Programme for at least one (1) year.

2.11 The meeting may also wish to note that the SC/5 meeting discussed recommended options with regard to the MID FPP sustainability:

- (1) Foster the commitment to financially support and join the MID FPP by a maximum number of Active States,
- (2) Encourage Donors (Industry and/or commercial organizations) to contribute annually up to the level of an Active State,
- (3) Urge voluntary contributions/sponsorship by Donor States,
- (4) States to consider offering experts in secondment to support the Programme,
- (5) Consider the review/amendment of the MID FPP Funding Mechanism i.e., increasing the annual contribution by Active States and,
- (5) Consider a payment method to avoid delays in services payment e.g., issuance of proforma and payment 50% of the fees before the start of the activity and the remaining 50% after the delivery of the service.

2.12 Considering the critical financial situation faced by the MID FPP and the low level of attendance of the Active States, the SC/5 meeting agreed to the following Conclusion:

CONCLUSION 5/1: MID FPP FUTURE SUSTAINABILITY

That,

- a) the Programme will continue with the same business model until the separation date of the MID FPP Manager (15 Feb 2024); and*
- b) after 15 Feb 2024, the ICAO MID Office will ensure the continuity of the Programme with minimum service (coordination) until a final decision regarding the future of the Programme is taken by the DGCA MID/7 meeting (May 2024) after discussion by MIDANPIRG/21 (March 2024).*

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the MID FPP achievements and challenges related to its sustainability; and
- b) recommend to the DGCA-MID/7 meeting specific course of actions related to the MID FPP sustainability.

| MID FPP Operations: Y2022 until (to date) 2024 | | | | | | | |
|------------------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------------|-----------|----------------|-------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Programme Framework | Pool of Experts | Courses Diversity | No. | Participants | Revenues (invoiced) * | Free Services (Activity: Attendees/Total Value) | Involved States/Entities |
| 4 Active States 6 User States 1 Donor Industry 2 Donor States 5 Steering Committee | 19 (7 States) | PANS OPS Initial (6-week) | 2 | 59 (Y2022) | \$95,455 (Y2022) | PANS OPS M1: 1 pers/ \$2,000 | Egypt, Iran, Iraq, Kuwait, Libya, Oman, Qatar, Sudan, UAE, Yemen, APAC FPP, APAC/Pakistan United ATS, ICAO MID |
| | | PANS OPS modules (virtual) | 5 | | | PANS OPS M2: 1 pers/ \$2,000 | |
| | | RNP AR Workshop | 1 | | | PANS OPS M3: 1 pers/ \$2,000 | |
| | | PANS OPS OJT | 1 | | | | |
| | | PBN Oversight (ENAC) | 2 | | | Airspace Design Workshop (ENAC): 1 pers/ \$2,000 | |
| | | PBN DB coding & Interrelation & OPS Approval | 9 | + | \$105,439 (Y2023) | PBN Interrelationship S1: 2/ \$4,000 | |
| | | Asp Design Workshop (ENAC) | 1 | 99 (Y2023) | \$18,000 * (YTD2024) | PBN Interrelationship S2: 4/ \$8,000 | |
| | | CCO/CDO Workshop (ICAO) | 1 | + | | PBN Interrelationship 2024: 1/\$2,000 | |
| | | Airspace Consultancy Project | 4 | + | | Airspace Project FIR Sanaa: \$3,000 | |
| | | IFPD/Regulatory Project | 4 | 4 (YTD2024) | | | |
| | | GBAS/SBAS Webinar | 1 | | | | |
| | | Asp Design TMA Optimization (ENAC) | 1 | | | | |
| | | PBN Design for ATC (APAC FPP) | 1 | | | | |
| TOTAL | 19 | PANS OPS & PBN courses, Workshops, Webinar, IFPD/ASP project consultancy services | 33 | 162 | \$218,894 | \$25,000 | 14 |

* Note: Revenues are reflecting only the amounts that have been invoiced by ICAO CDI Bureau (ex TCB).

“MID FPP Work Plan for the Year 2024”

MID FPP Objectives for Year 3

The **Year 3** (2024) of the MID FPP 3-year Phase I is continuing to be an essential year for the MID FPP in fulfilling its main objectives of providing support for States with training activities and consultancy/assistance services. The purpose of the Program is to provide opportunities to use the available training activities and services proposed by the Program for Participating States.

The proposed Work Plan 2024 activities are based on (1) use/management of the enlarged team (19 experts) of Programme’s pool of resources and (2) consolidating the training experience & project consultancy expertise as delivered by the Programme during the Year 2022 and 2023.

The MID FPP services activities for 2024 will focus on final deliverables for specific IFPD/Regulatory Approval projects incepted in 2023.

The MID FPP training portfolio is containing PBN-related classes and workshops as well as custom-made/off-the-shelf PANS OPS Design (module-based) initial trainings respectively; MID FPP will be also offering a PANS OPS class addressed to the CAA Oversight inspectors and guidance to States through workshop for the development of a National PBN Implementation Plan.

Specifically, the MID FPP training portfolio for 2024 is newly including aspects of PANS OPS for ATC, Oversight of IFPD and its quality assurance process requirements, airspace and routes (airways) design and a webinar clarifying and enlightening new specifications of Doc. 9613 “PBN Manual”, new 5th edition.

Consequently, the MID FPP Objectives for Year 2024 are as follows:

- To consolidate MID FPP operations as a “building block” upon Year 1 and Year 2 groundwork.
- To focus on customer-oriented projects and consultancy for IFPs and Airspace Design to States.
- To develop and strengthen MID States capability for Procedure/Airspace Design by organizing tailored/off-the-shelf PANS OPS Training courses.
- To augment and sustain MID States knowledge on PBN concept by organizing an interrelationship PBN design – coding – charting/AIP.
- To support MID States expertise by conducting educational or “case study” PBN-related workshops and webinar.

Description of MID FPP Activities for 2024

1) Inter-relationship PBN Design – Coding – Chart/AIP course (4 days) [5-8 Feb]

Description: The course is not simply intended to familiarize the participants with ARINC 424 standard and its database coding requirements, but additionally, it will be bringing the inter-disciplinary overview on each database element, where applicable, perceived from design, charting and/or AIS/AIP perspective. The course content includes a rich number of examples illustrating the inter-dependency between the three domains.

The course is addressed to procedure designers/airspace planning professionals as well as to AIS & Charting experts involved in the State AIP production.

- Instructor: MID FPP Manager
- Sponsorship: NIL
- Material: MID FPP
- Facility: Physical (GCAA SZC Training Center, Abu Dhabi)

2) Initial PANS OPS tailored course for Iraq (6 weeks), [Q1, tentatively]

Description: There is a training request from Iraq ANSP (GCANS) for a customized initial PANS OPS training course. The tailoring is considering the course syllabus and duration as adapted to the specific needs. This training was deferred from 2023 at Iraq GCANS request.

- Instructor: United ATS Trainer
- Sponsorship/Project Owner: General Company for Air Navigation Services (GCANS)/MID FPP
- Material: United ATS
- Facility: Baghdad/Iraq, 10 attendees.

3) Initial PANS OPS Procedure Design class (4 weeks), [17 June – 12 July]

Description: The course aimed to support States/Administrations in developing their instrument flight procedure design capacity. This course consists of (1) basics, including definitions, abbreviations, units of measurements, frame of reference, (2) criteria for the fundamental instrument procedure design, including en-route, arrival procedures (STAR), departure procedures (SID), MSA, holding, NPA and ILS procedures based on ground navigation aids and (3) charting and documentation. The training is organized around courses, exercises and assessments to apply all the regulatory criteria addressing conventional procedures. The pillars of this training include a case study from ICAO Doc 9368 and a published procedure. At the end of the course, an individual assessment report could be provided to on-site participants as required.

- Instructor: APAC FPP Expert
- Sponsorship: NIL
- Material: APAC FPP
- Facility: Online, three (3) seats for MID FPP

4) PANS OPS Training for CAA Inspectors course (5 days), [Date TBD]

Description: The course aimed to support States/Administrations in strengthening its Oversight Inspectors knowledge and expertise with the guidance for quality assurance in the elements of procedure design, the requirements and process steps of Instrument Flight Procedure Design (IFPD) in general and particularly of the core process of Flight Procedure Design (FPD) as laid down in ICAO Doc. 9905, Vol. I “*Flight Procedure Design Quality Assurance System*”. It also provides familiarity and awareness towards the IFP supporting processes (software validation, training, etc.) and the upstream and downstream processes e.g., data origination, AIS, database coding. The course is open primarily to State CAA inspectors as well as to Lead/Chief Design personnel of the IFPD organizations.

- Instructor: ENAC Expert
- Sponsorship: ENAC/DGCA France
- Material: ENAC
- Facility: Toulouse/France, two (2) seats for MID FPP attendees

5) Advanced (part I)/Advanced (part II) PANS OPS course (2 weeks), [Date TBD]

Description: The course aimed to support States/Administrations in developing their PBN procedure design capacity. This course is considered as the advanced step of a thorough training to design IFR procedures. The course is made of two modules as part of UATS iGAT training courses package. The instruction consists of lectures, exercises, progress tests and examinations. The practical task consists of an PA (LPV/SBAS CAT I) and Baro-VNAV (LNAV/VNAV) type of procedures. The course is open to participants who have completed the PANS-OPS flight procedure design initial training course. Upon request and following States interest, the PBN HEL Point in Space (PinS) course may also be delivered.

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- Instructor: United ATS trainer
- Sponsorship: United ATS
- Material: United ATS
- Facility: TBD (maybe Cairo at UATS premises)

6) National PBN Implementation Plan workshop (5 days), [September, Date TBD]

Description: The ICAO Assembly Resolution A37-11 requires States to develop a PBN implementation plan. The workshop aimed to support States/Administrations Civil Aviation Authority and/or Air Navigation Service Provider (ANSP) in providing guidance on how to develop a PBN implementation and transition plan and suggesting what such a plan could contain.

Whilst it is not possible to provide a tailor made PBN plan outline and, even less desirable to create a ‘one-size fits all’ transition plan, the workshop will suggest a generic architecture of what this plan should be.

- Instructor: Africa FPP facilitators
- Sponsorship: NIL
- Material: Africa FPP
- Facility: Dakar/Senegal, seats for MID FPP to be coordinated.

7) PANS OPS Oversight + IFPD Quality Assurance workshop (2 weeks), (July, Date TBD)

Description: The workshop is based on ICAO Doc. 9997 “*PBN Operational Approval Manual*” and conducts to support States in developing their operational approval capability for approving PBN operations and air operators in obtaining PBN OPS approvals, it introduces PBN and its purpose and the way PBN specifications are introduced in the oversight process. It focuses on the quality assurance processes associated with procedure design activities and the enforcement of PBN operations by aircraft operators and the associated oversight.

The purpose of the course is to provide experienced flight operations inspectors, personnel from CAA (or National Supervisory Authority), procedure designers and air operators’ staff with a comprehensive understanding of the requirements for PBN operational approval. The course is open to participants involved in PBN flight operations.

- Facilitator/Instructor: Africa FPP experts
- Sponsorship: NIL
- Material: Africa FPP
- Facility: Accra/Ghana or Yaoundé/Cameroon, seats for MID FPP to be coordinated.

8) PBN Flight Procedure Design for ATC workshop (2 days), [27-28 February]

Description: The workshop aimed to support States/Administrations in developing their PBN procedure design capacity. This course of (1) basics of PBN instrument flight procedure (IFP) design and (2) operational factors to consider in the PBN IFP design. This course is mainly for the new/potential procedure designers and air traffic controllers, but also available to other relevant personnel such as regulators of CAA inspectors, pilots, AIS and airports personnel. At the end of the workshop, a certificate of participants will be issued but no individual assessment report to participants.

- Facilitator/Instructor: APAC FPP Experts
- Sponsorship: NIL
- Material: APAC FPP
- Facility: Online, three (3) seats for MID FPP attendees.

9) PBN Manual (Doc. 9613, new 5th edition) webinar (2 days), [Date TBD]

Description: The webinar is organized together with ICAO MID office and it's aimed to familiarize States/Administrations experts with the new 5th edition of Doc. 9613 changes affecting RNP implementation including updated technical standards from the Radio Technical Commission for Aeronautics (RTCA) and the European Organization for Civil Aviation Equipment (EUROCAE), expansion of RNP applications where authorization is required (AR), lessons learned from RNP procedures publication and updated PBN regulatory guidance material.

- Facilitator: MIDFPP, ICAO MID, IATA, partner organizations
- Sponsorship: Industry/Stakeholders
- Material: ICAO MID & FPP
- Facility: Webinar

10) Airspace and Routes (airways) Design workshop (2 weeks), [Date TBD]

Description: The participants will learn the basics of Airspace and Routes Design (Conventional & PBN mixed environment) in order to be able to be efficiently part of an airspace design project team. The objective of this course is to provide theoretical background in the design of airspace, particularly in lower airspace and terminal areas. A practical workshop during the second week will allow participants to take part in the different steps of the design of a new Airspace with Routes based on real traffic data. The targeted audience are ATS managers, supervisors, controllers, and technicians involved in airspace and procedure design.

- Instructor/Facilitator: ENAC experts
- Sponsorship for MID FPP: ENAC France
- Material: ENAC
- Facility: Toulouse/France, two (2) seats for MID FPP Pool of Experts.

Provision of specific projects and consultancy for IFPs/Airspace design to States.

The MID FPP provides support to member States through consultancy service (based on specific requests coming from States). These services are including a broad spectrum of support provided thru the Programme resources/experts already in place as follows:

(1) IFPD Conv. STARs/IAPs Kirkuk Intl Airport/ORKK project (incepted in 2023)

Description: Conducting from survey/data gathering up to preparation of regulatory approval package and support for publication of the following Instrument Flight Procedures (IFP): ILS/DME runway 31, VOR/DME runway 13 and VOR/DME 31 as well as the design of feeder/arrival routes connecting to the Initial Approach Fix (IAF) rwy 13 and 31 respectively. Also, handling procedure design/procedure re-assessment for ILS rwy 31 and new VOR rwy 13 & 31, ground validation, support of safety activities, creation of draft charts & associated tabular description, flight validation package support, project management.

Note: The Terrain and Obstacles data survey as well as the Flight Validation activities are envisaged to be provided thru United ATS company.

- Facilitator: MID FPP Pool of Experts (PoE), UATS (*refer to Note above*)
- Sponsorship/Project Owner: Kirkuk Intl Airport
- Duration/Date: According to the Project Plan/TBD
- Facility: Remote.

(2) IFPD Risk Assessment & Regulatory approval for Sulaymaniyah Intl Airport/ORSU (incepted in 2023)

Description: Sulaymaniyah Intl Airport (ORSU) requested MID FPP to conduct a Risk Assessment for their new instrument procedures consisting of Conventional SIDs, STARs, ILS CAT I and VOR/DME for both runway 13 & 31. The initial procedure design was created by the airport experts under the supervision of an external experienced designer. The procedures were also successfully flight validated through a commercial specialized service provider.

- Facilitator: MID FPP Pool of Experts (PoE)
- Sponsorship/Project Owner: Sulaymaniyah Intl Airport (ORSU)
- Duration/Date: According to the Project Plan/TBD
- Facility: Remote.

(3) IFPD Consultancy IFP Regulatory Approval Erbil Intl Airport/ORER (incepted in 2023)

Description: Erbil requested for MID FPP consultation service for finalizing the outstanding project with CGX Aero company (France) on the new Instrument Flight Procedures (IFPs) package. The MID FPP consultancy service shall be performed in support of the regulatory approval package by Iraq CAA of the Conventional and PBN Instrument Flight Procedures SIDs, STARs, ILS and RNP runway 18 & 36, respectively.

- Facilitator: MID FPP Pool of Experts (PoE)
- Sponsorship/Project Owner: Erbil Intl Airport (ORER)
- Duration/Date: According to the Project Plan/TBD
- Facility: Remote.

APPENDIX B

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MID FPP Work Plan 2024

| Activity Type | Subject | Location* | Duration | Date | Remarks |
|----------------------------|-------------------------------------------------------------------------------------|------------------------------------|--------------|-------------------------|---------------------------------------------------------------------|
| Training PBN | Inter-relationship PBN Design – Coding – Chart/AIP Course | Abu Dhabi/SZC | 4 days | 5-8 Feb | Max ten (10) attendees. |
| Trainings PANS OPS | PANS OPS Initial training (tailored syllabus Iraq) | Baghdad/Iraq | 6 weeks | TBD (Q1 tentatively) | Ten (10) participants. Training deferred from 2023 at Iraq request. |
| | Initial PANS OPS Procedure Design | Online | 4 weeks | 17 June-12 July | APAC FPP training class. Three (3) seats for MID FPP |
| | PANS OPS for CAA Inspectors | Toulouse/France | 5 days | TBD | ENAC training class. Two (2) seats for MID FPP. |
| | Advanced (part I) PANS OPS | Onsite/TBD | 2 weeks | TBD | United ATS (iGAT portfolio). |
| | Advanced (part II) PANS OPS and/or PinS HEL | Onsite/TBD | 2 weeks | TBD (Q3 tentatively) | United ATS (iGAT portfolio for 2024). PinS on request only. |
| Workshops | National PBN Implementation Plan | Dakar/Senegal | 5 days | TDB (September) | Africa FPP facilitators. Seats for MID FPP to be coordinated. |
| | PANS OPS Oversight + IFPD Quality Assurance | Accra/Ghana or Yaoundé/Cameroon | 2 weeks | TBD (July) | Africa FPP. Alternate to above as based on request/interest only. |
| | PBN Flight Procedure Design for ATC | Online | 2 days | 27-28 Feb | APAC FPP workshop. Three (3) seats for MID FPP. |
| | PBN Manual (Doc. 9613, new 5 th edition) webinar | Onsite/TBD | 2 days | TBD | MID FPP, ICAO MID, IATA. No seats limitation. |
| | Airspace and Routes (airways) Design | Toulouse/France | 10 days | TBD | ENAC. Two (2) seats for MID FPP PoE * |
| Customer-oriented Projects | IFPD Conv. STARs/IAPs Kirkuk/ORKK (incepted in 2023) | MID FPP PoE * | Project Plan | TBD | Project deliverables: 70% in 2024 |
| | IFPD Risk Assessment & Regulatory approval for Sulaymaniyah/ORSU (incepted in 2023) | MID FPP PoE * | Project Plan | TBD | Project deliverables: 70% in 2024 |
| | IFPD Consultancy IFP Regulatory Approval Erbil/ORER (incepted in 2023) | MID FPP PoE * | Project Plan | TBD | Project deliverables: 70% in 2024 |

* SZC = GCAA Sheikh Zayed Air Navigation Training Center (MID FPP premises) * PoE = Pool of Experts

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