International Civil Aviation Organization

Performance Based Navigation Sub-Group (PBN SG)

First Meeting
(Cairo, Egypt, 1 – 3 April 2014)

Agenda Item 4:   **PBN Implementation in the MID Region**

MID FLIGHT PROCEDURE PROGRAMME

(Presented by the Secretariat)

SUMMARY
This paper presents an overview on the ICAO APAC and AFI Regions Flight Procedure Programmes (FPPs), aiming to initiate the discussions related to the establishment of the MID FPP in order to agree on the best mechanism to establish the MID FPP.
Action by the meeting is at paragraph 3.

REFERENCES
-   AFI FPP Draft Programme Document -   APAC FPP IFAPM -   DGCA MID/2 Report -   MIDANPIRG/14 Report

1.   INTRODUCTION

1.1   The meeting may wish to recall that MIDANPIRG/14 underlined that the lack of procedure designers is one of the PBN implementation challenges. It was emphasized that cooperative efforts were necessary to overcome this challenge. In this respect, the meeting noted that the DGCA-MID/2 meeting, through Conclusion 2/5 agreed that a study related to the establishment of a MID Region Flight Procedure Programme (FPP) be carried out within the framework of the PBN Sub-Group, taking into consideration similar programmes in other ICAO Regions. It's to be highlighted that the task related to the study for the establishment of the MID FPP was included in the Terms of Reference (TOR) of the PBN Sub-Group, as approved by MIDANPIRG/14.

2.   DISCUSSIONS

2.1   The meeting may wish to note that ICAO Asia-Pacific Flight Procedure Programme (FPP) was established in October 2009. The Programme objective is to assist States to develop sustainable capability in the Instrument Flight Procedure (IFP) domain so as to meet their commitments under Assembly Resolution A36-23 (superseded by Assembly Resolution A37-11) for PBN implementation and their obligations for the quality of their IFP's. This will be accomplished through training, assistance with quality assurance, procedure design and access to IFP-related automation solutions.

2.2   The **development objective** of APAC FPP is to contribute to the social and economic development of the Participating States by improving their capability to develop, ensure the quality of and maintain instrument flight procedures as per provisions contained in the Convention on International Civil Aviation, Procedures for Air Navigation Services and other ICAO documents.

2.3   The **immediate objectives** of the APAC FPP are to foster the implementation of flight procedures, developed with the appropriate quality systems, especially PBN and vertically guided instrument approach procedures by:

> a) Assisting those States with sufficient density 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;
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> b) Providing the appropriate level of technical expertise necessary to enable States that do not have the density of procedures necessary to sustain an internal procedure design capability; and
>
> c) Providing a vehicle to improve quality in the States' procedure design process through access to procedure design automation solutions and associated data storage

2.4   The APAC FPP in its pursuit towards its vision of becoming the *Regional Center of Excellence in the Area of Procedure Design*, the ICAO APAC FPP continues its activities and achieves tangible results and outcomes serving the objective of its establishment. During January to December 2013, the FPP's accomplishments can be categorized into four (4) areas, namely:

> a) Training and Implementation Support: a total of nine (9) courses and workshops have been conducted for178 students from fifteen (15) States/Administrations in the Asia-Pacific Region
>
> b) Consultation and Quality Assurance Services
>
> c) Procedure Design Support
>
> d) Participation in Relevant International Forum

2.5   The list of ICAO APAC FPP Work Programme on the Seminars/Workshops/Courses for the years 2010 to 2014 is at **Appendix A** to this working paper.

2.6   The policies and procedures of the APAC FPP are contained in the APAC FPP Institutional Framework and Administrative Procedures Manual (IFAPM).

2.7   The Programme is executed on the basis of the Programme Document signed by the Host State (China) and ICAO and which has been signed by all the Participants States.

2.8   The "**Institutional Framework**" for APAC FPP duly approved on behalf of the Programme Members provides the Programme with its own work programme, its own budget and its own core staff, but without being incorporated as a legal entity under international or national law. It is therefore a co-operative, unincorporated institution funded in cash partly through yearly contributions from Participating States, partly through grants from third-party multilateral and bi-lateral donors and partly through special funds provided by Programme members requiring specific assistance. Additionally the Programme may receive contributions in kind from the donor community and also from some of the Programme administrations.

2.9　　　　The APAC FPP Member States are divided into two categories: Active Participating States who participate in the Programme funding by annual contributions and are members of the Steering Committee; and User Participating States who use the services of the Programme and bear certain expenses for assistance provided to them but do not participate in the Programme funding by annual contributions.

2.10　　　　The Programme policies and the work of the APAC FPP are decided by a Steering Committee (SC) which is its Governing Body and oversees the implementation of the Flight Procedure Programme. The Steering Committee is composed of:

> a) Programme Members who signed on as Active Participating States/Administrations: the heads of civil aviation administrations in the APAC FPP Member States, (Minister/Administrator or Directors General of Civil Aviation) or their designated representatives;
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> b) from ICAO, the Director, Air Navigation Bureau, Director, Technical Cooperation Bureau and Regional Director, Bangkok or their representatives;
>
> c) the FPP Programme Manager who will act also as the Secretary of the Steering Committee; and
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> d) the following may participate in the Steering Committee meetings as observers:
>
>> i. Programme Members who signed on as User Participating States/Administrations: the heads of civil aviation administrations in the APAC FPP Member States, (Minister/Administrator or Directors General of Civil Aviation) or their designated representatives.
>>
>> ii. Donor States, agencies, organizations and industry having made a financial contribution or contribution in kind would be recognized as "Partners" in the implementation of the Programme and invited to Steering Committee Meetings.
>>
>> iii. Representatives from non-member States, agencies, organizations and industry with an interest in aviation safety or air navigation issues in Asia may be invited to participate in meetings as observers.

2.11　　　　The administrative procedures of the APAC FPP are based on ICAO guidelines and associated practices that have proven to be appropriate for the operation of this innovative programme.

2.12　　　　The APAC FPP Programme is implemented by ICAO within the existing ICAO legal regime applicable to the ICAO Technical Cooperation Programme.

2.13　　　　The core services listed below provided under the Programme are funded primarily by the Active Participating States through annual contributions in accordance with a cost-sharing formula approved by the Steering Committee. The funds are placed by ICAO in a Trust Fund account for the APAC FPP Programme.

2.14　　　　The **Core services** are the tasks undertaken by the APAC FPP for the common benefit of all APAC FPP Members and funded primarily through the APAC FPP budget and donor contributions. Core services include:

a) assist State procedure designers in developing their procedures;

b) assist State with Quality Assurance (QA);

c) provide OJT to procedure designers, remotely, on-site or at the FPP location;

d) provide other training as required;

e) provide States access to server-based procedure design software applications;

f) provide States access to server-based electronic terrain and obstacle data storage; (f) Provide packed procedures for a limited choice of avionics, for use during the pre-publication ground and flight validation; and

g) undertake any other common benefit task determined by the Steering Committee.

2.15   The **Services at request** are the Services provided in accordance with a schedule of fees approved by the Steering Committee or as agreed in writing and for the benefit of a single Member or group of Members, on an "as requested" basis:

a) procedure design and charting;

b) quality assurance of procedure design;

c) assist with ground and flight validation;

d) assist State with data origination; and

e) any other specific tasks falling within the scope of the objectives of APAC FPP requested by a Programme Member or a group of Members.

2.16   The Contributions in the form of grant funds and/or contributions in kind from external donors such as international organizations in the field of aviation or associated with it, regional organizations of States, individual donor States or administrations, aircraft or aircraft component manufacturers, airlines, airports, air navigation services providers, other members of aero-space industry and any other non-public sector stakeholders in aviation Safety accepted by the Programme Steering Committee for participation in the Programme are welcomed. ICAO shall enter as needed into agreements with the respective donors for the use of such grant funds, the conditions for which shall be agreed between the specific donors and ICAO. These grant funds shall be considered as supplemental resources, the primary source of funds being the contribution of the Programme Members themselves as indicated in para. 2.9 above.

2.17   The non-public sector stakeholders in aviation safety may be permitted as Programme donors by the Steering Committee, after satisfying itself on the background of such stakeholders and their compatibility with the APAC FPP Programme defined objectives.

2.18   For functions described in para. 2.15, the CAAs, air operators, airport operators or the ATS service providers receiving the service deposit the estimated cost of the service in the APAC FPP Trust Fund in ICAO; the service recipient may also request ICAO through the CAA to approach the donor community to contribute in full or in part to the service cost.

2.19   ICAO provides the Services specified in the latest applicable revision of the APAC FPP Programme Document in accordance with established ICAO rules, policies, procedures and practices.

2.20   The APAC FPP Office is located in Beijing China; the Civil Aviation Administration of China (CAAC), through the Center for Aviation Safety Technology (CAST), provides office space and other administrative support.

2.21   The services of the APAC FPP are provided by a core team of internationally and/ or regionally and nationally recruited experts, supplemented, as required, by regionally or internationally recruited short term consultants. One of the core experts is the Programme Manager. These personnel are part of the ICAO Programme Cell.

2.22   Similarly, the establishment of the AFI FPP is in its final stage. In this regard, a Seminar/Workshop was organised in the ICAO West and Central African (WACAF) Regional Office, 26-28 March 2014, to support the establishment of the AFI Flight Procedure Programme (AFI-FPP) Office with seconded personnel and financial assistance as a matter of urgency to expedite the implementation of PBN in the AFI Region.

2.23   The AFI FPP will be run by ICAO Eastern and Southern African (ESAF) and WACAF Regional Offices. AFI States will support the programme with seconded Personnel and financial Contributions (Donors Contribution has been considered). The programme will be governed by the African Steering Committee.

2.24   The AFI FPP will be hosted by ASECNA and will start business on 2 June 2014 for an initial period of three (3) years.

2.25   ICAO will support the AFI FPP through the monitoring of the implementation of the programme, providing technical support to its experts in the performance of their duties and by providing financial account management.

2.26   The following are the main Scope of Services of the AFI FPP:

- Trainings

    - PBN Implementation Workshop

- Planning, getting people together

    - Aeronautical Data Processing
    - Quality Assurance Process - Course and OJT
    - Procedure Design - Course and OJT
    - PBN Operations Approval - Course and OJT
    - Airspace Design Workshop

- Terminal with CDO/CCO

- Enroute

    - Training for ATC/ATM personnel for PBN deployment
    - Other related trainings as required

- Implementation Supports

    - State PBN Planning
    - Assistance in development of PBN-related regulations
    - Conduct operational assessment and business case and activity
    - planning for PBN Implementation
    - Data Collection and Validation
    - Design procedures with priority for PBN procedures
    - Ground and flight validation
    - Assessment of achieved operation improvements and suggestion for improvements
    - Other related PBN implementations support activities as required

2.27   The meeting may wish to recall that the Second meeting of the Directors General of Civil Aviation for Middle East Region (DGCA-MID/2), held in Jeddah, Saudi Arabia, 20-22 May 2013, recognized that there is an increasing need for cooperation between the different ATM stakeholders for the enhancement of ATM capacity and efficiency in the MID Region.

2.28   The DGCA MID/2 meeting agreed in principle on the necessity for a MID Region ATM Enhancement Programme (MAEP) to be established within the framework of MIDANPIRG (under the ICAO umbrella).

2.29   In order to expedite the process and avoid that the legal and funding issues delay the implementation of the Programme, the DGCA MID/2 meeting agreed through Conclusion 2/4 that a MAEP Board composed of high level representatives from concerned States and Organizations, be established to be responsible for overall supervision, direction, and management of the Programme.

2.30   The meeting may wish to note that the MAEP Special Coordination Meeting (MAEP SCM) held at the ICAO MID Regional Office, Cairo, Egypt, 18-20 February 2014, agreed to the following Draft Scope and Strategic Objective of the MAEP:

> *The MID Region ATM Enhancement Programme (MAEP) is a Regional platform that provides the basis for a collaborative approach towards planning and implementing projects in support of the MID Air Navigation Strategy, taking into consideration previous initiatives. This includes the following:*
>
> *1) Maximize Air Traffic Management performance in the MID Region through project management and within the time frame (2014-2028).*
>
> *2) Improve efficiency and increase capacity to safely accommodate air traffic growth.*
>
> *3) Support the implementation of ATM projects in the MID Region in a harmonized and collaborative manner in line with the MID AN Strategy and GANP, taking into consideration the users' requirements.*
>
> *4) Addresses ATM community expectations in a cost-effective and environmentally sustainable manner.*

2.31   Taking into consideration the agreed Draft Scope and Strategic Objective and the DGCA-MID/2 Conclusion 2/4 related to the establishment of a MAEP Board, the MAEP SCM agreed to the following MAEP Organizational Structure:

- Strategic level: MAEP Board;
- Tactical level: MAEP Project Management Office (PMO); and
- Operational/implementation level: Projects/Working Packages.
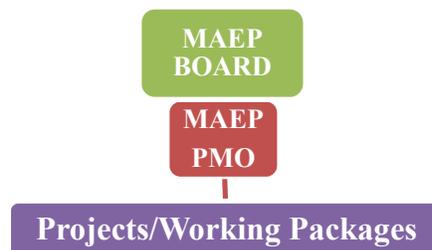
2.32   The meeting emphasized that the MAEP Board should be composed of high level representatives (Decision makers), authorized to facilitate decision-making related to the legal, institutional and financial issues pertaining to MAEP. The MAEP SCM developed the initial draft Terms of Reference (ToR) for the MAEP Board and an initial draft MAEP Memorandum of Agreement (MOA), for review, amendment, as deemed necessary, and endorsement by the MAEP Board. It was highlighted that the MAEP Board should address the following:

    a) the duties and responsibilities of the different MAEP Board Members/Observers;

    b) the complete list of objectives (major outcomes) to be achieved;

    c) the functions and responsibilities of the MAEP PMO; and

    d) the legal, institutional and financial issues

2.33   Based on the above, the MAEP SCM agreed that the First meeting of the MAEP Board be convened at the ICAO MID Regional Office, Cairo, Egypt, 23-25 June 2014.

2.34   Based on all the foregoing, the meeting is invited to agree on the establishment of the MID FPP, with defined scope, objectives and functions/Services. The following options should be considered for the establishment of the MID FPP (legal, institutional and financial issues):

    a) Standalone Programme managed by ICAO (Air Navigation Bureau and Technical Cooperation Bureau);

    b) Standalone Programme hosted, supported and managed by a State or Group of States; or

    c) A programme supported by the MAEP PMO.

3.   ACTION BY THE MEETING

3.1   The meeting is invited to note the information contained in this working paper and take the appropriate action related to the way forward for the establishment of the MID FPP, taking into consideration the options at para 2.34.

ICAO APAC FPP Work Programme on the Seminars/Workshops/Courses in 2014

Date	Activities	Location	Participants	Organizer
20-30 Jan	Procedure Design OJT	RSO Beijing	Sri Lanka	FPP
11 Feb - 7 Mar	Pans-Ops PD Initial Course	RSO Beijing	FPP States	FPP
Mar (TBD)	PBN Implementation Visit	DPRK	DPRK	FPP supported by RSO
Mar (TBD)	PBN Follow-up Visit	Ulaanbaatar	Mongolia	FPP
28 April - 2 May	PBN Ops Approval Course for Regulators and Airlines	Myanmar	APAC States	RSO supported by IATA
7-23 May	PBN PD Course	RSO Beijing	FPP States	FPP
30 June -11July	ICAO/IATA PBN Go-team visit with Airspace Concept Workshop	RSO Beijing	China, APAC States	ICAO HQ/IATA supported by RSO and FPP
18-22 Aug(TBD)	PBN Ops Approval Course for Regulators and Airlines	Nadi, Fiji	Pacific Island States	RSO supported by IATA
22-29 Aug(TBD)	PBN Implementation Workshop	Nadi, Fiji	Pacific Island States	FPP supported by RSO
14 July – 8 Aug	Pans-Ops PD Initial Course	RSO Beijing	FPP States	FPP
1-19 Sep	PBN PD Course	RSO Beijing	FPP States	FPP
Oct (TBD)	PD Quality Assurance Course	TBD	FPP States	FPP
27-31 Oct (or 8 days)	RNP AR Course	RSO Beijing	FPP States	FPP with consultant
5-7 Nov (TBD)	FPP SC 6	RSO Beijing	FPP States	FPP
17 Nov - 5 Dec(TBD)	Flight Validation Pilots Course	Sri Lanka	FPP States	FPP supported by RSO
15-19 Dec (TBD)	PD Refresher Course	RSO Beijing	FPP States	FPP

ICAO APAC FPP Work Programme on the Seminars/Workshops/Courses in 2013

Date	Activites	Location	Participants
18-21 Feb	FPP/IATA PBN Airspace Design Workshop	Karachi, Pakistan	29
04 - 29 Mar	PANS-OPS Initial Course	Beijing, China	19
03 - 20 Sep	PBN Procedure Design Course	Beijing, China	23
23 Sep-11 Oct	Procedure Design OJT for Fiji	Beijing, China	2
07 - 18 Oct	Procedure Design OJT for Malaysia	Beijing, China	2

18 – 29 Nov	FPP/IATA PBN Airspace Design Workshop	Bangkok, Thailand	59
09 - 13 Dec	FPP Procedure Design Refresher Course	Beijing, China	16

ICAO APAC FPP Work Programme on the Seminars/Workshops/Courses in 2012

Date	Activities	Location	Participants
16-20 Jan	COSCAP/FPP PBN Implementation Workshop	Karachi, Pakistan	55
6 Feb – 2 Mar	PANS-OPS Initial Course	Beijing, China	24
16-27 Apr	Procedure Design OJT for Bangladesh	Beijing, China	3
16-19 Apr	COSCAP/FPP PBN Implementation Workshop	Male', Maldives	32
8-24 May	PBN Procedure Design Course	Beijing, China	17
4-25 Jun	Procedure Design OJT for Laos	Beijing, China	2
5-7 Jun	COSCAP/FPP PBN Implementation Workshop	Phnom Penh, Cambodia	60
18 Jun – 6 Jul	Flight Validation for Pilot Course	Manila, Philippines	12
2-27 Jul	PANS-OPS Initial Course	Beijing, China	22
13-16 Aug	FPP/IATA PBN Airspace Design Workshop	Manila, Philippines	38
11-13 Sep	COSCAP/FPP PBN Implementation Workshop	Kuala Lumpur	53
9-26 Oct	PBN Procedure Design Course	Beijing, China	17
26-30 Nov	FPP/IATA PBN Airspace Design Workshop	Yangon, Myanmar	30
4-7 Dec	FPP/IATA PBN Airspace Design Workshop	Delhi, India	32

ICAO APAC FPP Work Programme on the Seminars/Workshops/Courses in 2011

DATE	MEETING / SEMINAR / WORKSHOP	VENUE	Participation
3-28 Jan	Pans-Ops PD Initial Course	Beijing ,China	FPP States

7-11 Feb	PBN Implementation Workshop	Jakarta ,Indonesia	Indonesia only
21-25 Feb	PBN Airspace Design Instructor Workshop	Singapore	FPP States
7–10 Mar	PBN Implementation Workshop	BSB, Brunei	Brunei only
15-31 Mar	PBN PD Course	Beijing, China	FPP States
24-29 Mar	PBN Implementation Workshop	Colombo, Sri Lanka	Sri Lanka only
31 Mar-1 Apr	PBN Implementation Workshop	Kathmandu, Nepal	Nepal only
4-6 Apr	PBN Implementation Workshop	Ulaan Bataar, Mongolia	Mongolia only
18-21 Apr	RNP AR PD Course	Beijing, China	FPP States
23-27 May	Procedure Design OJT(Surabaya, Indonesia)	Beijing, China	Indonesia
31 May-1 Jun	FPP Phase 2 Planning Meeting	Bangkok, Thailand	FPP States
6-24 Jun	Procedure Design OJT(Sri Lanka)	Beijing, China	Sri Lanka
13-16 Jun	PBN Implementation Workshop	Yangon, Myanmar	Myanmar only
20-23 Jun	PBN Implementation Workshop	Vientiane, Lao PDR	Lao only
4-29 Jul	Pans-Ops PD Initial Course	Beijing, China	FPP States
23-25 Aug	PBN Implementation Workshop	Dhaka, Bangladesh	Bangladesh only
9-12 Aug	PBN Implementation Workshop	Vietnam	Vietnam only
8-26 Aug	Procedure Design OJT(Mongolia)	Beijing, China	Mongolia
5-23 Sep	Procedure Design OJT(Myanmar)	Beijing, China	Myanmar
11-27 Oct	PBN PD Course	Beijing, China	FPP States
24-28 Oct	PBN Implementation Workshop	Seoul, Korea	Korea only
7-11 Nov	PBN Airspace Design Workshop	Davao, Philippines	Philippines only
14-16 Nov	PBN Implementation Workshop	Manila, Philippines	Philippines only
14-18 Nov	PBN Airspace Design Workshop	Denpasar, Indonesia	Indonesia only
22-25 Nov	PBN Airspace Design Workshop	Hongkong, China	Entire region
7-8 Dec	3rd Meeting of FPP Steering Committee	Thailand	FPP States

ICAO APAC FPP Work Programme on the Seminars/Workshops/Courses in 2010

Date	Trainings	Location	Participants
April	Continous Descent Operations Workshop	Beijing, China	19
21 Jun-16 Jul	PANS-OPS Initial Course	Beijing, China	15
1-17 Sep	PBN Procedure Design Course	Beijing, China	24
Dec	Procedure Design OJT for DPRK	Beijing, China	2