

**15th STEERING COMMITTEE MEETING**  
**Performance Based Navigation (PBN)**  
**Update on ICAO Asia and Pacific Regional Sub-Office**  
**APAC Flight Procedures Programme Office and COSCAP Support**  
**Information Paper 2**

**SUMMARY**

The purpose of this Information Paper is to provide an update on the activities and progress of the ICAO Asia and Pacific Regional Sub-Office (RSO), APAC Flight Procedure Programme (FPP) and COSCAPs in the support being provided to Member Administrations related to PBN Implementation. The ICAO APAC RSO was established in June 2013 aiming to provide implementation support assistances to States in ATM enhancement activities including PBN implementation, Airspace optimization and management and Air Traffic Flow Management and Collaborative Decision Making (ATFM/CDM).

The APAC FPP is established in 2009 with a goal of developing States' capabilities in the instrument flight procedure domain, especially in the areas of procedure. The APAC FPP is now under regular supervision by ICAO APAC RSO and is co-located with the Sub-Office.

COSCAP-NA Members are encouraged to seek the support of the ICAO APAC RSO, APAC FPP and Asia COSCAPs as required to support the development, amendment, and implementation of their PBN Plan.

## **1 Discussion**

### **1.1 ICAO Asia and Pacific Regional Sub-Office (RSO)**

1.1.1 The APAC region represents one of the fastest growing aviation markets. ICAO forecast predicts that the international revenue passenger kilometers (RPKs) in the APAC Region will almost double that of North America within a decade. IATA estimates that the demand for commercial air travel in the APAC Region will continue to grow at a combined annual growth rate (CAGR) of 8.8% for international passenger market and 11.3% for freight market by 2014. ACI reports that the number of airport passengers in the APAC region was up by 11.3% in 2010.

1.1.2 The ICAO Council, at the sixth meeting of its 194<sup>th</sup> Session held on 14 November 2011, agreed to establish a Regional Sub-office (RSO) of the Asia and Pacific (APAC) Office, aiming to enhance support to States in the APAC Region. Following the selection process including onsite visits, the People's Republic of China was approved as the host State of APAC RSO by the Council at its 197<sup>th</sup> Session held on 5<sup>th</sup> November 2012.

1.1.3 The RSO engages in project-oriented activities aiming to support States in their air traffic management enhancement projects. The project areas which are in scope of the RSO activities include but not limited to Airspace organization and management (AOM), Collaborative decision making (CDM), Air traffic flow management (ATFM), Flexible Use of Airspace (FUA) and

Performance-Based Navigation (PBN).

1.1.4 The ICAO APAC RSO Strategic Framework consists of four strategies, namely

- A. Improve **Safety and Efficiency of Flight Operations** through Innovative Procedures;
- B. Enhance **Airspace Capacity and Efficiency** to Accommodate Asian Aviation Growth;
- C. Optimize **ATM Operations** via Collaborative Management of Traffic Flow; and
- D. Ensure **Continuous Improvement of Organizational Performances** by Proper Managements of Quality, Work Plans, Resources and Developments of Team-members' Capacity

1.1.5 The works of the RSO will not duplicate the role of the existing APAC Office in Bangkok. While the APAC Office will continue its activities as the center of Regional Planning, the RSO, in cooperation with industry partners, will focus its efforts in supporting member States on their implementations of ATM enhancement projects. The coordination framework between the ICAO APAC Office and the RSO is shown in the figure below:



1.1.6 From June 2013 to now, the ICAO APAC RSO has provided the following ATM implementation supports to States as followings:

Performance-based Navigation (PBN)

- Assisted Bangladesh, Cambodia, Fiji, Laos PDR, Malaysia, Maldives, **Mongolia**, Myanmar, Sri Lanka, Thailand, and Timor Leste in effective implementations and validations of PBN

procedures.

- In cooperation with IATA, conducted trainings in PBN Operational Approval for regulators, airlines and ANSPs
- Supported ICAO/IATA/CANSO PBN Global Go-Team visits in Thailand and **China**
- Conducted a PBN Implementation and Airspace Design Review Workshop for Pacific Island States in 2014 in Fiji
- Conducted Stakeholder Consultation Meeting and ATC training supporting PBN deployment in Bangladesh and Myanmar
- In cooperation with **COSCAP-NA**, conducted Stakeholder Consultation Meeting, ATC training and safety assessment supporting PBN deployment in **Mongolia**
- Entrusted by ICAO IFPP to develop PBN Procedure Construction Manual
- In coordination with ICAO ANB and APAC RO, facilitated an establishment of the PBN Implementation Coordination Group under APANPIRG

#### Airspace Organization and Management (AOM)

- Assisted Fiji, Malaysia, Myanmar and Sri Lanka in effective implementation of airspace design for terminal airspace.
- Conducted a workshop on Civil Military Coordination and Flexible Use of Airspace for APAC States in 2014 in Beijing, **China**.

#### Air Traffic Flow Management and Collaborative Decision Making (ATFM/CDM)

- Assisted **China**, Japan and **ROK** on the establishment of North-Asia Regional ATFM Harmonization Group (NARAHG).
- Coordinated with ASEAN and Bangladesh, India, Myanmar, Thailand (BIMT) States on their on-going ATFM activities and initiatives
- Conducted a project assessment for ATFM/CDM implementation project in Shanghai in coordination with CAA **China**
- Conducted a briefing to **China** to gain better understanding of China's plan for planning and implementation of ASBU, ATFM and CDM.
- Conducted a trial course on Introduction to ATFM/CDM to IATA and its airline members
- Conducted ATFM Workshop – Asia Pacific in October 2014 in Beijing, **China**
- Conducted a Seminar on Basic Capacity Enhancement Concepts and Developments of ATFM for APAC States in Myanmar
- Scheduled Workshops on ATFM/CDM in **Mongolia**, India, Indonesia and Thailand in 2015

### **1.2 APAC Flight Procedures Programme Office (APAC FPP)**

1.2.1 ICAO Asia-Pacific Flight Procedure Programme (APAC FPP) was established in October 2009. Recognizing the need for a regional center of excellence in the field of flight procedure design and to support ICAO Assembly Resolutions on Performance Based Navigation (PBN) implementation, ICAO Asia-Pacific PBN Task Force recommended ICAO APANPIRG to establish the FPP. In September 2009, APANPIRG during its twentieth meeting endorsed the concept. Starting in June 2013, the APAC FPP is co-located with ICAO APAC RSO, near Terminal 3 of Beijing International Airport.

1.2.2 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 Resolutions relating to PBN implementation and their obligations for the quality of their flight procedures. This will be accomplished through training, assistance with quality assurance and procedure design process and access to IFP-related automation solutions.

1.2.3 The FPP will foster implementation of flight procedures, which are 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 ICAO PANS-OPS and States' responsibility for the quality of their procedures;
- 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.

#### 1.2.4 FPP Activities in 2015

The following trainings are planned by APAC FPP in 2015. Details and confirmations on all trainings may be found on APAC FPP web site [www.fpp-icao.org](http://www.fpp-icao.org) .

Date	Activities	Location
9 Mar-3 April	Pans-Ops PD Initial Course	Beijing
11-29 May	PBN PD Course	Beijing
1-5 June	PD Refresher Course 2015 (including all new amendments in Doc8168)	Beijing
6-10 July (TBD)	PD Quality Assurance Course	Beijing
13-17 July (TBD)	RNP AR Course	Beijing
3-21 August	PBN PD Course	Beijing
11-13 November	FPP SC 7	TBD

## 2 COSCAP PBN Activities

2.1 The APAC COSCAP programmes have been very active with respect to providing support to Member Administrations related to PBN Operational Approval. A PBN Model Regulation and PBN Operational Approval Handbook were developed by the COSCAP programmes to complement / supplement the material contained in the ICAO PBN Manual (DOC 9613). These model documents were forwarded to Administrations in August 2010 to enable Administrations and air operators to move forward with PBN Operational Approvals. Effective 2013, ICAO released the 1<sup>st</sup> edition of its PBN Operational Approval Manual.

### ***FPP / COSCAP PBN Implementation Workshops***

3.1 At the 37<sup>th</sup> Assembly, in resolution A37-11, ICAO urged all States to develop and implement a PBN Implementation Plan with certain milestones established for implementation. While many States have developed PBN Implementation Plans, difficulties have been encountered related to the execution of these plans.

3.2 The FPP/COSCAP programmes have already provided considerable training and the focus now is on supporting States' implementation of PBN through the provision of in-State PBN Implementation Workshops. While the first day of the Workshop includes presentations as a review of PBN Requirements and Implementation, the remainder of the Workshop focuses on exchange of information and discussions to support implementation of PBN in that particular State. All stakeholders (CAAs, ANSPs, air operators, etc.) are invited to participate.

3.3 The goal of the PBN Implementation Workshop is to:

- facilitate development of procedures and approval of operations;
- provide technical advice to stakeholders in order that they can meet their obligations; and,
- develop an action plan and timelines for initial implementation.

Outcomes from the workshops are tracked by the ICAO FPP programme and additional support provided by FPP/COSCAP as required.

3.4 PBN Implementation Workshops have been conducted to date in Indonesia (7 – 11 February 2011); Brunei Darussalam (7 – 10 March 2011); Sri Lanka (24 – 29 March 2011); Nepal (31 March – 1 April 2011); Mongolia (4 – 7 April 2011); Myanmar (13 – 16 June 2011); Lao PDR (20 – 22 June 2011), Vietnam (9 – 12 August 2011), Bangladesh (22 – 24 August 2011); Philippines (24 – 26 October 2011); Republic of Korea (1 - 4 November 2011); Pakistan (16-20 January 2012); Maldives (16 – 19 April 2012); Cambodia (5 – 7 June 2012); and Malaysia (11 – 13 September 2012).

3.5 In addition to COSCAP and FPP support, Boeing, IATA, and/or Airbus have provided financial and/or technical support associated with these Workshops and subsequently towards some of the expenses related to the implementation of the outcomes.

## ***4 Action by the Meeting***

4.1 The meeting is invited to:

- a) note the information in this IP as Administrations implement PBN; and
- b) note that Administrations are encouraged to seek the support of ICAO APAC RSO, APAC FPP and Asia COSCAPs as required to support the development, amendment, or implementation of their PBN Plans.