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International Civil Aviation Organization
African Flight Procedure Programme

12th Meeting of the African Flight Procedure Programme Steering Committee

Ouagadougou, Burkina Faso, 15 - 17 July 2026

Agenda Item 4: Presentation of working papers and information papers by stakeholders

Working Paper 4.1: Development and harmonization of recurrent PANS-OPS Training Courses in the AFI Region

(Presented by the Kenya Civil Aviation Authority)

EXECUTIVE SUMMARY

This Working Paper addresses the critical regulatory requirement for recurring and refresher training for Instrument Flight Procedure (IFP) designers within the African (AFI) Region. In compliance with ICAO Doc 9906 (Quality Assurance Manual for Flight Procedure Design), this paper proposes a structured, regional framework for Recurrent PANS-OPS Training Courses administered via the AFPP. This initiative aims to maintain designer competencies, update skills on recent ICAO PANS-OPS (Doc 8168) amendments and eliminate the risk of competency degradation.

Action by the meeting is indicated in section 3.

REFERENCES

- ICAO DOC 9906 – Quality Assurance For Airspace & Procedure Design
- ICAO Doc 8168 VOL I,II & III – Procedures for Air Navigation Services – Aircraft Operations
- ICAO Doc 10068 - Manual on the Development of a Regulatory Framework for
- Instrument Flight Procedure Design Service

1. INTRODUCTION

- 1.1 Instrument Flight Procedure (IFP) design is a highly specialized, safety-critical discipline governed by complex geometric criteria, obstacle clearance mathematics, and rapidly evolving navigation technologies. Since the design criteria are subject to periodic international modifications, maintaining active technical competency is paramount.
- 1.2 ICAO Doc 9906, Volume 2 (Flight Procedure Designer Training) explicitly mandates that initial training alone is insufficient to ensure long-term safety. States are structurally required to ensure their designers maintain an acceptable competency level through structured On-the-Job Training (OJT), Recurrent Training (to address changes in criteria/regulations), and Refresher Training (to recover skills weakened by disuse).



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- 1.3 While the African Flight Procedure Programme (AFPP) has achieved great success in providing initial PANS-OPS and Performance-Based Navigation (PBN) design courses, there remains an uncoordinated approach across the AFI region regarding structured recurrent training. This gap exposes African Civil Aviation frameworks to oversight deficiencies during ICAO Universal Safety Oversight Audit Programme (USOAP) missions.

2. DISCUSSION

2.1 The Technical Justification for Recurrent PANS-OPS Courses

- 2.1.1 Unlike standard administrative roles, an IFP designer's license or institutional certification relies heavily on recent practice and continuous regulatory updates. The rationale for a formalized regional recurrent training strategy rest on three operational realities:

- a) **Frequency of ICAO Amendments:** Amendments to ICAO Doc 8168 (PANS-OPS) Volumes I, II, and III occur continuously. Recurrent training ensures that African designers do not design modern airspace using obsolete criteria (e.g., outdated turn protection parameters or older APV/Baro-VNAV criteria).
- b) **The perishable nature of design skills:** Many African States employ only one or two local designers who may execute fewer than 3 to 5 complex designs a year. Without periodic, intensive refresher setups, core math, obstacle assessment profiles, and coding skills erode over time.
- c) **Audit Compliance (ICAO Doc 10068 / Doc 9906):** Regulatory oversight bodies (CAAs) within Africa require proof of periodic competency before allowing an authorized designer to sign off on public instrument procedures.

2.2 Proposed Core Curriculum Architecture

- 2.2.1 To maximize efficiency and keep costs manageable for Member States, the Recurrent PANS-OPS course should be structured as a high-density, **5-day to 10-day block** built around Competency-Based Training and Assessment (CBTA) principles.

- 2.2.2 The course will integrate three vital pillars:

- **The Update Segment:** Exhaustive breakdown of the 3 most recent amendments to Doc 8168, focusing heavily on PBN advancements, Satellite-Based Augmentation Systems (SBAS), and modern helicopter/drone operations criteria where applicable.
- **The Practical Lab:** Hands-on review of the most complex segments that introduce errors in the field specifically, missed approach climb gradients, cold temperature corrections, and coding transitions into the Flight Management System (FMS).
- **Quality Assurance & Safety Case Review:** Re-evaluating Doc 9906 provisions, focusing on ground validation techniques and human factors assessments.



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2.3 Implementation Strategy via AFPP

2.3.1 Rather than requiring every African State to build an independent recurrent training syllabus, it is operationally sound to centralize this function under the AFPP.

- **Delivery Model:** Utilize a hybrid approach. Theoretical regulatory updates can be conducted via regional webinars, while practical obstacle assessment workshops can be held at established regional training centers (e.g., ERNAM in Dakar, EAMAC in Niamey, or EASA in Nairobi).
- **Instructor Core:** Capitalize on the recent ICAO/AFPP Flight Procedure Design Instructors' Training framework to deploy qualified African PANS-OPS instructors, ensuring a self-sustaining pool of localized training talent.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Acknowledge the critical role that recurrent and refresher training plays in securing the safety and quality assurance of African instrument flight procedures in compliance with ICAO Doc 9906.
- b) Direct the AFPP Secretariat to develop a standardized **Regional PANS-OPS Recurrent Training Syllabus** and incorporate it permanently into the annual AFPP Training Programme.
- c) Encourage Member States and ANSPs to establish mandatory regulatory directives requiring their certified IFP designers to undergo an authorized recurrent course at least once every three (3) years.

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