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International Civil Aviation Organization
African Flight Procedure Programme

9th Meeting of the African Flight Procedure Programme Steering Committee
(Lomé, Togo, 23 to 25 October 2023)

Agenda Item 3: Review of the implementation status of the Programme
Working Paper 3.7: PANS-OPS challenges in the AFI Region

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This working paper presents the PANS-OPS challenges in the AFI Region as evidenced by the last ICAO USOAP CMA audits in ANS, which identified five (05) SSCs since 2020. Some of these five SSCs were related to the PANS-OPS domain or had an impact on PANS-OPS.

It also suggests pro-active solutions to avoid such findings which resolutions are costly.

Action by the meeting is indicated in section 3.

REFERENCES

Results of the ICAO USOAP CMA Audits (ANS)
AFPP Programme Document

1. INTRODUCTION

- 1.1 ICAO identified the poor training, the lack of effective regulation and the lack of oversight as the main challenges in the implementation of PANS-OPS requirements in the region. Responsibilities are shared between regulators (Civil Aviation Authorities CAAs) and the air Navigation Services Providers (ANSPs).
- 1.2 In general, the PANS-OPS domain is not well known within the CAAs and even the ANSPs (who only notice it when accidents, incidents or Safety Significant Concerns (SSCs) occurs).
- 1.3 The objective of this working paper is to identify the obstacles to a successful PANS-OPS implementation in the AFI Region and proposes solutions.

2. DISCUSSION

- 2.1 PANS-OPS deals with implementation and operation of Instrument Flight Procedures (IFPs), which mainly protect flying aircrafts against obstacles and are therefore flight-critical. As directly linked with the safety of the flights, their design is guided by ICAO requirements and national regulations.



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- 2.2 As stated in the ICAO Quality Assurance Manual for Flight Procedure Design (Doc 9906), flight procedures must be designed using current data meeting the ICAO data quality standards (Doc 9674-WGS-84 Manual, Annex 15-Aeronautical Information Services). Given their impact on flight safety, aerodrome obstacles shall be overseen continuously, and WGS-84 surveys should be conducted at least every five years.
- 2.3 The IFP are based on information provided by navigation aids (Nav aids) which shall be calibrated periodically (Doc 8071). They shall be designed and validated by qualified personnel and follow the sixteen (16) steps of the Quality Assurance Manual. A full design for a non-complex aerodrome takes at least nine (09) months to be completed.
- 2.4 However, since 2020, five ANS related SSCs were identified in the AFI Region; they relate to CNS (Nav aids) and PANS-OPS, but given the relationships between Nav aids and IFP, we can consider these CNS-related SSCs as related to PANS-OPS.
- 2.5 The situation is not improving in the Continent for many reasons. First, these activities as well as the related trainings are complex with a minimum of three (03) years to get a fully qualified designer. Since the inception of the Programme in 2014, more than ninety (90) designers have been trained but unfortunately, as there is no incentive, the turn-over rate in this domain is very high. As a result, despite efforts put in the capacity building, the continent is missing senior PANS-OPS experts.
- 2.6 The continent is also lacking automated design and charting solutions. The AFPP offers access to the automated design but is still missing a solution for the charting. Kenya offered to sponsor the Programme in this domain but the contact with the software designer was lost. States and ANSPs are again called to assist the Programme in obtaining such software, which can help the region. A sponsor can be granted the benefit of free or reduced design and charting services.
- 2.7 In addition, Nav aid calibrations as well as aerodrome obstacle surveys through continuous and periodic WGS-84 survey are not undertaken by States. The Nav aids supporting the flight procedures must be calibrated periodically as stated in paragraphs 2.2 and 2. Aerodrome obstacles shall be overseen continuously, and the WGS-84 survey must be conducted at least once every five (05) years.
- 2.8 Regarding the oversight, States don't have enough PANS-OPS inspectors to efficiently advise executives and perform the oversight of flight procedures. AFPP is available to fully train States inspectors as per ICAO requirements. In the meantime, to improve the regulatory approval of the IFPs, States should avail qualified PANS-OPS inspectors to AFPP, which can use them to assist other States as needed.
- 2.9 As part of the oversight, the flight evaluation is also a matter of concern. PBN flight procedures must be flight evaluated prior to their first implementation or if there is a major change. As the exercise is expensive, States and ANSPs can take opportunity of the Nav aid calibration to flight validate the PBN flight procedures at a minimum cost.



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3. ACTION BY THE MEETING

3.1 The Steering Committee is invited to:

- a) Take note of the information provided in this paper;
- b) Use the programme to train their relevant personnel;
- c) Take measures to motivate flight procedure designers;
- d) Sponsor additional design and charting software; and
- e) Approve the creation of a pool of PANS-OPS inspectors secondment to AFPP to assist other States.

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