



ICAO

International Civil Aviation Organization
African Flight Procedure Programme

Eighth Meeting of the African Flight Procedure Programme Steering Committee

(Dar Es Salam, 23 - 24 August 2022)

Agenda item 4: Review of the implementation status of the Programme

4.3: PANS-OPS oversight challenges in the AFI Region

(Presented by the Secretariat)

EXECUTIVE SUMMARY
This paper presents the challenges met in the area of the PANS-OPS oversight in the AFI Region as evidenced by the last ICAO USOAP audits.
REFERENCES: <ul style="list-style-type: none"> • ICAO USOAP audit findings • ICAO annexes 4 and 6 • ICAO Doc. 9906, Quality assurance Manual • ICAO Doc. 9674, WGS-84 Manual • ICAO Doc. 8071, Manual on testing Nav aids
RELATED ICAO STRATEGIC OBJECTIVE(S): <ul style="list-style-type: none"> • Air navigation Capacity and Efficiency • Safety • Environmental protection

1. Introduction

- 1.1 With regards to the safety oversight, contracting States and ICAO are playing complementary roles; ICAO develops Standards and Recommended Practices (SARPs) and approves Regional Air Navigation plans and States implement SARPs, carrying out their safety oversight responsibilities by implementing each Critical Element (CE) and establishing an aviation infrastructure in link with the Regional Plans. States have the obligation to establish a safety oversight system.
- 1.2 However, recent ICAO USOAP audits reveal more and more findings in the PANS-OPS or PANS-OPS related areas. This paper recalls the ICAO relevant PANS-OPS requirements, presents the frequently occurring shortcomings in this domain, aiming at assisting States to proactively reverse the trends in the occurrence of the Significant Safety Concerns (SSCs).

2. Discussion

- 2.1 Instrument Flight Procedures (IFPs) were usually based on ground radio navigation aids and landings aids (referred as navaids for the purpose of this paper). With the advent the Performance-Based Navigation (PBN) and the emerging technologies, they are more and more based on WGS-84 coordinates provided by space-based infrastructure. Both ground Navaids and satellite-based infrastructure are encompassed in the wording Navaids and are managed by the same ICAO documents (Doc. 8071, Manual on testing Navaids or Annex 10) in term of flight inspection.
- 2.2 As stipulated in the ICAO Doc. 9906, volume 1, prior to their implementation, all IFPs should be validated; validation consists in ground validation and flight validation. The flight validation encompasses simulator evaluation and flight evaluation. The flight evaluation is strongly recommended for PBN flight procedures mainly if it is a new procedure.
- 2.3 The document also prescribes that all aeronautical charts shall be reviewed on a periodic basis determined by State, but no longer than five (5) years to ensure that changes in obstacles, aerodrome, aeronautical or Navaid data are assessed for safety purposes.
- 2.4 Consequently, even if there are no clear specifications in the WGS-84 Manual (Doc. 9674) with regards to the periodicity of the WGS-84 maintenance surveys, as the obstacles and other features shall be reviewed no longer than 5 years, the same applies to the WGS-84 maintenance.
- 2.5 With regards to the Navaid, Doc. 8071 (Manual on testing Navaids) clearly states that they shall be flight tested for commissioning and be subject to periodic flight inspections which is globally more or less 12 months for the Navaids (VOR, DME and NDB) and six months for the ILS (LOC, L-DME and glide path).
- 2.6 Finally, the State safety oversight system should have a PANS-OPS and AIM inspectorate which should be provided with the relevant enabling equipment and tools.
- 2.7 Recent ICAO audits evidence the following PANS-OPS or PANS-OPS related shortcomings:
 - a) Insufficient legislation to address all the PANS-OPS oversight aspects: no established procedures to address them;
 - b) Inadequate PANS-OPS oversight:
 - Lack of PANS-OPS inspectors;
 - Lack of expertise to approve instrument flight procedures;
 - Practices differ from the established legislation.
 - c) Incomplete WGS-84 implementation:
 - Survey not conducted or,
 - Maintenance not done when initial survey is done.
 - d) Flight procedures not reviewed on a regular basis;
 - e) Navaids not calibrated on a periodic basis.
- 2.8 These shortcomings lead to crucial safety issues as they may impact the runway alignment or impact the obstacle clearance altitudes. States should be aware of and take urgent action to tackle the issue and avoid accidents or incidents that can be avoided.

2.9 On the side of ICAO, efforts should be made to assist States to be aware of and to take appropriate actions to minimize the occurrence of such SSCs.

3. **Action by the meeting**

3.1 The Meeting is invited to:

- a) Take note of the content;
- b) Encourage the Member States to take the necessary actions to avoid the repetition of such SSCs.

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