# Workshop Takeaways

# State responsibility

Instrument Flight Procedures (IFPs) are an essential component of the aviation system and must be safe and flyable for the relevant aircraft types.

It is the responsibility of each Member State to ensure the provision of an Instrument Flight Procedure Design Service (IFPDS) for procedures within its territory and airspace.

States may implement IFPDS through one or a combination of the following: a) Provide a instrument flight procedure design service (APDO/State-run). b) Enter bilateral/multilateral agreements with one or more Contracting States to provide a joint IFPDS. c) Delegate procedure design to an external (third-party) agency or organization.

The chosen model should be explicitly described in the State's regulations.

# Regulatory and oversight framework

States shall establish and maintain a regulatory framework and oversight system for IFPDS that ensures the safety and quality of published IFPs. The regulatory framework must specify the approval process and the documentation required to approve IFPDs.


**Strong Regulatory Foundations Are Essential**

Clear regulations must define requirements for IFP design, approval, review, validation, documentation retention, and publication.

# Approval of IFPs is a Critical State Responsibility

States retain ultimate responsibility for the approval and safety of all IFPs published for aerodromes and airspace under their authority.

The processes by which the State fulfils this responsibility shall be documented in national regulations.

The State must have a formal, documented approval process that verifies compliance with PANS-OPS and national criteria before publication.

Complete, traceable approval records are essential to demonstrate regulatory control.

# Competency of IFP Designers and FPI Must Be Ensured

The State must ensure IFP designers and CAA inspectors are trained, qualified, and current.

States must define required competencies for flight procedure designers in the regulatory framework.

IFP Designers shall obtain and maintain competency via formal training and supervised on-the-job training (OJT).

*Guidance: ICAO Doc 9906 (Quality Assurance Manual for Flight Procedure Design), Vol. 2 — Flight Procedure Designer Training.*

*Doc10070 provides guidance to oversight Authorities and training organizations on the development and maintenance of a competent Civil Aviation Safety Inspectors (CASIs) workforce*

# Surveillance of IFPDS Providers Must Be Systematic and Risk-Based

Surveillance must be documented, repeated, and demonstrate effective implementation.

**Actions**

•Develop an annual surveillance plan covering:

- Initial certification
- Periodic surveillance audits
- QMS implementation checks
- Competency maintenance
- Documentation retention

•Use structured tools:

- Audit checklists
- CAP follow-up system
- Findings log

**Why**

Demonstrates active oversight and continuous monitoring.

# IFP Quality Management System (QMS)

IFP Design Service Providers (IFPDSPs) shall establish and maintain a documented QMS or the entire IFP process.

The IFP process encompasses the full process from initiation to publication/promulgation of procedures and includes the continuous maintenance of the procedure as well as periodic review. The elements of the process encompass enablers, constraints, output, and post-publication feedback for the procedure under consideration.

*Guidance is contained in the Quality Assurance Manual for Flight Procedure Design - ICAO Doc 9906 Volume I*

# Safeguarding of IFPs and obstacle Control

The obstacle environment surrounding an aerodrome is constantly changing (e.g. temporary cranes, new developments,…) and IFPs need to be safeguarded against both temporary and permanent obstacles.

IFPDSPs are required to establish their own processes, documented within their IFP QMS, detailing how they perform and deliver IFP safeguarding activities. The objective of the safeguarding activity is to determine whether obstacles have any impact on the IFPs and allows the IFPDSP to determine the most appropriate mitigations to ensure the IFPs remain safe

The CAA has a responsibility to monitor and manage the obstacle environment in the vicinity of an aerodrome, and this is managed via the safeguarding of OLS. Due to the differences between the IFP protection areas and the OLS both laterally and vertically, obstacles that do not penetrate the OLS may have an impact on IFPs. Hence the need for separate safeguarding of IFPs

# Aeronautical data quality (ADQ)

Safety of air navigation is highly dependent on the quality of aeronautical data. Data-quality assurance must be integrated into the IFP design and publication workflow end-to-end.

IFP Design activities are part of the aeronautical chain and shall maintain the integrity of the aeronautical data ends to ends of the implementation process.

IFPDSPs are data originators for their designed IFPs and must ensure compliance with ADQ rules and obligations ( SLA with with the State AIS/AIM provider).

# Procedure design automation & software validation

Procedure design automation tools reduce errors, permit repeatable application of criteria and support “what-if” scenarios. They should be used where appropriate.

States remain responsible for the safety of IFPs and must ensure that any design software used is validated in accordance with the State’s regulatory framework.

*Guidance: ICAO Doc 9906, Vol. 3 — Flight Procedure Design Software Validation.*

# Procedure design process and periodic review

Procedures shall be designed according to the State's regulatory framework, taking into account all design inputs. Coordination with all stakeholders should continue throughout the procedure design and also during the validation process to ensure that the procedure meets the needs of stakeholders.

Published procedures shall be subjected to a periodic review to ensure that they continue to comply with changing criteria and meet user requirements.

The individual States shall establish the interval for periodic review of IFPs. The maximum interval for this review shall be five years. (See Annex 11, Appendix 7).

*Guidance on periodic reviews can be found in the Quality Assurance Manual for Flight Procedure Design (Doc 9906), Volume 1.*

# IFP validation & FV pilots qualification and training

States shall take measures to perform validation of instrument flight procedures to ensure the quality and safety of the procedure design for its intended use before publication. The validation of IFPs is the final step in the procedure design process, before approval for publication.

The purpose of validation is to confirm the accuracy and completeness of all relevant obstacles and navigation data, reveal any errors in the application of IFP design criteria, and assess the flyability of the IFP. It comprises a ground validation ("compliance check" and a flyability check typically using a simulator) and may also comprise a flight validation element.

State shall  have a written policy requiring minimum qualifications and training for FV pilots, including the flight inspection pilots who perform FV of IFP. The State shall approve flight validation pilots according to the State's regulatory framework.

*Guidance - (Doc 9906), Volume 6 — Flight Validation Pilot Training and Evaluation.*

# MIDFPP as a Regional Support Mechanism

MIDFPP can play a critical supporting role for States by providing expertise and assistance in IFP approval, ground validation, and independent technical review, especially for States lacking sufficient in-house capability. This regional support helps ensure consistency, safety, and compliance across the MID Region.

# Capacity-building & Implementation Support

ICAO provides assistance to States facing challenges in resolving safety-related deficiencies identified through the ICAO USOAP Continuous Monitoring Approach.

States that require support in the provision and/or oversight of IFP, address areas of challenge, and receive proper guidance on IFP approval are invited to inform the ICAO MID Office of their needs in terms of PANS-OPS capacity-building and assistance activities.

Additional workshops and training focused on IFP oversight and provision are essential.