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SAFE SKIES.
**SUSTAINABLE
FUTURE.**

Summary

Summary

ICAO IFP Oversight Requirements

- Rationale, objective and target audience
    - SSCs, ICAO provisions for effective oversight of IFPs, CAA personnel engaged in oversight, design, validation, approval
- Annex 11 Air Traffic Services
    - Appendix 7 describes State responsibilities concerning IFP design service
- Annex 6 Operation of Aircraft
    - Defines where Instrument Approach Procedures shall be promulgated
    - Specifies IFR operations shall comply with approved IFP
- Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) – Doc 8168
    - Procedures for: procedure design process, documentation, validation (flight and ground), flight validation pilot qualifications and training, procedure designer qualifications and training, procedure design automation, safety risk assessment of procedure design, ;
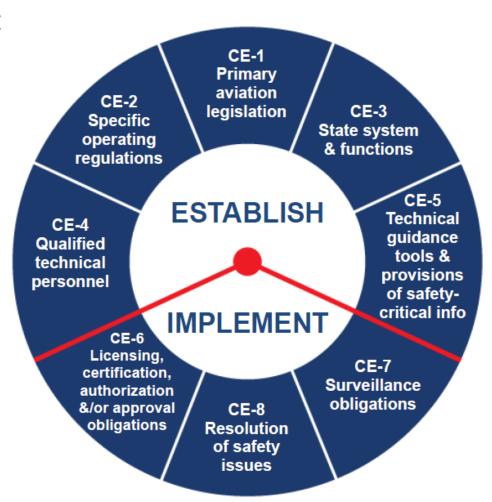- Quality Assurance Manual for Flight Procedure Design – Doc 9906 Vols 1 - 6

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Regulatory Framework of IFP Oversight and IFP Approval Process

Part I . Regulatory Framework for IFP Oversight

❖ **State obligations and responsibilities**

➢ Approval and responsibility of IFPs – State

➢ Design criteria – State-approved design criteria

➢ State safety oversight - State with certification and oversight, identify IFPDSP

➢ Safety risk assessment – included in the IFP design process

➢ QMS

➢ Continuous maintenance and periodic review within 5 years

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Regulatory Framework of IFP Oversight and IFP Approval Process

Part I . Regulatory Framework for IFP Oversight

❖ State Safety oversight function – 8 CEs

❖ Service provider function

➢ Establish process and procedures for IFP development including operational manual and quality manual

➢ Provision of service – design an publication using State criteria, periodic review, continuous maintenance, QA, training and qualification, SMS

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Regulatory Framework of IFP Oversight and IFP Approval Process

Part II. IFP Approval Process

❖ **Who will approve IFPS**

➢ State, Authority designated by State

➢ ensure all steps have been completed, documented and signed off by the authority

➢ Approval process need to be documented in the State regulation

❖ **Documents required**

➢ Procedure design data, procedure design document, Result of ground validation and flight validation, qualification/competency of procedure designers, etc.

➢ All documentation should be retained by IFPDSP

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Regulatory Framework of IFP Oversight and IFP Approval Process

Part II. IFP Approval Process

❖ Flight Validation vs. Flight Inspection

➢ Flight validation is to evaluate obstacle clearance, navigation data accuracy, aerodrome infrastructure, flyability, charting, etc. and Conducted by qualified and experienced FVP on the cockpit

➢ Flight inspection is conducted to confirm the ability of the navigation system by a qualified flight inspector using an flight inspection aircraft

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Summary

State Responsibilities

- To demonstrate fulfilment of ICAO safety oversight requirements, a State (regulator) must consider 8 critical elements (CE) in the establishment of a regulatory framework to ensure that State's international obligations and national requirements are met for the IFPDS

  - CE-1 & 2: Publish primary legislation & specific operating regulation including regulations for instrument flight procedures design, validation, approval & oversight.

  - CE-3: Establish job description, minimum appropriate qualification & experience requirement for FPIs. Have adequate number of qualified, trained & experienced Flight Procedure Inspectors (FPIs).

  - CE-4: Develop and implement a formal training program including initial, OJT, recurrent & specialized training for the FPIs.

  - CE-5: Develop procedures to assist ANS inspectors in carrying out their safety oversight functions in a standardized and effective manner

Summary

State Responsibilities

- CE-6: Ensure that appropriate minimum qualification requirements for flight procedures designers are met.

- CE-6: Ensure that flight procedures are in accordance with the criteria promulgated by the State.

- CE-6: Ensure that all IFPs comply with measures that control the quality of the process

- CE-6: Ensure that the IFPDS provider publishes obstacle clearance altitude/height (OCA/H)

- CE-7: Establish and implement a formal surveillance program for the continuing supervision of the instrument flight procedure design service (IFPDS) provider.

- CE-7: Ensure that instrument flight procedures (IFPs) are reviewed periodically (including validation) to ensure that they continue to comply with changing criteria and meet user requirements.

- CE-8:Establish and implement a mechanism/system with time frame for elimination of deficiencies identified by flight procedures inspectors.

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Summary

USOAP CMA

- USOAP CMA is an evidence based audit
- When the word 'Mechanism' appears,
  - evidences must include regulation, procedures/process, Checklist
- Training Program is strategic, generic
  - Whereas training plan is customised for each staff must contain OJT portion
- PPQ + CE-6 or CE-7 not satisfactory = SSC

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ICAO References/Guidance Material

- Doc 8071 – Manual on testing of radio navigation aids, Volume I – Testing of ground-based radio navigation systems.

- Doc 8168 – Procedures for Air Navigation Services – Aircraft Operations, Volume II – Construction of Visual and Instrument Flight Procedures & Design criteria for the design of flight procedures 7th Ed

  - ❑ approval process to ensure that instrument flight procedures (IFP) conform to the criteria promulgated by the State and that the IFPs comply with the process quality control measures.
  - ❑ flight validation of the procedures as part of the initial development and also as part of periodic examinations to confirm, among other things, that obstacle clearance is adequate

- Doc 9906 – Quality Assurance Manual for FP Design

  - ❑ Vol 1 - guidance for quality assurance in the procedure design processes, such as procedure design documentation, verification and validation methods and guidelines about the acquisition/processing of source information/data.
  - ❑ Vol 2 - training requirements for procedure designers
  - ❑ Vol 5 - guidance for conducting validation of instrument flight procedures, including safety, flyability and design accuracy

- Doc 10068 – Manual for developing the national regulatory framework on FPD and validation

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Thank You

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