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2025/02/SUPDT-R/41

All KCASR Stockholders and Users

Subject: Notice of Proposed Amendment's (NPA) No. 2025-01 to Kuwait Civil Aviation Safety Regulations KCASR 28 - Instrument Flight Procedure Design Requirements Rev 0.

Dear Sir,

Purpose:

The purpose of this NPA is to announce to the KCASR users the intention of the Directorate General of Civil Aviation to introduce a new part **KCASR 28 - Instrument Flight Procedure Design Requirements** (issue 4) .

Action Required:

All users of KCASR are required to refer to DGCA/ASD website (<https://kcasr.dgca.gov.kw>) for reviewing the NPA and mail or email (safety@dgca.gov.kw) their comments to DGCA by 27/Feb/2025 using the attached NPA Response Sheet Forms No. 1500 or using NPA comments & feedback form on the website. If we do not receive your response by this date, it will be assumed that you do not have any comments on the proposal.

If required, the DGCA/Aviation Safety Department personnel are available to answer your questions on the interpretation and intended implementation of the proposed amendments.

This is for your information and distribution to the concerned parties.

Yours Sincerely,

President of Civil Aviation


Abdullah F. Alrajhi

Acting / Deputy Director General
for Aviation Safety, Air Transport & Aviation Security

CC: Director General of Civil Aviation.
Dy. Dir. Gen. Kuwait. Intel. Airport Affairs.
Dy. Dir. Gen. for Air Navigation Services Affairs.
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Civil Aviation Security Department.
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Rev. 11

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Civil Aviation Regulation



الطيران المدني
Civil Aviation
دولة الكويت - State of Kuwait

Kuwait Civil Aviation Safety Regulations

KCASR 28 – Instrument Flight Procedure Design Requirements

NPA 2025-01
Jan 2025

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Glossary of Terms or Abbreviations

The following terms or acronyms may be used in any manual or document published by the Kuwait DGCA (ASD). Reproduction in part or whole is allowed without prior approval. The Document Control Office reserves the rights to include such a listing in any CAA manual or document prior to publishing.

ASMAC	ATC Surveillance Minimum Altitude Chart
ASD	Aviation Safety Department (Regulator)
ATS	Air Traffic Service
CAA	Civil Aviation Authority
CAD	Computer-Aided Design
DOC	Document
DGCA	Director General of Civil Aviation
FPD	Flight Procedure Design or Flight Procedure Designer
GIS	Geographic Information Systems
GM	Guidance Material
ICAO	International Civil Aviation Organization
IAP	Instrument Approach Procedure
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
IFPDS	Instrument Flight Procedure Design Service
IFPDSP	Instrument Flight Procedure Design Service Provider
ISA	International Standard Atmosphere
MOCA	Minimum Obstacle Clearance Altitude
MSA	Minimum Sector Altitude
OCA/H	Obstacle Clearance Altitude/Height
PinS	Point-in-Space
QMS	Quality Management System
RNAV	Area Navigation
RNP	Required Navigation Performance
SID	Standard Instrument Departure
SMS	Safety Management System
STAR	Standard Instrument Arrival
TAA	Terminal Arrival Altitude
UTC	Universal Time Coordinated
Vol	Volume
VPT	Visual Manoeuvre with Prescribed Track
WGS-84	World Geodetic System — 1984



FOREWORD

- (a) The Kuwait Civil Aviation Safety Regulation Enforcement Procedures have been issued by the Directorate General of Civil Aviation (DGCA) Aviation Safety Department (ASD) (hereinafter referred to as "the AUTHORITY") under the provisions of the Civil Aviation Law of the State of Kuwait.
- (b) it has been modelled on the requirements contained in ICAO Annex 11 (Air Traffic Services), ICAO DOC 8168 (Procedures for Air Navigation Services – Aircraft Operations) Vol I-III, ICAO DOC 9906 (Quality Assurance Manual for Flight Procedure Design) Vol 1-3, 5-6 and ICAO DOC 10068 (Manual on the Development of a Regulatory Framework for Instrument Flight Procedure Design Service).
- (c) prescribes the requirements for:
 - (1) The rules governing the certification and operation of organizations that provide an Instrument Flight Procedure Design Service (IFPDS) and the technical standards for the design of Instrument and Visual Flight Procedures.
 - (2) Punitive actions can and will be enforced by the Authority against recognized actions of non-compliance.
- (d) It does not apply to the design of aircraft performance operating limitations or flight paths for critical engine inoperative emergency procedures.
- (e) Amendments to the text revised editions are issued as a complete amendment of pages contained within.
- (f) The editing practices used in this document are as follows:
 - (1) 'Shall' is used to indicate a mandatory requirement.
 - (2) 'Should' is used to indicate a recommendation
 - (3) 'May' is used to indicate discretion by the Authority, or the industry as appropriate.
 - (4) 'Will' indicates a mandatory requirement and is used to advise of action incumbent on the Authority.

Note: The use of the male gender implies the female gender and vice versa.

SUBPART A - GENERAL



A.1. Scope

(a) This KCASR contains the Regulations governing: -

- (1) The certification of an organization who wants to become an Instrument Flight Procedure Design Service Provider (IFPDSP);
- (2) Instrument Flight Procedure (IFP) process, submission and approval;
- (3) Validation of IFPs;
- (4) Maintenance of IFPs, and
- (5) Training requirements for Flight Procedures Design (FPD) staff.

(b) The aim of this regulation: -

- (1) To describe the responsibilities and accountabilities of the Authority, Sponsor and the IFPDSP.
- (2) To ensure that IFPs:
 - i. Are designed in accordance with the required standards as defined in this Regulation;
 - ii. Are safe and flyable;
 - iii. Meet stakeholder requirements; and
 - iv. Are operationally and environmentally acceptable.

(c) For the purpose of this regulation, an IFPDSP is an organization employing one or more suitably qualified FPD for the provision of an Instrument Flight Procedure Design Service (IFPDS).

(d) For the purpose of this Regulation, an IFP is: —

- (1) A Standard Instrument Arrival (STAR),
- (2) A Standard Instrument Departure (SID),
- (3) An Instrument Approach Procedure (IAP),
- (4) An MSA or TAA,
- (5) Holding procedure,
- (6) A Visual Flight Procedure, including RNP (VPT) Procedure,
- (7) An Airway,
- (8) An ATC Surveillance Minimum Altitude Chart (ASMAC).

A.2. Definitions

Existing definitions in ICAO Documents shall form part of this Regulation, supplemented by the definitions contained in Attachment 1 to KCASR 00. Where there are differences between the definitions in the two sources, Attachment 1 to KCASR 00 has precedence.

Airway. A control area or portion thereof established in the form of a corridor.

Audit. A systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which requirements and audit criteria are fulfilled.

Authority. The competent body responsible for the safety regulation of Civil Aviation.



Flight Inspection. The operation of a suitably equipped aircraft for the purpose of calibrating ground-based NAVAIDS or monitoring/evaluating the performance of the Global Navigation Satellite System (GNSS).

Flight Procedure Design. The complete package that includes all the considerations that went into the development of an Instrument Flight Procedure.

Flight Procedure Designer. A person responsible for Flight Procedure Design who meets the competency requirements as laid down by the Authority.

Ground Validation. A review of the entire Instrument Flight Procedure Package by a person(s) trained in procedure design and with appropriate knowledge of Flight Validation issues. It is meant to catch errors in criteria and documentation, and evaluate on the ground, to the extent possible, those elements that will be evaluated in a Flight Validation.

Inspection. An examination of specific activities, products or services of an aviation license, certificate, approval or authorization holder (or applicant) performed by civil aviation inspectors to confirm compliance with requirements for the license, certificate, approval or authorization already issued (or being issued) by the State.

Instrument Flight Procedure. A description of a series of predetermined flight manoeuvres by reference to flight instruments, published by electronic and/or printed means.

Instrument Flight Procedure Design Service. A service established for the design, documentation, validation, continuous maintenance and periodic review of instrument flight procedures necessary for the safety, regularity and efficiency of air navigation.

Instrument Flight Procedure Design Service Provider (IFPDSP). A body that provides an IFPDS.

Operator. The person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Procedure Altitude/Height. A published altitude/height used in defining the vertical profile of a flight procedure, at or above the minimum Obstacle Clearance Altitude/Height where established.

Proponent. An ANSP, Aerodrome Operator or Operator, or a representative there-of, who proposes a new IFP, or a change to, or withdrawal of an IFP.

RNP (VPT) Procedure. An IFR procedure including an RNP instrument path followed by a visual path defined by waypoints to promote stabilized approach and prescribed visual maneuvering to a designated runway.

Sponsor. An ANSP, or a representative acting on the ANSP's behalf, who proposes a new design, changes to, or withdrawal of an Instrument Flight Procedure. The Aerodrome Operator shall act as the sponsor where no ANSP is appointed at the aerodrome under its responsibility.

Validation (of IFPs). The necessary final quality assurance step in the procedure design process, prior to publication. The purpose of validation is the verification of all obstacle and navigation data, and assessment of flyability of the procedure. Validation normally consists of ground validation and flight validation.



Verification (of IFPs). Checking by a qualified procedure designer other than the one who designed the Instrument Flight Procedure to ensure compliance with applicable criteria.

A.3. Roles and Responsibilities

- (a) The Authority is responsible for overall regulatory oversight of Instrument Flight Procedure Design Service Providers (IFPDSPs) including approval of all Instrument Flight Procedures (IFPs) for aerodromes, heliports and airspace within the Kuwait FIR.
- (b) Provided that the requirements laid down in this regulation are met, the Sponsor shall:
 - (1) provide an Instrument Flight Procedure Design Service (IFPDS); and/or
 - (2) agree with one or more ICAO Member State(s) to provide an Instrument Flight Procedure Design Service (IFPDS) or a joint service; and/or
 - (3) delegate the provision of the Instrument Flight Procedure Design Service (IFPDS) or a part of the service to an external agency(ies) certified under this Regulation.
 - (4) In all cases, the Sponsor remains responsible for all Instrument Flight Procedures for aerodromes, heliports and airspace under its responsibility, including maintenance and periodic review of IFPs.
- (c) The Instrument Flight Procedure Design Service Provider (IFPDSP) shall:
 - (1) Comply with the requirements and standards defined in this Regulation.
 - (2) Ensure continuous compliance with this Regulation.

A.4. Requirement for Certificate

- (a) An IFPDSP shall not provide an IFPDS for aerodromes, heliports and airspace within the Kuwait FIR except under the authority of an IFPDS certificate issued in terms of this regulation.

A.5. Application for Certificate

- (a) An applicant for an IFPDS certificate issued under this regulation shall submit to the Authority:

—

 - (1) Completed application form;
 - (2) An acceptable Operations Manual; in accordance with Subpart B para 'Operational Manual'
 - (3) An acceptable Quality Management System (QMS) in accordance with this Subpart B para 'Quality Management System (QMS) Requirements' and in compliance with ICAO DOC 8168 Vol II, Chapter 4 (Quality Assurance) and ICAO DOC 9906 Vol 1 (Quality Assurance Manual for Flight Procedure Design);
 - (4) An acceptable Safety Management System (SMS) in accordance with Subpart B para "Safety Management System (SMS) Requirements".
 - (5) A payment of the appropriate fee prescribed by regulations made under the KCASR 27.
- (b) The Authority may request additional documents as deemed necessary to verify the compliance of the applicant with this regulation.



A.6. Issue of Certificate

- (a) The Authority may issue an IFPDS certificate issued under this regulation if:
- (1) The Authority is satisfied that the applicant meets the requirements of this regulation; and
 - (2) The applicant and persons listed in Subpart B para “Personnel requirements” Items (a) (2) to (5) are acceptable to the Authority; and
 - (3) The documentation required under this regulation acceptable to the Authority; and
 - (4) The Authority is satisfied that the granting of the certificate is not contrary to the interests of aviation safety.

A.7. Privileges of Certificate

- (a) The IFPDS certificate shall specify the IFPDS that the certificate holder is authorized to provide.
- (b) The IFPDS shall not provide an IFPDS that is not specified on the IFPDS certificate.

A.8. Duration of Certificate

- (a) An IFPDS certificate issued under this Regulation is granted or renewed for a maximum period of 2 years.
- (b) An IFPDS certificate remains in force until it expires, is surrendered by the certificate holder or is suspended or revoked by the Authority.
- (c) The validity of the IFPDS certificate is subject to the continued compliance of the IFPDS certificate holder with this regulation.
- (d) The IFPDS certificate shall remain valid subject to periodic surveillance audits and inspections conducted at the discretion of the Authority confirming continued compliance with this regulation.

A.9. Renewal of Certificate

- (a) For the renewal of an IFPDS certificate issued under this Regulation the application shall submit a renewal application to the Authority in accordance with A 5. “Application for Certificate”.
- (b) The application shall be submitted to the Authority not less than Ninety (90) days before the expiry date indicated on the certificate.
- (c) The expiry date of the certificate may be extended at the discretion of the Authority. The extension interval shall not exceed 3 months at a time. The total extension period shall not exceed 6 months from the expiry date indicated on the certificate.

A.10. Audits and Inspections

- (a) The Authority shall conduct an initial certification audit and thereafter audits at intervals not exceeding 2 years (24 months) to verify and ensure compliance of the IFPDS certificate holder.
- (b) The Authority may conduct inspections to verify effective implementation and ensure continued compliance of the IFPDS certificate holder.
- (c) The Authority may require the IFPDS certificate holder to provide such information as the Authority considers relevant to the inspection or audit.
- (d) The Authority shall be granted unrestricted access to the IFPDS certificate holder or applicant’s facilities and shall be permitted to carry its own equipment (e.g. computers,



cameras and recording devices) under all conditions while carrying out its oversight functions.

A.11. Resolution of Non-Compliances

- (a) When objective evidence is found showing non-compliance of the IFPDS certificate holder with the requirements, the finding shall be set out as follows: —
- (1) A Level 1 Finding is any non-compliance with these regulations which could affect the safety of aircraft.
 - (2) A Level 2 Finding is any non-compliance with these regulations with no immediate safety concern.
 - (3) A Level 3 Finding is a deficiency that could lead to a non-compliance. These are considered as observations only and would not impact an approval, certificate or license.
- (b) After a receipt of notification of findings: —
- (1) A Level 1 Finding must be rectified immediately or within maximum 7 days depending on the safety implications of the non-compliance;
 - (2) A Level 2 Findings must be rectified within 7 to 90 days depending on the nature and circumstance of the non-compliance.
 - (3) The certificate holders shall: —
 - i. Conduct a Root Cause Analysis to identify the root cause of the noncompliance(s);
 - ii. Define a Corrective Action Plan (CAP), including Estimate Completion Dates (ECD), acceptable to the Authority; and
 - iii. Demonstrate corrective action implementation to the satisfaction of the Authority within the period agreed with the Authority.
- (c) In the case of Level 1 or Level 2 findings, the IFPDS certificate may be subject to restriction, a partial or full suspension or revocation. The IFPDS certificate holder shall provide confirmation of receipt of the notice of suspension or revocation of the certificate within 3 days.
- (d) Upon restriction, suspension, revocation or surrender of the certificate, the IFPDS certificate holder shall return the certificate to the Authority within 10 working days.
- (e) From the date of suspension, revocation or surrender the IFPDSP shall not claim or purport that the IFPDSP is the holder of a valid certificate issued under this Regulation and shall inform all affected parties within 5 working days that the certificate was suspended, revoked or surrendered.
- (f) The IFPDSP shall inform all affected parties within 5 working days if any restriction is placed upon its IFPDS certificate by the Authority.

A.12. Transferability

- (a) An IFPDS certificate granted under this Regulation is not transferable.

A.13. Validation of Foreign Designer Approval / Certificate

- (a) Validation of Foreign Designer Approval / Certificate may be issued to an individual or organization who meets the following requirements:

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- (1) able to provide to the Director of ANS Standards Division evidence of authorization provided by another state; and
 - (2) submit a referral letter from the state of issuance.
- (b)** The Director of ANS Standards Division may request for additional evidence if required.

A.14. Non-Compliance

- (a) Non-compliance with this Regulation or instructions issued by the Authority may require the Authority to restrict, suspend or revoke the IFPDS certificate.
- (b) If deemed necessary, the Authority may take additional enforcement action if necessary.



Subpart B — Certification Requirements

B.1. Personnel requirements

- (a) An applicant for an IFPDS certificate must employ, contract, or otherwise engage:
- (1) A senior person identified as the Chief Executive who:
 - i. has the authority within the organization to ensure that every activity undertaken by the organization under the authority of this certificate can be financed and carried out in accordance with this regulation; and
 - ii. is responsible for ensuring that the organization complies with this regulation;
 - (2) A “Chief Designer” who is responsible for ensuring that the organization complies with the design criteria requirements of this regulation as well as the certification of every IFP developed by the applicant’s organization and made available for publication and operational use;
 - (3) Sufficient number of suitably qualified FPDs to plan, design, verify, validate and maintain the IFPs developed by the applicant’s organization.
 - (4) A Safety Manager post holder responsible for the implementation and management of a Safety Management System according to the requirements of subpart B, B.11 “SMS”;
 - (5) A Quality Management post holder responsible for the provision of a Quality Management System according to the requirements of subpart B, B.10 “QMS”; and
- NOTE: Some of the positions may be combined subject to acceptance by the Authority.*
- (b) Qualifications and experience details for the persons nominated by the applicant for the positions listed in (a) above shall be forwarded to the Authority for acceptance. The Authority retains the right to reject any person appointed and who has been found unsuitable for the position.
- (c) The minimum qualifications and experience requirements for the Chief Designer and the Qualified Flight Procedure Designers are specified in Appendix A.
- (d) An applicant for an IFPDS certificate shall:
- (1) Provide those authorized personnel with written evidence of the scope of their authorization.
 - (2) Develop Job Descriptions for its FPD personnel, which must contain safety responsibilities.
- (e) The Chief Designer responsible for the certification of IFPs must be authorized in accordance with subpart B, B.5 to certify IFPs.

B.2. Training

The applicant for an IFPDS certificate shall:

- (a) Develop an overall training policy, acceptable to the Authority, for its staff. The training policy and programme shall lay down the training necessary for staff to perform their duties;

NOTE: The Training Policy must commit to provide all necessary training to all technical personnel including Initial Training (e.g. Induction and Basic Training), On-the-Job Training (OJT), Recurrent Training, Specialized/Advanced Training and Refresher Training. The Training

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Policy should require the establishment of a Training Programme for each technical staff position as well as Training Plans for each technical staff member. The Training Policy should be documented and signed at the management level of the organization.

- (b) Develop training programmes, acceptable to the Authority, for all technical Flight Procedure Designer position. The training programme shall include:
- (1) Initial training;
 - (2) Advanced training;
 - (3) On-the Job training;
 - (4) Recurrent training; and
 - (5) Refresher training.

NOTE: *The Training Programme must include all the training required for the incumbent of the position to acquire and maintain the necessary competencies for the position as well as to effectively perform the related post functions and activities. It should include the minimum content for each type of training, as applicable, as well as the interval for recurrent training.*

- (c) Develop individual periodic training plans for each Flight Procedure Designer staff member, acceptable to the Authority, based on the respective training programmes.

NOTE: *The Training Plan must be developed based on the Training Programme established for the staff member's position and must detail the type of training to be provided during a specified time period as well as the training priorities.*

Ensure that the training programmes are appropriately implemented in accordance with periodic training plans detailing and prioritizing the type of training needed over a specified time frame;

- (d) Establish a procedure for initially assessing and for maintaining the competence of:
- (1) Those personnel involved in the planning, design, verification, validation and maintenance of Instrument Flight Procedures; and
 - (2) Those senior persons who are authorized to certify Instrument Flight Procedures.
- (e) Establish procedures acceptable to the Authority for keeping training record for all technical staff and to be maintained up to date.

NOTE: *ICAO Doc 9906 Vol 2 (Flight Procedure Designer Training (Development of a Flight Procedure Designer Training Programme) provides guidelines for the development of competency-based FPD training courses/programmes.*

B.3. Facility Requirements

- (a) The applicant for an IFPDS certificate shall establish offices and facilities; including access to up-to-date reference documents, manuals, data and IFP Design Software; that are appropriate for the IFPDS listed in its Operations Manual.

B.4. Documentation

- (b) The applicant for an IFPDS certificate shall ensure that FPD staff have access to relevant and up-to-date reference material (such as documents and user guides), standards, practices and procedures, instructions, and any other documentation that is necessary for the execution of IFP service listed in their Operations Manual.
- (c) These documents shall include, but not be limited to:

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- (1) ICAO Annex 2,
- (2) ICAO Annex 4,
- (3) ICAO Annex 5,
- (4) ICAO Annex 6,
- (5) ICAO Annex 10,
- (6) ICAO Annex 11,
- (7) ICAO Annex 14,
- (8) ICAO Annex 15,
- (9) ICAO DOC 4444,
- (10) ICAO DOC 7030,
- (11) ICAO DOC 8071,
- (12) ICAO DOC 8126,
- (13) ICAO DOC 8168 Vol I, II and III,
- (14) ICAO DOC 8697,
- (15) ICAO DOC 9274,
- (16) ICAO DOC 9365
- (17) ICAO DOC 9368,
- (18) (18) ICAO DOC 9371,
- (19) (19) ICAO DOC 9501,
- (20) (20) ICAO DOC 9613,
- (21) (21) ICAO DOC 9643,
- (22) ICAO DOC 9674,
- (23) ICAO DOC 9708,
- (24) ICAO DOC 9826,
- (25) ICAO DOC 9849,
- (26) ICAO DOC 9905,
- (27) ICAO DOC 9906 Vol 1, 2, 3, 5 and 6,
- (28) ICAO DOC 9931,
- (29) ICAO DOC 10031,
- (30) ICAO DOC 10068,
- (31) KCASR 00
- (32) KCASR 19 Vol 1
- (33) KCASR 15
- (34) KCASR 4
- (35) KCASR 6
- (36) National and Regional Airspace and Navigation Plans.
- (37) Software user manuals.

- (d) The applicant for an IFPDS certificate must establish a procedure for controlling all documentation required by paragraph (a) to ensure that: —
- (1) the documentation is reviewed and authorized by an appropriate person before issue and use; and
 - (2) current issues of relevant documentation are available to personnel at every location if they need access to the documentation; and

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- (3) every obsolete document is promptly removed from every point of issue and use; and
- (4) a change to documentation is reviewed and authorized by an appropriate person before issue and use; and
- (5) the current version of every item of documentation can be identified to prevent the use of superseded material.

B.5. Criteria for the Approval of IFP Designers

- (a) The applicant for an IFPDS certificate shall provide evidence of the following:
 - (1) Specialist procedure design training in accordance with a competency-based approach. (One such an approach is described in *ICAO Doc 9906 Vol 2 (Flight Procedure Designer Training (Development of a Flight Procedure Designer Training Programme))*);
 - (2) Proof of successful completion of a PANS-OPS training course based on ICAO DOC 8168 Vol 2 presented by an organization acceptable to the Authority.
 - (3) Evidence of recent (within last 12 months) IFP design work which should include evidence of specific designs which have been approved for use;
 - (4) Aviation experience, including a working knowledge of:
 - a. Air Traffic Management,
 - b. Air Traffic Control,
 - c. Air Traffic Flow Management, and
 - d. Airspace Management.

NOTE: Flight Procedure Designers should also have a working knowledge of navigation, navigation systems, aircraft operations, aircraft performance, aeronautical information services, aerodrome safeguarding, geography, and geodesy.

B.6. Authorisation of Persons to Certify Instrument Flight Procedures

- (a) Subject to paragraphs (b), (c), and (d), an applicant for an IFPDS certificate must establish a procedure for authorizing a Chief Designer to certify IFPs in accordance with B.7.
- (b) An authorization must not be issued to a person unless the person meets the applicable training and experience requirements specified in Appendix A.1.
- (c) Every authorization that is issued to a person must be in writing and must specify the types of IFPs that the person is authorized to certify.
- (d) An IFP type that is specified on an authorization must not be inconsistent with the types of IFPs specified on the IFPDS certificate.

B.7. Certification of Instrument Flight Procedures

- (a) Subject to paragraphs (b), (c) and (d) an applicant for an IFPDS certificate must establish a procedure for the certification of every IFP that the an IFPDSP proposes to design, make available for operational use, and publish in the Kuwait AIP.
- (b) The procedure required by paragraph (a) must include details of the checks to be carried out by the Chief Designer, who is authorized to certify the particular type of IFP, to ensure that the IFP meets the applicable requirements and standards prescribed by this Regulation;



- (c) The authorized Chief Designer must certify that the IFP has been designed in accordance with, and meets, the applicable standard and requirement prescribed by Subpart D, and
- (d) A person who is authorized in accordance with B.6. requirements to certify an IFP must not certify an IFP that the person has designed.



B.8. Errors in published instrument flight procedures

- (a) The holder of an IFPDS certificate must establish a procedure for recording, investigating, correcting, and reporting any identified error, and any identified non-conformance with the standards and requirements of this Regulation, in an IFP that is certified or maintained under the authority of the IFPDS certificate.
- (b) The procedure required by paragraph (a) must require that: —
 - (1) An IFP is immediately withdrawn from operational use if the error or nonconformance affects, or may affect, the safety of an aircraft operation; and
 - (2) The error or non-conformance is corrected, and certified by the Chief Designer who is appropriately authorized in accordance with B.6; and
 - (3) The correction required by paragraph (2) is clearly identified and promulgated by the most appropriate means relative to the operational significance of the error or non-conformance; and
 - (4) The source of the error or non-conformance is identified, and: -
 - i. if possible, eliminated to prevent a recurrence; and
 - ii. preventive action is taken to ensure that the source of the error or nonconformance has not affected the integrity of any other IFP; and
 - (5) The Authority is notified, of a promulgated information incident relating to an error or non- conformance referred to in paragraph (a).

B.9. Management of IFP Records

- (a) An applicant for an IFPDS certificate must establish a procedure for the management of records that are required for the applicant organization’s functions relating to the design, verification, validation, certification and maintenance of IFP.
- (b) The management of records includes the identification, collection, indexing, storage, safekeeping, accessibility, maintenance and disposal of records.
- (c) The procedure required by paragraph (a) must provide for the following to be recorded for every IFP Package: —
 - (1) A statement of compliance with Subpart D from the authorized Chief designer;
 - (2) A complete record of the design process including copies of all source data (Aerodrome survey report, electronic terrain and obstacle data, airport infrastructure information, ...etc.), information, calculations and drawings used in the project;
 - (3) An IFP summary;
 - (4) All parameters used (speeds, bank angles, wind velocity, temperature, ISA value, descent gradient, climb gradient, timings, height loss margins, Obstacle Assessment Surface (OAS) coefficients, etc.);
 - (5) Proposed IFP chart/depiction of sufficient detail to safely navigate and identify significant terrain, obstacles and obstructions;
 - (6) Proposed ARINC 424 Path Terminators (for PBN procedures only);
 - (7) List of relevant obstacles, identification and description of controlling obstacles and obstacles otherwise influencing the design of the procedure, waypoint fix latitude/longitude, procedural tracks/course, distances and altitudes;
 - (8) OCA/H, MOCA and/or Procedure Altitude/Height, as applicable.



- (9) Any special local operational procedure (e.g. noise abatement, non-standard traffic patterns, lighting activation);
- (10) Detailed listing of deviations from design criteria and proposed mitigation;
- (11) Safety assessments;
- (12) Relevant signed Design, Verification and Validation Reports, including stakeholder endorsement;
- (13) Electronic design files in industry standard GIS (Geodatabase or Shapefiles) or CAD (.dwg or .dgn) file format.
- (14) Draft AIP submission.
- (15) IFP data sets containing the digital representation of the IFP should be provided in accordance with ICAO Doc 10066.
- (d) The documentation in (c) above becomes the property and hence the responsibility of the Sponsor once the IFPDSP has officially signed over the IFP Package to the Sponsor. Thereafter the IFPDSP is responsible to only store a record of the official handover form signed by both parties.
- (e) The IFP Package shall be retained for a minimum period of one year from the date at which the IFP is replaced or withdrawn from use.

B.10. Quality Management System (QMS) Requirements

- (a) An applicant for an IFPDS certificate shall establish and implement an acceptable Quality Management System (QMS) for FPD in accordance with ICAO DOC 8168 Vol II Chapter 4 (Quality Assurance) and ICAO DOC 9906 Vol 1 (Quality Assurance Manual for Flight Procedure Design).

B.11. Safety Management System (SMS) Requirements

- (a) An applicant for an IFPDS certificate must establish, implement, and maintain a Safety Management System (SMS) in accordance with KCASR 15 vol 1 appropriate to the size and complexity of the organization.

B.12. Operations Manual

- (a) An applicant for an IFPDS certificate shall provide and keep up to date its Operations Manual or system of manuals relating to the provision of the IFPDS listed in its Operations Manual for the use and guidance of operations personnel.
- (b) The applicant for an IFPDS certificate shall ensure that the Operations Manual contains:
 - (1) A statement signed by the Chief Executive on behalf of the applicant's organization confirming that:
 - i. the Operations Manual and any included manuals define the organization and demonstrate its means and methods for ensuring ongoing compliance with this Regulation; and
 - ii. the organization has sufficient financial strength to provide the services contained within the organization's Operations Manual; and
 - (2) Details of the applicant's staffing structure, including an organization chart showing lines of responsibility of the persons specified in B.1. (a)
 - (3) The titles and names of the person or persons required by B.1. (a); and



- (4) The duties and responsibilities of the person or persons specified in B.1. (a), including matters for which they have responsibility to deal directly with the Authority on behalf of the organization;
- (5) List of the types of instrument flight procedure to be designed and certified by the applicant's organization;
- (6) Contain the procedures, instructions and information required by the operations personnel to perform their duties;
- (7) The format and standards for the IFP designed under the authority of their IFPDS certificate;
- (8) The relevant parts of the Operations Manual are accessible to the personnel concerned;
- (9) Procedures to control, amend and distribute the Operations Manual.
- (10) Operations personnel are informed of amendments to the Operations Manual.

Note— ICAO Doc 10068 (Manual on the Development of a Regulatory Framework for Instrument Flight Procedure Design Service) Table 3-1 provides a sample framework and contents of an Operations Manual.

B.13. Flight Procedure Design Software Validation

Each applicant for an IFPDS certificate shall:

- (a) Validate IFP Design Software in compliance with ICAO DOC 9906 Vol III;
- (b) Document any non-compliances and differences identified;
- (c) Include in the Operations Manual the risks identified in these non-compliances/differences and how it will be mitigated; and
- (d) Training of FPD staff on these non-compliances/differences and mitigation techniques must be incorporated in the Training Programme required under B.2.



Subpart C — Operating Requirements

C.1. Continued Compliance

The holder of an IFPDS certificate must: —

- (a) Hold at least one complete and current copy of the certificate holder's Operations Manual required by B.12. at the certificate holder's principal location; and
- (b) Comply with every procedure and standard detailed in the Operations Manual, QMS and SMS; and
- (c) Make each applicable part of the Operations Manual available to personnel who require the applicable part to carry out their duties; and
- (d) Continue to meet the standards and comply with the requirements of Subpart B prescribed for certification under this Regulation; and

C.2. Changes to Certificate Holder's Organization

A holder of an IFPDS certificate must: —

- (1) Subject to paragraph (b), ensure that the holder's organization's Operations Manual is amended so that it remains a current description of the holder's organization;
- (2) Ensure that any amendment made to its Operations Manual meets the applicable requirements of this Regulation;
- (3) Comply with the amendment procedures contained in its Operations Manual;
- (4) Forward to the Authority for retention a copy of each amendment that the certificate holder makes to its Operations Manual as soon as practicable after the amendment is incorporated into its Operations Manual;
- (5) Amend its Operations Manual as the Authority considers necessary in the interests of aviation safety.
- (6) Notify the Authority of any change of the certificate holder's postal address, address for service, telephone number, or facsimile number within 14 days of the change.
- (b) Before a holder of an IFPDS certificate changes any of the following, prior acceptance by the Authority is required:
 - (1) The organizational structure.
 - (2) The person identified as the Chief Executive,
 - (3) The title or name of any person specified in the Operations Manual required by rule B.10. (a)(2) to (5),
 - (4) The types of Instrument Flight Procedure specified on the holder's certificate, or
 - (5) The Operations Manual, QMS and SMS, if the change is a material change.
- (c) The Authority may impose conditions under which the holder of the IFPDS certificate must operate during or following any of the changes specified in paragraph (b).
- (d) The holder of an IFPDS certificate must comply with any condition imposed by the Authority under paragraph (c).
- (e) If any of the changes under paragraph (b) requires an amendment to the IFPDS certificate, the holder of the certificate must forward the certificate to the Authority for endorsement of the change within 14 days.



Subpart D — Design Criteria—Instrument Flight Procedure

D.1. Design Criteria

IFPs for aerodromes, heliports and airspace within Kuwait FIR shall be designed in accordance with the guidance contained within ICAO DOC 8168 Vol II and ICAO DOC 9905, as appropriate, ensuring in particular that required obstacle clearances are achieved.

- (a) When the IFP being developed is an RNAV based procedure, then the additional requirements from ICAO Doc 9613 (Performance Based Navigation (PBN) Manual) Vol 1 and 2 shall apply.
- (b) As applicable, the provisions from ICAO Doc 9906 (The Quality Assurance Manual for Flight Procedure Design) in the construction of all IFPs shall apply.
- (c) The design of an IFP must: —
 - (1) Be coordinated with all appropriate Air Traffic Service Providers and other interested and affected parties;
 - (2) Be compatible with any air traffic service and associated procedure that is provided within the area or areas of airspace where the IFP is intended to be implemented; and
 - (3) Take into account: —
 - i. Any prescribed noise abatement procedure; and ii. Any legislation restricting aircraft operations; and
 - iii. The classification and any associated designation of the airspace in which the IFP is to be established and any adjacent airspace that may be affected by the procedure; and
 - iv. The effect that the proposed IFP may have on any other IFPs established in the airspace.
- (d) An IFP must not be designed on or use a ground based aeronautical facility unless—
 - (1) The holder of the aeronautical telecommunication service certificate agrees in writing that the aeronautical facility can be used for the intended IFP, and
 - (2) The aeronautical facility is operated under the authority of an aeronautical telecommunication service certificate issued in accordance with KCASR 10.
- (e) Consideration shall be given in the design of IFPs to the effect of the design on the environment, and also to the Kuwait environmental regulations as well as international standards and best practices.
- (f) All terminal IFP shall be, to the extent possible, designed to consider Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO).

Note— ICAO Doc 9829 (Guidance on the Balanced Approach to Aircraft Noise Management) and ICAO Doc 10031 (Guidance on Environmental Assessment of Proposed Air Traffic Management Operational Changes) provide guidance on reducing the noise and environmental impact.

D. 2. Aerodrome Operating Minima to be Published in Instrument Approach Charts

- (a) The holder of an IFPDS certificate must establish Aerodrome Operating Minima to be published in the Kuwait AIP for each Instrument Approach Procedure (IAP) and Visual Manoeuvring/Circling Procedure designed and/or maintained under the authority of their certificate for aerodromes and heliports in accordance with the design criteria referred to in D1. and requirements related to Aerodrome Operating Minima.

NOTE: Guidance Material (Determination of Aerodrome Operating Minima (AOM)) provides a guideline for development and determination of AOM.



Subpart E — Instrument Flight Procedure Process

NOTE: The Instrument Flight Procedure process (See flowchart at Appendix B) are detailed in ICAO DOC 8168 Vol II and ICAO DOC 9906. It encompasses: the initiation and collection of requirements and constraints, the acquisition of data, the FPD, verification, ground validation, flight validation and flight inspection (when required), approval and publication.

E.1. FPD Initiation

- (a) The design process for a new, review or change to an existing IFP shall be initiated by the Sponsor.
- (b) The Sponsor shall notify the Authority of his intention to establish or amend any IFP.
- (c) The request shall be submitted to the Authority for a formal review and acceptance.
- (d) IFP process shall be carried out in accordance with ICAO DOC 8168 Vol II, ICAO DOC 9906 and Subpart E.

E.2. Collection and Validation of the Data

- (a) The holder of an IFPDS certificate must collect the following data from recognized sources, validate for accuracy, resolution, integrity, reference geodetic datum and effective dates, and incorporate them into the design documentation:
 - (1) Airport, navigation aid, obstacle and terrain data based on verified WGS-84 surveys and complying with ICAO Annex 11, 14 and 15 requirements;
 - (2) Airspace requirements;
 - (3) User requirements: needs of Air Traffic Service provider and operators who will use this procedure;
 - (4) Airport infrastructure such as runway classification, lighting, communications, runway markings, and availability of local altimeter setting;
 - (5) Environmental considerations; and
 - (6) Any other potential issue associated with the procedure.
- (b) The acquisition of data for the FPD process must ensure that the acquired data's quality characteristics are known and adequate, or that, in the case where the data's quality characteristics are unknown or inadequate (invalid), that appropriate data verification occurs prior to use.

NOTE 1. *WGS-84 surveys must be conducted at regular intervals to validate obstacle information so that the minimum obstacle clearance is assured and the integrity of IFPs are safeguarded. Yearly WGS-84 surveys are deemed to meet the requirement for "regular intervals".*

Note 2. *Where the data's quality characteristics are unknown or inadequate, an appropriate horizontal tolerance must be added to the perimeter of the object (terrain feature or obstacle) and a vertical tolerance added to the height or elevation of the object. When the application of these tolerances creates an unacceptable operational penalty, additional survey information should be used to refine the object's location and height data.*



E.3. Flight Procedure Design (FPD)

The holder of an IFPDS certificate must establish procedures for ensuring that every IFP certified under its authority is:

- (a) Designed or amended using methods ensuring that the procedure meets the applicable requirements and standards prescribed in Subpart D; and
- (b) Independently verified, before certification, by a qualified procedure designer who is independent of the person directly responsible for the design to ensure compliance with applicable criteria; and
- (c) Certified by the Chief designer in accordance with B7 above.

E.4. FPD Documentation

- (a) The FPD shall prepare an IFP Validation Package to enable an Independent Procedure Designer to carry out a Ground Validation of the IFP.
- (b) The package shall include:
 - (1) A plan view of each segment and obstacle evaluation area,
 - (2) Complete documentation identifying obstacles, obstructions and terrain relevant to the IFP, including identifying the controlling obstacle/terrain, OCA/H, MOCA and/or Procedure Altitude/Height, as applicable.
 - (3) Narrative description of the IFP, segment by segment.
 - (4) Plan and profile views of the IFP.
 - (5) Data relating to each fix and/or holding pattern involved in the IFP,
 - (6) ARINC424 compliant coding for PBN procedures,
 - (7) Confirmation that Navigation Aid coverage, if applicable, is satisfactory,
 - (8) Draft chart of the procedure suitable for use by the Flight Validation crew.
 - (9) Safety assessments.
- (c) All documentation shall undergo a final verification for accuracy and completeness prior to validation, approval and publication.

E.5. Validation of IFP

- (a) The IFP validation process must be carried out as part of the initial IFP design as well as for any amendment to an existing IFP. An overview of the necessary steps in the validation process can be found in Appendix C.
- (b) The validation of IFPs is required under:
 - (1) ICAO DOC 8168 Vol II,
 - (2) ICAO DOC 9906 Vol 1 and 5.
- (c) The IFP design process starts with the collection of relevant data, proceeds through the design phase, verification, then Ground and/or Flight Validation prior to publication.
- (d) Therefore, Validation shall occur at the collection of data phase, the Ground and/or Flight Validation stage and, in the case of PBN IFP, the validation of the navigation database ARINC 424 coding instructions.



E.6. Ground Validation

(a) The holder of an IFPDS certificate must establish procedures to ensure:

- (1) That Ground Validation is undertaken for all IFPs. Ground Validation consists of an independent IFP design review and Preflight Validation
- (2) That Ground Validation is conducted by an Independent Procedure Designer who did not design or verified the IFP.
- (3) That any concerns or changes required by the Independent Procedure Designer is communicated to the FPD who shall determine whether or not the IFP should be revised. Such concerns or changes shall be documented and included in the IFP package.
- (4) That any issues identified in the Ground Validation is addressed prior to any Flight Validation.
- (5) That justification is provided where it is recommended that Flight Validation be dispensed with.

E.7. Flight Validation

(a) Flight Validation is the responsibility of the Sponsor. (b) The objective of Flight Validation is to —

- (1) Verify the obstacle that is determined as the controlling obstacle for each segment and to check that no new obstacles have been erected since the IFP was designed or that no obstacle information are grossly inaccurate to the extent that it may affect the IFP.
- (2) Prove the fly-ability of an IFP whose Ground Validation caused some concern about track adherence or crew workload.
- (c) A Flight Validation shall be carried out during the initial approval, amendment or review of an IFP or when determined necessary by the Authority.
- (d) Subject to approval by the Authority, Flight Validation may be dispensed with if the accuracy and completeness of all obstacle and navigation data considered in the procedure design, and any other factors normally considered in the Flight Validation can be verified during the Ground Validation.
- (e) A Flight Validation shall however be carried out when:
 - (1) The flyability of a procedure cannot be determined by other means;
 - (2) The procedure requires mitigation for deviations from design criteria;
 - (3) The accuracy and/or integrity of obstacle and terrain data cannot be determined by other means;
 - (4) New procedures differ significantly from existing procedures; and (5) For helicopter PinS procedures.
- (f) Flight Validation shall only be conducted after the Ground Validation Package was reviewed and accepted by the Authority.
- (g) The Flight Validation shall be conducted by a Flight Validation Pilot or Organization who meets the requirements of ICAO DOC 9906 Vol 6 and are accepted by the Authority.
- (h) The Flight Validation shall be conducted, recorded and documented in accordance with ICAO DOC 9906 Vol V.
- (i) The Flight Validation may be conducted during the Flight Inspection of the associated Navigation Aid if it is conducted during daylight and when Visual Meteorological Conditions (VMC) prevail throughout each segment.



NOTE: ICAO DOC 8071 Vol 2 (Manual on Testing of Radio Navigation Aids) Chapter 5 provides additional guidance for the Flight Validation of IFPs.

E.8. Flight Inspection

- (a) Flight Inspection is the responsibility of the Sponsor.
- (b) Flight Inspection shall be conducted by an organization certified in accordance with Regulation
- (c) Flight Inspection of IFPs is required to assure that the appropriate Radio Navigation Aids adequately support the IFP, in accordance with ICAO Annex 10 and ICAO DOC 8071.
- (d) Flight inspection of IFPs is required when introducing new ground-based navigation facilities to be incorporated in an IFP.
- (e) For GNSS-based RNAV procedures, a Flight Inspection aiming at verifying the absence of permanent interference shall be performed before commissioning of the procedure:
 - (1) Along the Intermediate Segment, Final Approach segment, and the Missed Approach;
 - (2) On SIDs, in an area of 15 NM from the Aerodrome Reference Point (ARP).
- (f) In the case of RNAV procedures based on DME, if the DME infrastructure study using a simulation tool concluded it a necessity, a Flight Inspection along the flight path shall be performed prior to the commissioning of the procedure to verify the appropriate reception of the DME beacons.

E.9. Submission of IFP Designs for Approval

- (a) Submission of IFP Designs for approval by the Authority is the responsibility of the Sponsor.
- (b) The Authority will only accept IFPs designed by a IFPDSP certified under this Regulation and for the type of IFP shown in the scope of their IFPDS certificate.
- (c) IFP designs submitted for evaluation and approval by the Authority shall include:
 - (1) A complete record of the design process including copies of all source data, information, calculations and drawings used in the IFP;
 - (2) A statement of compliance with Sub-part D and E from the authorized Chief designer;
 - (3) A report demonstrating how the original requirement has been satisfied;
 - (4) A narrative, which unambiguously describes the procedure in textual format and table showing all tracks in degrees True to 1/100th degree;
 - (5) A graphical representation which accurately reflects the content of the narrative provided;
 - (6) Safety assessments conducted;
 - (7) Relevant signed Design, Verification and Validation Reports;
 - (8) A comprehensive design rationale in text format, including references to ICAO DOC 8168 VOL II.
- (d) Proposals for new airspace or airways or amendments to existing airspace or airways shall be developed and submitted to the Authority in accordance with the Airspace Change Proposal process.



E.10. IFP dissemination

- (a) The Authority shall be responsible for dissemination of the IFP and associated documentation to the Aeronautical Information Service (AIS) for publication following approval of the IFP by the Authority.
- (b) The Sponsor shall ensure that:
 - (1) The design and format of the IFP charts are in a standardized format in accordance with the requirements of KCASR 4; and
 - (2) Where the IFP is a PBN procedure, it is described in a clear and unambiguous fashion as detailed in ICAO DOC 8168 (Procedures for Air Navigation Services – Aircraft Operations) Vol 2 and ICAO Annex 15 (Aeronautical Information Services); and
 - (3) Where the IFP is a PBN procedure, prior to publication, it is validated to ensure that the dataset is complete, coherent and correct; and
 - (4) The IFPDSP performs a final check of the draft AIP/chart amendment before publication to ensure that no errors have been introduced during the data transfer process.

E.11. Continuous Maintenance and Periodic Review of IFP

- (a) Published IFP shall be subjected to a continuous maintenance and periodic review to ensure that they continue to comply with changing criteria and meet user requirements.
- (b) The Sponsor must establish a procedure to ensure that each IFP under its responsibility is reviewed whenever:
 - (1) There is a change to the obstacle environment which may affect the IFP,
 - (2) Procedures based on newly installed or relocated Radio Navigational Aids (excluding visual aids), or airport runway addition/change, Magnetic Variation,
 - (3) There is a change in airspace structure that may affect the IFP,
 - (4) There is a change to user requirements that may affect the IFP,
 - (5) There are changes in design criteria which have safety impact, or
 - (6) A maximum period of 5 years has lapsed since the IFP was designed or last reviewed.
- (c) Failure by the Sponsor to ensure continuous maintenance and periodic review of IFPs may require the Authority to impose operational restrictions, suspend or withdraw the IFP and/or take enforcement action in terms of KCASR 26.

NOTE: The existing IFP can be maintained even upon the amendment of design criteria and/or depiction standards if it is determined that these amendments are not safety-related issues.



Appendix A — Qualifications and Experience for Chief Designer and Qualified Flight Procedure Designer

This Appendix specifies the qualifications and experience for the persons referred to in B1. Above (a) (2) and (3).

A1. Chief Designer:

- (a) Training — have successfully completed an ICAO PANS-OPS training course, or a training course accepted by the Authority. Where no formal training course has been completed, the Authority may accept evidence of a comprehensive “in-house” training and development program under the supervision of a suitably qualified and experienced FPD whose qualifications are accepted by the Authority.
- (b) Experience in application of IFPs — have at least 10 years’ experience in the application of IFPs through experience gained in Air Traffic Control, as a flight crew member on IFR operations, in operational control of IFR operations, or other experience accepted by the Authority as equivalent.
- (c) Experience in design of IFPs — at least 5 years’ experience designing IFPs which must include —
 - (1) Under supervision by a FPD whose qualifications are accepted by the Authority, the design of at least 3 IFPs of the type that the person is to be authorized to certify; or
 - (2) For a new IFP type, experience accepted by the Authority in designing or certifying similar IFP types.

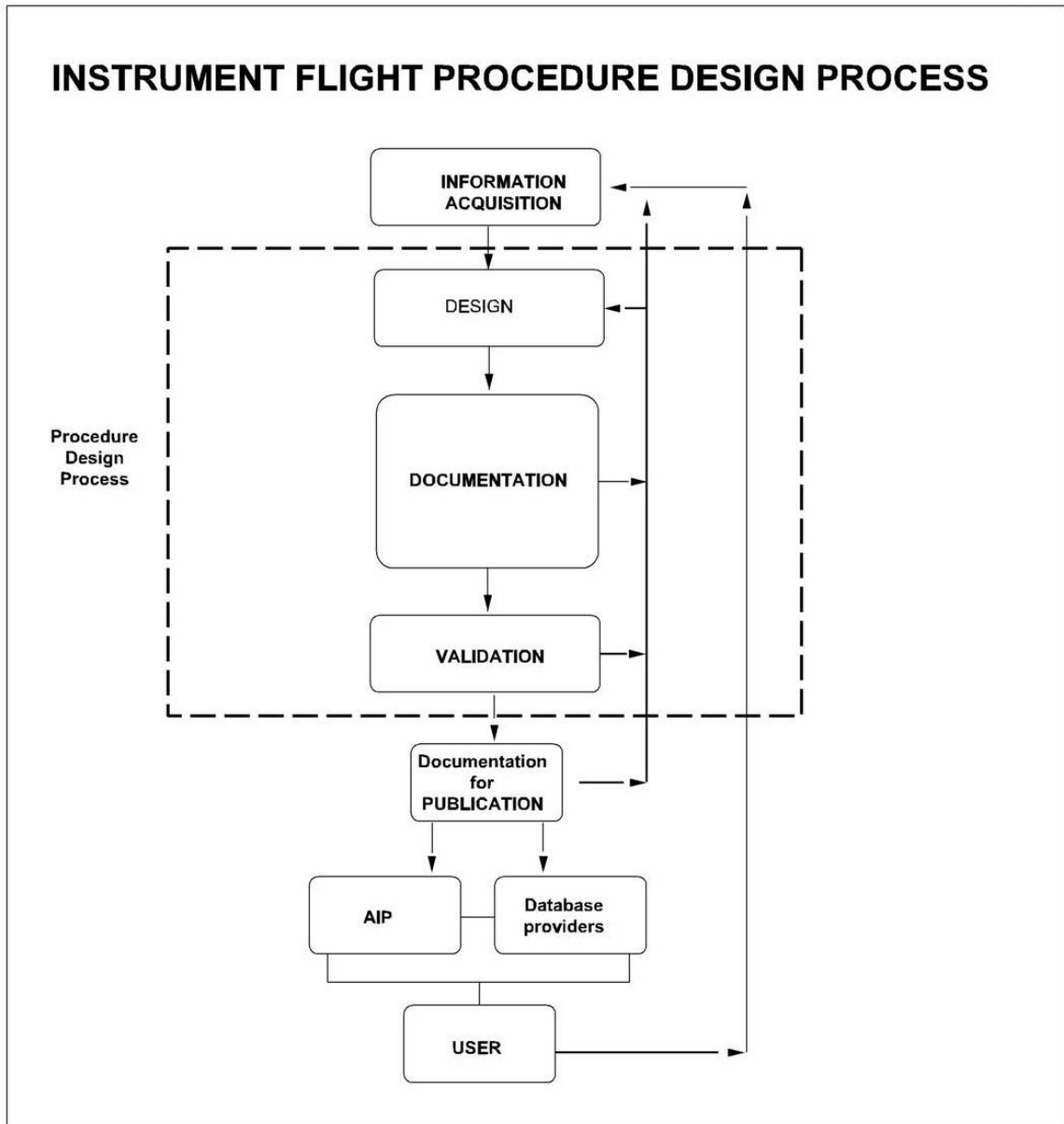
A.2 Qualified Flight Procedure Designer

- (a) Training — have successfully completed an ICAO PANS-OPS training course, or a training course accepted by the Authority. Where no formal training course has been completed, the Authority may accept evidence of a comprehensive “in-house” training and development program under the supervision of a suitably qualified and experienced FPD whose qualifications are accepted by the Authority.
- (b) Experience in application of IFPs — have at least 5 years’ experience in the application of IFPs through experience gained in Air Traffic Control, as a flight crew member on IFR operations, in operational control of IFR operations, or other experience accepted by the Authority as equivalent.
- (c) Experience in design of IFPs — at least 2 years’ experience designing IFPs which must include —
 - (1) Under supervision by a procedure designer whose qualifications are accepted by the Authority, the design of at least 3 IFPs of the type that the person is to be authorised to design; or
 - (2) For a new IFPs type, experience accepted by the Authority in designing similar IFP types.

NOTE: The IFPDSP should ensure that personnel selected to attend initial Flight Procedure Designer training meets the knowledge, skill and experience requirements defined in ICAO Doc 9906 Volume 2 (Flight Procedure Designer Training (Development of a Flight Procedure Designer Training Programme)) Chapter 3.3.

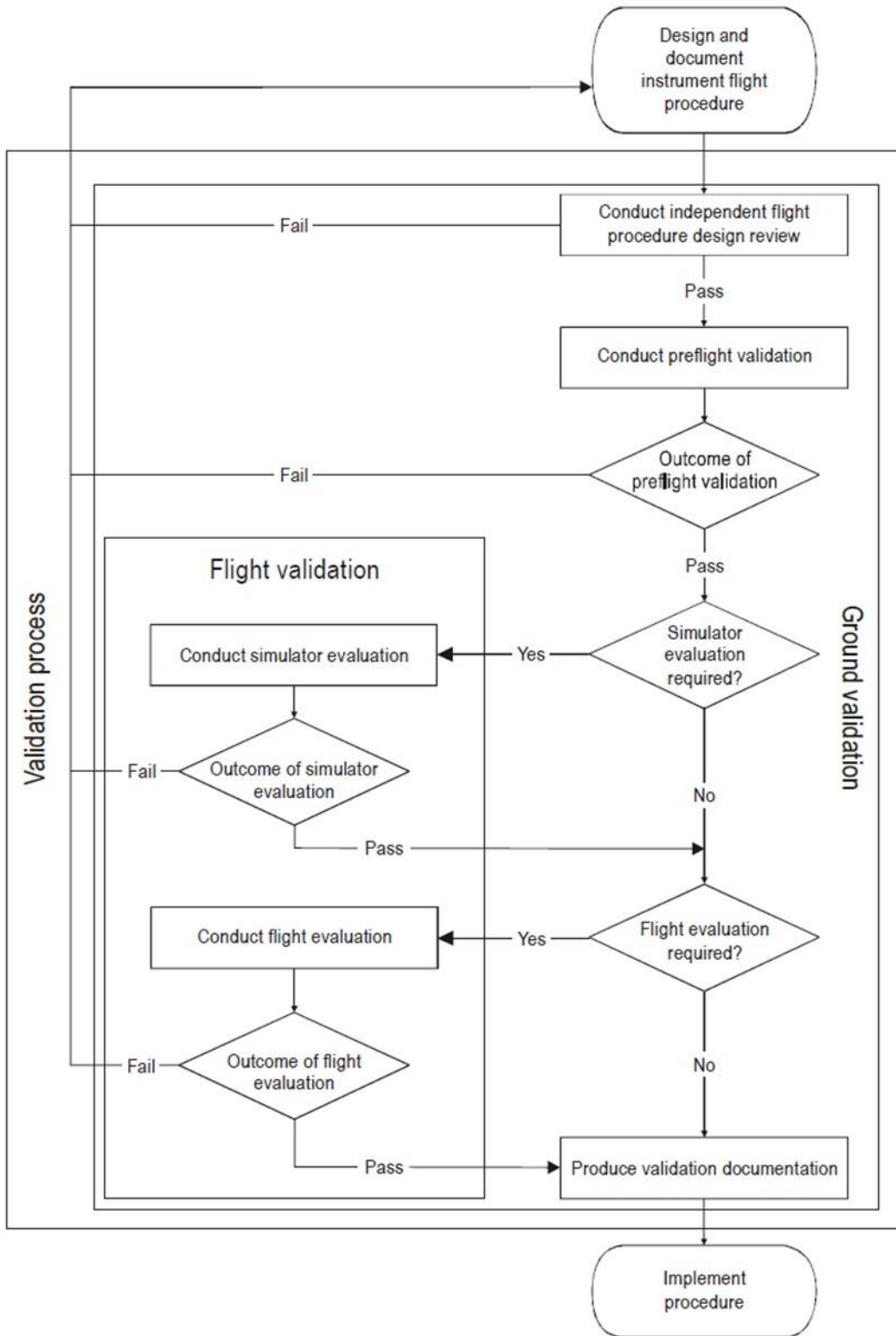


Appendix B — Instrument Flight Procedure Process Flowchart.





Appendix C — Overview of the Necessary Steps in the Validation Process.





Appendix - D

Appendix D-1 - Recommended Exposition Layout

In order to obtain the Approved FPDO certificate, a flight procedure design organization shall submit an exposition containing the information as specified below. The exposition shall be typed, with paragraphs and pages numbered, following the specified sequence.

1. Cover Page

- a. Name of training organization;
- b. Title of exposition;
- c. Version number; and
- d. Date of document.

2. Administrative Information

- a. Name and address of the training organization and, if different, name and address of the training centre to which this application refers;
- b. The names, telephone and fax numbers, and email addresses of the following:
 - i) the Accountable Executive,
 - ii) the head of the flight procedure designer (if different from (i)); and
 - iii) title and name of person(s) nominated by the flight procedure design organization as the focal point for communication with the Authority;
- c. A statement signed by the Accountable Executive, describing the extent of compliance of the organization with this CAD;
- d. An organization chart showing associated chains of responsibility of accountable executive and other key personnel; and
- e. A list of flight procedure design personnel with supporting documents verifying each individual's qualifications and experience.

3. Facilities, Equipment, Material and Records

In this section, the flight procedure design organization shall show how it complies with the requirements of this CAD in terms of these items.

4. Instrument Flight Procedure Approvals

The applicant shall also apply for the approval of instrument flight procedure if it has not done so previously.



Note 1. — For items 2d, 2e, 3 and 4, a reference to other supporting documents submitted together with the application form shall be sufficient.

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Appendix D-2 - Content of Operation Manual

The following is a sample of the contents of an operations manual for a FPDO. The operations manual should be customized to the unique qualities of each organization.

PART / Chapter	Contents	Reference
PART I. Administrative		
Chapter 1. Responsibility for revision of the operations manual	<ul style="list-style-type: none"> • Describe <ul style="list-style-type: none"> ➢ Under whom the operations manual is established ➢ Who is responsible for the technical contents • Version control 	
PART II. General and Organization		
Chapter 1. General	<ul style="list-style-type: none"> • Purpose of the operations manual • Precedence of the operations manual • Scope of the operations manual • Functions to be performed by the service provider 	
Chapter 2. Roles and responsibilities	<ul style="list-style-type: none"> • Describe the roles and responsibilities of the department, section and/or position (Descriptions for each department, section and/or position follow.) 	
Chapter 3. Staffing requirement	<ul style="list-style-type: none"> • Describe the staffing requirements such as: <ul style="list-style-type: none"> ➢ number of personnel per procedure, or ➢ number of procedures which can be designed by a designer (The statement does not have to be quantitative; a statement such as “a sufficient number of qualified staff is required...” may be acceptable.) • Define the hierarchy – e.g. supervisor, chief designer, senior designer, designer, trainee designer (depending on each organization) 	
Chapter 4. Training and qualification	<ul style="list-style-type: none"> • Provisions concerning training and qualification of personnel • Appointment of special position (e.g. chief or supervisor) • Describe types of training and their contents, duration, interval (frequency) 	
Chapter 5. Facility resources and	<ul style="list-style-type: none"> • Define the facilities and resources to be utilized to perform the task such as: <ul style="list-style-type: none"> • building, office, table, and other equipment • software and design tool • aircraft and on-board equipment 	



Chapter 6. Agreements with other organizations	<ul style="list-style-type: none"> Define the procedures and/or rules to establish agreements with other organizations, including procurement of service and/or goods (Reference to another document is acceptable) 	
Chapter 7. Compliance	<ul style="list-style-type: none"> Define the processes to comply with regulations and verification (Reference to another document is acceptable) Describe how to demonstrate the compliance 	
Chapter 8. Operational instructions	<ul style="list-style-type: none"> Define the methodology to provide operational instructions to staff members such as: <ul style="list-style-type: none"> circular information bulletin amendment to existing document (including notification of changes in design criteria) 	
Chapter 9. Services to be provided	<ul style="list-style-type: none"> Define the services (and/or product) to be provided by the organization such as: <ul style="list-style-type: none"> (Initial) design continuous maintenance periodic review documentation process validation process Define the types of flight validation to be provided by the organization such as: <ul style="list-style-type: none"> validation of newly designed flight procedures periodic validation (with its interval for each type of flight procedure) validation upon amendment of flight procedures other validation conducted for special needs Describe the criteria needed to determine the necessity of these types of service Describe the criteria needed to determine the necessity of simulator evaluation 	
PART III. Flight procedure design process		
Chapter 1. Design process	<ul style="list-style-type: none"> Define the process to be followed 	Doc 9906, Vol. 1
Chapter 2. Acquisition of data/ information	<ul style="list-style-type: none"> Define <ul style="list-style-type: none"> types of data/information required for the design of instrument flight procedures how to acquire such data/information from whom/where to acquire such data/information 	



Chapter 3. Consultation with stakeholders	<ul style="list-style-type: none"> • Identify stakeholders • Describe <ul style="list-style-type: none"> ➤ on which matters consultation with stakeholders is needed ➤ with whom ➤ when ➤ how 	PBN manual Doc 9906, Vol. 1 Doc 9906, Vol. 5
Chapter 4. Environmental consideration	<ul style="list-style-type: none"> ➤ Describe what should be considered in the design or flight procedures 	
Chapter 5. Documentation	<ul style="list-style-type: none"> • Describe <ul style="list-style-type: none"> ➤ how to record the activities ➤ how to maintain documents • Define the period of maintenance of records 	
Chapter 6. Format	<ul style="list-style-type: none"> • Provide the format (template) for design documents to record: <ul style="list-style-type: none"> ➤ rationale for the design ➤ controlling obstacle ➤ summary of calculation process • Provide the format (template) for flight validation report 	
Chapter 7. Validation	<ul style="list-style-type: none"> • Describe: <ul style="list-style-type: none"> ➤ who validates the procedures ➤ how the procedures are validated • Define the process to be followed • Define the items (charts, aeronautical data, obstacle, flyability, Navaid/lighting) to be validated for each type of validation • Define tolerance • Define the type of result (pass, pass on condition, fail) <ul style="list-style-type: none"> ➤ what are the actions to be taken for failed procedure 	Doc 9906, Vol. 5
Chapter 8. Preparation of publication	<ul style="list-style-type: none"> • Define the types of material to be submitted to AIS (depending on the protocol with AIS) • Define the timing of submission 	
PART IV. Safety and Quality		
Chapter 1. SMS and QA system	<ul style="list-style-type: none"> • Define how to be involved in the SMS (e.g. the SMS of an entire ANSP) • Provide a reference to the organization's quality manual • Provide a statement on the resolution of safety/quality-related issues 	Annex 19 - Safety Management Doc 9859 Doc 9906, Vol.1



Chapter 2.
Oversight by regulator

- Describe how to manage the oversight



Appendix D-3 - Approval and Oversight Processes

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Note. — This appendix provides the guidance for FPDO approval processes i.e. new approval, renewal and variation of the approval as well as the random inspection and training plan acceptance process. This guidance includes the related pre-audit, onsite audit and the post-audit activities.

1. Approval Process

Flight Procedure Design Organization	Kuwait DGCA/ASD
Submit: a. application form & exposition b. operation manual, administrative handbook for flight procedure designer, quality manual, list of personnel and job description, facilities, equipment and records c. checklist of documents submitted	a. Review exposition and related documents b. Notify FPDO for audit with proposed dates
<i>Follow audit process – Decision on approval</i>	

2. Audit Process

Flight Procedure Design Organization	Kuwait DGCA/ASD
Pre Audit	
Agree on audit dates	Prepare audit plan and programme
Prepare evidence for each PQ, for example a folder every PQ containing all related evidences	Pre-audit preparation by audit team
On-Site Audit	
Provide overview information on audit scope	Conduct open meeting
a. Provide evidence for each PQ b. Provide access to audited facilities, documents or personnel	a. Conduct on-site audit activities b. Draft audit finding
Take note on audit observations and findings	Conduct close meeting
Post Audit	
Prepare corrective actions or implement corrective actions	Prepare interim audit report (follow deadline)
a. Continue prepare or implement corrective actions b. Submit corrective action reports with evidence	a. Receive corrective action reports and evidence b. Prepare and submit final report (follow deadline)
Implement corrective actions in accordance with effective implementation dates	a. Decision on approval b. Take action (if any) in accordance with enforcement procedure



3. Renewal Process

Flight Procedure Design Organization	Kuwait DGCA/ASD
Submit: a. application form & updated exposition b. copy of approval certificate, operation manual, administrative handbook for flight procedure designer, quality manual, list of personnel and job description, facilities, equipment and records c. checklist of documents submitted d. internal audit and corrective actions report	a. Review exposition and other documents b. Notify flight procedure design organization for audit with proposed dates
<i>Follow audit process – Decision on renewal</i>	

4. Variation Process

Flight Procedure Design Organization	Kuwait DGCA/ASD
Submit: a. application Form No. 1624 (<i>Available on ASD website</i>) b. copy of approval certificate, updated copy operation manual, administrative handbook for flight procedure designer, quality manual, list of personnel and job description, facilities, equipment and records c. details of variation	a. Review exposition and other documents b. Notify flight procedure design organization for audit with proposed dates
<i>Follow audit process – Decision on variation</i>	

5. Random Inspection Process

Flight Procedure Design Organization	Kuwait DGCA/ASD
On-Site Inspection	
a. Provide access to inspected facilities / documents / personnel b. Take note on inspection observations and findings	a. Conduct on-site inspection activities b. Inform FPDO of any non-compliance c. Set deadlines for corrective actions d. Submit non-compliance report
Post Inspection	
a. Implement corrective actions b. Submit corrective action report	a. Review & verify corrective action report b. Take action (if any) accordance with enforcement procedure

6. Procedure Design Acceptance Process

Flight Procedure Design Organization	Kuwait DGCA/ASD
Submit procedure design and design documentations	a. Review document b. Submit observation (if any)



Submit reviewed procedure design and design documentations

Accept procedure design

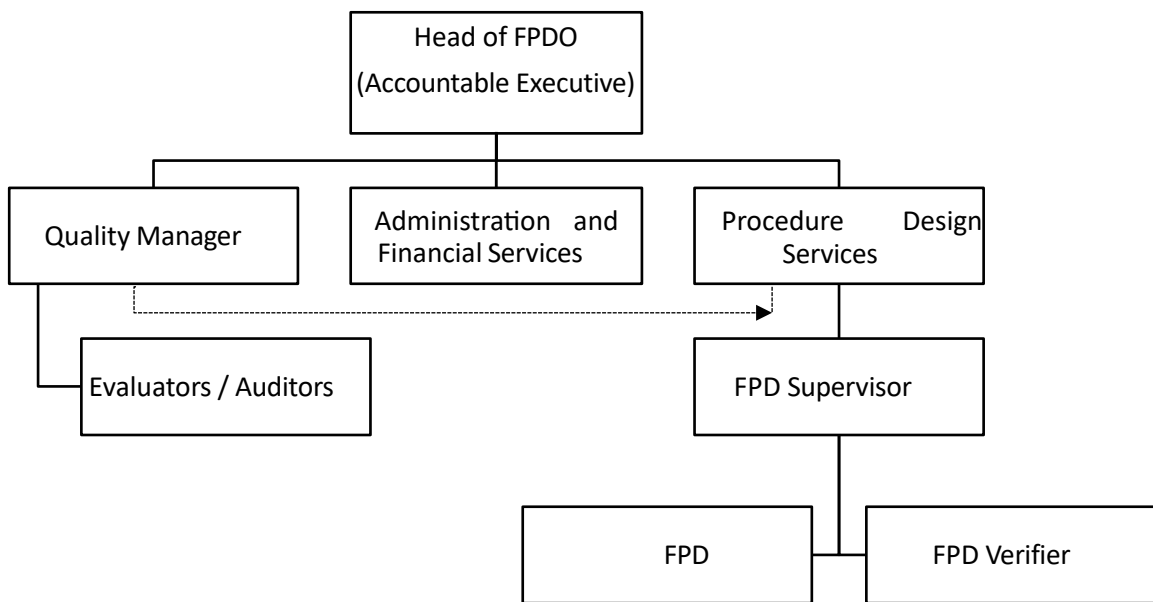


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Appendix D-4 - Organizational Structure of the Approved FPDO

The following organizational charts are by no means exhaustive and do not pretend to meet all operational requirements. They are provided only to assist procedure design organizations in developing and maintaining an organizational structure that is consistent with the needs of an effective quality system governance model.



END