



**CIVIL AVIATION SAFETY AUTHORITY OF PNG**

**PNG**

**Civil Aviation Rule**

**Part 173**

**Instrument Flight Procedure Service Organisation  
- Certification and Operation**

Applicable 13 November 2018

## DESCRIPTION

Part 173 prescribes –

- rules governing the certification and operation of organisations that provide services for the design and maintenance of instrument flight procedures; and
- the technical standards for the design of instrument flight procedures.

The Part does not apply to the design of aircraft performance operating limitations or flight paths for critical engine inoperative emergency procedures.

Part 173 aims to ensure that the design, maintenance, and promulgation of instrument flight procedures intended for use by aircraft operating under Instrument Flight Rules (IFR) in the Port Moresby Flight Information Region (FIR) meet or exceed the International Civil Aviation Organisation (ICAO) standards and recommended practices for instrument flight procedures.

## BULLETIN

This Part first came into force on 1 January 2004 and now incorporates the following amendments:

<b>Amendment</b>	<b>Effective Date</b>
Amendment 1	1 February 2018
Amendment 2	13 November 2018

### *Summary of amendments:*

**Amendment 2:**  
(Docket18/CAR/173/05)

Rule 173.15 amended to correct grammatical and editorial errors.; Rule 173.55(a)(3) amended to correct grammatical and editorial errors; Rule 173.65(a)(2) amended to correct grammatical and editorial errors; Rule 173.73(a)(10) amended to correct grammatical and editorial errors; Rule 173.103 amended to correct grammatical and editorial errors; Rule 173.203(b) deleted; Rule 173.205 amended to include of new requirements for validation of instrument flight procedures; Rule Appendix A is retitled as, Qualifications and experience for senior person, qualified designers and apprentice instrument flight procedure designers; New Appendix A2 inserted to address qualifications and experience requirements for qualified designers; New Appendix A3 inserted to address qualifications and experience requirements for apprentice designers.

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## Subpart A — General

### 173.1 Purpose

- (a) This Part prescribes -
- (1) Rules governing the certification and operation of organisations that provides services that includes designing, certifying, and maintaining instrument flight procedures, and
  - (2) the technical standards for the design of instrument flight procedures.
- (b) This Part does not apply to the design of aircraft performance operating limitations or flight paths, for critical engine inoperative emergency procedures

### 173.3 Definitions

**Instrument flight procedure service** means a service to design, certify, maintain and promulgate visual and instrument flight procedures.

**Flight procedure** means a visual or instrument flight procedure for which a design is required under the provisions of this Part allowing an aircraft to navigate on the final approach down to a given OCH, relying on a given type of Navigation infrastructure.

**Process/processes** means a procedure or procedures written into an exposition required under this Part.

**ANR** means Air Navigation Register or Database.

### 173.5 Requirement for certificate

No person shall provide an instrument flight procedure service for the Port Moresby FIR, except under the authority of an instrument flight procedure service certificate issued in accordance with this Part.

### 173.7 Application for certificate

An applicant for the grant of an instrument flight procedure service certificate shall complete form CA 173/01, and submit it to the Director not less than 90 days before the date of intended operation, unless a shorter period is acceptable to the Director, with—

- (1) the name and address for service in Papua New Guinea of the applicant; and
- (2) the exposition required by 173.73; and
- (3) a payment of the appropriate application fee prescribed by regulations made under the Act.

### 173.9 Issue of certificate

An applicant is entitled to an instrument flight procedure service certificate if the Director is satisfied that—

- (1) the applicant meets the requirements of Subpart B; and
- (2) the applicant, and the applicant's senior person or senior persons required by 173.51(a)(1) and  
(2) are fit and proper persons; and
- (3) the granting of the certificate is not contrary to the interests of aviation safety.

### **173.11 Privileges of certificate holder**

An instrument flight procedure service certificate -

- (1) authorises the holder of the certificate to—
  - (i) design, flight validate, certify, and maintain an instrument flight procedure; and
  - (ii) subject to the requirements of Part 95, make aeronautical information including aeronautical data relating to an instrument flight procedure that has been certified by the certificate holder and notified in the Gazette, available for publication and operational use in an aircraft; and
- (2) specifies the types of visual and instrument flight procedure that the certificate holder is authorised to design, flight validate, certify and maintain.

### **173.13 Duration of certificate**

- (a) An instrument flight procedure service certificate may be granted or renewed for a period of up to 5 years.
- (b) An instrument flight procedure service certificate remains in force until it expires or is suspended or revoked by the Director.
- (c) The holder of an instrument flight procedure service certificate that expires or is revoked shall forthwith surrender the certificate to the Director.
- (d) The holder of an instrument flight procedure service certificate that is suspended, shall forthwith produce the certificate to the Director for appropriate endorsement.

### **173.15 Notification of termination of service**

The holder of a service certificate that terminates its service shall notify the Director of termination in writing not less than 90 days prior to the date of the termination.

### **173.17 Renewal of certificate**

- (a) The holder of an instrument flight procedure service certificate shall make any application for the renewal of an instrument flight procedure service certificate on form CA 173/01.
- (b) The application required by paragraph (a) shall be submitted to the Director before the application renewal date specified on the certificate or, if no such date is specified, not less than 90 days before the certificate expires.

## **Subpart B — Certification Requirements**

### **173.51 Personnel requirements**

- (a) An applicant for the grant of an instrument flight procedure service certificate shall employ, contract, or otherwise engage—
  - (1) a senior person identified as the Chief Executive who—
    - (i) has the authority within the applicant's organisation to ensure that all activities undertaken by the organisation can be financed and carried out in accordance with the requirements and standards prescribed by this Part; and
    - (ii) is responsible for ensuring that the organisation complies with the requirements and standards prescribed by this Part; and
  - (2) a senior person or persons who are, responsible to the Chief Executive for who are —

- (i) ensuring that the applicant's organisation complies with its exposition; and
  - (ii) the certification of every instrument flight procedures in accordance with the procedures required by 173.56; and
  - (iii) responsible for ensuring the system for safety management required under rule 173.69; and
- (3) ensuring that there are sufficient personnel to plan, design, verify, and maintain the instrument flight procedures provided by the applicant's organisation. .
- (b) An applicant for the grant of an instrument flight procedure service certificate shall establish procedures for training and checking programme for initially assessing, training, and for maintaining, the competence of—
- (c) personnel involved in the planning, design, verification, and maintenance of instrument flight procedures; and
  - (d) who are authorised to certify instrument flight procedures.
  - (e) senior personnel involved in planning, supervising, conducting or verifying the design activities covered by the approval specified in Appendix C.
  - (f) The senior person or persons responsible for the certification of instrument flight procedures must be authorised in accordance with rule 173.57 to certify the procedures. .
  - (g) The qualifications and experience for the senior persons required in paragraph (a)(2), are specified in Appendix A.

### **173.52 Training Programme**

- (a) An applicant for the grant of an instrument flight procedure service certificate must ensure that –
- (i) prior to assignment to duty, each person required to receive training in accordance with this Subpart, must, whether employed on a full or part time basis, receives such training as appropriate to his or her duties; and
  - (ii) the training facilities, equipment and personnel are acceptable to the Director and, in the case of training checking personnel
- (b) The training programme required under paragraph (a), must be approved by the Director.

### **173.53 Resource requirements**

- (a) An applicant for the grant of an instrument flight procedure service certificate shall—
- (1) have available equipment that is appropriate for the design, design verification, certification, flight validation, and maintenance of the types of instrument flight procedure that are specified in the applicant's exposition;
  - (2) have access to relevant and current data and database including, but not limited to, aeronautical data, land contour data, and obstacle data for the design, design verification, flight validation, and maintenance of the instrument flight procedures certified by, and maintained by, the applicant's organisation; and
  - (3) hold or have ready access to copies of relevant documentation comprising technical standards, practices, and instructions, and any other documentation that may be necessary for the design, design verification, certification, flight validation, and maintenance of the types of instrument flight procedure that are specified in the applicant's exposition.

- (b) An applicant for the grant of an instrument flight procedure service certificate must establish a procedure for ensuring that—
- (1) when aeronautical data is required for design purposes, have procedures to ensure the integrity of the aeronautical database, and the integrity of the aeronautical data throughout the design process from survey/origin to the certified flight procedure.
  - (2) personnel have access to the data referred to in paragraph (a)(2) for the types of instrument flight procedure specified in the applicant's exposition; and
  - (3) the data and database referred to in paragraph (a)(2) is current, traceable, and meets the required level of verifiable accuracy for the design, design verification, flight validation, and maintenance of instrument flight procedures specified in the applicant's exposition and must meet other requirements acceptable to the Director.
- (c) An applicant for the grant of an instrument flight procedure service certificate must establish a procedure for controlling all documentation required by paragraph (a)(3) to ensure that—
- (1) the documentation is reviewed and authorised 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
  - (3) every obsolete document is promptly removed from every point of issue and use; and
  - (4) a change to documentation is reviewed and authorised 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.

### **173.55 Design of instrument flight procedures**

- (a) An applicant for the grant of an instrument flight procedure service certificate must establish procedures for ensuring that every instrument flight procedure certified under the authority of the applicant's certificate in accordance with rule 173.59, is—
- (1) designed or amended using methods ensuring that the procedure meets the applicable requirements and standards prescribed in Subpart D; and
  - (2) independently verified, before certification, by a qualified person who is independent of the person directly responsible for the design; and
  - (3) Validated as prescribed in rule 173.203 and Appendix B of this part.
  - (4) except as provided in paragraph (b), flight validated in accordance with the procedures required under paragraph (c), to ensure that—
    - (i) the instrument flight procedure allows aircraft using the procedure to manoeuvre consistently within safe operating practices and pilot workloads for the categories of aircraft that the procedure is intended for; and
    - (ii) the instrument flight procedure provides azimuth and distance information, and vertical guidance information for a precision approach, in accordance with this Part or other national aviation authorities standards for the operation of aircraft to ensure that an aircraft using the procedure remains clear of obstacles; and
    - (iii) the instrument flight procedure is not affected by any radio frequency interference; and



- (iv) visual guidance systems and cues for the runway are appropriate for the instrument flight procedure and are not confused by lighting, laser sky displays, or any other visual distraction.
- (b) The following instrument flight procedures do not require flight validation if it can be shown that current obstacle data meets the design requirements of the instrument flight procedure:
- (1) an en-route or an instrument arrival procedure unless—
    - (i) there is doubt about the coverage of the navigation system supporting the requirements of the procedure; or
    - (ii) the procedure limits the flyability and performance characteristics of the class of aircraft the procedure is designed for:
  - (2) an instrument departure procedure unless the procedure limits the flyability and performance characteristics of the class of aircraft the procedure is designed for:
  - (3) an amendment of a previously flight validated instrument approach procedure if—
    - (i) the design change can be verified during the design process; and
    - (ii) a safety assessment of the proposed amendment has been completed and confirms that no additional risks to the safety of the procedure are introduced by the amendment.
- (c) An applicant for the grant of an instrument flight procedure service certificate must establish procedures for conducting the flight validation of an instrument flight procedure as required by paragraph (a)(3).
- (d) The flight validation procedures required under paragraph (c) must include the use of equipment that—
- (1) has the precision, and accuracy traceable to appropriate standards, that are necessary for the validation being performed; and
  - (2) has known measurement uncertainties including, but not limited to, the software, firmware and crosswind uncertainties; and
  - (3) records the actual flight path of the validation aircraft, and
  - (4) is checked before being released for use, and at intervals not exceeding the calibration intervals recommended by the manufacturer, to establish that the system is capable of verifying the integrity of the instrument flight procedure, and
  - (5) is operated in accordance with flight validation system procedures and criteria by persons who are competent and current on the system used.
- (e) An applicant for the grant of an instrument flight procedure service certificate must establish procedures for justifying the application of paragraph (b) to an instrument flight procedure.
- (f) An applicant for the grant of an instrument flight procedure service certificate must establish procedures for ensuring that during the processes of design, maintenance, or transfer of data of an instrument flight procedure the applicable aeronautical data and aeronautical information complies with the standards specified in RTCA Inc. document and Aeronautical Information Transfer Model (AIXM-5) acceptable to the Director; and
- (g) An applicant for the grant of an instrument flight procedure service certificate may use alternative standards equivalent to the standards specified in paragraph (f).

### **173.56 Authorisation of persons to certify instrument flight procedures**

- (a) Subject to paragraphs (b), (c), and (d), an applicant for the grant of an instrument flight procedure

service certificate must establish a process for authorising a senior person or persons to certify that a flight procedure has been designed in accordance with and meets, every applicable standard and requirement prescribed by Subpart D.

- (b) An authorisation must not be issued to a person unless the person meets the applicable training and experience requirements specified in Appendix A.1.
- (c) Every authorisation that is issued to a person must be in writing and must specify the types of flight procedure that the person is authorised to certify.
- (d) A flight procedure type that is specified on an authorisation must not be inconsistent with the types of procedures specified on the instrument flight procedure service certificate. -

### **173.57 Certification of instrument flight procedures**

- (a) Subject to paragraphs (b) and (c), an applicant for the grant of an instrument flight procedure service certificate must establish a process for the certification of every flight procedure that the applicant's organisation proposes to design, make available for operational use, and publish in the Papua New Guinea Aeronautical Information Publication (PNG AIP).
- (b) The process required by paragraph (a) must include—
  - (1) details of the checks to be carried out by a senior person, who is authorised to certify the particular type of flight procedure, to ensure that it meets the applicable requirements and standards prescribed by this Part; and
  - (2) the means for providing the Director with the information specified in rule 173.59(c) for the entry of the flight procedure into the Papua New Guinea Air Navigation Register (PNG ANR)/ Database.
- (c) A person who is authorised in accordance with rule 173.56 to certify an instrument flight procedure must not certify a procedure which has been designed by that person.

### **173.59 Promulgation of instrument flight procedure**

- (a) An applicant for the grant of an instrument flight procedure service certificate, in accordance with rule 95.51, must establish a process ensuring that—
  - (1) the information required in paragraph (c) is provided to the Director; and
  - (2) a flight procedure is not published or made available for operational use unless the Director has notified the holder of the instrument flight procedure service certificate that the flight procedure has been entered into the PNG ANR, and the date for operational use of the procedure has been notified in the Gazette in accordance with rule 95.53.
- (b) The process required by paragraph (a) must include—
  - (1) details of the means for coordinating with the aeronautical information service provider the publishing of the flight procedure in the PNG AIP; and
  - (2) details of the means to check that the initial publication of, or any change to a flight procedure published under paragraph (a) has been accurately published in the PNG AIP.
- (c) The following information is required by the Director for every entry of a flight procedure into the PNG ANR:
  - (1) the name or other appropriate identifier that is acceptable to the Director to uniquely identify the flight procedure:

- (2) aeronautical data that is acceptable to the Director to define and describe the flight procedure:
  - (3) the date that the flight procedure is intended to come into effect:
  - (4) a statement signed by the senior person referred to in rule 173.57(b)(1), certifying that the flight procedure meets the applicable standards and requirements prescribed by this Part:
  - (5) a statement signed by a senior person, of an appropriate instrument flight procedure service organisation, certifying that the flight procedure is to be maintained in accordance with the organisation's processes required by rule 173.61.
- (d) For the purpose of paragraph (c)(5), an appropriate instrument flight procedure service organisation is an organisation that is certificated in accordance with Part 173 and whose certificate authorises the design, flight validation, certification, and maintenance of the particular type of flight procedure.

### **173.61 Maintenance of instrument flight procedures**

- (a) An applicant for the grant of an instrument flight procedure certificate must establish a process for maintaining every flight procedure in accordance with the statement required under rule 173.59(c)(5).
- (b) The process required by paragraph (a) must include details for every flight procedure to be reviewed, and flight validated if necessary, —
- (1) on a periodic basis, not exceed five years, ensuring that the flight procedure continues to meet the applicable standards and requirements of this Part; and
  - (2) if there is a change in any of the data referred to in rule 173.53(2) that may affect the integrity of the instrument flight procedure.
- (c) The process required under paragraph (a) must include and document the grounds and criteria for establishing or changing the interval between the periodic maintenance reviews for each flight procedure.

### **173.63 Error correction in promulgated procedures**

- (a) An applicant for the grant of an instrument flight procedure service certificate shall establish a process for recording, investigating, correcting, and reporting in accordance with Part 12, any identified error, and any identified non-conformance or suspected non-conformance with the requirements of this Part, in a flight procedure that is certified or maintained under the authority of the certificate.
- (b) The process required by paragraph (a) shall ensure that—
- (1) flight procedure is immediately withdrawn from operational use if the error or non-conformance referred to in paragraph (a) affects, or may affect, the safety of an aircraft operation; and
  - (2) the error or non-conformance is corrected, and certified by a senior person who is appropriately authorised in accordance with rule 173.56; 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 non-conformance has not affected the integrity of any other flight procedure; and
- (5) the Authority is notified, in accordance with Part 12, of a promulgated information incident relating to an error or non-conformance referred to in paragraph (a).

### **173.65 Cancellation or withdrawal of an instrument flight procedure**

- (a) An applicant for the grant of an instrument flight procedure service certificate shall establish processes to—
- (1) if an error is detected in a visual and instrument flight procedure that can affect the safety of air navigation—
    - (i) immediately withdraw the use of that procedure until the error is corrected; and
    - (ii) if the error cannot be corrected, request the Director to cancel the procedure; and
  - (2) if an instrument procedure cannot be maintained in accordance with 173.61, request the Director to cancel the procedure.

### **173.67 Management of Records**

- (a) An applicant for the grant of an instrument flight procedure certificate must establish a process for the management of records that are required for the applicant organisation's functions relating to the design, certification and maintenance of flight procedures.
- (b) The management of records under paragraph (a) includes the identification, collection, indexing, storage, safekeeping, accessibility, maintenance and disposal of records.
- (c) The process required by paragraph (a) must provide for the following to be recorded for every flight procedure certified in accordance with rule 173.59 and every flight procedure maintained in accordance with rule 173.63—
- (1) the details required by rule 173.61(c) for the flight procedure; and
  - (2) details of the procedure design carried out in accordance with rule 173.55, including but not limited to design verification, amendment, validation, justification for not validating, and certification activities; and
  - (3) details of the promulgation and checking activities; and
  - (4) details of any actions taken under rule 173.65 regarding errors and non-conformances in a flight procedure; and
  - (5) details of every maintenance review and flight validation carried out, in accordance with the procedures required by rule 173.63.
- (d) The process required by paragraph (a) must also provide for the following—
- (1) a record, that includes details of the qualifications, experience, training, assessments, and authorisations if applicable, for—
    - (i) every senior person required by rule 173.51(a)(2); and
    - (ii) personnel required by rule 173.51(a)(3); and
  - (2) a record of every internal safety management review carried out under rule 173.69; and
  - (3) the records required by paragraphs (c) and (d) to be legible, accurate, permanent, and retrievable in a legible format; and

- (4) the records required by paragraph (c) to be retained for at least 5 years after the associated flight procedure is withdrawn from use

### **173.69 Safety Management System**

An applicant for the grant of an instrument flight procedure service certificate must establish, implement, and maintain a system for safety management in accordance with rule 100.3.

### **173.71 Quality Management System**

An applicant for the grant of an instrument flight procedure service certificate must establish, implement, and maintain a system for safety management in accordance with Part 100.

### **173.73 Organisation exposition requirements**

- (a) An applicant for the grant of an air navigation service certificate shall provide the Director with an exposition that shall contain—
- (1) a statement signed by the Chief Executive on behalf of the applicant's organisation confirming that the exposition and any included manuals—
    - (i) define the organisation and demonstrate its means and methods for ensuring ongoing compliance with this Part; and
    - (ii) are required to be complied with by the applicant's organisation's personnel at all times; and
  - (2) in relation to safety management system required by rule 173.69, an implementation plan that describes how the safety management system will be implemented; and
  - (3) the titles and names of the senior person or senior persons required by 173.51(a)(1) and (2); and
  - (4) details of the duties and responsibilities of the senior person or persons required by rules 173.51(a)(1) and (2) including—
    - (i) matters for which they have responsibility to deal directly with the Director on behalf of the organisation; and
    - (ii) responsibilities for safety management system; and
  - (5) if there is more than one senior person listed under paragraph (3), an organisation chart showing the lines of responsibility of those persons; and
    - (i) information identifying the lines of safety responsibility within the organisation; and
    - (ii) the name of every senior person who is authorised in accordance with rule 173.57 to certify instrument flight procedures; and
  - (6) details of the scope of the authorisation issued to every person listed under paragraph (5); and
  - (7) a list of the types of instrument flight procedure to be designed, certified, or maintained by the applicant's organisation; and
  - (8) details of the applicant's means of meeting the requirements of rule 173.53(a) regarding—
    - (i) equipment; and
    - (ii) access to relevant and current data; and
    - (iii) access to copies of relevant documentation; and
  - (9) details of the applicant's means of meeting the requirements of rule 173.55(b) regarding instrument flight procedures not requiring flight validation; and
  - (10) details of the applicant's procedures as required by—

- (v) rule 173.51(b) regarding assessment and competence of personnel; and
- (vi) rule 173.53(b)(1) regarding access to data; and
- (vii) rule 173.53(b)(2) regarding currency and accuracy of data; and
- (viii) rule 173.53(c) regarding control of documentation; and
- (ix) rule 173.55(a) regarding design, verification and flight validation of instrument flight procedures; and
- (x) rule 173.55(c) regarding flight validation of instrument flight procedures; and
- (xi) rule 173.55(e) regarding the justification for instrument flight procedures not requiring flight validation; and
- (xii) rule 173.55(f) or (g) regarding the compliance with standards; and
- (xiii) rule 173.57 regarding authorisation of senior persons; and
- (xiv) rule 173.59 regarding certification of instrument flight procedures; and
- (xv) rule 173.61 regarding promulgation of instrument flight procedures and the means to provide details of each procedure to the Director; and
- (xvi) rule 173.63 regarding maintenance of instrument flight procedures; and
- (xvii) rule 173.65 regarding errors in published instrument flight procedures; and
- (xviii) rule 173.67 regarding management of records; and-

(11) procedures for controlling, amending, and distributing the exposition.

(b) The applicant's exposition must be acceptable to the Director.

## **Subpart C – Operating Requirements**

### **173.101 Continued compliance**

The holder of an instrument flight procedure service certificate shall—

- (1) continue to meet the standards and comply with the requirements of Subpart B prescribed for certification under this Part; and
- (2) hold at least one complete and current copy of the certificate holder's exposition required by rule 173.73 at the certificate holder's principal location; and
- (3) comply with all procedures and standard detailed in the exposition; and
- (4) make each part of the exposition that is applicable to the duties of its personnel available to those personnel; and
- (5) notify the Director of any change of the certificate holder's postal address, address for service, telephone number, or facsimile number on form CA 173/01 within 28 days of the change.

### **173.103 Changes to certificate holder's organisation**

(a) The holder of an instrument flight procedure service certificate shall—

- (1) subject to paragraph (b), ensure that the holder's organisation's exposition is amended so as to remain a current description of the holder's organisation; and
- (2) ensure that any amendments made to its exposition meet the applicable requirements of this Part; and

- (3) comply with the amendment procedures contained in its exposition; and
  - (4) forward to the Director for retention a copy of each amendment that the certificate holder makes to its exposition as soon as practicable after the amendment is incorporated into its exposition; and
  - (5) make such amendments to its exposition as the Director may consider necessary in the interests of aviation safety.
- (b) Where the holder of an instrument flight procedure service certificate proposes to make a change to:
- (1) the Chief Executive; or
  - (2) the listed senior person or persons; required by rule 173.73(a)(2); or
  - (3) the types of instrument flight procedure specified on the holder's certificate; or
- (c) An application to make any of the changes specified in paragraph (b) shall be made by the holder of an instrument flight procedure service certificate on form CA173/01.
- (d) The Director may prescribe conditions under which an instrument flight procedure service certificate holder may operate during or following any of the changes specified in paragraph (b).
- (e) The holder of an instrument flight procedure service certificate shall comply with any conditions prescribed by the Director under paragraph (e).
- (f) Where any change under paragraph (b) requires an amendment to the instrument flight procedure certificate, the certificate holder shall forward the certificate to the Director for endorsement of the change as soon as practicable.

### **173.105 Cessation of maintenance of an instrument flight procedure**

If the holder of an instrument flight procedure service certificate proposes to discontinue the maintenance of an instrument flight procedure as required by rule 173.61, the certificate holder must notify the Director in writing of the proposal to discontinue the maintenance at least 90 days before the maintenance ceases.

## **Subpart D – Design Criteria—Instrument Flight Procedure**

### **173.201 Design**

- (a) Every instrument flight procedure must be designed in accordance with the requirements of this Part and in accordance with the appropriate design processes, standards, guidelines, and aeronautical data quality requirements contained in the following:
- (1) ICAO Documents—
    - (i) Doc 8168, Procedures for Air Navigation Services – Aircraft Operations — Volume I Flight Procedures, and Volume II, Construction of Visual and Instrument Flight Procedures:
    - (ii) Doc 8697, Aeronautical Chart Manual:
    - (iii) Doc 9365, Manual of All-Weather Operations:
    - (iv) Doc 9613 Performance Based Navigation Manual — Volume I Concept and Implementation Guidance, and Volume II Implementing RNAV and RNP:
    - (v) Doc 9881, Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information:

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- (2) ICAO Annexes—
    - (i) Annex 4, Aeronautical Charts:
    - (ii) Annex 6, Operation of Aircraft:
    - (iii) Annex 11, Air Traffic Services:
    - (iv) Annex 14, Volumes I & II Aerodromes:
    - (v) Annex 15, Aeronautical Information Services:
  - (3) Any other guideline or standard that is applicable to a particular type of instrument flight procedure and is acceptable to the Director.
- (b) For the purposes of paragraph (a), if there is a conflicting difference between any of the applicable design processes, standards, guidelines, or aeronautical data quality requirements, the particular design process, standard or guideline to be used must be acceptable to, or specified by, the Director.
- (c) The design of an instrument flight procedure must—
- (1) be coordinated with all appropriate air traffic service providers; and
  - (2) be compatible with any air traffic service and associated procedure that is provided within the area or areas of airspace where the instrument flight procedure is intended to be established; and
  - (3) take into account—
    - (i) any noise abatement procedure prescribed by Part 93; and
    - (ii) any bylaws or other legislation restricting aircraft operations; and
    - (iii) the classification and any associated designation of the airspace in which the instrument flight procedure is to be established and any adjacent airspace that may be affected by the procedure; and
    - (iv) the effect that the proposed instrument flight procedure may have on any other instrument flight procedure established in the airspace.
- (d) An instrument flight procedure must not be designed for an aerodrome or heliport unless the operator of the aerodrome or heliport agrees in writing that the aerodrome or heliport may be used for IFR operations using the intended instrument flight procedure.
- (e) An instrument flight procedure must not be designed on or use a ground based aeronautical facility unless—
- (1) the aeronautical facility is operated under the authority of an aeronautical telecommunication service certificate issued in accordance with Part 171; and
  - (2) the holder of the aeronautical telecommunication service certificate agrees in writing that the aeronautical facility can be used for the intended instrument flight procedure.

### **173.203 Use of Design Automation Tools**

- (a) The holder of an instrument flight procedure service certificate shall—
- (1) utilize design automation tools to the maximum extent practicable in the design of each IFP in order to minimize the potential for design errors.
  - (2) ensure all design automation tools are validated prior to use using a tool validation methodology acceptable to the Director.



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**173.205 Validation of Instrument Flight Procedures**

The holder of an instrument flight procedure service certificate shall conduct validation of IFPs that –

- (a) comprises a ground validation element and may also comprise a flight validation element. In the case of RNAV procedures, a navigation database validation is also required.
- (b) all elements of the validation and must document their proposed validation activities in a plan and submit as early as possible to CASA PNG for acceptance.
- (c) establish detailed procedures for conducting the flight validation of an IFP as required by the Director
- (d) Flight validations must be performed by qualified and experienced flight validation pilots.
- (e) The aircraft to be used for flight validation of an IFP must have the performance capabilities appropriate to the categories for which the IFP has been designed.
- (f) All IFP validation flights must be conducted during daylight hours in visual meteorological conditions (VMC),
- (g) Navigation database validation must be performed for all RNAV instrument flight procedures.
- (h) Where a ground and/or flight and navigation database validation has been conducted, a report must be completed by each of the following where applicable and shall be forwarded to CASA PNG;
  - (1) Instrument flight procedure approved designer;
  - (2) Validating pilot;
  - (3) Relevant ATS unit.

## **Appendix A — Qualifications and experience for senior persons, qualified designers and apprentice instrument flight procedure designers.**

This appendix specifies the qualifications and experience for a senior person required by rule 173.51(a)(2).

### **A.1 Senior person to certify instrument flight procedures**

(a) Training —

- (1) have successfully completed an ICAO PANS-OPS training course, or a training course accepted by the Director as an equivalent, for the design of instrument flight procedures.
- (2) have satisfactorily completed an approved training programme as prescribed in CAR 173.51(b)

(b) Experience in application of instrument flight procedures — have at least 10 years' experience in the application of instrument flight procedures 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 Director as equivalent.

(c) Experience in design of instrument flight procedures — at least 2 years' experience designing instrument flight procedures which must include—

- (1) under supervision by a procedure designer whose qualifications are accepted by the Director, the design of at least 3 instrument flight procedures of the type that the person is to be authorised to certify; or
- (2) for a new instrument flight procedure type, experience accepted by the Director in designing or certifying similar instrument flight procedure types.

### **A.2 Qualified Designers.**

The minimum standard for the qualifications and experience of a qualified designer is:

- (1) satisfactory completion of an approved PANS-OPS procedures design course or a training
- (2) course acceptable to the Director as an equivalent;
- (3) satisfactory completion of a course of in-service training in procedures design as detailed (4) in the designer's operations manual;
- (5) required minimum design experience in accordance with paragraph (c) of this section; and
- (6) a written approval by the chief designer in accordance with paragraph (d) of this section.

(b) In addition, a qualified designer must have at least 5 years' general experience in the application of instrument flight procedures 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 Director as equivalent. Experience may include time spent in the design of IFPs.

(c) *Minimum Design Experience.*

- (1) minimum design experience is required for each type of procedure to be designed.
- (2) for the purposes of paragraph (a)(3) of this section, the minimum practical design experience required is three designs of a particular procedure type, checked and approved by a Senior person responsible to certify instrument flight procedures, and completed within any twelve consecutive months.

(d) Approvals. Then senior person responsible to certify instrument flight must provide each staff member engaged in instrument flight procedure design as a qualified designer with a written statement specifying:

- (1) that the person is a qualified designer;
- (2) the types of procedure that the person is approved to design;
- (3) any limitations or supervision requirements that apply; and
- (4) any approval to supervise other design staff.

### **A3. Apprentice Designers.**

(a) Personnel who are not qualified under Section II must not:

- (1) Design a procedure for which approval is required under CAR Part 173, except under direct supervision; or
- (2) Verify or check a procedure for which approval is required under CAR Part 173.

### **A4. Senior person responsible for the system for safety management**

The senior person or persons required by rule 173.51(a)(2)(iii) must be able to demonstrate competency and experience relevant to the management of safety systems and the activities of the certificate holder.

## **Appendix B — Acceptable Standards for design, maintenance and transfer of instrument flight procedures**

**B.1** The processes of design, maintenance, or transfer of data of an instrument flight procedure must—

- (1) ensure that the applicable aeronautical data and aeronautical information complies with the standards specified in RTCA Inc. document number RTCA/DO-201A Standards for Aeronautical Information; and
- (2) manipulation or processing of aeronautical data complies with the standards specified in RTCA Inc. document number RTCA/DO-200A Standards for Processing Aeronautical Data; and
- (3) any transfer of aeronautical information within the certificate holder's organisation, or to or from external entities, complies with the standards specified in the Aeronautical Information Transfer Model (AIXM-5).

## **Appendix C — Acceptable Standards for Validation of instrument flight procedures**

**C.1** Instrument flight procedure must be validated in accordance with standards and guidelines contained in the following ICAO Documents—

- (1) Doc 8168 - PANS-OPS
- (2) Doc 8071 - Volume 1 Chapter 8 and Volume II Chapter 5;
- (3) Doc 9274 – AN/904 Manual on the Use of the Collision Risk Model (CRM) for ILS Operations
- (4) Doc 9368 – AN/911 Instrument Flight Procedure Construction Manual

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- (5) Doc 9674 – AN/946 World Geodetic System 1984 (WGS-84) Manual
  - (6) Doc 9365 - Manual of All-Weather Operations
  - (7) Doc 9613 – Performance - based navigation (PBN) manual
  - (8) Doc 9905 - Required Navigation Performance Authorization Required (RNP AR)  
Procedure Design Manual
  - (9) Doc 9931 - Continuous Descent Operations (CDO) Manual
  - (10) DOC 9906 - The Quality Assurance Manual for Flight Procedure Design VOLUME 1 to 6.