



**CIVIL AVIATION SAFETY AUTHORITY OF PNG**

**PNG**

**Civil Aviation Rules**

**Part 146**

**Aircraft Design Organisations – Certification**

Original rule Effective 1 January 2004, incorporates Amendment 2 dated 1 October 2010 and effective 1 January 2011

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## Subpart A — General

### 146.1 Purpose

This Part prescribes rules governing the certification and operation of an aircraft design organisations.

### 146.3 Definitions

In this Part—

**Authority**, when the context requires, means the national aviation regulatory body responsible for issuing a foreign design organisation certificate.

### 146.5 Requirement for certificate

A person shall not exercise the privileges in 146.11 except under the authority of and in accordance with the provisions of an aircraft design organisation certificate issued under this Part.

### 146.7 Application for certificate

An applicant for the grant of a design organisation certificate must complete form CAA 146/01 and submit it to the Director with a payment of the appropriate application fee prescribed by regulations made under the Act, together with—

- (1) the exposition required by 146.53 or 146.121 as applicable; and
- (2) such further particulars relating to the applicant as may be required by the Director.

### 146.9 Issue of certificate

- (a) An applicant is entitled to a design organisation certificate if the Director is satisfied that—
  - (1) the applicant meets the requirements of Subparts B or C; and
  - (2) the applicant's senior persons required by 146.53(b)(3) and 146.105(a) are fit and proper persons; and
  - (3) the granting of the certificate is not contrary to the interests of aviation safety.
- (b) The Director may impose conditions and limitations on a design organisation certificate issued under this Part.

### 146.11 Privileges of certificate holder

The holder of a design organisation certificate may develop any design which is authorised by the rating(s) specified on the certificate and within the scope defined in the organisation's exposition, according to the following:

- (1) rating D1 for the development of design changes for products and their components;
- (2) rating D2 for the development of designs and design changes for appliances.

### 146.13 Duration of certificate

- (a) A design organisation certificate may be granted or renewed for a period of up to five years.

- (b) A design organisation certificate remains in force until it expires or is suspended or revoked by the Director.
- (c) The holder of a design organisation certificate that expires or is revoked must immediately surrender the certificate to the Director.
- (d) A holder of a design organisation certificate that is suspended must immediately produce the certificate to the Director for appropriate endorsement.

#### **146.15 Notification of ceasing design**

The holder of a design organisation certificate who ceases to offer design services must notify the Director in writing within 30 days of the date of cessation and request revocation of the design organisation certificate.

#### **146.17 Renewal of certificate**

- (a) An application for the renewal of a design organisation certificate must be made by the holder of a design organisation certificate on form CAA 146/01.
- (b) The application must be submitted to the Director by the application renewal date specified on the certificate or, if no such date is specified, not less than 30 days before the certificate expires.

### **Subpart B — Acceptance of Foreign Design Organisations**

#### **146.51 Purpose**

This Subpart prescribes the rules for the grant of a design organisation certificate to a foreign organisation which the Director finds acceptable on the basis of an approval issued by another Contracting State.

#### **146.53 Acceptable foreign certifications**

- (a) Subject to the requirements of paragraphs (b) and (c), a design organisation certificate issued by any of the following authorities will be accepted by the Director for the issue of a design organisation certificate under this Part;
  - (1) the Civil Aviation Safety Authority of Australia;
  - (2) the Civil Aviation Authority of New Zealand;
  - (3) the Civil Aviation Authority of the United Kingdom;
  - (4) the Department of Transport Canada.
- (b) An applicant for a design organisation certificate to be issued under paragraph (a) must provide the Director with:
  - (1) a copy of the foreign design organisation certificate; and
  - (2) a copy of the exposition required by the foreign Authority; and
  - (3) the names of the Chief Executive and those senior persons who have responsibility for dealing directly with the Director on the following matters—

- (i) design control;
  - (ii) inspection and testing;
  - (iii) internal quality assurance;
- (4) any information the Director may require regarding continuing validity of the foreign certificate.
- (c) The Director may impose conditions and limitations on a design organisation certificate issued under paragraph (a).

## **Subpart C — Certification of Foreign Design Organisations**

### **146.101 Purpose**

This Subpart prescribes the rules for the grant of a design organisation certificate to a foreign organisation which is not otherwise eligible for acceptance by the Director in accordance with Supart B.

### **146.103 General**

An applicant for a design organisation certificate may demonstrate compliance with the rules in this Subpart by submitting to the Director documentation and data either:

- (1) accepted by a foreign Authority for the grant of a design organisation approval; or
- (2) produced specifically for certification under this Part; or
- (3) a combination of (a) and (b).

### **146.105 Personnel requirements**

- (a) An applicant for the grant of a design organisation certificate must engage, employ, or contract—
- (1) a senior person identified as the Chief Executive who 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 prescribed by this Part; and
  - (2) a senior person or group of senior persons responsible for ensuring that the applicant's organisation complies with the requirements of this Part. Such nominated person or persons must be ultimately responsible to the Chief Executive for the following functions:
    - (i) design control;
    - (ii) inspection and testing;
    - (iii) internal quality assurance; and
  - (3) if design approval functions are required by the organisation, a senior person who is an Authorised Engineering Representative appointed under Part 183; and

- (4) sufficient personnel to plan, perform, supervise, inspect, and certify the design activities listed in the applicant's exposition.
- (b) For personnel involved in planning, performing, supervising, inspecting, or certifying the design activities performed by the applicant's organisation, the applicant must—
- (1) establish qualification and experience standards for appointment; and
  - (2) establish procedures for maintaining competence; and
  - (3) provide those personnel with written evidence of the scope of their authorisation; and
  - (4) establish procedures for the transfer of responsibilities in the absence of senior persons.

#### **146.107 Facility requirements**

- (a) An applicant for the grant of a design organisation certificate must provide facilities appropriate for all design activities performed by the applicant's organisation.
- (b) The applicant must provide—
- (1) office accommodation for the administration and conduct of its design activities; and
  - (2) storage facilities for equipment, tools, and design data, including controls to prevent deterioration of, damage to and loss of, stored items and data.
- (c) The applicant must ensure that the environment it provides is appropriate for the tasks to be performed and, in particular, meets any special requirements specified by applicable testing specifications.

#### **146.109 Equipment and tools**

An applicant for the grant of a design organisation certificate must—

- (1) hold, or have access to, the equipment and tools necessary for all design activities performed by the applicant's organisation; and
- (2) establish procedures to control the equipment and tools held, or to ensure the fitness for use of equipment and tools accessed from outside the organisation, including, calibration of test equipment.

#### **146.111 Design control system**

An applicant for the grant of a design organisation certificate must establish a design control system that ensures—

- (1) copies are held of design control manuals, airworthiness design standards, specifications, technical standards and practices, reference material, and any other documentation that is necessary to support the design activities listed in the organisation's exposition.
- (2) the documentation and data required by (1) is current and applicable to each design activity undertaken; and
- (3) each design activity to be performed on behalf of the applicant's organisation by a subcontractor—

- (i) is identified in the applicant's exposition; and
  - (ii) complies with the systems, procedures, and specifications detailed in the applicant's exposition; and
- (4) each design or design change to be issued with a statement of compliance by the applicant complies with the applicable airworthiness design standards and has no unsafe features; and
  - (5) each design change to be approved by an Authorised Engineering Representative complies with the applicable airworthiness requirements, has no unsafe features, and is fit for embodiment.

### **146.113 Design control procedures**

- (a) An applicant for the grant of a design organisation certificate must establish procedures for—
  - (1) controlling the drawing system to be used; and
  - (2) producing, checking, and controlling drawings; and
  - (3) testing and inspecting specimens to the type design to show compliance with airworthiness design standards; and
  - (4) producing, checking, and controlling reports showing compliance with airworthiness design standards, including where applicable stress analysis and flight test reports; and
  - (5) issuing statements of compliance, and maintaining the list of staff with authority to sign the statements; and
  - (6) issuing design change approvals, and maintaining the list of Authorised Engineering Representatives with authority to sign the approvals; and
  - (7) ensuring that any senior person appointed under 146.105(a)(3) forwards a copy of each design change approval to the Director within 28 days of the issue of the approval; and
  - (8) controlling the documentation required by 146.111(1) to ensure—
    - (i) the documentation is reviewed and authorised by appropriate personnel before issue; and
    - (ii) current issues of relevant documentation are available to personnel at all locations where they need access to such documentation for the provision of the design activities listed in the applicant's exposition; and
    - (iii) obsolete documentation is promptly removed from all points of issue or use; and
    - (iv) changes to documentation are reviewed and approved by appropriate personnel; and
    - (v) each item of documentation can be identified to ensure that only documentation relevant to the design is used; and
  - (9) making design information, drawings, test reports, and inspection records available to the Director, upon the Director's request.

**146.115 Continued airworthiness**

An applicant for the grant of a design organisation certificate must establish procedures for collecting, investigating, and analysing information relating to defects in designs produced by the applicant and distributing that information to—

- (1) each manufacturer of the product to that design; and
- (2) each person who receives that design from the design organisation; and
- (3) the Director.

**146.117 Records**

An applicant for the grant of a design organisation certificate must establish procedures to—

- (1) record details of the experience, qualifications, training, and current authorisations of each person who exercises certification privileges on the holder's behalf; and
- (2) record all designs and design changes that are developed by the holder; and
- (3) retain all drawings, tests, analyses, and reports that show the designs and design changes comply with the applicable airworthiness design standards; and
- (4) record the date of, and person certifying, each confirmation of design reference data; and
- (5) record all calibrations on tools and test equipment specified in 146.109 and the standards used; and
- (6) ensure that—
  - (i) all records are legible and of a permanent nature; and
  - (ii) the records required by paragraphs (1) to (5) are retained for a period of 2 years from the date the last example of the product type is permanently withdrawn from service.

**146.119 Internal quality assurance**

(a) Subject to paragraph (f), an applicant for the grant of a design organisation certificate must establish an internal quality assurance system to ensure compliance with, and the adequacy of, the procedures required by this Part.

(b) The internal quality assurance system must include—

- (1) a safety policy; and
- (2) a statement declaring the objectives and strategies of the quality system; and
- (3) a procedure to ensure that the safety policy and quality system objectives and strategies are understood at all levels of the organisation; and
- (4) quality indicators, including defect and incident reports, and personnel and customer feedback, and procedures to monitor these indicators to identify existing problems or potential causes of problems within the system; and



- (5) a procedure for corrective action to ensure existing problems that have been identified within the system are corrected; and
  - (6) a procedure for preventive action to ensure that potential causes of problems that have been identified within the system are remedied; including any consequential document amendments; and
  - (7) a procedure for occurrence investigations conducted in accordance with Part 12; and
  - (8) an internal audit programme to audit the applicant's organisation for conformity with the procedures in its exposition and achievement of the objectives set in its safety policy; and
  - (9) procedures for management review that may, where appropriate, include the use of statistical analysis, to ensure the continuing suitability and effectiveness of the internal quality assurance system in satisfying the requirements of this Part.
- (c) The internal audit programme must—
- (1) specify the frequency and scope of audits taking into account the nature of the activity to be audited; and
  - (2) ensure audits are performed by trained auditing personnel who are independent of those having direct responsibility for the activity being audited; and
  - (3) ensure the results of audits are reported to the personnel responsible for the activity being audited and the senior person responsible for internal audits; and
  - (4) require preventive or corrective action to be taken by the personnel responsible for the activity being audited if problems are found by the audit; and
  - (5) ensure follow up audits are conducted to review the effectiveness of any preventive or corrective action taken.
- (d) The procedure for management review must—
- (1) specify the frequency of management reviews of the quality assurance system taking into account the need for the continuing effectiveness of the system; and
  - (2) identify the responsible person(s) who must review the quality assurance system; and
  - (3) ensure the results of the review are evaluated and recorded.
- (e) The senior person who has the responsibility for internal quality assurance must have direct access to the Chief Executive.
- (f) The internal quality assurance system required by paragraph (b) and the programme and procedures required by paragraphs (c) and (d) must be of appropriate detail when considering the size and complexity of the operation, sufficient to ensure that the quality objectives are understood, implemented, and maintained at all levels of the organisation.

#### **146.121 Design organisation exposition**

- (a) An applicant for the grant of a design organisation certificate must provide the Director with an exposition which must 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 design organisation and demonstrate its means and methods for ensuring ongoing compliance with the requirements for the foreign certificate held; and
    - (ii) will be complied with at all times; and
  - (2) the titles and names of the senior person or persons required by 146.105(a)(1), (2), and (3); and
  - (3) the duties and responsibilities of the person or persons specified in paragraph (a)(2); and
  - (4) an organisation chart showing lines of responsibility of the senior persons specified in paragraph (a)(2); and
  - (5) details of all locations where the applicant conducts design activities and testing, and the facilities and staffing at those locations; and
  - (6) a detailed description of the scope of work undertaken by the applicant; and
  - (7) a detailed description of the applicant's design control system; and
  - (8) details of any authorisations made by the organisation to other persons for design work and testing; and
  - (9) details of the organisation's procedures required by—
    - (i) 146.105(b) regarding the appointment and competence of personnel; and
    - (ii) 146.109 regarding the control and calibration of tools and test equipment; and
    - (iii) 146.111 regarding the design control system; and
    - (iv) 146.113 regarding the design control procedures; and
    - (v) 146.115 regarding the collecting, investigating, analysing, distributing and reporting of information relating to defects and occurrences; and
    - (vi) 146.117 regarding the content, maintenance, retention and disposal of records; and
    - (vii) 146.119 regarding the internal quality assurance of the applicant's organisation; and
  - (10) procedures to control, amend, and distribute the exposition.
- (b) The applicant's exposition must be acceptable to the Director.

## Subpart D — Operating Requirements

### 146.201 Continued compliance

- (a) A holder of a design organisation certificate must—
- (1) hold at least one complete and current copy of its exposition at each work location specified in its exposition; and
  - (2) comply with all procedures and systems detailed in its exposition; and
  - (3) make each applicable part of the exposition available to personnel who require those parts to carry out their duties; and
  - (4) determine that each design or design change approved complies with the applicable airworthiness requirements, has no unsafe features, and is fit for embodiment; and
  - (5) make records available to the Director upon request; and
  - (6) comply with any limitations or conditions prescribed by the Director on the certificate.
- (b) For continued compliance of a design organisation certificate issued under Subpart B, the foreign design certificate accepted by the Director must be valid.

### 146.203 Changes to certificate holder's organisation

- (a) The certificate holder must provide the Director with a copy of each amendment to its exposition as soon as practicable after it has incorporated into the exposition.
- (b) Where the certificate holder proposes to make a change to any of the following, the Director must be notified in writing as soon as practicable:
- (1) the Chief Executive;
  - (2) the senior persons required by 146.53(b)(3) or 146.105(a)(1) and (2);
  - (3) the design activities the holder undertakes;
  - (4) the locations at which work is carried out.
- (c) The Director may prescribe conditions under which a certificate holder may operate during or following any of the changes specified in paragraph (b).
- (d) A certificate holder must comply with the conditions prescribed under paragraph (c).
- (e) The certificate holder must promulgate in a form acceptable to the Director any information or procedures additional to the material contained in the exposition which the Director may consider necessary.

### 146.205 Safety audits and inspections

The Director may require the holder of a design organisation certificate to provide copies of reports of audits and inspections carried out by, or on behalf of, a foreign Authority as a condition of continuing validity of a foreign design organisation certification.