



**WELLINGTON NEW ZEALAND**

**PURSUANT** to Section 28 of the Civil Aviation Act 1990

**I, JENNIFER MARY SHIPLEY, Minister of Transport,**

**HEREBY MAKE** the following ordinary rules.

**SIGNED AT** Wellington

This *17* day of *February* 1997

by **JENNIFER MARY SHIPLEY**

*Jennifer Mary Shipley*  
Minister of Transport

**Civil Aviation Rules**

**Part 146**

***Docket Nr. 1071***

**Civil Aviation Rules**  
**Part 146**

## **RULE OBJECTIVE, EXTENT OF CONSULTATION AND COMMENCEMENT**

The objective of Part 146 is to prescribe the certification requirements for the issue of an aviation document for organisations wishing to conduct aircraft design activities and the operating requirements for the continuation of these aviation documents.

In May 1990 the Air Transport Division of the Ministry of Transport published a notice of intention to carry out a complete review of the aviation regulatory system. This notice, in Civil Aviation Information Circular Air 3, listed the areas in which rules would be made and invited interested parties to register their wish to be part of the consultative process. The Register was identified as the Regulatory Review Consultative Group.

A draft of Part 146 was developed by the rules rewrite team in consultation with members of the consultative group. An informal draft was published and distributed on 20 October 1994 and a period of informal consultation followed. This culminated in the issue of Notice of Proposed Rulemaking 96-8 under Docket 1071 on 22 May 1996.

The publication of this notice was advertised in the daily newspapers in the five main provincial centres on 22 May 1996. The notice was mailed to members of the Regulatory Review Consultative Group and to other parties, including overseas aviation authorities and organisations, who were considered likely to have an interest in the proposal.

A period of 37 days was allowed for comment on the proposed rule. Seven written submissions were received in response to this notice. Two meetings were held with representative aviation industry organisations. Only minor changes were requested by the commenters and the majority of these changes were included. Some information requested by the commenters for the rule was considered to be more appropriate for the accompanying advisory circular and the information will be included there.

The submissions and verbal comments were considered and where appropriate the proposed rules amended to take account of the comments made.

The rules as amended were then referred to and signed by the Minister of Transport.

Part 146 comes into force on 1 April 1997 and all those affected by this Part must comply with it by 1 April 1998.

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3

4

5

6

## List of Rules

|  |           |
|--|-----------|
| <b>Subpart A — General</b> .....                           | <b>3</b>  |
| 146.1 Applicability .....                                  | 3         |
| 146.3 [Reserved] .....                                     | 3         |
| 146.5 Requirement for certificate .....                    | 3         |
| 146.7 Application for certificate .....                    | 3         |
| 146.9 Issue of certificate .....                           | 3         |
| 146.11 Privileges of certificate holder .....              | 3         |
| 146.13 Duration of certificate .....                       | 4         |
| 146.15 Notification of ceasing design .....                | 4         |
| 146.17 Renewal of certificate .....                        | 4         |
| 146.19 Exemptions .....                                    | 5         |
| 146.21 Overseas applications .....                         | 5         |
| <b>Subpart B — Certification Requirements</b> .....        | <b>5</b>  |
| 146.51 Personnel requirements .....                        | 5         |
| 146.53 Facility requirements .....                         | 6         |
| 146.55 Equipment, tools, and data .....                    | 6         |
| 146.57 Design control system .....                         | 6         |
| 146.59 Design control procedures .....                     | 7         |
| 146.61 Continued airworthiness .....                       | 8         |
| 146.63 Records .....                                       | 9         |
| 146.65 Internal quality assurance .....                    | 10        |
| 146.67 Design organisation exposition .....                | 11        |
| <b>Subpart C — Operating Requirements</b> .....            | <b>13</b> |
| 146.101 Continued compliance .....                         | 13        |
| 146.103 Continuation of designs .....                      | 13        |
| 146.105 Changes to certificate holder's organisation ..... | 14        |
| 146.107 Safety inspections and audit .....                 | 14        |

**Appendix A — Delegation for the approval of design changes..... 16**  
A.1 Privileges and limitations..... 16  
A.2 Qualifications ..... 16

**Appendix B — Transitional Arrangements ..... 18**

## **Subpart A — General**

### **146.1    *Applicability***

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

### **146.3    *[Reserved]***

### **146.5    *Requirement for certificate***

No person shall 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***

Each applicant for the grant of a design organisation certificate shall complete form CAA 24146/01, which shall require—

- (1) the name and address for service in New Zealand of the applicant; and
- (2) such further particulars relating to the applicant as may be required by the Director as indicated on the form—

and submit it to the Director with a payment of the appropriate application fee prescribed by regulations made under the Act.

### **146.9    *Issue of certificate***

An applicant is entitled to a design organisation certificate if the Director is satisfied that—

- (1) the applicant meets the requirements of Subpart B; and
- (2) the applicant, where the applicant is a natural person, and the applicant's senior persons required by 146.51(a) are fit and proper persons; and
- (3) the granting of the certificate is not contrary to the interests of aviation safety.

### **146.11    *Privileges of certificate holder***

(a) A design organisation certificate specifies one or more of the following design ratings for which the certificate is issued:

- (1) D1 for the development of designs for products and their components as defined in the organisation's exposition:

- (2) D2 for the development of design changes for products and their components as defined in the organisation's exposition:
- (3) D3 for the development of designs and design changes for appliances as defined in the organisation's exposition.

(b) The holder of a design organisation certificate may develop any design authorised by the design rating specified on the certificate.

(c) The holder of a design organisation certificate may employ a person in accordance with 146.51(a)(3) to approve design changes.

(d) The holder of a design organisation certificate may apply for the grant of a type certificate under Part 21, Subpart B.

#### **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 shall forthwith surrender the certificate to the Director.

(d) The holder of a design organisation certificate that is suspended shall forthwith produce the certificate to the Director for appropriate endorsement.

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

(a) Each holder of a design organisation certificate who ceases to offer design services shall notify the Director in writing within 30 days of the date of cessation.

(b) The notification shall include a request for revocation of the design organisation certificate.

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

(a) An application for the renewal of a design organisation certificate shall be made by the holder of a design organisation certificate on form CAA 24146/01.

(b) The application shall 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.



**146.19 Exemptions**

The Director may exempt an applicant for, or the holder of, a design organisation certificate from any requirement in this Part in accordance with the procedures in Part 11 and section 37 of the Act.

**146.21 Overseas applications**

Applications for certificates from persons located outside New Zealand may only be considered for approval if the Director is satisfied that there is a need for the certificate.

**Subpart B — Certification Requirements****146.51 Personnel requirements**

(a) Each applicant for the grant of a design organisation certificate shall 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 who is or are responsible for ensuring that the applicant's organisation complies with the requirements of this Part. Such nominated person or persons shall 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 holds a delegation to approve design changes in accordance with 21.73; and
- (4) sufficient personnel to plan, perform, supervise, inspect, and certify the design activities listed in the applicant's exposition.

(b) The applicant shall—

- (1) establish a procedure to initially assess, and a procedure for maintaining, the competence of those personnel involved in

planning, performing, supervising, inspecting, or certifying the design activities performed by the applicant's organisation; and

- (2) provide those personnel with written evidence of the scope of their authorisation.

#### **146.53 Facility requirements**

(a) Each applicant for the grant of a design organisation certificate shall provide facilities appropriate for all design activities performed by the applicant's organisation.

(b) The applicant shall provide—

- (1) office accommodation for the administration of its design activities; and
- (2) storage facilities for equipment, tools, and design data that include controls to prevent deterioration of, and damage to, stored items.

(c) The applicant shall 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.

#### **146.55 Equipment, tools, and data**

Each applicant for the grant of a design organisation certificate shall—

- (1) have access to the equipment, tools, and design reference data necessary for all design activities performed by the applicant's organisation; and
- (2) establish a procedure to control the equipment, tools, and design reference data including, at a frequency and to a standard acceptable to the Director, the—
  - (i) calibration of tools and test equipment; and
  - (ii) confirmation of design reference data.

#### **146.57 Design control system**

Each applicant for the grant of a design organisation certificate shall establish a design control system that ensures—

- (1) the design reference data used by the applicant's organisation is confirmed at a frequency and to a standard that assures the data's applicability to each design activity; and
- (2) 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
- (3) 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
- (4) each design change to be approved by its senior person required by 146.51(a)(3) complies with the applicable airworthiness requirements, has no unsafe features, and is fit for embodiment.

**146.59 Design control procedures**

(a) Each applicant for the grant of a design organisation certificate shall hold copies of design control manuals, facility manuals, airworthiness design standards, specifications, technical standards and practices, reference material, and any other documentation that is necessary for the provision of the design control system listed in its exposition.

(b) Each applicant for the grant of a design organisation certificate shall establish procedures to—

- (1) control the drawing system to be used; and
- (2) produce, check, and control drawings; and
- (3) test and inspect specimens to the type design to show compliance with airworthiness design standards; and
- (4) produce, check, and control reports showing compliance with airworthiness design standards, including stress analysis and flight test reports; and
- (5) issue statements of compliance, and maintain the list of staff with authority to sign the statements; and
- (6) issue design change approvals, and maintain the list of senior persons required by 146.51(a)(3) with authority to sign the approvals; and
- (7) ensure that the senior person required by 146.51(a)(3)—
  - (i) complies with Appendix A; and
  - (ii) forwards a copy of the design change approval to the Authority within 28 days of the issue of the approval; and
- (8) control the documentation required by paragraph (a) 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) make type certificates, design information, drawings, test reports, and inspection records available to the Director, upon the Director's request.

**146.61 Continued airworthiness**

- (a) Each applicant for the grant of a design organisation certificate shall establish procedures for—
- (1) collecting, investigating, and analysing information relating to defects in the design produced by the applicant and distributing that information to—
    - (i) each manufacturer of a product, component, or appliance to that design; and
    - (ii) each person who receives that design from the design organisation; and
  - (2) providing defect incident information to the Authority in accordance with Part 12.
- (b) Each applicant for the grant of a design organisation certificate shall establish procedures for any type certificated product they design to—
- (1) provide at least one set of Instructions for Continued Airworthiness, prepared in accordance with the applicable airworthiness design standards specified in Part 21 Appendix C, to each purchaser of the product, upon its delivery, or upon the grant of the first standard airworthiness certificate for the affected aircraft, whichever occurs later; and

- (2) make those Instructions and any changes to the Instructions available to any other person required by any CAR to comply with those Instructions; and
- (3) inform each owner of a product of the same type of the details of the procedures required in paragraph (a).

### **146.63 Records**

(a) Each applicant for the grant of a design organisation certificate shall establish procedures to identify, collect, index, store, maintain, and dispose of the records that are necessary to ensure that each design and design change conforms to the applicable design data.

(b) Each applicant for the grant of a design organisation certificate shall 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 146.55 and the standards used; and
- (6) ensure that—
  - (i) all records are legible and of a permanent nature; and
  - (ii) except as provided in paragraph (c), the records required by paragraphs (b)(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.

(c) The Director may permit records to be retained for a lesser period than that required by paragraph (b)(6)(ii).

**146.65 Internal quality assurance**

- (a) Each applicant for the grant of a design organisation certificate shall 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 shall include—
- (1) a safety policy and safety policy procedures that are relevant to the applicant's organisational goals and the expectations and needs of its customers; and
  - (2) a procedure to ensure quality indicators, including defect and incident reports, and personnel and customer feedback, are monitored to identify existing problems or potential causes of problems within the system; and
  - (3) a procedure for corrective action to ensure that existing problems that have been identified within the system are corrected; and
  - (4) a procedure for preventive action to ensure that potential causes of problems that have been identified within the system are remedied; and
  - (5) an internal audit programme to audit the applicant's organisation for conformity with its safety policy; and
  - (6) management review procedures to ensure the continuing suitability and effectiveness of the internal quality assurance system in satisfying the requirements of this Part.
- (c) The safety policy procedures shall ensure that the safety policy is understood, implemented, and maintained at all levels of the organisation.
- (d) The procedure for corrective action shall specify how—
- (1) existing problems are to be corrected; and
  - (2) corrective action are to be followed up to ensure the action is effective; and
  - (3) any procedure required for this Part is to be amended as a result of corrective action; and
  - (4) management will review the effectiveness of any corrective action taken.
- (e) The procedure for preventive action shall specify how—
- (1) potential problems are to be corrected; and

- (2) preventive action is to be followed up to ensure the action is effective; and
  - (3) any procedure required for this Part is to be amended as a result of preventive action; and
  - (4) management will review the effectiveness of any preventive action taken.
- (f) The internal quality audit programme shall—
- (1) specify the frequency and location of the 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 manager 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 to review the effectiveness of any preventive or corrective action taken.
- (g) The procedure for management review shall—
- (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 manager who shall review the quality assurance system; and
  - (3) ensure the results of the review are evaluated and recorded.
- (h) The senior person who has the responsibility for internal quality assurance shall have direct access to the Chief Executive on matters affecting safety.

#### **146.67 Design organisation exposition**

- (a) An applicant for the grant of a design organisation certificate shall provide the Director with an exposition which 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 design organisation and demonstrate its means and methods for ensuring ongoing compliance with this Part; and
  - (ii) will be complied with at all times; and
- (2) the titles and names of the senior person or persons required by 146.51(a)(1), (2), and (3); and
- (3) the duties and responsibilities of the person or persons specified in paragraph (a)(2), including matters for which they have the responsibility to deal directly with the Director on behalf of the design organisation; 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 at those locations; and
- (6) details of the applicant's provision of satisfactory environmental conditions at each of the locations listed under paragraph (a)(5); and
- (7) details of the applicant's staffing structure at each of the locations listed under paragraph (a)(5); and
- (8) a detailed description of the scope of work to be undertaken by the applicant; and
- (9) a detailed description of the applicant's design control system; and
- (10) details of any authorisations made by the organisation to other persons for design work and testing; and
- (11) details of the organisation's procedures required by—
  - (i) 146.51(b) regarding the competence of personnel; and
  - (ii) 146.51(b) regarding the on-going training of personnel; and
  - (iii) 146.55(2) regarding the control and calibration of tools and test equipment; and
  - (iv) 146.55(2) regarding the confirmation of design data; and
  - (v) 146.59(b) regarding the operation of the design control system; and



- (vi) 146.61(a) regarding the collecting, investigating, analysing, and distributing of information relating to defects and occurrences; and
  - (vii) 146.61(b) regarding the instructions for Continued Airworthiness of any type certificated product they design; and
  - (viii) 146.63(a) regarding the identification, collection, indexing, storage, maintenance and disposal of records; and
  - (ix) 146.63(b) regarding the content and retention of records; and
  - (x) 146.65 regarding the internal quality assurance of the applicant's organisation; and
- (12) procedures to control, amend, and distribute the exposition.
- (b) The applicant's exposition must be acceptable to the Director.

## **Subpart C — Operating Requirements**

### **146.101 *Continued compliance***

Each holder of a design organisation certificate shall—

- (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) continue to meet the standards and comply with the requirements Subpart B prescribes for certification under this Part; and
- (5) determine that each design or design change approved or submitted for approval complies with the applicable airworthiness requirements, has no unsafe features, and is fit for embodiment.

### **146.103 *Continuation of designs***

Each design or design change developed by an approved firm under regulation 176 of the Civil Aviation Regulations 1953 at the time this Part comes into force shall be deemed to have been developed by an organisation certificated under this Part.

**146.105 Changes to certificate holder's organisation**

- (a) Each holder of a design organisation certificate shall ensure that its exposition is amended so as to remain a current description of the organisation.
- (b) The certificate holder shall—
- (1) ensure any amendment to its exposition meets the applicable requirements of this Part; and
  - (2) comply with the amendment procedures contained in its exposition.
- (c) The certificate holder shall provide the Director with a copy of each amendment to its exposition as soon as practicable after it has incorporated the amendment into the exposition.
- (d) Where the certificate holder proposes to make a change to any of the following, prior notification to, and acceptance by, the Director is required:
- (1) the Chief Executive;
  - (2) the listed senior persons;
  - (3) the design activities the holder undertakes;
  - (4) the locations at which work is carried out.
- (e) The Director may prescribe conditions under which a certificate holder may operate during or following any of the changes specified in paragraph (d).
- (f) A certificate holder shall comply with the conditions prescribed under paragraph (e).
- (g) Where any change referred to in this rule requires an amendment to the certificate, the certificate holder shall forward the certificate to the Director as soon as practicable.
- (h) The certificate holder shall make such amendments to its exposition as the Director may consider necessary in the interests of aviation safety.

**146.107 Safety inspections and audit**

- (a) The Director may require, in writing, the holder of a design organisation certificate to undergo or carry out such inspections and audits of the holder's design offices, facilities, documents, and records as the Director considers necessary in the interests of aviation safety and security in accordance with section 15 of the Act.

(b) The Director may require from the holder of a design organisation certificate such information as the Director considers relevant to the inspection or audit.

## **Appendix A — Delegation for the approval of design changes**

This appendix prescribes the qualifications and experience required for, and the privileges and limitations associated with, the grant of a delegation, in accordance with section 23B of the Civil Aviation Act 1990, for the approval of design changes.

### **A.1 Privileges and limitations**

(a) A holder of a delegation for the approval of design changes may be authorised by an aircraft design organisation to act as the senior person prescribed in 146.51(a)(3).

(b) An aircraft design organisation may only authorise a holder of a delegation for the approval of design changes to exercise that delegation if the holder is a senior person nominated under 146.51(a)(3).

(c) A delegation for the approval of design changes shall cease when the holder ceases to be employed by an aircraft design organisation certificated under this Part.

(d) For the purposes of defining the scope of the design changes that may be approved by the holder of a delegation, design changes are classed as follows:

- (1) Class A are those design changes that require comprehensive engineering justification, assessment, and substantiation:
- (2) Class B are those design changes that do not require comprehensive engineering justification, assessment, and substantiation.

(e) The Director may prescribe limitations and restrictions on the scope of design approvals issued by the holder of a delegation for the approval of design changes.

(f) The senior person required by 146.51(a)(3) shall only approve a supplement to a flight manual that—

- (1) has resulted directly from, and forms part of, a design change; and
- (2) is in a format acceptable to the Director.

### **A.2 Qualifications**

(a) An applicant for the grant of a delegation for the approval of design changes shall be employed by an aircraft design organisation certificated under this Part.

(b) The senior person responsible for the issue of design approvals in a design organisation shall—

- (1) have a clear knowledge and understanding of—
  - (i) the design control system detailed in the organisation's exposition; and
  - (ii) the applicable design provisions of Part 21 and this Part; and
- (2) undertake any examination or interview that the Director may require to determine the senior person's competency; and
- (3) for Class A design changes, have—
  - (i) an acceptable Bachelor of Engineering degree or equivalent; and
  - (ii) eight years experience, of which a maximum of four years may be university engineering training; and
  - (iii) sufficient relevant experience acceptable to the Director that demonstrates their ability to undertake engineering tasks relating to Class A design changes.
- (4) for Class B design changes—
  - (i) meet the requirements of paragraph (3) except that the Director may accept lesser qualifications and experience than prescribed; and
  - (ii) demonstrate an ability to distinguish Class A and Class B design changes.

## **Appendix B — Transitional Arrangements**

- (a) Approvals under regulation 176 of the Civil Aviation Regulations 1953 for the purpose of design will no longer be given after the date Part 146 comes into force.
- (b) After Part 146 comes into force any organisation that holds an approval under regulation 176 and that is required by Part 146 to hold a Design Organisation Certificate may continue under the regulation 176 approval, without Part 146 certification, until the expiry date of the regulation 176 approval or a period of 12 months from the date that Part 146 comes into force, whichever is the sooner.
- (c) At the expiry of 12 months from the date that Part 146 comes into force—
- (1) all organisations that hold an approval under 176 and are required by Part 146 to hold a Design Organisation Certificate must be operating under a Part 146 certificate; and
  - (2) all approvals under regulation 176 will become invalid.

## CONSULTATION DETAILS

(This statement does not form part of the rules contained in Part 146. It provides details of the consultation undertaken in making the rules.)

### Background to the Rules

In April 1988 the Swedavia-McGregor Report on civil aviation regulation in New Zealand was completed. Following the recommendations contained in that report, the Civil Aviation Authority (CAA) (formerly the Air Transport Division of the Ministry of Transport) commenced a complete review of all existing civil aviation legislation. The existing legislation that is still appropriate is being rewritten into the new Rules format. New legislation is being generated where necessary for the areas not presently covered.

Considerable research was carried out to determine the format for the new legislation. It was decided that the legislative framework should incorporate the advantages of the regulatory system of the Federal Aviation Administration (FAA) of United States of America and the system being developed by the European Joint Aviation Authorities and published as Joint Aviation Requirements (JAR).

The new rules are structured in a manner similar to the Federal Aviation Regulations (FAR) of the FAA, and aim to achieve maximum harmonisation whilst allowing for national variations. Close co-operation is also being maintained with the Civil Aviation Safety Authority of Australia to ensure maximum harmonisation with their regulatory code.

New Zealand's revised legislation is published as Civil Aviation Rules (CAR) which is divided into Parts. Each Part contains a series of individual rules which relate to a particular aviation activity.

Accompanying most Parts will be at least one associated Advisory Circular (AC) which will expand, in an informative way, specific requirements of the Part and acceptable means of compliance. For instance an AC may contain examples of acceptable practices or procedures which would meet the requirements of a particular rule.

The CAR numbering system is based on the FAR system. As a general principle the subject matter of a rule Part will be the same or similar to the FAR although the title may differ to suit New Zealand terminology. Where a CAR Part does not readily equate with a FAR number code, a number has been selected that does not conflict with any existing FAR Part.

The objective of the new rules system is to strike a balance of responsibility between the State authority and those who provide services and exercise privileges in the civil aviation system. This balance must enable the State

authority to set standards for, and monitor performance of, aviation participants whilst providing the maximum flexibility for the participants to develop their own means of compliance.

Section 12 of the Civil Aviation Act 1990 requires participants in the aviation system to carry out their activities safely and in accordance with the relevant prescribed safety standards and practices. Section 28 of the Act allows the Minister to make ordinary rules.

### **Notice of Proposed Rule Making**

To provide public notice of, and opportunity for comment on the proposed new rules, the Authority issued Notice of Proposed Rule Making 96-8 under Docket Number 1071 on 22 May 1996. This Notice proposed the introduction of Civil Aviation Rules Part 146 to provide a regulatory safety boundary for the certification of aircraft design organisations.

### **Supplementary Information**

All comments made on the Notice of Proposed Rule Making are available in the rules docket for examination by interested persons. A report summarising each substantive contact with the Civil Aviation Authority contact person concerning this rule making has been filed in the docket.

### **Availability of the Document**

Any person may view a copy of these rules at Aviation House, 1 Market Grove, Lower Hutt. Copies may be obtained from Publishing Solutions Ltd, PO Box 983, Wellington 6015, Telephone 0800 800 359.

### **Summary of Comments on Docket Number 1071 NPRM**

#### **1. General comments on the NPRM**

From the seven submissions received, two general issues were raised. These are discussed as follows:

**1.1** Three commenters made general requests to amend the wording of some rules and the advisory circular. These amendments related to incorrect references and wording that the commenters felt could be improved.

**CAA response:** In general, the CAA agrees with the suggestions and has incorporated the changes requested. Those changes not incorporated were either unnecessary due to the rule changing completely, or the legal opinion supported the original wording.

Any amendments to the advisory circular will be incorporated in the final production of this document in due course.



**1.2** One commenter suggested that the requirement for an appropriate person, for example a LAME, to sign for the accomplishment of any modification or repair work should not be overlooked.

**CAA response:** The CAA agrees and considers this to be adequately covered by Parts 43 and 66.

## **2. Specific comments on the NPRM**

Specific comments received from the seven submissions are discussed as follows:

### **2.1 146.3 Definitions [Final Rule 146.3]**

One commenter suggested that the definitions of a statement of compliance and of a design change approval be included.

**CAA response:** The CAA does not consider these definitions necessary as the wording of the rules, either in Part 146 or Part 21, indicate the meaning of these terms.

### **2.2 146.11 Privileges of certificate holder [Final Rule 146.11]**

Two commenters suggested that the requirement to list every design was unnecessary and that the listing should be for the more general design activities.

**CAA response:** The CAA agrees and has amended all rules relating to the listing of designs to require the listing of the design activities.

### **2.3 146.57 Design control system [Final Rule 146.57]**

One commenter suggested that the design control system requirement for the delegation holder to ensure there are no unsafe features with the design change should actually refer to 'no known unsafe features that could be identified by the design process'.

**CAA response:** The CAA considers the rule to correctly state the intent and that the person approving the design should be considering all the possibilities for unsafe features they can identify. The CAA will however include some guidance material in the advisory circular as suggested by the commenter.

### **2.4 146.59 Design control procedures [Final Rule 146.59]**

Two commenters suggested that the requirement to forward design approvals within seven days was unduly onerous. The commenters suggested 28 days was more appropriate.

**CAA response:** The CAA agrees and has amended the rule to require this information to be forwarded within 28 days.

One commenter suggested that the control of the changes to documentation should only apply to those documents containing design data.

**CAA response:** The CAA agrees that the design data changes are one important aspect but there could be other documents not necessarily containing specific design data, such as generic testing procedures, that should also be controlled to ensure they conform to the design data requirements. The rule has not been altered and continues to describe the more general documentation case.

One commenter requested that the rules relating to obsolete documents and their usage be amended to allow the use of older documents if they are appropriate to the design being considered.

**CAA response:** The CAA suggests that should a design or design change still be in current use, then the documentation should not be considered obsolete. The CAA however agrees with the intent of the submission and has amended the rule accordingly. Advisory information will be included to clarify what should be ascertained when using this older data.

## **2.5 146.61 Continuing airworthiness requirements [Final Rule 146.61]**

The continuing airworthiness responsibilities was recognised by the majority of commenters but one commenter suggested that the CAA would have to be involved in providing the design organisation some support in fulfilling the continuing airworthiness responsibilities. The commenter also questioned how a design organisation could practically monitor all the installations of design changes they may have developed.

**CAA response:** The CAA agrees and will continue to provide this information support derived from its safety analysis and investigation roles.

A design organisation should be responsible for the designs they develop throughout the design or design change's life. The CAA agrees that once a product incorporating a design change is disposed of the tracking of that design change is extremely difficult. The rule has been retained to require the design organisation to monitor their designs but amended to only require the associated continuing airworthiness information to be provided to the person who received the design from the design organisation.

## **2.6 146.63 Records [Final Rule 146.63]**

One commenter suggested that the time that records had to be kept could be difficult to determine because of the wording 'retained for a period of 2 years from the date the last example of the product type is permanently withdrawn from service'.

**CAA response:** The CAA agrees with the difficulty this could create. The time limit is, however, considered appropriate despite the difficulty in determining accurately the date of withdrawal from service. Because of this difficulty a provision to dispose of the records at some other period, with the Director's approval, has been provided.

### **2.7 146.65 Internal quality assurance [Final Rule 146.65]**

Two commenters expressed needs for improvement in the internal quality assurance rule.

**CAA response:** The CAA agrees and there is a project underway to rewrite this rule. The revision will be provided at a later date as it affects several organisational rules.

### **2.8 146.105 Changes to certificate holder's organisation [Final Rule 146.105]**

One commenter suggested that the requirement to provide the Director with changes to an exposition should have a definite time limit, rather than 'as soon as practicable'.

**CAA response:** The CAA disagrees after discussing this issue with the legal specialists. The terminology as soon as practicable is clear in its intent and applies the appropriate requirement. In most instances the term as soon as practicable means as soon as a copy can be forwarded by normal mail procedures.

One commenter suggested that the changes in the design activities requiring prior notification to the Director should only relate to significant changes in the scope of certificate.

**CAA response:** The CAA agrees to some extent with this but considers the provision of guidance material in the advisory circular to be appropriate for this topic.

### **2.9 Appendix A – Delegation for the approval of design changes [Final Rule Appendix A]**

One commenter suggested that the Appendix should be reworded to remove the reference to engineering investigations.

**CAA response:** The CAA agrees and has reworded the rule to expand the term to better reflect the tasks involved.

Approval of flight manual supplements.

**CAA comment:** The CAA has maintained the ability for the delegation holder to approve flight manual supplements. With the structure of the proposed rules,

the CAA had no easy way to provide advice as to what a supplement should contain. Without changing the intent of the rule, the appendix has been amended to provide a base for the advisory circular information.

The approval of flight manual supplements does not extend to the approval of a completely new flight manual associated with a design change. In the case of a completely new flight manual, approval of that flight manual is required.

### **Conclusion**

The Authority concludes from this consultation that the majority of aviation industry participants favour the direction of the new rules. Specific issues that were identified in the comments received from the consultative group have been addressed. The rules also meet New Zealand's international obligations under the applicable ICAO Annex. The comments and all the background material used in developing the rules are held on the docket file and are available for public scrutiny. Persons wishing to view the docket file should call at Aviation House, 1 Market Grove, Lower Hutt and ask for docket file 1071.

### **Transitional arrangements**

If a design organisation does hold an approval under regulation 176 at the time this Part comes into force then the approval will remain in force for 12 months from the time this Part comes into force. After that time all design organisations must operate under a certificate issued under this Part.

### **Regulatory activities**

Specific amendments to the Regulations and NZCAR will not be necessary. Section 14(2) of the Civil Aviation Amendment Act 1991 (as amended by section 34 of 1996 No. 91) deems the Civil Aviation Regulations 1953 that are continued in force by section 8 of that Act to be revoked on the close of 31 March 1997.

Section 14(3) states that any order, notice, requirement, circular, or other publication continued in force by section 8 shall expire on the close of 31 March 1997.

### **Commencement**

Part 146 comes into force on 1 April 1997.