



CIVIL AVIATION AUTHORITY OF FIJI

# STANDARDS DOCUMENT

## ANR145C Approval of Aircraft Maintenance Organisation

**Third Edition  
February 2018**

Published by:

Civil Aviation Authority of Fiji  
Private Mail Bag, NAP 0354  
Nadi International Airport  
Fiji

[www.caaf.org.fj](http://www.caaf.org.fj)

Copyright © 2019 CAAF

# STANDARDS DOCUMENT

## ANR145C Approval of Aircraft Maintenance Organisation

Civil Aviation Authority of Fiji  
Private Mail Bag, NAP 0354  
Nadi International Airport  
Fiji

Copyright © 2024 CAAF

Copy number:

Electronic Copy

This Standard Document is subject to the amendment service:

☒ Yes

☐ No

Copy Holder:

MASTER COPY

Organisation:

Civil Aviation Authority of Fiji

Date of Issue:

20 February 2018

## PREFACE

### General

Fiji's National Aviation Law consists of a three tier regulatory system, comprising Acts, Regulations and Standards Documents; the purpose of which is to ensure, where deemed appropriate, compliance and conformance with ICAO Standards and Recommended Practices (SARPS).

The three tier regulatory system represents Fiji's Primary Legislation System and Specific Operating Regulations to meet Critical Elements CE1 and CE2 of ICAO's Eight Critical Element of a safety oversight system.

Standards Documents (SD) are issued by the Civil Aviation Authority of Fiji under the provision of Section 14 (3) (b) of the Civil Aviation Authority Act 1979 (CAP 174A)

Where appropriate, the SD also contains technical guidance (Critical Element CE5) on standards, practices, and procedures that are acceptable to the Authority.

Notwithstanding the above, and where specifically indicated in this Standards Document that such a provision is available, consideration may be given to other methods of compliance that may be presented to the Authority provided they have compensating factors that can demonstrate a level of safety equivalent to or better than those prescribed herein. Accordingly, the Authority will consider each case based on its own merits holistically in the context of and relevancy of the alternative methods to the individual applicant.

When new standards, practices, or procedures are determined to be acceptable, they will be added to this document.

### Purpose

This Standards Document on the Approval of Aircraft Maintenance Organisations is hereby published pursuant to ANR 145C (2) (b) of the ANR's and is intended for applicants for, and holders of ANR 145C Aircraft Maintenance Organisation Certificates and for their staff.

### Change Notice

This Standards Document has been developed pursuant to the Authority's obligation to provide oversight on certified operators and their personnel, as well as the operator's obligation to comply with standards notified by the Authority and is the means by which such notification is given.



THERESA LEVESTAM  
CHIEF EXECUTIVE

## AMENDMENT RECORD

The following space is provided to keep a record of all amendments.

Amendment No.	Effective Date	Entered By	Date Entered
1	20/8/19	QAO	20/8/19
2	14/10/20	SAMEI	14/10/20
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

Amendment No.	Effective Date	Entered By	Date Entered
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			

## CONTENTS

PREFACE.....	i
AMENDMENT RECORD.....	ii
CONTENTS.....	iii
FOREWORD.....	1
1 PURPOSE.....	1
2 GENERAL.....	1
3 GRANT/VARIATION OF APPROVAL.....	1
4 CONTINUATION OF APPROVAL.....	2
5 EXPOSITION AMENDMENTS.....	3
6 CHANGES IN SENIOR PERSONNEL.....	3
7 NON-COMPLIANCE FINDINGS.....	3
SECTION 1 REQUIREMENTS.....	6
GENERAL.....	6
SECTION 2.....	15
ACCEPTABLE MEANS OF COMPLIANCE AND INTERPRETATIVE / EXPLANATORY MATERIAL (AMC & IEM).....	15
2 PRESENTATION.....	15
3 BACKGROUND.....	16
APPENDIX 4 SOME OUTLINE EXAMPLES OF ORGANISATIONAL STRUCTURES POSSIBLE UNDER ANR145C.....	50
APPENDIX 5 EXAMPLE QUALITY AUDIT PLANS.....	52
2 FUNDAMENTALS OF ANR145CSUB-CONTRACTING.....	55
3 PRINCIPAL ANR145C PROCEDURES FOR THE CONTROL OF SUB- CONTRACTORS NOT ANR145C APPROVED 56	
APPENDIX 7 TRAINING PROGRAMME AND FACILITIES.....	58
2 ORGANISATION AND EQUIPMENT.....	58
3 TRAINING AND TRAINING PROGRAMMES.....	59
APPENDIX 8 AUTHORISATION OF PERSONNEL.....	60
2 PERSONS AUTHORISED TO ISSUE CERTIFICATES OF RELEASE TO SERVICE.....	60
3 PERSONS AUTHORISED TO ISSUE CERTIFICATES OF MAINTENANCE.....	62
4 VALIDITY OF AUTHORISATIONS.....	63
APPENDIX 9 LIMITED AUTHORISATION - GUIDANCE MATERIAL.....	64
2 ASSESSMENT OF TASKS AND CRITERIA FOR THE ISSUE OF LIMITED AUTHORISATION.....	65
3 LIMITED AUTHORISATIONS - NON LWTR MAINTENANCE PERSONNEL.....	66
4 LIMITED AUTHORISATIONS - FLIGHT CREW.....	66
APPENDIX 10 APPROVAL OF WELDERS.....	69
3 MAINTENANCE OF APPROVAL.....	71
APPENDIX 11 PERSONNEL CERTIFICATION FOR NON-DESTRUCTIVE TESTING OF AIRCRAFT, ENGINES, COMPONENTS AND MATERIALS.....	73
2 PROCEDURES FOR THE QUALIFICATION OF NDT PERSONNEL.....	73
3 QUALIFIED STAFF.....	73
4 INSPECTIONS AND CERTIFICATION OF INSPECTIONS.....	74
5 NDT TECHNIQUES AND INSTRUCTIONS AND THEIR APPROVAL.....	74
6 SUPPLIERS AND SUB-CONTRACTORS TO APPROVED ORGANISATIONS.....	74
7 OTHER MEANS OF COMPLIANCE.....	75
8 DEFINITIONS.....	75
APPENDIX 12 TRAINING SYLLABUS FOR INITIAL HUMAN FACTORS TRAINING.....	77

## FOREWORD

### 1 PURPOSE

- 1.1 SD-ANR145C APPROVAL OF AIRCRAFT MAINTENANCE ORGANISATIONS is issued to regulation 145C (2) (b). This document sets out the criterion used by the Authority when issuing aircraft Maintenance Organisation Approval Certificate.

### 2 GENERAL

- 2.1 The Civil Aviation Authorities of certain European countries have agreed common comprehensive and detailed aviation requirements referred to as the Joint Aviation Requirements. JAR-145 forms part of these requirements and deals specifically with aircraft maintenance.
- 2.2 In 1994 the Civil Aviation Authority of Fiji elected to adopt JAR-145 as the basis of its own requirement for the approval of maintenance organisations employed to maintain aircraft above 2730 kg maximum take-off weight, and all aircraft operated for Commercial Air Transport.
- 2.3 JAR-145 has been given legal status within the participating European states and therefore contains legislative details which may not apply to an approval granted by the CAAF. It was therefore agreed to retitle the requirement ANR145C in order to make the necessary differential between the European and the Fiji requirements. The basic JAR-145 requirements and associated procedures have been reviewed by the CAAF, and amended in order to better reflect the legislative and aviation industry needs of the Fiji, without compromising the intent of the original. It is this adaptation which is reflected here as the Fiji ANR145C requirements.

### 3 GRANT/VARIATION OF APPROVAL

- 3.1 The CAAF must receive an application for approval or variation to an existing ANR145C approval on CAAF Form AW101K.
- 3.2 An initial meeting should be arranged between the applicant and the CAAF Airworthiness staff to determine the applicant's business activities in respect of the application. This is not to establish compliance but rather to see if the activity is an ANR145C activity.
- 3.3 Assuming that the applicant's activities come within the scope ANR145C, a request for the appropriate fees to be paid and arrangements for an audit of the applicant will be made.
- 3.4 The CAAF auditing Airworthiness Officer(s) will be appointed and will conduct an audit of the applicant's facility requiring ANR145C Approval and examine the proposed exposition using the ANR145C latest amendment as the basis for the investigation and grant/variation of approval.
- 3.5 The accountable manager must be seen at least once during the investigation for approval to ensure that he/she fully understands the significance of the approval and the reason for signing the exposition part 1.1 commitment of the organisation to compliance with the procedures specified in the exposition.
- 3.6 The CAAF auditing Airworthiness Officer will require that he/she is accompanied throughout the audit by a senior technical member of the organisation making application for ANR145C Approval. Normally this is the existing or proposed quality manager. The reason for being accompanied is to ensure the organisation is fully aware of any findings during the audit. In any case, the Quality Manager/other senior technical member of the organisation must be debriefed at the end of the audit visit on the findings made during the audit.

- 3.7 All findings identified during an audit visit will be recorded with a categorisation as a level 1, 2 or 3 finding, and notified in writing to the organisation.
- 3.8 For initial approval all level 1 and 2 findings must be rectified before grant of approval.
- 3.9 With the inclusion of the Accountable Manager, the CAAF Form CA107A must be completed for each person nominated to hold a position.
- 3.10 The approval will be based only on the organisational capability (including any associated sub- contractors) relative to ANR145.
- 3.11 When the CAAF has issued an ANR145C approval, a copy of the CAAF Form 147 Approval Certificate reflecting the scope and conditions of the approval will be sent to the applicant.

## **4 CONTINUATION OF APPROVAL**

- 4.1 It is the CAAF general policy to grant approvals which are for an infinite period subject to the organisation remaining in compliance, and continuing to pay the CAAF charges. The CAAF however reserves the right to restrict an approval to a limited period if that is considered by the CAAF to be the most appropriate course in the particular circumstances.
- 4.2 The CAAF keep and update a programme listing the ANR145C Approved Maintenance Organisations, the dates when audits are due, and when such visits were carried out. Where it is decided that a series of audit visits are necessary to arrive at a complete audit of an ANR145C Approved Maintenance Organisation, the programme will include which aspects of the Approval will be covered on each visit.
- 4.3 The CAAF auditing Airworthiness Officer will, according to the programme, conduct an audit of the ANR145C Approved Maintenance Organisation's facilities and examine the exposition. Credit may be claimed for specific documented audits completed during the preceding 12 months.
- 4.4 The Accountable Manager must be seen at least every 24 months during an audit to ensure that he/she fully understands the significance of the approval and remains informed of significant issues arising during audits.
- 4.5 The CAAF auditing Airworthiness Officer should always ensure that he/she is accompanied throughout the visit by a senior technical member of the organisation. Normally this is the Quality Manager. In any case the Quality Manager/other senior technical member of the organisation must be debriefed at the end of the audit visit on the findings made during the audit.
- 4.6 All findings identified during an audit visit will be recorded and categorised as a level 1 or 2 or 3 finding and will be confirmed in writing to the organisation within 2 weeks of the audit visit.
- 4.7 All confirmed level 1 findings must be actioned by the organisation to the satisfaction of the CAAF before continued ANR145C Approval can be recommended and in fact revocation action may be necessary. All confirmed level 2 findings must be accepted by the organisation for action to the satisfaction of the CAAF within the level 2 time frame specified, before continued ANR145C Approval can be recommended.

## 5 EXPOSITION AMENDMENTS

- 5.1 The ANR145C Approved Maintenance Organisation will have reason on occasions to amend the exposition, and therefore as this document is an approved document forming one essential element of the ANR145C Approval, the CAAF will ensure that it has adequate control over the approval of any exposition amendments.
- 5.2 The recommended method of exposition amendment approval is for an approval status page to be provided at the front of the exposition which lists each amendment and states against each amendment when it was approved by the CAAF and the document reference of that approval.
- 5.3 The Approved Maintenance Organisation must submit each exposition amendment to the CAAF. When satisfied, the CAAF will indicate approval in writing.

## 6 CHANGES IN SENIOR PERSONNEL

- 6.1 The ANR145C Approved Maintenance Organisation will have reason or occasion to change one or more of the personnel specified in ANR145.30 (a) all of whom have to be acceptable to the CAAF. Such personnel form one essential element of the ANR145C Approval and will require an amendment to the exposition.
- 6.2 A change of accountable manager requires the ANR145C Approved Maintenance Organisation to submit in writing such fact to the CAAF. The CAAF Form CA107A may be used for this purpose. The CAAF will normally accept the accountable manager, and will in the letter of acceptance request an urgent amendment to the ANR145.70 (a) (1) accountable manager exposition statement. The CAAF may reject an accountable manager where there is clear evidence that he/she previously held a senior position in any CAAF Approved Organisation and abused that position by not complying with the particular CAAF requirements.
- 6.3 A change in any of the personnel specified in ANR145.30 (a) other than the accountable manager requires the ANR145C Approved Maintenance Organisation to submit a CAAF Form CA107A in respect of the particular person to the CAAF. If satisfied with the qualifications and experience of the person in relation to the particular position the CAAF will indicate in writing to the ANR145C Approved Maintenance Organisation.

## 7 NON-COMPLIANCE FINDINGS

### 7.1 Introduction

- 7.1.1 There will be occasions when the CAAF Airworthiness Officer carrying out an audit of a ANR145C Approved Maintenance Organisation will find evidence of non-compliance. This section gives guidance on the subject.
- 7.1.2 Findings are categorised into 3 groups as follows of which level 1 represents major non- compliance, level 2 represents minor non-compliance and level 3 represents in-compliance information observation rather than findings.

### 7.2 Level 1 finding

- 7.2.1 Means any non-compliance with the Maintenance Regulation which would lower the maintenance standard and probably hazard an aircraft. It includes non-compliance on aircraft components.



7.2.2. In practical terms where a CAAF Airworthiness Officer finds a significant non-compliance with any one sub-para of the following referenced paras against a complete product line, it is deemed to be a level 1 finding:

ANR145.25; ANR145.30; ANR145.40; ANR145.45; ANR145.50; ANR145.55; ANR145.65; ANR145.70; ANR145.75 and ANR145.80.

7.2.3 In addition, the following is a level 1 finding:

Failure to gain access to the ANR145C maintenance organisation during normal operating hours of the organisation in accordance with ANR145.90(b) after two written requests;

7.2.4 A complete product line is defined as all the aircraft, engine or component of a pa

7.2.5 Example:

If the calibration control of equipment (ANR145.40 (b)) broke down some time ago on a particular type product line such that most "calibrated" equipment was suspect from that time then that would be a level 1 finding.

### 7.3 CAAF action for level 1 finding

7.3.1. The Maintenance Approval will be provisionally suspended in whole or in part depending upon the extent of the level 1 finding until corrective action has been taken or, if not corrected, the Maintenance Approval will be revoked in whole or in part as appropriate. Continuation of the AOC of any operators receiving engineering support from the ANR145C Approved Maintenance Organisation will need to review.

7.3.2 An initial approval or renewal must not be granted until corrective action has been completed.

7.3.2. In addition, it may be necessary to carry out further maintenance and recertify all effected products dependant upon the nature of the finding.

### 7.4. Level 2 finding

7.4.1. Means any non-compliance with the Maintenance Regulation which could lower the maintenance standard and possibly hazard an aircraft. It also includes non-compliance on aircraft components.

7.4.2. In practical terms where a CAAF Airworthiness Officer finds a non-compliance with any one sub-para of the paras specified in 7.2.2 against one product, it is deemed to be a level 2 finding.

### 7.5 CAAF action for level 2 findings

7.5.1. The Approved Organisation will be given a maximum of six months to complete corrective action. In the first place, the quality manager will be given 3 months' notice of the need for corrective action but if this does not result in the corrective action being completed then the accountable manager will be informed in writing for the second 3-month period.

7.5.2. Failure to comply within the total 6-month time scale means that provisional suspension of the Maintenance Approval will need to proceed in accordance with current National Regulations. As various AOCs may also be affected, continuation of these AOCs will need to be reviewed.

7.5.3. In the case of an application for an initial Maintenance Approval, such approval must not be

granted until corrective action has been completed. In the case of the renewal of an expiring Maintenance Approval, the decision to allow 6 months for compliance is at the discretion of the CAAF.

- 7.5.4. In addition, it may be necessary to carry out further maintenance and recertify all effected products dependant upon the nature of the finding.

**7.6. Level 3 finding**

- 7.6.1. Means an observation intended to give background information. Level 3 must not include information suggesting non-compliance with the Maintenance Regulation. No action is required to be taken by the CAAF in the case of level 3.

## SECTION 1 REQUIREMENTS

### GENERAL

This Section 1 contains the Requirements for Approved Maintenance Organisations.

#### 2 PRESENTATION

- 2.1 The requirements of ANR145C are presented in two columns on loose pages, each page being identified by the date of issue or the Change number under which it is amended or reissued.
- 2.2 Sub-headings are in italic typeface.
- 2.3 Explanatory Notes not forming part of the requirements appear in smaller typeface.
- 2.4 New, amended and corrected text is indicated by a bar in the left-hand margin.

#### **ANR 145.1 General**

(See AMC 145.1)

- (a) No aircraft above 2730 kg maximum takeoff weight or any aircraft when used for Commercial Air Transport may fly unless a certificate of release to service has been issued by an organisation for maintenance carried out on the aircraft or an aircraft component intended for fitment to such an aircraft.
- (b) No organisation may certify for release to service an aircraft used for Commercial Air Transport unless either approved in accordance with this ANR145C or accepted in accordance with the ANR145.10(c) alternative. Except where stated otherwise in subparagraph (e), no organisation may maintain such an aircraft unless either appropriately approved in accordance with this ANR145C or accepted in accordance with the ANR145.10(c) alternative, or working under the quality system of an appropriately approved or accepted ANR145C maintenance organisation.

NOTE: An ANR145C approval is not required for the pre-flight inspection.

- (c) No organisation may certify for release to service an aircraft component intended for fitment to an aircraft used for Commercial Air Transport unless either approved in accordance with this ANR145C or accepted in accordance with the ANR145.10(c) alternative.

Except where stated otherwise in subparagraph (e), no organisation may maintain such an aircraft component unless either appropriately approved in accordance with this ANR145C or accepted in accordance with the ANR145.10(c) alternative, or working under the quality system of an appropriately approved or accepted ANR145C maintenance organisation.

- (d) A maintenance organisation approval may be granted for maintenance activity varying from that for an aircraft component to that for a complete aircraft or any combination thereof.
- (e) An organisation working under the quality system of an appropriately approved ANR145C maintenance organisation is limited to the work scope permitted by the ANR145.65(a) procedures and may not carry out a base maintenance check of an aircraft or a complete workshop maintenance check or overhaul of an engine or engine module.

### ANR145.3 Effectivity

(See IEM 145.3)

The ANR145 prescriptive requirements highlighted as extensions (eg. ANR145.25 Facilities) in the following paragraphs are based on the European Joint Airworthiness Authorities JAR 145 maintenance standard, and became effective in the Fiji in September 1996.

### ANR145.5 Definitions

(See IEM 145.5)

For the purpose of this ANR145C the following definitions shall apply:

**‘Accountable manager’** means the manager who has corporate authority for ensuring that all maintenance required by the aircraft operator can be financed and carried out to the standard required by the CAAF. The accountable manager may delegate in writing to another person in the organisation, such person then becoming the accountable manager for the purpose of this ANR145.

**‘Aircraft’** means an aeroplane, helicopter or airship.

**‘Aircraft component’** means any component part of an aircraft up to and including a complete powerplant and/or any operational/emergency equipment.

**‘Approved by the CAAF’** means approved by the CAAF directly or in accordance with a procedure approved by the CAAF.

**‘Approved data’** means any information necessary to ensure that the aircraft or aircraft component can be maintained in a condition such that airworthiness of the aircraft, or serviceability of operational and emergency equipment as appropriate, is assured.

**‘Approved standard’** means a manufacturing/design/ maintenance/quality standard approved by the CAAF.

**‘CAAF’** means Civil Aviation Authority of Fiji.

**‘Certifying staff’** means those personnel who are authorised by the approved maintenance organisation in accordance with a procedure acceptable to the CAAF to certify aircraft or aircraft components for release to service.

**‘Commercial Air Transport’** means the carriage of Passengers/Cargo/Mail for remuneration.

**‘Inspection’** means the examination of an aircraft/aircraft component to establish conformity with an approved standard.

**‘Location’** means a place from which an organisation carries on activities or wishes to carry on activities for which an ANR145C approval is required.

**‘Maintenance’** means any one or combination of overhaul, repair, inspection, replacement, modification or defect rectification of an aircraft/aircraft component.

**‘Modification’** means the alteration of an aircraft/aircraft component in conformity with an approved standard.

**‘SD’** means the Standards Documents published by the CAAF.

**‘Organisation’** means either an organisation registered as a legal entity in any jurisdiction whether or not within the Fiji or a natural person. Such an organisation may be located at more than one location and may hold more than one ANR145C approval.

**‘Overhaul’** means the restoration of an aircraft/aircraft component by inspection and replacement in conformity with an approved standard to extend the operational life.

**‘Pre-flight inspection’** means the inspection carried out before flight to ensure that the aircraft is fit for the intended flight. It does not include defect rectification.

**‘Repair’** means the restoration of an aircraft/aircraft component to a serviceable condition in conformity with an approved standard.

#### **ANR145.10 Applicability**

(See AMC & IEM 145.10)

- (a) This ANR prescribes the requirements for issuing approvals to organisations for the maintenance of aircraft and aircraft components and prescribes the general operating rules for approved maintenance organisations. The approval, when granted, will apply to the whole organisation headed by the accountable manager.
- (b) An organisation which is located, in whole or in part, within the Fiji will be granted approval in respect of any such location within the Fiji when in compliance with this ANR145.
- (c) An organisation which is located, in whole or in part, outside of the Fiji will only be granted approval in respect of any such location outside of the Fiji if the CAAF is satisfied that there is a need for such approval to maintain aircraft/aircraft components at that location and when in compliance with this ANR145. Alternatively, the CAAF may accept such an organisation on the basis of an approval granted by a Foreign Authority subject to the organisation being in compliance with any published CAAF maintenance special conditions to ensure equivalence to ANR145. The alternative accepted organisation may be required to show a need before being accepted.

#### **ANR145.15 Application and issue**

(See AMC 145.15)

- (a) An application for maintenance organisation approval or for the amendment of an existing maintenance organisation approval shall be made on a form and in a manner prescribed by the CAAF and submitted with the required number of copies of the maintenance organisation’s exposition or amendment thereto.
- (b) An applicant who meets the requirements of this ANR145C and has paid any charges prescribed by the CAAF is entitled to a maintenance organisation approval.

#### **ANR145.20 Extent of approval**

(See IEM 145.20)

The grant of approval is indicated by the issue of an approval certificate to the organisation by the CAAF. The approval certificate will specify the extent of approval. The ANR145C approved maintenance organisation’s exposition must specify the scope of work deemed to constitute approval.

#### **ANR145.25 Facility requirements**

(See AMC 145.25)

- (a) Facilities must be provided appropriate for all planned work, ensuring in particular, protection from the weather elements. Specialised workshops and bays must be segregated as appropriate, to ensure that environmental and work area contamination is unlikely to occur.

- (b) Office accommodation must be provided appropriate for the management of the sub-paragraph
  - (a) planned work including in particular, the management of quality, planning and technical records.
- (c) The working environment must be appropriate for the task carried out and in particular special requirements observed. Unless otherwise dictated by the particular task environment, the working environment must be such that the effectiveness of personnel is not impaired.
- (d) Secure storage facilities must be provided for aircraft components, equipment, tools and material. Storage conditions must ensure segregation of serviceable aircraft components and material from unserviceable aircraft components, material, equipment and tools. The conditions of storage must be in accordance with the manufacturer's instructions to prevent deterioration and damage of stored items. Access to storage facilities must be restricted to authorised personnel.

#### **ANR145.30 Personnel requirements**

(See AMC 145.30)

- a) A senior person or group of persons acceptable to the CAAF, whose responsibilities include ensuring that the ANR145C approved maintenance organisation is in compliance with ANR145C requirements, must be nominated. Such person(s) must ultimately be directly responsible to the accountable manager who must be acceptable to the CAAF.
- b) The ANR145C approved maintenance organisation must employ sufficient personnel to plan, perform, supervise and inspect the work in accordance with the approval.
- (c) The competence of personnel involved in maintenance must be established in accordance with a procedure and to a standard acceptable to the CAAF.
- (d) In addition to paragraph (c) certifying staff must meet the qualification requirements specified in Standard Document - Licensing of Engineering Aircraft and receive initial and continuation training in accordance with a programme acceptable to the CAAF.

#### **ANR145.35 Record of certifying staff**

(See AMC 145.35)

- (a) The ANR145C approved maintenance organisation must maintain a record of all certifying staff which must include details of the scope of their authorisation.
- (b) Certifying staff must be provided with evidence of the scope of their authorisation.

#### **ANR145.40 Equipment, tools and material**

(See AMC 145.40)

- (a) The ANR145C approved maintenance organisation must have the necessary equipment, tools and material to perform the approved scope of work.
- (b) Where necessary, tools, equipment and particularly test equipment must be controlled and calibrated to standards acceptable to the CAAF at a frequency to ensure serviceability and accuracy. Records of such calibrations and the standard used must be kept by the ANR145C approved maintenance organisation.

#### **ANR145.45 Approved data**

(See AMC 145.45)

- (a) The ANR145C approved maintenance organisation must hold and use applicable current approved data in the performance of maintenance including modifications and repairs. Applicable means relevant to any aircraft, aircraft component or process specified in the

ANR145C approved maintenance organisation's approval class rating schedule and any associated capability list.

- (b) For the purposes of ANR145C applicable approved data is;
  - (1) Any applicable requirement, procedure, airworthiness directive, operational directive or information issued by the CAAF.
  - (2) Any applicable airworthiness directive issued by an Authority where said Authority is the original type certificate Authority.
  - (3) Any applicable data, such as but not limited to, maintenance and repair manuals, issued by an organisation acceptable to the CAAF including type certificate and supplementary type certificate holders and any other organisation approved or accepted to publish such data by the CAAF.
  - (4) Unless specified otherwise by the CAAF, any applicable data, such as but not limited to, maintenance and repair manuals, issued by an organisation under the approval of an Authority where said Authority is the original type certificate Authority.
  - (5) Any applicable standard, such as but not limited to, maintenance standard practices issued by any Authority, institute or organisation and recognised by the CAAF as a good standard for maintenance.
  - (6) Any applicable data issued in accordance with sub-paragraph (c).
- (c) The ANR145C approved maintenance organisation may only modify maintenance instructions in accordance with a procedure specified in the maintenance organisation's exposition where it can be shown that such modified maintenance instruction results in equivalent or improved maintenance standards and subject to the type certificate holder being informed. Maintenance instructions for the purpose of this sub-paragraph means an instruction on how to carry out the particular maintenance task. The ANR145C approved maintenance organisation may not carry out the engineering design of repairs and modifications under this sub-paragraph (c).
- (d) The ANR145C approved maintenance organisation must ensure that all applicable approved data is readily available for use when required by maintenance personnel.
- (e) The ANR145C approved maintenance organisation must ensure that approved data controlled by the organisation is kept up to date. In the case of operator/customer controlled and provided approved data, the ANR145C approved maintenance organisation must show that either it has written confirmation from the operator/ customer that all such approved data is up to date or it has work orders specifying the amendment status of the approved data to be used or it can show that it is on the operator/customer approved data amendment list.

#### **ANR145.50 Certification of maintenance**

(See AMC 145.50)

- (a) A certificate of release to service must be issued by appropriately authorised staff on behalf of the ANR145C approved maintenance organisation when satisfied that all required maintenance of the aircraft or aircraft component has been properly carried out by the ANR145C approved maintenance organisation in accordance with the procedures specified in the ANR145.70 maintenance organisation exposition.

NOTE: An aircraft component which has been maintained off the aircraft requires the issue of a certificate of release to service for such maintenance and another certificate of release to service in regard to being installed properly on the aircraft when such action occurs.

- (b) A certificate of release to service must contain basic details of the maintenance carried out, the date such maintenance was completed and the identity including approval reference of the ANR145C approved maintenance organisation and certifying staff issuing such a certificate.

### **ANR145.55 Maintenance records**

(See AMC & IEM 145.55)

- (a) The ANR145C approved maintenance organisation must record all details of work carried out in a form acceptable to the CAAF.
- (b) The ANR145C approved maintenance organisation must provide a copy of each certificate of release to service to the aircraft operator, together with a copy of any specific approved data used for repairs/modifications carried out.
- (c) The ANR145C approved maintenance organisation must retain a copy of all detailed maintenance records and any associated approved data for two years after the aircraft or aircraft component to which the work relates to has been destroyed or has been permanently withdrawn from use.

NOTE: Where an aircraft operator contracts an ANR145C approved maintenance organisation to keep the aircraft operator's certificates of release to service and any associated approved data, the retention period will be two years after the aircraft or aircraft component to which it relates to has been destroyed or has been permanently withdrawn from use.

### **ANR145.60 Reporting of unairworthy conditions**

(See IEM 145.60)

- (a) The ANR145C approved maintenance organisation must report to the CAAF and the aircraft type certificate holder any condition of the aircraft or aircraft component identified by the ANR145C approved maintenance organisation that could seriously hazard the aircraft.
- (b) Reports must be made on a form and in a manner prescribed by the CAAF and contain all pertinent information about the condition known to the ANR145C approved maintenance organisation.
- (c) Where the ANR145C approved maintenance organisation is contracted by an operator to carry out maintenance, the ANR145C approved maintenance organisation must also report to the operator any such condition affecting the operator's aircraft or aircraft component.
- (d) Reports must be made as soon as practicable but, in any case, within three days of the ANR145C approved maintenance organisation identifying the condition to which the report relates.

### **ANR145.65 Maintenance procedures and quality system**

(See AMC & IEM 145.65)

- (a) The ANR145C approved maintenance organisation must establish procedures acceptable to the CAAF to ensure good maintenance practices and compliance with all relevant requirements in this ANR145C which must include a clear work order or contract such that aircraft and aircraft components may be released to service in accordance with ANR145.50.
- (b) In addition, the ANR145C approved maintenance organisation must establish a quality system including independent audits to monitor product standards and compliance with and adequacy of the procedures to ensure good maintenance practices and airworthy aircraft/ aircraft components. In the smallest organisations the independent audit part of the quality system may be contracted to another ANR145C approved maintenance organisation or a person with proven satisfactory audit experience acceptable to the CAAF. Compliance monitoring must include a feedback system to the person or group of persons specified in



ANR145.30 (a) and ultimately to the accountable manager to ensure, as necessary, corrective action. Such systems must be acceptable to the CAAF.

**ANR145.70 Maintenance organisation exposition**

(See IEM 145.70)

- (a) The ANR145C approved maintenance organisation must provide a maintenance organisation exposition for use by the ANR145C approved maintenance organisation, containing the following information:
- (1) A statement signed by the accountable manager confirming that the maintenance organisation exposition and any associated manuals defines the ANR145C approved maintenance organisation's compliance with ANR145C and will be complied with at all times.
  - (2) The title(s) and name(s) of the senior person(s) accepted by the CAAF in accordance with ANR145.30 (a).
  - (3) The duties and responsibilities of the senior person(s) specified in sub-paragraph (2) including matters on which they may deal directly with the CAAF on behalf of the ANR145C approved maintenance organisation.
  - (4) An organisation chart showing associated chains of responsibility of the senior person(s) specified in sub-paragraph (2).
  - (5) A list of certifying staff.
  - (6) A general description of manpower resources.
  - (7) A general description of the facilities located at each address specified in the ANR145C approved maintenance organisation's approval certificate.
  - (8) A specification of the ANR145C approved maintenance organization's scope of work relevant to the extent of approval.
  - (9) The notification procedure of ANR145.85 for ANR145C approved maintenance organisation changes.
  - (10) The maintenance organisation exposition amendment procedure.

NOTE: Sub-paragraphs (1) to (10) inclusive constitutes the management part of the maintenance organisation exposition.

- (11) The ANR145C approved maintenance organisation's procedures and quality system as required by – ANR145.25, ANR145.30, ANR145.35, ANR145.40, ANR145.45, ANR145.50, ANR145.55, ANR145.60, ANR145.65, ANR145.70, ANR145.75 and ANR145.80.
- (12) A list of operators, if appropriate, to which the ANR145C approved maintenance organisation provides an aircraft maintenance service.
- (13) A list of organisations, if appropriate, as specified in ANR145.75 (b).
- (14) A list of line stations, if appropriate, as specified in ANR145.75 (d).
- (15) A list of contracted ANR145C approved maintenance organisations if appropriate.
  - (b) The information specified in sub-paragraphs (5) and (11) to (15) inclusive, whilst a part of the maintenance organisation exposition, may be kept as separate documents or on separate electronic data files subject to the management part of said exposition containing a clear cross reference to such documents or electronic data files.
  - (c) The maintenance organisation exposition and any subsequent amendments must be approved by the CAAF.

### **ANR145.75 Privileges of the approved maintenance organisation**

The ANR145C approved maintenance organisation may only carry out the following tasks as permitted by and in accordance with the ANR145C approved maintenance organisation exposition:

- (a) Maintain any aircraft or aircraft component for which it is approved at the locations identified in the approval certificate and/or in the ANR145C approved maintenance organisation exposition.
- (b) Arrange for maintenance of any aircraft or aircraft component within the limitations of ANR145.1
- (e) for which it is approved at another organisation that is working under the quality system of the ANR145C approved maintenance organisation.
- (c) Maintain any aircraft or any aircraft component for which it is approved at any location subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional line maintenance subject to the conditions specified in a procedure acceptable to the CAAF and included in the ANR145C approved maintenance organisation exposition.
- (d) Maintain any aircraft or any aircraft component for which it is approved at a location identified as a line maintenance location capable of supporting minor maintenance and only if the ANR145C approved maintenance organisation exposition both permits such activity and lists such locations.
- (e) Issue certificates of release to service in respect of paragraphs (a) to (d) on completion of maintenance in accordance with ANR145.50.

### **ANR145.80 Limitations on the approved maintenance organisation**

(See IEM 145.80)

The ANR145C approved maintenance organisation may only maintain an aircraft or aircraft component for which it is approved when all necessary facilities, equipment, tooling, material, approved data and certifying staff are available.

### **ANR145.85 Changes to the approved maintenance organisation**

(See IEM 145.85)

- (a) The ANR145C approved maintenance organisation must notify the CAAF of any proposal to carry out any of the following changes before such changes take place to enable the CAAF to determine continued compliance with this ANR145C and to amend, if necessary, the approval certificate, except that in the case of proposed changes in personnel not known to the management beforehand, these changes must be notified at the earliest opportunity.
  - (1) The name of the organisation.
  - (2) The location of the organisation.
  - (3) Additional locations of the organisation.
  - (4) The accountable manager.
  - (5) Any of the senior persons specified in paragraph ANR145.30 (a).
  - (6) The facilities, equipment, tools, material, procedures, work scope and certifying staff that could affect the approval.

- (b) The CAAF may prescribe the conditions under which the ANR145C approved maintenance organisation may operate during such changes unless the CAAF determines that the approval should be suspended.

#### **ANR145.90 Continued validity of approval**

Unless the approval has previously been surrendered, superseded, suspended, revoked or expired by virtue of exceeding any expiry date that may be specified in the approval certificate, the continued validity of approval is dependent upon –

- (a) The ANR145C approved maintenance organisation remaining in compliance with ANR145C and;
- (b) the CAAF being granted access to the ANR145C approved maintenance organisation to determine continued compliance with this ANR145C and;
- (c) the payment of any charges prescribed by the CAAF. Failure to pay entitles the CAAF to suspend, but does not automatically render the approval invalid.

#### **ANR145.95 Equivalent safety case**

(See IEM 145.95)

- (a) The CAAF may exempt an organisation from a requirement in ANR145C when satisfied that a situation exists not envisaged by an ANR145C requirement and subject to compliance with any supplementary condition(s) the CAAF considers necessary to ensure equivalent safety.
- (b) The CAAF may accept an organisation from a requirement in ANR145C on an individual case- by-case permission basis only subject to compliance with any supplementary condition(s) the CAAF considers necessary to ensure equivalent safety.

#### **ANR145.100 Revocation, suspension, limitation or refusal to renew the ANR145C approval certificate**

(See IEM 145.100)

The CAAF may, on reasonable grounds after due enquiry, revoke, suspend, limit or refuse to renew the ANR145C approval certificate if the CAAF is not satisfied that the holder of the approval certificate continues to meet the requirements of ANR145C subject to the conditions of sub-paragraph (a) or (b) as appropriate.

- (a) Except as specified in sub-paragraph (b), before revoking, suspending, limiting or refusing to renew a ANR145C approval certificate, the CAAF must first give at least 28 days notice to the holder in writing of its intention so to do and the reasons for its proposal and must offer the holder an opportunity to make representations and the CAAF will consider those representations.
- (b) In the case where the CAAF has determined that the safe operation of an aircraft could be adversely affected the CAAF may in addition to sub-paragraph (a) provisionally suspend, in part or in whole, the ANR145C approval certificate without prior notice until the sub-paragraph (a) procedure is complete.

## SECTION 2

### ACCEPTABLE MEANS OF COMPLIANCE AND INTERPRETATIVE / EXPLANATORY MATERIAL (AMC & IEM)

#### 1 GENERAL

- 1.1 This Section contains Acceptable Means of Compliance and Interpretative/Explanatory Material that has been agreed for inclusion in ANR145.
- 1.2 Where a particular ANR paragraph does not have an Acceptable Means of Compliance or any Interpretative/Explanatory Material, it is considered that no supplementary material is required.

#### 2 PRESENTATION

- 2.1 The Acceptable Means of Compliance and Interpretative/Explanatory Material form an integral part of ANR145C and may be re-issued periodically following CAAF review of ANR145C and may be re-issued periodically following CAAF review.
- 2.2 A numbering system has been used in which the Acceptable Means of Compliance or Interpretative/Explanatory Material uses the same number as the ANR paragraph to which it refers. The number is introduced by the letters AMC or IEM to distinguish the material from the ANR itself.
- 2.3 The acronyms AMC and IEM also indicate the nature of the material and for this purpose the two types of material are defined as follows:

*Acceptable Means of Compliance (AMC)* illustrate a means, or several alternative means, but not necessarily the only possible means by which a requirement can be met. It should however be noted that where a new AMC is developed by the JAA, any such AMC (which may be additional to an existing AMC) may be amended into the document if considered to be relevant by the CAAF.

*Interpretative/Explanatory Material* helps to illustrate the meaning of a requirement.

- 2.4 New AMC or IEM material may, in the first place, be made available immediately to Industry by being published by the CAAF as an Aeronautical Information Circular (AIC). The CAAF will review this information periodically and will where appropriate include it in SD-ANR145C Approval of Maintenance Organisation by way of amendment. Possible alternative AMCs or IEMs may not be used unless formally approved by the CAAF.
- 2.5 Explanatory Notes not forming part of the AMC or IEM text appear in a smaller typeface.
- 2.6 New, amended or corrected text is enclosed within heavy brackets.

### 3 BACKGROUND

- 3.1 CAAF aircraft maintenance policy is to require any aircraft above 2730 kg maximum takeoff weight and all aircraft used for Commercial Air Transport purposes to be maintained by an ANR145C organisation approved for the type of aircraft.
- 3.2 An ANR145C organisation within the following limitations may also carry out maintenance on an aircraft type used for any other purpose.
  - 3.2.1 Approval for aircraft maintenance may be either an approval for the aircraft type covering base maintenance or line maintenance or both.
  - 3.2.2 For the purpose of the AMCs/IEMs, line maintenance, sometimes referred to as light maintenance, generally consists of pre-flight, daily, weekly, A Check and B Check.
  - 3.2.3 Base maintenance, sometimes referred to as heavy maintenance generally consists of the C Check and D Check.
  - 3.2.4 Where a particular aircraft type maintenance programme does not follow the above philosophy, the CAAF will decide which checks need to be classified as base maintenance.
  - 3.2.5 CAAF aircraft component maintenance policy is to require aircraft components, when removed from the aircraft, to be maintained by either an ANR145C maintenance organisation approved for the type of aircraft component or an organisation approved or accepted in accordance with ANR145.10 (c).

## **AMC 145.1**

### **General**

See ANR145.1

- 1 Working under the quality system of an appropriately approved ANR145C organisation refers to the case of one organisation, not itself appropriately approved to ANR145C that carries out aircraft limited line maintenance or minor engine maintenance or maintenance of other aircraft components or a specialised service as a subcontractor for an appropriately approved ANR145C maintenance organisation and referred to in Appendix 6 under the more common name as subcontracting. To be appropriately approved to subcontract the ANR145C organisation should have a procedure for the control of such subcontractors as stated in AMC– 145.65(a) and described in Appendix 6. Any ANR145C approved maintenance organisation that carries out maintenance for another ANR145C approved maintenance organisation where the maintenance comes within the approval scope of the ANR145C approved maintenance organisation that carries out the maintenance is not considered to be subcontracting for the purpose of this paragraph.

NOTE: For those ANR145C approved maintenance organisations that are also certificated by the FAA under FAR Part 145 it should be noted that FAR Part 145 is more restrictive in respect of maintenance activities that can be contracted or sub-contracted to another maintenance organisation. It is therefore recommended that any listing of contracted or sub-contracted maintenance organisations should identify which meet the ANR145C criteria and which meet the FAR Part 145 criteria.

- 2 Maintenance of engines or engine modules other than a complete workshop maintenance check or overhaul is intended to mean any maintenance that can be carried out without disassembly of the core engine or, in the case of modular engines, without disassembly of any core module.

## **IEM 145.3**

### **Effectivity**

See ANR145.3

A self-explanatory paragraph.

## **IEM 145.5**

### **Definitions**

See ANR145.5

A self-explanatory paragraph.

- 1 With regard to the accountable manager definition, it is intended to mean chief executive officer/president/managing director/director general/general manager etc. of the ANR145C approved maintenance organisation, who by virtue of position has overall (including in particular financial) responsibility for running the organisation. The accountable manager may be the accountable manager for more than one ANR145C approved maintenance organisation and is not required to be necessarily knowledgeable on technical matters as the maintenance organisation exposition defines the maintenance standards. In the case of delegation to another person, it is recommended that the delegation is written into the accountable manager's statement of ANR145.70 (a) (1). Apart from ANR145.30 (a) the CAAF is concerned that any delegation of responsibility includes a sufficiency of 'maintenance funding' allocation.
- 2 'Restoration' should be understood to mean the work necessary to return the aircraft component to an approved standard.

**IEM 145.10(b)**

**Applicability**

See ANR145.10 (b)

- 1 For an organisation to be approved in accordance with ANR145.10 (b) as an organisation located within the Fiji means that the ANR145.30 (a) management should be located in whole or in part in the Fiji.
- 2 Where the organisation uses facilities both inside and outside of the Fiji such as satellite facilities, sub-contractors, line stations etc., such facilities may be included in the approval without being identified on the approval certificate subject to the maintenance organisation exposition identifying the facilities and containing procedures to control such facilities and the CAAF being satisfied that they form an integral part of the ANR145C approved maintenance organisation.

**AMC 145.10(c)**

**Applicability**

See ANR145.10(c)

For the CAAF to be satisfied that there is a need for approval, may require the potential applicant to provide to CAAF Headquarters evidence from an organisation based in the Fiji that such organisation would like to use the potential applicant's facilities to support an aircraft/aircraft component operated in the Fiji. The evidence, when required, should be in the form of a letter(s) from the Fiji based organisation(s) giving reasons for the need.

**IEM 145.10(c)**

**Applicability**

See ANR145.10(c)

- 1 The CAAF's principal reason for accepting an organisation on the basis of an approval granted by a Foreign Authority is to ensure the most cost effective use of its staff resources. It therefore follows that the CAAF will promote this method in any State that contains a significant number of maintenance organisations used by the aviation industry of the Fiji.
- 2 The CAAF policy in respect of the acceptance of an organisation on the basis of an approval granted by a Foreign Authority is to ensure equivalence to ANR145C at the time of initial acceptance and thereafter. The CAAF establishes equivalence to ANR145C by:
  - (a) comparing the relevant maintenance regulations and procedures to determine differences and establish maintenance special conditions relative to the differences; and
  - (b) being satisfied that the Foreign Authority will co-operate and continue to co-operate with the CAAF by accomplishing and reporting on routine audits and specific investigations of the organisations and maintenance; and
  - (c) being satisfied that the accepted organisations comply with the maintenance special conditions established via sub-paragraph (a) and that the Foreign Authority reports any non-compliance that could result in suspension or revocation of the acceptance; and
  - (d) being satisfied that the Foreign Authority both receives and co-operates with CAAF staff in any investigation which may be considered necessary.
  - (e) publishing where necessary the maintenance special conditions to be met by organisations in the specified State as acceptable means of compliance.
- 3 The CAAF Air Safety Department holds a list of all approved/accepted foreign maintenance organisations.

**AMC 145.15(a)**

**Application and Issue**

See ANR145.15 (a)

'On a form' and 'in a manner' means that CAAF Form 146 should be obtained from the CAAF Air Safety Department and completed by the accountable manager, or his/her nominee if he/she has delegated the responsibility in accordance with ANR145.30 (a). The required number of copies of the maintenance organisation exposition means the number required by the CAAF which normally means one.

**IEM 145.20**

**Extent of Approval**

See ANR145.20

Appendix 1 contains a table listing all classes and rating possible under ANR145.



**AMC 145.25(a)**

**Facility Requirements**

See ANR.25 (a)

- 1 For base maintenance of aircraft, this means that aircraft hangars should be both available and large enough to accommodate aircraft on planned base maintenance. Where the hangar is not owned by the ANR145C organisation, it may be necessary to establish proof of tenancy. In addition, sufficiency of hangar space to carry out planned base maintenance will need to be demonstrated by the preparation of a projected aircraft hangar visit plan relative to the maintenance programme. The aircraft hangar visit plan should be updated on a regular basis. For aircraft component maintenance, this means that aircraft component workshops should be large enough to accommodate the components on planned maintenance. Hangar and facility buildings shall be required to show proof of certification from the current Fiji Institute of Engineers (FIE) professional member.
- 2 Protection from the weather elements relates to the normal prevailing local weather elements that are expected throughout any twelve month period. Aircraft hangar and aircraft component workshop structures should be to a standard that prevents the ingress of rain, hail, ice, snow, wind and dust etc. Aircraft hangar and aircraft component workshop floors should be sealed to minimise dust generation.
- 3 For line maintenance of aircraft, hangars are not essential but it is recommended that access to hangar accommodation be demonstrated for usage during inclement weather for minor scheduled work and lengthy defect rectification.

**AMC 145.25(b)**

**Facility Requirements**

See ANR145.25 (b)

- 1 Office accommodation in this case means office accommodation such that the incumbents, whether they be management, planning, technical records, quality or certifying staff, can carry out their designated tasks in a manner that contributes to good aircraft maintenance standards. In addition, aircraft maintenance staff should be provided with an area where they may study maintenance instructions and complete maintenance records in a proper manner.
- 2 It is acceptable to combine any or all of the above requirements into one office subject to the staff having sufficient room to carry out assigned tasks.
- 3 Refer 145.25(a) for facility specification if office accommodation is not part of a hangar facility.

**AMC 145.25(c)**

**Facility Requirements**

See ANR145.25(c)

- 1 Hangars used to house aircraft together with office accommodation should be such as to ensure the working environment permits personnel to carry out work tasks in an effective manner.
- 2 Temperatures should be maintained such that personnel can carry out required tasks without undue discomfort.
- 3 Dust and any other airborne contamination should be kept to a minimum and not be permitted to reach a level in the work task area where visible aircraft/component surface contamination is evident.
- 4 Lighting should be such as to ensure each inspection and maintenance task can be carried out.
- 5 Noise levels should not be permitted to rise to the point of distracting personnel from carrying out inspection tasks. Where it is impractical to control the noise source, such personnel should be provided with the necessary personal equipment to stop excessive noise causing distraction during inspection tasks.
- 6 Where a particular maintenance task requires the application of specific environmental conditions different to the foregoing, then such conditions should be observed. Specific conditions are identified in the approved maintenance instructions.
- 7 The working environment for line maintenance should be such that the particular maintenance or inspection task can be carried out without undue distraction. It therefore follows that where the working environment deteriorates to an unacceptable level in respect of temperature, moisture, hail, ice, snow, wind, light, dust/other airborne contamination, the particular maintenance or inspection tasks should be suspended until satisfactory conditions are re- established.
- 8 For both base and line maintenance where dust/other airborne contamination results in visible surface contamination, all susceptible systems should be sealed until acceptable conditions are re-established.

**AMC 145.25(d)**

**Facility Requirements**

See ANR145.25 (d)

- 1 Storage facilities for serviceable aircraft components should be clean, well-ventilated and maintained at an even dry temperature to minimise the effects of condensation. Manufacturer's storage recommendations should be followed for those aircraft components identified in such published recommendations.
- 2 Storage racks should be strong enough to hold aircraft components and provide sufficient support for large aircraft components such that the component is not distorted during storage.
- 3 All aircraft components, wherever practicable, should remain packaged in protective material to minimise damage and corrosion during storage.

**AMC 145.30(a)**

**Personnel Requirements**

See ANR145.30 (a)

- 1 The person or persons nominated should represent the maintenance management structure of the organisation and be responsible for all functions specified in ANR145. It therefore follows that, dependent upon the size of the ANR145C organisation, the ANR145C functions may be subdivided under individual managers and in fact may be further subdivided) or combined in any number of ways.
- 2 In essence however the ANR145C organisation should have, dependent upon the extent of approval, a base maintenance manager, a line maintenance manager, a workshop manager and a quality manager, all of whom should report to the accountable manager except in small ANR145C organisations where any one manager may also be the accountable manager, and subject to CAAF acceptance, he may also be the line maintenance manager or the workshop manager. Procedures should make clear who deputises for any particular manager in the case of lengthy absence of said manager(s). The length of absence to justify deputising is the period beyond which the organisation cannot function properly due to such absence.
- 3 The nominated post holders mentioned in paragraph (2) above should be available at the nominated ANR 145C organisation headquarters during normal working hours unless on rostered duty. Any absence longer than 7 days should be notified to the Authority, and an acting appointment made which is acceptable to the authority.
- 4 The accountable manager is responsible for ensuring that all necessary resources are available to accomplish maintenance in accordance with ANR145.65 (a) to support the organisation's ANR145C approval.
- 5 The base maintenance manager is responsible for ensuring that all maintenance required to be carried out in the hangar, plus any defect rectification carried out during base maintenance, is carried out to the design and quality standards specified in ANR145.65 (a). The base maintenance manager is also responsible for any corrective action resulting from the quality compliance monitoring of ANR145.65 (b).
- 6 The line maintenance manager is responsible for ensuring that all maintenance required to be carried out on the line including line defect rectification is carried out to the standards specified in ANR145.65 (a) and also responsible for any corrective action resulting from the quality compliance monitoring of ANR145.65 (b).
- 7 The workshop manager is responsible for ensuring that all work on aircraft components is carried out to the standards specified in ANR145.65 (a) and also responsible for any corrective action resulting from the quality compliance monitoring of ANR145.65 (b).

- 8 The quality manager is responsible for monitoring the organisation's compliance with ANR145C and requesting remedial action as necessary by the base maintenance manager/line maintenance manager/workshop manager or the accountable manager as appropriate.
- 9 Notwithstanding the example sub-paragraphs 2 – 7 titles, the organisation may adopt any title for the foregoing managerial positions but should identify to the CAAF the titles and persons chosen to carry out these functions.
- 10 Where an ANR145C organisation chooses to appoint managers for all or any combination of the identified ANR145C functions because of the size of the undertaking, it is necessary that these managers report ultimately through either the base maintenance manager or line maintenance manager or workshop manager or quality manager, as appropriate, to the accountable manager.
- 11 The CAAF therefore requires the managers specified above to be identified and their credentials submitted on CAAF Form Four to the CAAF. To be accepted, such managers should have relevant knowledge and satisfactory experience related to aircraft/aircraft component maintenance as appropriate in accordance with the relevant national regulations of the CAAF.

NOTE: Certifying staff may report to any of the managers specified depending upon which type of control the ANR145C approved maintenance organisation uses (for example – licensed engineers/independent inspection/dual function supervisors etc.) so long as the quality compliance monitoring staff specified in ANR145.65(b) remain independent of all. Appendix 4 gives some organisation examples.

**AMC 145.30(b)**

**Personnel Requirements**

See ANR145.30 (b)

- 1 To demonstrate compliance the ANR145C organisation should have a production man-hours plan showing that it has sufficient man-hours for the work that is intended to be carried out. In the case of an ANR145C organisation approved for base maintenance, the plan should relate to the aircraft hangar visit plan specified under paragraph AMC 145.25(a). Man-hour plans should regularly be updated.
- 2 Work carried out on any aircraft registered outside of the Fiji should be taken into account where it impacts upon the production man-hours plan.
- 3 Quality monitoring compliance function man-hours should be sufficient to meet the requirement of ANR145.65 (b).

**AMC 145.30(c)**

**Personnel Requirements**

See ANR145.30(c)

- 1 The referenced procedure requires amongst others that planners, mechanics, specialised services staff, supervisors and certifying staff are assessed for competence by 'on the job' evaluation and/or/ by examination relevant to their particular job role within the organisation before unsupervised work is permitted.
- 2 To assist in the assessment of competence, job descriptions are recommended for each job role in the organisation. Basically, the assessment should establish that –
  - (a) Planners are able to interpret maintenance requirements into maintenance tasks, and have an appreciation that they have no authority to deviate from the approved data.
  - (b) Mechanics are able to carry out maintenance tasks to any standard specified in the approved data and will notify supervisors of mistakes requiring rectification to re- establish required maintenance standards.
  - (c) Specialised services staff are able to carry out specialised maintenance tasks to the standard specified in the maintenance instructions and will both inform and await instructions from their supervisor in any case where it is not possible to complete the specialised maintenance in accordance with the approved data.
  - (d) Supervisors are able to ensure that all required maintenance tasks are carried out and where not done or where it is evident that a particular maintenance task cannot be carried out to the approved data then such problems will be reported to and agreed by the quality organisation.
  - (e) Certifying staff are able to determine when the aircraft or aircraft component is ready to release to service and when it should not be released to service.
- 3 Particularly, in the case of planners, specialised services staff, supervisors and certifying staff, a knowledge of organisation procedures relevant to their particular role in the organisation is important.

**AMC 145.30(d)**

**Personnel Requirements**

See ANR145.30 (d)

- 1 Training of certifying staff may be performed by the ANR145C approved organisation or by an institute selected by the organisation. In either case the ANR145C organisation needs to establish the curriculum and standards for training as well as pre-qualification standards for the personnel intended for training. Pre-qualification standards are intended to ensure that the trainee has a reasonable chance of successfully completing any course.
- 2 It is acknowledged that training standards are difficult to define and therefore examinations should be set at the end of each training course.
- 3 Initial training should cover basic engineering theory relevant to the airframe structure and systems fitted to the class of aircraft the organisation intends to maintain, specific information on the actual aircraft type on which the person is intended to become a certifying person including the impact of repairs and system/structural defects and company procedures relevant to the certifying staff's tasks. In addition, certifying staff should meet any experience requirements specified by the CAAF.
- 4 Continuation training is a process to ensure that certifying staff remain current in terms of procedures, human factors and technical knowledge and that the ANR145C approved maintenance organisation receives feedback on the adequacy of its procedures.
- 5 Continuation training should cover changes in relevant requirements such as ANR145C, changes in organisation procedures and the modification standard of the products being maintained plus human factors issues. It should also address instances where staff failed to follow procedures and the reasons why particular procedures are not always followed. In many cases the continuation training will reinforce the need to follow procedures but could on occasions result in a change to a procedure where certifying staff can show the procedure to be incomplete or incorrect.
- 6 Continuation training should be of sufficient duration in each 2 year period to achieve the sub- paragraph 1 goal and may be split into a number of separate elements. The method of training is intended to be a flexible process and could, for example, include aeronautical college courses, internal short duration courses, seminars etc. The elements, general content and length of such training should be specified in the ANR145C maintenance organisation exposition.
- 7 The ANR145C approved maintenance organisation should maintain a plan of initial and continuation training which lists all certifying staff and when training will take place, the elements of such training and an indication that it was carried out reasonably on time as planned. Such information should subsequently be transferred to the certifying staff record as required by ANR145.35 (a).

**AMC 145.35(a)**

**Record of Certifying Staff**

See ANR145.35 (a)

- 1 The following minimum information should be kept on record in respect of each certifying person:
  - a. Name
  - b. Date of Birth
  - c. Basic Training
  - d. Type Training
  - e. Continuation Training
  - f. Experience
  - g. Qualifications relevant to the approval
  - h. Scope of the authorisation
  - i. Date of first issue of the authorisation
  - j. If appropriate – expiry date of the authorisation
  - k. Identification Number of the authorisation
- 2 The record may be kept in any format but should be controlled by the organisation's quality department. This does not mean that the quality department should run the record system.
- 3 Persons authorised to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorised manner or that such confidential records become accessible to unauthorised persons.
- 4 The certifying person should be given reasonable access on request to his/her own records.
- 5 The CAAF is an authorised person when investigating the records system for initial and continued approval or when the CAAF has cause to doubt the competence of a particular certifying person.
- 6 The organisation should keep the record for at least two years after the certifying person has ceased employment with the organisation or withdrawal of the authorisation, whichever is the sooner. In addition, the certifying staff should be furnished on request with a copy of their record on leaving the organisation.

**AMC 145.35(b)**

**Record of Certifying Staff**

See ANR145.35 (b)

- 1 The authorisation document should be in a style that makes its scope clear to certifying staff and any authorised person that may require to examine the document. Where codes are used to define scope, an interpretation document should be readily available.
- 2 Certifying staff are not required to carry the authorisation document at all times but should produce it within a reasonable time of a request from an authorised person. Authorised persons, apart from the organisation's quality department or maintenance supervisors/managers, include the CAAF.

**AMC 145.40(a)**

**Equipment, Tools and Material**

See ANR145.40 (a)

- 1 Once the applicant for ANR145C approval has determined the intended scope of approval for consideration by the CAAF, it will be necessary to show that all tools and equipment as specified in the approved data can be made available when needed. All such tools and equipment that require to be controlled in terms of servicing or calibration by virtue of being necessary to measure specified dimensions and torque figures etc, should be clearly identified and listed in a control register including any personal tools and equipment that the organisation agrees can be used. Where the manufacturer specifies a particular tool or equipment, then that tool or equipment should be used unless otherwise agreed by the CAAF in a particular case via a procedure specified in the maintenance organisation exposition to use alternative tooling/ equipment.
- 2 The availability of equipment and tools means permanent availability except in the case of any tool or equipment that is so rarely needed that its permanent availability is not necessary.
- 3 An ANR145C organisation approved for base maintenance should have sufficient aircraft access equipment and inspection platforms/docking such that the aircraft may be properly inspected.
- 4 The necessary material to perform the scope of work means readily available raw material and aircraft components in accordance with the manufacturer's recommendation unless the organisation has an established spares provisioning procedure.

**AMC 145.40(b)**

**Equipment, Tools and Material**

See ANR145.40 (b)

- 1 The control of these tools and equipment requires that the organisation has a procedure to inspect/service and, where appropriate, calibrate such items on a regular basis and indicate to users that the item is within any inspection or service or calibration time-limit. A clear system of labelling all tooling, equipment and test equipment is therefore necessary giving information on when the next inspection or service or calibration is due and if the item is unserviceable for any other reason where it may not be obvious. A register should be maintained for all precision tooling and equipment together with a record of calibrations and standards used.
- 2 Inspection, service or calibration on a regular basis should be in accordance with the equipment manufacturers' instructions except where the ANR145C organisation can show by results that a different time period is appropriate in a particular case.

**AMC 145.45(b)**

**Approved Data**

See ANR145.45 (b)

- 1 Except as specified in sub-paragraph 5, each ANR145C approved maintenance organisation should hold and use the following minimum approved data relevant to the organisation's approval class rating. All maintenance related SDs, all CAAF maintenance related AICs, all applicable adopted maintenance requirements and notices which have not been superseded by a CAAF requirement, procedure or directive and all applicable airworthiness directives applicable to the aircraft/engine/equipment for which the organisation is approved which are issued by the various states of manufacture.



- 2 In addition to sub-paragraph 1, an ANR145C approved maintenance organisation with an approval class rating in category A – Aircraft, should hold and use the following approved data where published. The appropriate sections of the operator's aircraft maintenance programme, aircraft maintenance manual, repair manual, supplementary structural inspection document, corrosion control document, service bulletins, service letters, service instructions, modification leaflets, NDI manual, parts catalogue, type certificate data sheet and any other specific document issued by the type certificate or supplementary type certificate holder as approved data, except that in the case of operator or customer provided approved data it is not necessary to hold such provided data when the work order is completed other than the need to comply with ANR145.55(c).
- 3 In addition to sub-paragraph 1, an ANR145C approved maintenance organisation with an approval class rating in category B – Engines/APUs, should hold and use the following approved data where published. The appropriate sections of the engine/APU maintenance and repair manual, service bulletins, service letters, modification leaflets, NDI manual, parts catalogue, type certificate data sheet and any other specific document issued by the type certificate holder as approved data, except that in the case of operator or customer provided approved data it is not necessary to hold such provided data when the work order is completed other than the need to comply with ANR145.55(c).
- 4 In addition to sub-paragraph 1, an ANR145C approved maintenance organisation with an approval class rating in category C – Components other than complete engines/APUs, should hold and use the following approved data where published. The appropriate sections of the vendor maintenance and repair manual, service bulletins and service letters plus any document issued by the type certificate holder as approved data on whose product the component may be fitted when applicable, except that in the case of operator or customer provided approved data it is not necessary to hold such provided data when the work order is completed other than the need to comply with ANR145.55(c).
- 5 Appropriate sections of the sub-paragraphs 2 to 4 additional approved data means in relation to the maintenance work scope at each particular maintenance facility. In other words for example, a base maintenance facility should have almost complete set(s) of the approved data whereas a line maintenance facility may need only the maintenance manual and the parts catalogue.
- 6 An ANR145C approved maintenance organisation only approved in class rating category D – Specialised services, should hold and use the following approved data where published in respect of the particular specialised service(s) specified in the approval schedule. ANR145C plus associated AMCs and IEMs and the specialised service(s) process specification, except that in the case of operator or customer provided approved data it is not necessary to hold such provided data when the work order is completed other than the need to comply with ANR145.55(c).

**AMC 145.45(c)**

**Approved Data**

See ANR145.45(c)

The referenced procedure should address the need for a practical demonstration by the mechanic to the quality personnel of the proposed modified maintenance instruction. The quality personnel should approve (or not approve) the modified maintenance instruction and ensure that the type certificate or supplementary type certificate holder is informed of the modified maintenance instruction. The procedure should include a paper/electronic traceability of the complete process from start to finish and ensure that the relevant maintenance instruction clearly identifies the modification. Modified maintenance instructions should only be used in the following circumstances:

- a. Where the type certificate/supplementary type certificate holders original intent can be carried out in a more practical or more efficient manner.
- b. Where the type certificate/supplementary type certificate holders original intent cannot be achieved by following the maintenance instructions. For example, where a component cannot be replaced following the original maintenance instructions.
- c. For the use of alternative tools/equipment.

**AMC 145.45 (d) & (e)**

**Approved Data**

See ANR145.45 (d) & (e)

- 1 To keep data up to date a procedure should be set up to monitor the amendment status of all data and maintain a check that all amendments are being received by being a subscriber to any document amendment scheme.
- 2 Data being made available to personnel maintaining aircraft means that the data should be available in close proximity to the aircraft being maintained, for supervisors, mechanics and certifying staff to study.
- 3 Where computer systems are used, the number of computer terminals should be sufficient in relation to the size of the work programme to enable easy access, unless the computer system can produce paper copies. Where microfilm or microfiche readers/printers are used, a similar requirement is applicable.

**AMC 145.50(a)**

**Certification of Maintenance**

See ANR145..50(a)

- 1 A certificate of release to service is necessary before flight at the completion of any package of maintenance scheduled by the approved aircraft maintenance programme on the aircraft, whether such maintenance took place as base or line maintenance. Only in exceptional cases may scheduled maintenance be deferred and then only in accordance with procedures specified in the ANR145C approved maintenance organisation's exposition.
- 2 A certificate of release to service is necessary before flight, at the completion of any defect rectification, whilst the aircraft operates flight services between scheduled maintenance.
- 3 A certificate of release to service is necessary at the completion of any maintenance on an aircraft component whilst off the aircraft.
- 4 The authorised release certificate/airworthiness approval tag identified as CAAF Form One (see Appendix No. 3) constitutes the aircraft component certificate of release to service when an

aircraft component is maintained by one ANR145C organisation for another ANR145C organisation.

- 5 When an ANR145C organisation maintains an aircraft component for use by the organisation, a CAAF Form One is not normally necessary.

**AMC 145.50(b)**

**Certification of Maintenance**

See ANR145.50 (b)

- 1 The certificate of release to service should contain the following statement:  
  
**'Certifies that the work specified except as otherwise specified was carried out in accordance with ANR145C and in respect to that work the aircraft/aircraft component is considered ready for release to service'.**
- 2 The certificate of release to service should relate to the task specified in the manufacturer's or operator's instruction or the aircraft maintenance programme which itself may cross-refer to a manufacturer's/operator's instruction in a maintenance manual, service bulletin etc.
- 3 The date such maintenance was carried out should include when the maintenance took place relative to any life or overhaul limitation in terms of date/flying hours/cycles/landings etc., as appropriate.
- 4 When extensive maintenance has been carried out, it is acceptable for the certificate of release to service to summarise the maintenance so long as there is a unique cross-reference to the work-pack containing full details of maintenance carried out. Dimensional information should be retained in the work-pack record.
- 5 The person issuing the certificate of release to service should use his normal signature except in the case where a computer release to service system is used. In this latter case the CAAF will need to be satisfied that only the particular person can electronically issue the release to service. One such method of compliance is the use of a magnetic or optical personal card in conjunction with a personal identity number (PIN) known only to the individual which is keyed into the computer. A certification stamp is optional.

**IEM 145.55(a)**  
**Maintenance Records**

See ANR145.55 (a)

- 1 Properly executed and retained records provide owners, operators and maintenance personnel with information essential in controlling unscheduled and scheduled maintenance, and trouble shooting to eliminate the need for re-inspection and rework to establish airworthiness. Only records necessary to prove all requirements have been met for issuance of the certificate of release to service including sub-contractor's release documents should be retained.
- 2 Some gas turbine engines are assembled from modules and a true total time in service for a total engine is not kept. When owners and operators wish to take advantage of the modular design, then total time in service and maintenance records for each module is to be maintained. The maintenance records as specified are to be kept with the module and should show compliance with any mandatory requirements pertaining to that module.
- 3 Reconstruction of lost or destroyed records can be done by reference to other records which reflect the time in service, research of records maintained by repair facilities and reference to records maintained by individual mechanics etc. When these things have been done and the record is still incomplete, the owner/operator may make a statement in the new record describing the loss and establishing the time in service based on the research and the best estimate of time in service. The reconstructed records should be submitted to the CAAF for acceptance.

NOTE: Additional maintenance may be required.

- 4 The maintenance record can be either a paper or computer system or any combination of both.
- 5 Paper systems should use robust material which can withstand normal handling and filing. The record should remain legible throughout the required retention period.
- 6 Computer systems may be used to control maintenance and/or record details of maintenance work carried out. Computer systems used for maintenance should have at least one backup system which should be updated at least within 24 hours of any maintenance. Each terminal is required to contain programme safeguards against the ability of unauthorised personnel to alter the database.

**IEM 145.55(b)**  
**Maintenance Records**

See ANR145.55 (b)

A self-explanatory paragraph that requires the ANR145C organisation to give the operator the certificate of release to service including basic details of maintenance carried out, whereas ANR145.55(c) requires the ANR145C organisation to retain the record of all maintenance.

**AMC 145.55(c)**  
**Maintenance Records**

See ANR145.55(c)

- 1 The records should be stored in a safe way with regard to fire, flood and theft.
- 2 Computer backup discs, tapes etc. should be stored in a different location from that containing the working discs, tapes etc., in an environment that ensures they remain in good condition.
- 3 Where an ANR145C organisation terminates its operation, all retained maintenance records covering the last two years should be distributed to the last owner/customer of the respective aircraft or component. If it is impossible to trace the owner/customer, the maintenance records should be stored as required by the CAAF.

**IEM 145.60(a)**  
**Reporting of Unairworthy Conditions**

See ANR145.60 (a)

In respect of the ANR145C organisation, a condition that could seriously hazard the aircraft is normally limited to:

- (a) Serious cracks, permanent deformation, burning or serious corrosion of structure found during scheduled maintenance of the aircraft or engine or propeller or helicopter rotor system.
- (b) Failure of any emergency system during scheduled testing.

NOTE: (1) SD-Maintenance Occurrence Report and Accident investigation will cover other conditions to be reported by the operator.

NOTE: (2) The CAAF may require other specific maintenance findings to be reported by other formal direction.

**AMC 145.65(a)**

**Maintenance Procedures and Quality System**

See ANR145.65 (a)

Appendix 6 contains a procedure for subcontracting that meets the intent of part of ANR145.1 (b), (c) and (e) as specified in AMC 145.1.

**IEM 145.65(a)**

**Maintenance Procedures and Quality System**

See ANR145.65 (a)

- 1 The maintenance procedures should cover all aspects of carrying out the maintenance activity and in reality lay down the standards to which the ANR145C maintenance organisation intends to work. The aircraft/aircraft component design organisation standards and aircraft operator standards must be taken into account.
- 2 The maintenance procedures should address ANR145.25 to 145.60 inclusive and the limitations of ANR145.75 to 145.95 inclusive. The Appendix 2 example exposition contains typical procedures that are to be addressed.

**AMC 145.65(b)**

**Maintenance Procedures and Quality System**

See ANR145.65 (b)

- 1 The primary objectives of the quality system are to enable the ANR145C approved maintenance organisation to ensure that it can deliver a safe product and that the ANR145C approved maintenance organisation remains in compliance with the requirements.
- 2 Two essential elements of the quality system are an independent audit and a management control follow up system.
- 3 The independent audit is an objective process of routine sample checks of all aspects of the ANR145C approved maintenance organisation's ability to carry out all maintenance to the required standards and includes some product sampling as this is the end result of the maintenance process. It represents an objective overview of the complete maintenance related activities and is intended to complement the ANR145.50 (a) requirement for certifying staff to be satisfied that all required maintenance has been properly carried out before issue of the certificate of release to service. Independent audits should include a percentage of random audits carried out on a sample basis when maintenance is being carried out. This means some audits during the night for those organisations that work at night.
- 4 Except as specified in sub-paragraphs 7 and 9, the independent audit should ensure that all aspects of ANR145C compliance are checked every 12 months and may be carried out as a complete single exercise or subdivided over the 12 month period in accordance with a scheduled plan. The independent audit does not require each procedure to be checked against each product line when it can be shown that the particular procedure is common to more than one product line and the procedure has been checked every 12 months without resultant findings. Where findings have been identified, the particular procedure should be rechecked against other product lines until the findings have been rectified after which the independent audit procedure may revert back to 12 monthly for the particular procedure.
- 5 Except as specified otherwise in sub-paragraph 7, the independent audit should sample check one product on each product line every 12 months as a demonstration of the effectiveness of maintenance procedures compliance. It is recommended that procedures and product audits be combined by selecting a specific product example, such as an aircraft or engine or instrument and sample checking all the procedures and requirements associated with the

specific product example to ensure that the end result should be an airworthy product. For the purpose of the independent audit a product line includes any product under an Appendix 1 approval class rating as specified in the ANR145C approval schedule issued to the particular organisation. It therefore follows for example that an ANR145C approved maintenance organisation with a capability to maintain aircraft, repair engines, brakes and autopilots would need to carry out 4 complete audit sample checks each year except as specified otherwise in subparagraphs 5, 7 or 9, Appendix 5 contains some examples of audit subjects and plans.

- 6 The sample check of a product means to witness any relevant testing and visually inspect the product and associated documentation. The sample check should not involve repeat disassembly or testing unless the sample check identifies findings requiring such action.
- 7 Except as specified otherwise in sub-paragraph 9, where the smallest ANR145C approved maintenance organisation, that is an organisation with a maximum of 10 personnel actively engaged in maintenance, chooses to contract the independent audit element of the quality system in accordance with ANR145.65 (b) it is conditional on the audit being carried out twice in every 12-month period.
- 8 Except as specified otherwise in sub-paragraph 9, where the ANR145C approved maintenance organisation has line stations listed as per ANR145.75 (d) the quality system should describe how these are integrated into the system and include a plan to audit each listed line station at a frequency consistent with the extent of flight activity at the particular line station. Except as specified otherwise in sub-paragraph 9 the maximum period between audits of a particular line station should not exceed 24 months.
- 9 Except as specified otherwise in sub-paragraph 5, the CAAF may agree to increase any of the audit time periods specified in this AMC–145.65(b) by up to 100% provided that there are no safety related findings and subject to being satisfied that the ANR145C approved maintenance organisation has a good record of rectifying findings in a timely manner.
- 10 A report should be raised each time an audit is carried out describing what was checked and the resulting findings against applicable requirements, procedures and products. The report should be sent to the relevant department(s) for rectification action giving target rectification dates. Rectification dates should be discussed with such department(s) before the quality department or nominated quality auditor confirms such dates in the report. The relevant department(s) are required by ANR.65 (b) to rectify findings and inform the quality department or nominated quality auditor of such rectification.
- 11 The independence of the audit should be established by always ensuring that audits are carried out by personnel not responsible for the function, procedure or products being checked. It therefore follows that a large ANR145C approved maintenance organisation, being an organisation with more than about 500 maintenance staff should have a dedicated quality audit group whose sole function is to conduct audits, raise finding reports and follow up to check that findings are being rectified. For the medium sized ANR145C approved maintenance organisation, being an organisation with less than about 500 maintenance staff, it is acceptable to use competent personnel from one section/department not responsible for the production function, procedure or product to audit the section/department that is responsible subject to the overall planning and implementation being under the control of the quality manager. ANR145C approved maintenance organisations with a maximum of 10 maintenance staff actively engaged in carrying out maintenance may contract the independent audit element of the quality system to another ANR145C approved maintenance organisation or a competent person acceptable to the CAAF.
- 12 The management control follow up system is the second element of the quality system and may not be contracted to outside persons. The principal function is to ensure that all findings resulting from the independent audit are corrected in a timely manner and to enable the accountable manager to be properly informed of the extent of compliance with ANR145C and any safety issues. The accountable manager should hold regular meetings with staff to check progress on rectification except that in the large organisations such meetings may be delegated

on a day to day basis to the quality manager subject to the accountable manager meeting at least once per year with the senior staff involved to review the overall performance. For the smallest ANR145C approved maintenance organisations that cannot justify a quality department, the management control follow up system may be carried out by nominated certifying staff or the accountable manager.

- 13 All records pertaining to the independent quality audit and the management control follow up system should be retained for at least 2 years after the date of clearance of the finding to which they refer or for such periods as to support the sub-paragraph 9 escalation programme, whichever is the longer.

#### **IEM 145.70(a)**

#### **Maintenance Organisation Exposition**

See ANR145.70 (a)

- 1 The purpose of the Maintenance Organisation Exposition (MOE) is to set forth the procedures, means and methods of the Organisation.
- 2 Compliance with its contents will assure compliance with the ANR145C requirements, which is a pre-requisite to obtaining and retaining an approved maintenance organisation certificate.
- 3 ANR145.70 (a)(1) to (a)(10) constitutes the 'management' part of the MOE and therefore could be produced as one document and made available to the ANR145.30(a) person(s) who should be reasonably familiar with its contents. ANR145.70 (a) (5) list of Certifying Staff may be produced as a separate document.
- 4 ANR145.70 (a) (11) and (a)(12) constitutes the working procedures of the organisation and therefore as stated in the requirement may be produced as any number of separate procedures manuals. It should be remembered that these documents should be cross-referenced from the management MOE.
- 5 Personnel are expected to be familiar with those parts of the manuals that are relevant to the maintenance work they carry out.
- 6 The ANR145C approved maintenance organisation will need to specify in the MOE who should amend the manual particularly in the case where there are several parts.
- 7 The Quality Manager should be responsible for monitoring the amendment of the MOE, unless otherwise agreed by the CAAF, including associated procedures manuals and submission of the proposed amendments to the CAAF unless the CAAF has agreed via a procedure stated in the amendment section of the MOE that some defined class of amendments may be incorporated without prior CAAF approval.
- 8 In reality, therefore, the MOE has to cover four main parts:
  - (a) The management MOE covering the parts specified earlier.
  - (b) The maintenance procedures covering all aspects of how aircraft components may be accepted from outside sources and how aircraft will be maintained to the required standard.
  - (c) The quality system procedures including the methods of qualifying mechanics, inspection, certifying staff and quality audit personnel.
  - (d) Contracted operator procedures and paperwork.



- 9 The accountable manager's exposition statement should embrace the intent of the following paragraph and in fact this statement may be used without amendment. Any modification to the statement should not alter the intent.

'This exposition defines the organisation and procedures upon which the CAAF ANR145C Approval is based

These procedures are approved by the undersigned and must be complied with, as applicable, when work/orders are being progressed under the terms of the ANR145C approval.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the CAAF from time to time where these new or amended regulations are in conflict with these procedures.

It is understood that the CAAF will approve this organisation whilst the CAAF is satisfied that the procedures are being followed and work standards maintained. It is further understood that the CAAF reserves the right to suspend, vary or cancel the ANR145C approval of the organisation if the CAAF has evidence that procedures are not followed or standards not upheld.

Signed .....

Dated .....

Accountable Manager and .....(quote position).....

For and on behalf of .....(quote organisation's name). ....

- 10 Whenever the accountable manager changes it is important to ensure that the new accountable manager signs the MOE Accountable Manager's statement at the earliest opportunity as part of the acceptance by the CAAF.

Failure to carry out this action could invalidate the ANR145C Approval.

When an organisation is approved against any other Part 145 standard containing a requirement for an exposition, a supplement covering the differences will suffice to meet the requirements except that the CAAF supplement must have an index showing where those parts missing from the supplement are covered.

Appendix 2 contains one example of a MOE layout.

**IEM 145.80**

**Limitations on the Approved Maintenance Organisation**

See ANR145.C.80

This paragraph is intended to cover the situation where the larger ANR145C organisation may temporarily not hold all the necessary tools, equipment etc., for an aircraft type or variant specified in the organisation's approval. This paragraph means that the CAAF need not amend the approval to delete the aircraft type or variants on the basis that it is a temporary situation and there is a commitment from the organisation to re-acquire tools, equipment etc. before maintenance on the type may recommence.

**IEM 145.85**

**Change to the Approved Maintenance Organisation**

See ANR145.85

The primary purpose of this paragraph is to enable the ANR145C organisation to remain approved if agreed by the CAAF during negotiations about any of the specified changes. Without this paragraph the approval would automatically be suspended in all cases.

**IEM 145.95 (a)**

**Equivalent Safety Case**

See ANR145.95

Once an ANR145.95 (a) equivalent safety case has been accepted by the CAAF, it is intended that such equivalent safety cases be published by CAAF Air Safety Department as amended SDs or initially as Airworthiness AICs.

**IEM 145.100**

**Revocation, Suspension, Limitation or Refusal to Renew the ANR145C Approval Certificate**

See ANR145.100

The procedures for handling representations regarding revocation, suspension, limitation or refusal to renew the ANR145C approval certificate are contained in the Foreword of SD-ANR145C APPROVAL OF AIRCRAFT MAINTENANCE ORGANISATIONS.

## APPENDIX 1 ORGANISATIONS APPROVAL CLASS AND RATING SYSTEM

1. Except as stated otherwise for the smallest organisation in paragraph 13, Table 1 outlines the full extent of approval possible under ANR145C in a standardized form. An organisation may be granted an approval ranging from a single class and rating with limitations to all classes and ratings with limitations.
2. In addition to table 1 the ANR145C approved maintenance organisation is required by ANR145.20 to indicate scope of work in the maintenance organisation exposition. ANR145.70 (a)(8) also refers to the same scope of work and it should be noted that a capability list is deemed to be one form of scope of work. See also paragraph 11.
3. Within the approval class(es) and rating(s) granted by the CAAF, the scope of work specified in the maintenance organisation exposition defines the exact limits of approval. It is therefore essential that the approval class(es) and rating(s) and the organisations scope of work are compatible.
4. A category A class rating means that the ANR145C approved maintenance organisation may carry out maintenance on the aircraft and any component (including engines/APUs) only whilst such components are fitted to the aircraft except that such components can be temporarily removed for maintenance when such removal is expressly permitted by the aircraft maintenance manual to improve access for maintenance subject to a control procedure in the maintenance organisation exposition acceptable to the CAAF. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval.
5. A category B class rating means that the ANR145C approved maintenance organisation may carry out maintenance on the uninstalled engine/APU and engine/APU components only whilst such components are fitted to the engine/APU except that such components can be temporarily removed for maintenance when such removal is expressly permitted by the engine/APU manual to improve access for maintenance. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. An ANR145C approved maintenance organisation with a category B class rating may also carry out maintenance on an installed engine during 'base' and 'line' maintenance subject to a control procedure in the maintenance organisation exposition acceptable to the CAAF. The maintenance organisation exposition paragraph 1.8 scope of work should reflect such activity where permitted by the CAAF.
6. A category C class rating means that the ANR145C approved maintenance organisation may carry out maintenance on uninstalled components (excluding engines and APUs) intended for fitment to the aircraft or engine/APU. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. An ANR145C approved maintenance organisation with a category C class rating may also carry out maintenance on an installed component during base and line maintenance or at an engine/APU maintenance facility subject to a control procedure in the maintenance organisation exposition acceptable to the CAAF. The maintenance organisation exposition paragraph 1.8 scope of work should reflect such activity where permitted by the CAAF.
7. A category D class rating is a self contained class rating not necessarily related to a specific aircraft, engine or other component. The D1 – Non Destructive Inspection (NDI) rating is only necessary for an ANR145C approved maintenance organisation that carries out NDI as a particular task for another organisation. An ANR145C approved maintenance organisation with a class rating in A or B or C category may carry out NDI on products it is maintaining subject to the maintenance organisation exposition containing NDI procedures, without the need for a D1 class rating.
8. Category A class ratings are subdivided into 'Base' or 'Line' maintenance. A ANR145C approved maintenance organisation may be approved for either 'Base' or 'Line' maintenance or both. It should be noted that a 'Line' facility located at a main base facility requires a 'Line' maintenance approval.

9. The 'limitation' section is intended to give the CAAF maximum flexibility to customise the approval to a particular organisation. Table 1 specifies the types of limitation possible and whilst maintenance is listed last in each class rating it is acceptable to stress the maintenance task rather than the aircraft or engine type or manufacturer, if this is more appropriate to the organisation. An example could be avionics systems installations and maintenance.
10. Table 1 makes reference to series, type and group in the limitation section of class A and B. Series means a specific type series such as Airbus 300 or 310 or 319 or Boeing 737–300 series or RB211–524 series etc. Type means a specific type or model such as Airbus 310–240 type or RB 211–524 B4 type etc. Any number of series or types may be quoted. Group means for example Cessna single piston-engine aircraft or Lycoming non-supercharged piston engines etc.
11. When a lengthy capability list is used which could be subject to frequent amendment, then such amendment should be in accordance with a procedure acceptable to the CAAF and included in the maintenance organisation exposition. The procedure should address the issues of who is responsible for capability list amendment control and the actions that need to be taken for amendment. Such actions include ensuring compliance with ANR145C for products or services added to the list.
12. Table 2 identifies the ATA specification 100 chapter for the category C component rating.
13. An ANR145C approved maintenance organisation which employs only one person to both plan and carry out all maintenance can only hold a limited scope of approval rating. The maximum permissible limits are: –

CLASS AIRCRAFT	RATING A2 AEROPLANES	PISTON ENGINED. LINE & BASE 5700 KG AND BELOW
CLASS AIRCRAFT	RATING A2 AEROPLANES	TURBINE ENGINED LINE 5700 KG AND BELOW
CLASS AIRCRAFT	RATING A3 HELICOPTERS	SINGLE ENGINED LINE & BASE LESS THAN 2730 KG
CLASS ENGINES	RATING B2 PISTON	LESS THAN 450 HP
CLASS COMPONENTS RATING OTHER THAN COMPLETE ENGINE OR APUs	C1 TO C20	AS PER CAPABILITY LIST
CLASS SPECIALISED SERVICES	D1 NDI	PROCESSES TO BE SPECIFIED

It should be noted that such an organisation may be further limited by the CAAF in the scope of approval dependant upon the capability of the particular organisation.

CLASS	RATING	LIMITATION	BASE	LINE
AIRCRAFT	A1 Aeroplanes/airships above 5700 kg	Will state aeroplane/airship series or type and/or the maintenance task(s)		
	A2 Aeroplanes/airships 5700 kg and below	Will state aeroplane/airship manufacturer or group or series or type and/or the maintenance task(s)		
	A3 Helicopters	Will state helicopter manufacturer or group or series or type and/or the maintenance task(s)		
ENGINES	B1 Turbine	Will state engine series or type and/or the maintenance task(s)		
	B2 Piston	Will state engine manufacturer or group or series or type and/or the maintenance task(s)		
	B3 APU	Will state engine manufacturer or series or type and/or the maintenance task(s)		
COMPONENTS OTHER THAN COMPLETE ENGINES OR APUS	C1 Air Cond & Press	Will state aircraft type or aircraft manufacturer or component manufacturer or the particular component and/or cross refer to a capability list in the exposition and/or the maintenance task(s).		
	C2 Auto Flight			
	C3 Comms and Nav			
	C4 Doors – Hatches			
	C5 Electrical Power			
	C6 Equipment			
	C7 Engine – APU			
	C8 Flight Controls			
	C9 Fuel – Airframe			
	C10 Helicopter – Rotors			
	C11 Helicopter – Trans			
	C12 Hydraulic			
	C13 Instruments			
	C14 Landing Gear			
	C15 Oxygen			
	C16 Propellers			
	C17 Pneumatic			
	C18 Protection ice/rain/fire			
	C19 Windows			
	C20 Structural			
SPECIALISED SERVICES	D1 Non Destructive Testing	Will state particular or group of services		

TABLE 2

CLASS	RATING	ATA CHAPTERS
COMPONENTS OTHER THAN COMPLETE ENGINES OR APUs	C1 Air Cond & Press	21
	C2 Auto Flight	22
	C3 Comms and Nav	23 – 34
	C4 Doors – Hatches	52
	C5 Electrical Power	24 – 33
	C6 Equipment	25 – 38 – 45
	C7 Engine – APU	49 – 71 – 72 – 73 – 74 – 75 – 76 – 77 – 78 – 79 – 80 – 81 – 82 – 83
	C8 Flight Controls	27 – 55 – 57.40 – 57.50 – 57.60 – 57.70
	C9 Fuel – Airframe	28
	C10 Helicopter – Rotors	62 – 64 – 66 – 67
	C11 Helicopter – Trans	63 – 65
	C12 Hydraulic	29
	C13 Instruments	31
	C14 Landing Gear	32
	C15 Oxygen	35
	C16 Propellers	61
	C17 Pneumatic	36 – 37
	C18 Protection ice/rain/fire	26 – 30
	C19 Windows	56

## APPENDIX 2 MAINTENANCE ORGANISATION EXPOSITION AND/OR MAINTENANCE MANAGEMENT EXPOSITION

The exposition should contain the information, as applicable, specified in this Appendix. The information, may be presented in any subject order so long as all applicable subjects are covered. Where an organisation uses a different format, for example, to allow the exposition to serve for more than one ANR145C approval, then the exposition should contain a cross reference Annex using this list as an index with an explanation as to where in the exposition the subject matter can be found.

Small ANR145C approved maintenance organisations may combine the various items to form a simple exposition more relevant to their needs.

**CAAF will provide Industry with MOE and MME templates on request. The following table provides a guidance matrix for Industry on How to prepare a combined MMOE template from the individual templates (ie. MOE & MME) which Industry provides.**

MMOE Part	Title of the MMOE Part	Template/Format to Follow
0	General Organization	PART 0 OF MME
1	Management	PART 1 OF MOE
2	ANR145C Maintenance Procedures	PART 2 OF MOE
2L	Additional Line Maintenance Procedures	PART L2 OF MOE
3	Quality System Procedures	PART 3 OF MOE
4	Contracted Operators	PART 4 OF MOE
5	Appendices (Sample Documents)	PART 5 OF MOE
6	Operator's (AOC holder's) Maintenance Support Procedures	PART 1 OF MME

INTENTIONALLY LEFT BLANK



INTENTIONALLY LEFT BLANK

## APPENDIX 3 THE AUTHORISED RELEASE CERTIFICATE/CAAF FORM ONE

### 1 INTRODUCTION

This appendix only covers the use of CAAF Form One for maintenance purposes.

### 2 PURPOSE AND SCOPE

The purpose of the Certificate is to identify airworthiness and eligibility status of parts/components/assemblies (hereafter referred to as 'part(s)') after manufacture and to release maintenance work carried out on parts under the approval of the CAAF and to allow fitment of parts removed from one aircraft/aircraft component to be fitted to another aircraft/aircraft component.

The Certificate referenced CAAF Form One is called the authorised release certificate.

The Certificate is to be used for domestic purposes, and serves as an official certificate for parts from the maintenance organisation to users. The certificate is not a delivery or shipping note.

It can only be issued by organisations approved by the CAAF within the scope of the approval or by the CAAF itself.

The Certificate may be used as a rotatable tag by utilising the available space on the reverse side of the Certificate for any additional information and despatching the part with two copies of the Certificate so that one copy may be eventually returned with the part to the maintenance organisation. The alternative solution is to use existing rotatable tags and also supply a copy of the Certificate.

Under no circumstances may a certificate be issued for any part when it is known that the part contains a defect considered a serious hazard to flight safety.

A Certificate should not be issued for any part when it is known that the part is unserviceable except in the case of a part undergoing a series of maintenance processes at several ANR145C approved maintenance organisations and the part needs a Certificate for the previous maintenance process carried out for the next ANR145C approved maintenance organisation to accept the part for subsequent maintenance processes. As mentioned for Block 13, a clear statement of limitation should be endorsed in Block 13.

NOTE: Aircraft may not be released using the Certificate.

### 3 GENERAL

The Certificate should comply with the format attached including block numbers in that each block must be located as per the layout. The size of each block may however be varied to suit the individual application, but not to the extent that would make the Certificate unrecognizable. The overall size of the Certificate may be significantly increased or decreased so long as the certificate remains recognizable and legible. If in doubt consult the CAAF.

All printing should be clear and legible to permit easy reading.

The Certificate should either be pre-printed or computer generated but in either case the printing of lines and characters must be clear and legible. Pre-printed wording is permitted in accordance with the attached model but no other certification statements are permitted. Completion of the Certificate should be in English.

The details to be entered on the Certificate can be either machine/computer printed or handwriting using block letters and should permit easy reading.

Abbreviations should be restricted to a minimum.

The space remaining on the reverse side of the Certificate may be used by the originator for any additional information but should not include any certification statement.

The original Certificate should accompany the parts and correlation should be established between the Certificate and the part(s). A copy of the Certificate should be retained by the organisation that maintained the part. Where the Certificate format and data is entirely computer generated, subject to acceptance by the CAAF, it is permissible to retain the Certificate format and data on a secure database.

Where a single Certificate was used to release a number of parts and those parts are subsequently separated out from each other, such as through a parts distributor, then a copy of the original Certificate should accompany such parts and the original Certificate should be retained by the organisation that received the batch of parts. Failure to retain the original Certificate could invalidate the parts release status.

NOTE: There is no restriction in the number of copies of the Certificate sent to the customer or retained by the originator.

The Certificate that accompanies the part may be attached to the part by being placed in an envelope for durability.

#### 4 COMPLETION OF THE RELEASE CERTIFICATE BY THE ORIGINATOR

Except as otherwise stated, there should be an entry in all blocks to make the document a valid certificate.

- |         |   |
|---------|---|
| Block 1 | Fiji may be pre-printed.  |
| Block 2 | The first line in this block should be the CAAF under which authority the Certificate is released.  |
| Block 3 | A unique number should be pre-printed in this block for Certificate control and traceability purposes except that in the case of a computer generated document, the unique number need not be pre-printed where the computer is programmed to produce the number. |
| Block 4 | The full name and address of the organisation releasing the part covered by this Certificate. This block may be pre-printed. Logos, etc., are permitted if the logo can be contained within the block.  |
| Block 5 | Its purpose is to reference work order/contract/invoice or any other internal organisational process such that a fast traceability system can be established.   |
| Block 6 | This block is provided for the convenience of the organisation issuing the Certificate to permit easy cross-reference to the 'Remarks' Block 13 by the use of item numbers. Completion is not mandatory.  |

Where a number of items are to be released on the Certificate, it is permissible to use a separate listing cross-referring Certificate and list to each other.

- |         |  |
|---------|--|
| Block 7 | The name or description of the part should be given. Preference should be given to use of the Illustrated Parts Catalogue (IPC) designation.   |
| Block 8 | State the Part Number. Preference should be given to use of the IPC number designate.  |
| Block 9 | Used to indicate the Type-Approved products for which the released parts are eligible for installation. Completion of block is optional but if used, the following entries are permitted: <ul style="list-style-type: none"> <li>(a) The specific or series aircraft, engine, propeller or auxiliary power unit model, or a reference to a readily available catalogue or manual which contains such information, for example: 'A300'.</li> <li>(b) Various', if known to be eligible for installation on more than one model of Type-Approved product, unless the originator wishes to restrict usage to a particular model installation when it should so state.</li> <li>(c) 'Unknown', if eligibility is unknown, this category being primarily for use by maintenance organisations.</li> </ul> |

NOTE: Any information in Block 9 does not constitute authority to fit the part to a particular aircraft, engine, propeller or auxiliary power unit. The User/Installer should confirm via documents such as the Parts Catalogue, Service Bulletins, etc. that the part is eligible for the particular installation.

- |          |   |
|----------|---|
| Block 10 | State the number of parts being released.   |
| Block 11 | State the part Serial Number or Batch Number if applicable, if neither applicable, state 'N/A'. |

Block 12 The following words in quotation marks, with their definitions, indicate the status of the part being released. One or a combination of these words should be stated in this block:

1 'OVERHAULED'

The restoration of a used part/component/assembly by inspection, test and replacement in conformity with an approved standard (\*) to extend the operational life.

2 'INSPECTED'/'TESTED'

The examination of a part/component/assembly to establish conformity with an approved standard (\*).

3 'MODIFIED'

The alteration of a part/component/assembly in conformity with an approved standard (\*).

4 'REPAIRED'

The restoration of a part/component/assembly to a serviceable condition in conformity with an approved standard (\*).

5 'RETREADED'

The restoration of a used tyre in conformity with an approved standard (\*).

6 'REASSEMBLED'

The reassembly of a component in conformity with an approved standard (\*). Example: A propeller after transportation.

NOTE: This provision should only be used in respect of components which were originally fully assembled by the manufacturer in accordance with manufacturing requirements.

(\*) Approved Standard means a manufacturing/design/maintenance/quality standard approved by the CAAF.

Approved by the CAAF means approved by the CAAF or in accordance with a procedure approved by the CAAF.

The above statements should be supported by reference in Block 13 to the approved data/manual/specification used during maintenance.

Block 13 It is mandatory to state any information in this block either direct or by reference to supporting documentation that identifies particular data or limitations relating to the parts being released that are necessary for the User/Installer to make the final airworthiness determination of the part. Information should be clear, complete, and provided in a form and manner which is adequate for the purpose of making such a determination.

Each statement should be clearly identified as to which item it relates. If there is no statement, state 'None'.

Some examples of the information to be quoted are as follows:

- The identity and issue of maintenance documentation used as the approved standard.
- Airworthiness Directives carried out and/or found carried out, as appropriate.
- Repairs carried out and/or found carried out, as appropriate.
- Modifications carried out and/or found carried out, as appropriate.
- Replacement parts installed and/or parts found installed, as appropriate.
- Life limited parts history.
- Deviations from the customer work order.

Blocks 14, 15, 16, 17 & 18:

Must not be used for maintenance tasks by ANR145C approved maintenance organisations. These blocks are specifically reserved for the release/certification of newly manufactured parts.

Block 19 Contains the required ANR145.50 (a) release to service statement for all maintenance by ANR145C approved maintenance organisations. When non ANR145C maintenance is being released block 13 should specify the particular national regulation. In any case the appropriate box should be 'ticked' to validate the release.

The certification statement 'except as otherwise specified in block 13' is intended to address the following situations;

- (a) The case where the maintenance could not be completed.
- (b) The case where the maintenance deviated from the standard required by ANR145.
- (c) The case where the maintenance was carried out in accordance with a non ANR145C requirement.

Whichever case or combination of cases should be specified in block 13.

Block 20 For the signature of the certifying staff authorised by the ANR145C approved maintenance organisation. This signature can be computer printed subject to the CAAF being satisfied that only the signatory can direct the computer and that a signature is not possible on a blank computer generated form.

Block 21 The ANR145C approved maintenance organisation reference number given by the CAAF.

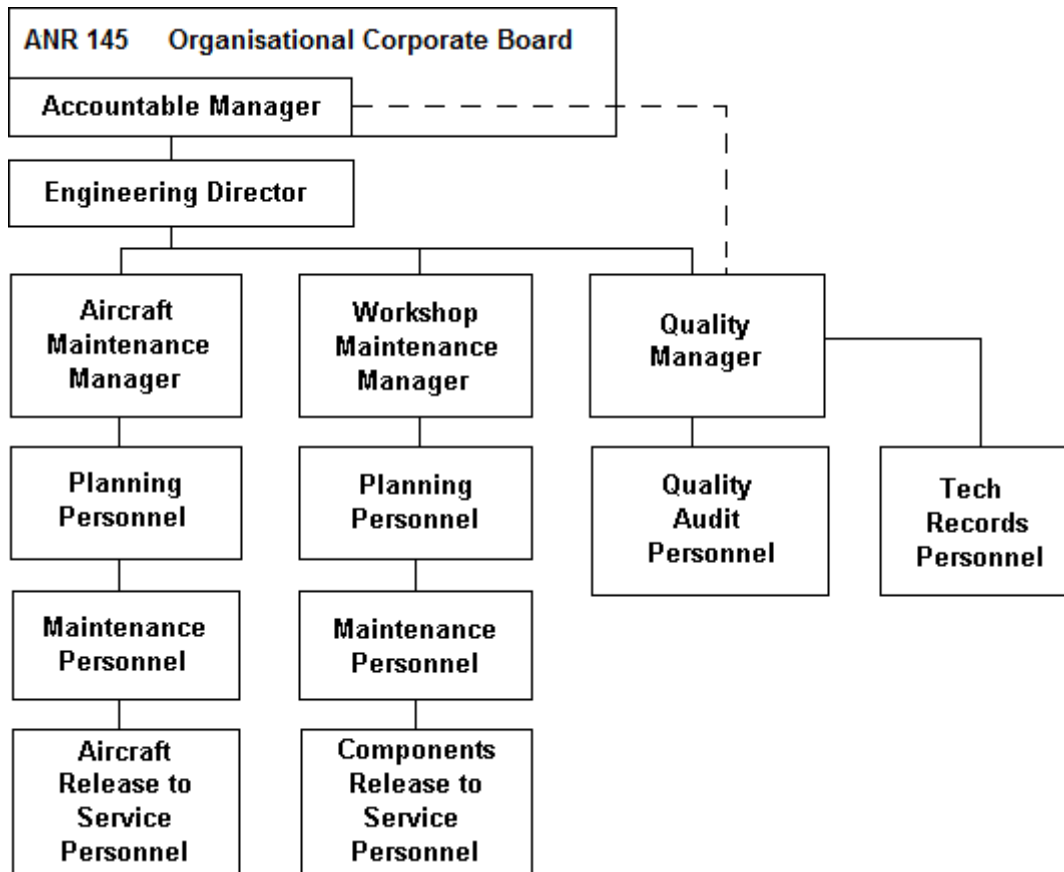
Block 22 The printed name of the Block 20 signatory and personal authorisation ref.

Block 23 The date of signing the Block 19 release to service.

Please note the User Responsibility Statements are on the reverse of this Certificate. These statements may be added to the front of the Certificate below the bottom line by reducing the depth of the form.

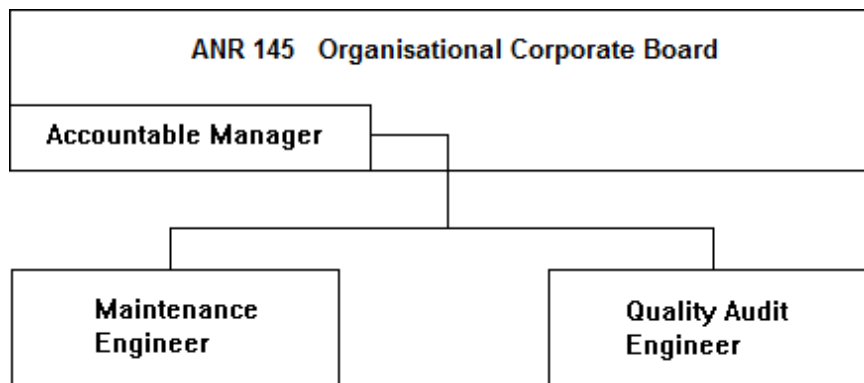
## APPENDIX 4 SOME OUTLINE EXAMPLES OF ORGANISATIONAL STRUCTURES POSSIBLE UNDER ANR145C

### A. TYPICAL LARGE ORGANISATION



1. The Engineering Director may be the accountable manager if it is a Corporate Board position and meets the other requirements for accountable manager. Typically such a position is entitled Vice President (Engineering).
2. Quality Audit personnel must remain independent of the Maintenance Manager. Release to Service personnel may report instead to the Quality Manager position.
3. Technical records personnel may report instead to the Aircraft (Workshop) Manager.

## B. TYPICAL SMALL ORGANISATION





## APPENDIX 5 EXAMPLE QUALITY AUDIT PLANS

### 1 PURPOSE

- 1.1 The purpose of this Appendix is to give guidance on just one acceptable working audit plan to meet part of the needs of ANR145.65 (b). **There are any number of other acceptable working audit plans.**
- 1.2 The proposed plan lists the subject matter that should be covered by the audit and attempts to indicate applicability in the various types of workshops and aircraft facilities. The list should therefore be tailored for the particular situation and more than one list may be necessary. Each list should be shown against a timetable to indicate when the particular item is scheduled for audit and when the audit was completed.

REF	SUBJECT	HANGAR	ENGINE Workshop	MECH Workshop	AVIONIC Workshop
145.25	(a) Facilities-size & segregation	yes	yes	yes	yes
	(b) Office accommodation	yes	yes	yes	yes
	(c) Work environment	yes	yes	yes	yes
	(d) Storage	yes	yes	yes	yes
145.30	(a) Management changes	yes	yes	yes	yes
	(b) Staff Nos & manhour plan	yes	yes	yes	yes
	(c) Competence process	yes	yes	yes	yes
	(d) Qualifying certifying staff	yes	yes	yes	yes
145.35	(a) Records of certifying staff	yes	yes	yes	yes
	(b) Issue of authorisations	yes	yes	yes	yes
145.40	(a) Adequate equipment	yes	yes	yes	yes
	(b) Equipment control & cal	yes	yes	yes	yes
145.45	(a)(b) Approved data held	yes	yes	yes	yes
	(c) Modified maint data	yes	yes	yes	yes
	(d) Data availability	yes	yes	yes	yes
	(e) Data up to date	yes	yes	yes	yes

(Continued Over)

REF	SUBJECT	HANGAR	ENGINE Workshop	MECH Workshop	AVIONIC Workshop
145.50	(a) Aircraft release	yes	no	no	no
	(a) Comp release – CAAF Form 1	no	yes	yes	yes
	(b) Release doc contents	yes	yes	yes	yes
	(c) Pre 145 release control	no	yes	yes	yes
145.55	(a) Details on work docs	yes	yes	yes	yes
	(b) Operator's copy of release	yes	if appl	if appl	if appl
	(c) 2 year record retention	yes	yes	yes	yes
145.60	Reporting unairworthy findings	yes	yes	yes	yes
145.65	(a) Clear work orders	yes	yes	yes	yes
	(a) Procedures per exposition				
2.1	Suppliers & subcontractors	yes	yes	yes	yes
2.2	Acceptance of parts	yes	yes	yes	yes
2.3	Parts control in stores	yes	yes	yes	yes
2.6	Use of tools	yes	yes	yes	yes
2.7	Cleanliness standards	yes	yes	yes	yes
2.9	Control of repairs	yes	yes	yes	yes
2.10	A/C Maint programme compl	yes	no	no	no
2.11	Airworthiness directive control	yes	yes	yes	yes
2.12	Control of modifications	yes	yes	yes	yes
2.13	Control of working docs	yes	yes	yes	yes
2.15	Base maintenance defects	yes	no	no	no
2.19	Defective parts to stores	yes	yes	yes	yes
2.20	Parts to outside contractors	yes	yes	yes	yes
2.21	Computer maint systems	if appl	if appl	if appl	if appl
2.22	Engine running	yes	yes	no	no
2.22	Aircraft procedures	yes	no	no	no

(Continued Over)

REF	SUBJECT	HANGAR	ENGINE Workshop	MECH Workshop	AVIONIC Workshop
L2.1	Line maint control parts etc	if appl	no	no	no
L2.2	Line servicing control	if appl	no	no	no
L2.3	Line defect control	if appl	no	no	no
L2.4	Tech log completion	if appl	no	no	no
L2.5	Pool & loan parts	if appl	no	no	no
L2.6	Return defective parts to base	if appl	no	no	no
3.9	Product maint exemption contrl	if appl	if appl	if appl	if appl
3.10	Procedures deviation control	if appl	if appl	if appl	if appl
3..11	Special services control (NDI)	if appl	if appl	if appl	no
3.12	Contractors working teams	yes	yes	no	no
145.65 (b)	Product audit	yes	yes	yes	yes
145.70	Exposition up to date	yes	yes	yes	yes
145.75	Privileges and locations control	yes	yes	yes	yes
145.80	Limitation control	yes	yes	yes	yes
145.85	Control of changes	yes	yes	yes	yes

Note 1: 'if appl' means if applicable or relevant.

Note 2: In the line station case all line stations should be audited at the frequency agreed by the CAAF within the limits of AMC–145.65(b).

Note 3: The reference system used for this example working audit plan relates either to the ANR145C paragraphs or the Appendix 2 Maintenance Organisation Exposition (MOE) items. Where an MOE item has been omitted it is due to the existence of a clear ANR145C paragraph covering the same issue. ANR145C paragraphs have priority due to being the primary requirement.

## APPENDIX 6

### NON ANR145C ORGANISATIONS WORKING UNDER THE QUALITY SYSTEM OF AN ANR145C APPROVED MAINTENANCE ORGANISATION (SUB- CONTRACTING)

#### 1 INTRODUCTION

- 1.1 ANR145.1 (b), (c) and (e) permits an organisation that is not appropriately approved in accordance with ANR145C to carry out certain maintenance under the quality system of an appropriately approved ANR145C organisation. AMC 145.1 and this Appendix provides an acceptable means of compliance.
- 1.2 As working under the quality system of an ANR145C approved maintenance organisation is more commonly referred to as sub-contracting, this latter phrase will be used throughout this Appendix.

#### 2 FUNDAMENTALS OF ANR145C SUB-CONTRACTING

- 2.1 The fundamental reasons for allowing an ANR145C approved maintenance organisation to sub- contract certain maintenance tasks are:
  - (a) To permit the acceptance of specialised maintenance services, such as, but not limited to, plating, heat treatment, plasma spray, fabrication of specified parts for minor repairs/modifications, etc., without the need for direct CAAF approval in such cases.
  - (b) To permit the acceptance of aircraft maintenance up to but not including a base maintenance check as specified in ANR145.1(e) by organisations not appropriately ANR145C approved when it is unrealistic to expect direct CAAF approval. The Authority will determine when it is unrealistic but in general it is considered unrealistic if only one or two ANR145C approved maintenance organisations intend to use the sub-contract organisation.
  - (c) To permit the acceptance of component maintenance.
  - (d) To permit the acceptance of engine maintenance up to but not including a workshop maintenance check or overhaul of an engine or engine module as specified in ANR145.1(e) by organisations not appropriately ANR145C approved when it is unrealistic to expect direct CAAF approval. The determination of unrealistic is as per sub-paragraph (b).
- 2.2 When maintenance is carried out under the sub-contract control system it means that for the duration of such maintenance, the ANR145C approval has been temporarily extended to include the sub-contractor. It therefore follows that those parts of the sub-contractor's facilities, personnel and procedures involved with the ANR145C approved maintenance organisation's products undergoing maintenance should meet ANR145C requirements for the duration of that maintenance and it remains the ANR145C organisation's responsibility to ensure such requirements are satisfied.
- 2.3 For the criteria specified in sub-paragraph 3.1 the ANR145C approved maintenance organisation is not required to have complete facilities for maintenance that it needs to sub- contract but it should have its own expertise to determine that the sub-contractor meets the necessary standards. However an ANR145C approved maintenance organisation cannot be approved unless it has the in house facilities, procedures and expertise to carry out the majority of maintenance for which it wishes to be approved in terms of the number of class ratings.

- 2.4 The ANR145C approved maintenance organisation may find it necessary to include several specialist sub-contractors to enable it to be approved to completely certify the release to service of a particular product. Examples could be specialist welding, electro-plating, painting etc. To authorise the use of such sub-contractors, the CAAF will need to be satisfied that the ANR145C approved maintenance organisation has the necessary expertise and procedures to control such sub-contractors.
- 2.5 An ANR145C approved maintenance organisation working outside the scope of its approval schedule is deemed to be not approved. Such an organisation may in this circumstance operate only under the sub-contract control of another appropriately approved ANR145C Organisation.
- 2.6 ANR145.1 (e) limits the extent of sub-contracting.
- 2.7 Authorisation to sub-contract is indicated by the CAAF accepting the maintenance organisation exposition containing a specific procedure on the control of sub-contractors as per Appendix 2 item 2.1 and maybe item 2.2 plus a list of sub-contractors as required by ANR145.70 (a) (13) and ANR145.75 (b) and detailed in Appendix 2 item 5.2

### **3 PRINCIPAL ANR145C PROCEDURES FOR THE CONTROL OF SUB- CONTRACTORS NOT ANR145C APPROVED**

- 3.1 A pre audit procedure should be established whereby the ANR145C approved maintenance organisations' sub-contract control section, which may also be the ANR145.65 (b) quality system independent audit section, should audit a prospective sub-contractor to determine whether those services of the sub-contractor that it wishes to use meet the intent of ANR145.
- 3.2 The ANR145C approved maintenance organisation needs to assess to what extent it will use the sub-contractor's facilities. As a general rule the ANR145C approved maintenance organisation should require its own paperwork, approved data and material/spare parts to be used, but it could permit the use of tools, equipment and personnel from the sub-contractor as long as such tools, equipment and personnel meet the requirement of ANR145. In the case of sub-contractors who provide specialised services it may for practical reasons be necessary to use their specialised services personnel, approved data and material subject to acceptance by the ANR145C approved maintenance organisation. Specialised service personnel should meet any published ANR qualification standard except that where no ANR qualification standard is published, existing national requirements should be followed.
- 3.3 Unless the sub-contracted maintenance work can be fully inspected on receipt by the ANR145C approved maintenance organisation it will be necessary for such ANR145C approved maintenance organisation to supervise the inspection and release from the sub-contractor. Such activities should be fully described in the ANR145C approved maintenance organisation procedure. The ANR145C approved maintenance organisation will need to consider whether to use its own staff or authorise the sub-contractor's staff.
- 3.4 The certificate of release to service may be issued either at the sub-contractor or at the ANR145C facility by staff issued a certifying staff certification authorisation in accordance with ANR145.40 (d) by the ANR145C approved maintenance organisation. Such staff would normally come from the ANR145C approved maintenance organisation but may otherwise be a person from the sub-contractor who meets the ANR145C approved maintenance organisation certifying staff standard which itself is approved by the CAAF via the maintenance organisation exposition. The certificate of release to service and the JAA Form One will always be issued under the ANR145C approved maintenance approval reference.
- 3.5 The sub-contract control procedure will need to record audits of the sub-contractor, to have a corrective action follow up plan and to know when sub-contractors are being used. The procedure should include a clear revocation process for sub-contractors who do not meet the ANR145C approved maintenance organisation's requirements.

- 3.6 The ANR145C quality audit staff will need to audit the sub-contract control section and sample audit sub-contractors unless this task is already carried out by the quality audit staff as stated in sub-paragraph 4.1.
- 3.7 The contract between the ANR145C approved maintenance organisation and the sub- contractor should contain a provision for the CAAF staff to have right of access to the sub- contractor.

## APPENDIX 7 TRAINING PROGRAMME AND FACILITIES

### 1 GENERAL

- 1.1 Training of personnel is considered by the CAAF as an integral part of the ANR145C Approval. Separate Organisations may be accepted by the CAAF to carry out specific training programmes, where an agreement exists between the ANR145C Organisation and the Training Organisation.
- 1.2 Where all or part of the training programme is subcontracted to an outside Organisation which is not itself Approved for the training, it is the responsibility of the Organisation Approved for maintenance to ensure that the standard of training is acceptable to the CAAF and continues to be so.
- 1.2.1 The liaison procedure between the Training Organisation and the Approved Organisation in respect of examination standards shall be to the satisfaction of the CAAF.

### 2 ORGANISATION AND EQUIPMENT

- 2.1 The experience and qualifications of the person in charge of the training and his deputy shall be such as to ensure that the training will be conducted in a satisfactory manner.
- 2.2 Staff numbers, qualifications and experience shall be appropriate to the intended training programmes. Practical maintenance training shall be supervised by experienced aircraft maintenance engineers, and shall be recorded. A staff training policy shall be agreed with the CAAF.
- 2.3 Suitable accommodation shall be provided for the administrative and training staff.
- 2.4 The number of lecture rooms and demonstration areas shall be satisfactory when considered in relation to the intended training programmes. Heating, lighting, ventilation and noise insulation shall be to acceptable standards.
- 2.4.1 Classroom accommodation shall be equipped with all necessary teaching aids, including at least wall boards for text/drawing, flip charts and projection equipment for presenting prepared figures, diagrams, and text. Such equipment should be of a standard that ensures students can easily read presentations text/drawings/diagrams and figures from any position in the classroom.
- 2.4.2 Storage accommodation shall be provided for equipment not in use.
- 2.5 Appropriate teaching, demonstration and projection facilities shall be available and shall be maintained to a satisfactory standard.
- 2.6 Appropriate library facilities shall be provided for the use of training staff and trainees. The facilities shall include relevant aircraft maintenance manuals, official publications, and such basic educational tools as may be required.
- 2.6.1 Suitable arrangements shall be made to ensure that technical publications contained in the library are up to date and reflect current amendment standards.
- 2.6.2 Where the Training Organisation is accepted by the CAAF, any significant changes of personnel, organisation, or training syllabi shall be agreed with the CAAF.
- 2.6.3 In order to satisfy itself that the standard of Approved training is being maintained at a satisfactory level, the CAAF shall have reasonable access to the Organisation and its records. Periodic visits will be made and examination standards will be checked.

### 3 TRAINING AND TRAINING PROGRAMMES

The provisions of this paragraph 3 are applicable to training Approved in accordance with 1.1. They should also be taken into account where training is sub-contracted as in 1.2

- 3.1. Training shall normally consist of theoretical and practical periods to syllabi and programmes acceptable to the CAAF.
- 3.2. The training programme shall, in addition to providing for training on the relevant aircraft and systems, provide for training in any necessary special techniques required and in the procedures and practices of the Approved Organisation.
- 3.3 Training programmes and their administration shall comply with the following:-
  - (a) Suitable standards for course entry and final performance shall be specified by the Training Organisation in respect of each syllabus.
  - (b) Lecture notes, diagrams and any other instructional material shall be substantially accurate at the time they are handed out. Where an amendment service is not to be provided a written warning must be given to this effect.
  - (c) Examinations shall be held at the conclusion of each distinct phase or section of the training. A final examination shall be held covering the complete syllabus.
  - (d) The content, type, and acceptance standard of examination shall be agreed with the CAAF.
  - (e) Examination questions in use shall be sufficient to give full coverage of the phase or section of the syllabus, and shall be appropriate to the expected final performance of the trainees.
  - (f) The questions set in a particular examination shall be controlled by supervisory staff, and not by staff directly concerned with the instruction.
  - (g) A regular programme of examination question analysis and revision shall be arranged under the direct supervision of a senior member of the training staff.
  - (h) Examination papers and records shall be the responsibility of the Approved Organisation, and shall be stored in locked cabinets.
  - (i) Records shall not be destroyed or dispersed without the written agreement of the CAAF.



## APPENDIX 8 AUTHORISATION OF PERSONNEL

### 1 AUTHORISATIONS

- 1.1 Authorisations to sign Certificates of Release to Service, Certificates of Maintenance and Certificate of Fitness for Flight for all aircraft types maintained under ANR145C approval shall be issued in accordance with these requirements by the holder of the ANR145C approval issued by the CAAF.
- (a) Personal Authorisation Certificates shall be signed only by persons nominated in the company exposition, in accordance with any company procedures approved by the CAAF, and will be issued only to personnel who comply with the appropriate requirements prescribed in the following paragraphs. Such authorisations should state the aircraft types(s) and systems for which the authorisation is valid and the extent of certification authority granted.
  - (b) Each Personal Authorisation Certificate shall be identified by the Approval Reference of the organisation, a reference number or designator for the individual, and by a statement/code uniquely related to the task.
  - (c) Where a system of coding is used to indicate the extent or type of certification authority, such coding system will not be changed except by agreement with the CAAF.
  - (d) For each Personnel Authorisation Certificate issued, a related record (see ANR145.35 (a)) will be maintained which contains details of the supporting training successfully completed, and the examinations and assessments conducted to determine the scope of the authorisation.
  - (e) A record of any temporary Personal Authorisation Certificates issued will be maintained containing details of the person(s) authorised, the reason for issue, and the person who authorised the issued (but see (a)).
  - (f) Inspection stamps are issued to each person issued with a Personal Authorisation Certificate for their individual use, and a record of the stamps issued will be maintained. The format of the stamps shall be described in the Maintenance Organisation Exposition (MOE). Any alternative method which proposes the use of electronic 'swipe' cards or the use of hand written personal identification numbers for documents which incorporate carbon copies, such as the Technical Log, shall be agreed in writing with the CAAF Air Safety Department (Airworthiness).
  - (g) Records must not be destroyed or dispersed without the written agreement of the CAAF.

### 2 PERSONS AUTHORISED TO ISSUE CERTIFICATES OF RELEASE TO SERVICE

- 2.1 Authorisations to issue Certificates of Release to Service shall be granted only to persons who comply with (a), (b) and (c), and either (d) or (e) as appropriate.
- (a) Be age 21 or over.
  - (b) Have completed a course of training which complies with Appendix 7 to this document, and relevant to the scope of the authorisation with satisfactory examination results.
  - (c) Have been trained and have passed an examination on relevant company procedures.
  - (d) In respect of aeroplanes, be the holder of a current Fiji Aircraft Maintenance Engineers' Licence Without Type Rating valid in the appropriate Categories and Sub-Divisions.

- (e) In respect of rotorcraft, be the holder of a current Fiji Aircraft Maintenance Engineers' Licence Without Type Rating valid in the appropriate Categories and Sub-divisions.

Note: "Appropriate Category" means the Category of Licence defined in SD-LICENSING- AIRCRAFT MAINTENANCE ENGINEERS which would, were the certification of the work not covered by the authorisation, be mandatory when account is taken of both Appendix 2 and Appendix 3 of SD-LICENSING-AIRCRAFT MAINTENANCE ENGINEERS.

Holders of a Fiji Aircraft Maintenance Engineer's Licence endorsed with a Type Rating will be deemed to have satisfied the requirements of paragraphs (b) and (d) or (e) as appropriate for that type. Aircraft listed in Paragraph 14 of Appendix 2 of SD-LICENSING-AIRCRAFT MAINTENANCE ENGINEERS require individual training courses specific to type in all categories of mechanical or avionic licence.

## 2.2. Limited Authorisations

### 2.2.1 Where a person:-

- (a) Holds at least an authorisation in one complete Category on the aircraft type concerned; or
- (b) Holds a valid Flight Engineer's Licence for the type of aircraft concerned, and exercises the privilege of certification only when performing the duties of a Flight Engineer.
- (c) Holds a valid Commercial Pilot's Licence for the type of aircraft concerned, and exercises the privilege of certification only when performing the duties of a Flight Crewmember, whilst operating away from a supported maintenance location and subject to the need for such authorisation being agreed by the CAAF.

The CAAF may approve training and examination standards different from those of 2.1(b) and (c) in respect of work beyond the scope of the authorisation or licence held, and may permit the issue of limited authorisations to persons who do not entirely comply with 2.1 (d) or (e). The extent of such authorisations shall be defined within the limits of tasks specifically endorsed on the authorisation. The conditions and scope of such authorisations shall be agreed by the CAAF with the approved organisation.

2.2.2 Where a person does not satisfy the requirements of paragraph 2.1 (d) or (e) the CAAF may approve training and examination standards different from those of 2.1 (b) and (c) to permit the holder to act as a Line Maintenance Certifying Mechanic and to certify minor scheduled line maintenance and defect rectification, within the limits of tasks specifically endorsed on the authorisation. The certification privileges are restricted to work that the authorisation holder has personally performed. The conditions and scope of such authorisations shall be agreed by the CAAF with the approved organisation.

2.2.3 Further guidance for developing authorisation systems for the issued and management of Limited Authorisations is given in Appendix 9 to this SD.

## 2.3 Provision for staff outside of the Fiji

2.3.1 The CAAF may in certain circumstances approve the issue of an authorisation to persons holding a qualification considered by the CAAF to be equivalent to the requirement established in 2.1(d) or (e). The CAAF will consider exercising this provision on the written application of an ANR145C organisation, or submission of an appropriate procedure for approval, provided that:-

- (a) The nominated person is employed by the ANR145C organisation outside of the Fiji and is solely engaged for the support of the ANR145C organisation; and
- (b) The training requirements of 2.1(b) and (c) are complied with; and

- (c) The basic qualifications considered to be equivalent established in 2.1(d) or (e) are acceptable to the Authority.

2.3.2 The CAAF may also in certain circumstances approve a procedure of the organization, which allows the authorisation of individuals outside of the Fiji, or ANR145C organisations, to issue Certificates of Release to Service. The need is likely to arise solely from the rectification of defects carried out at locations not normally supported by the ANR145C approved organisation or an organisation sub-contracted to provide line maintenance support. Such authorisation may be issued by the ANR145C organisation to a nominated individual subject to the following:-

- (a) The requirement for the certification arises solely from the rectification of unscheduled defects at a place where the ANR145C organisation concerned does not have representation or a sub-contract arrangement for line maintenance support.
- (b) The individual to be authorised is employed by an organisation approved under the appropriate national aviation regulations for the maintenance of that aircraft type in that country and who holds an authorisation, or equivalent, issued by that organisation for the purposes of the certification of defect rectification.
- (c) The authorising signatory establishes, in accordance with a procedure approved by the CAAF, the experience and competence of the individual proposed for authorisation and the validity of recency of the authorisation held. Records of such investigation shall be kept to support the authorisation granted.
- (d) The authorisation granted shall specify the extent of certification privileges and be given a unique reference. Such authorisations shall be granted for the particular occasion only.

### 3 PERSONS AUTHORISED TO ISSUE CERTIFICATES OF MAINTENANCE

3.1 Authorisations to issue Certificates of Maintenance shall be granted only to persons who comply with (a) to (d).

- (a) Be the holder of a current Fiji Aircraft Maintenance Engineers' Licence in the appropriate sub-divisions (other than Category "X" Composites)

NOTE: In respect of authorisation for rotorcraft certifications, Categories "A" and "C" may be considered as separate Categories.

- (b) Have at least eight years experience of aircraft maintenance, which includes at least two years recent experience involving the certification of maintenance.
- (c) Hold a position within the Approved Organisation compatible with the responsibilities involved.
- (d) Have successfully completed at least familiarisation training on the aircraft type for which the Authorisation is to be granted, have been trained in the procedures of the organisation, and have achieved the agreed standard in an examination set by the organisation in conformity with Appendix 7 to ANR145C and based upon (i) to (vii):-
  - (i) The concept of approval in accordance with ANR145C and other requirements prescribed by the CAAF.
  - (ii) The status of the Certificate of Maintenance and the responsibilities of a signatory of the certificate.
  - (iii) The form and implementation of the Approved Maintenance Schedule for the type of aircraft concerned.

- (iv) The details of the systems and procedures contained in the Exposition and the associated documents, together with the requirements of the organisation for their implementation.
- (v) The maintenance support systems which are related to continuing airworthiness, e.g. reliability programmes, defect control, production control, development engineering, training, certification authority and modification control.
- (vi) The form and use of the aircraft Technical Log, deferred defect log, fuel and instrument log, and the minimum equipment list.
- (vii) The form and implementation of mandatory inspections/modifications for the type of aircraft concerned.

## **4 VALIDITY OF AUTHORISATIONS**

- 4.1 Authorisations granted in accordance with paragraph 2 and 3, except as provided for under paragraph 2.3, shall only be used, subject to their conditions of validity, whilst the holder is in the employ of the Approved Organisation which issued them and the holders licence, if any, remains valid. The Approved Organisation shall provide authorised persons with a copy of all Personal Authorisation Certificates issued to them whilst in its employ.
- 4.2 The authorisation holder may, upon leaving the employ of the organisation who issued the authorisation, request verification from the CAAF.
- 4.3. The CAAF, upon request will, when satisfied, signify the scope and validity of the authorisation held by signing the document.

## APPENDIX 9 LIMITED AUTHORISATION - GUIDANCE MATERIAL

### 1 GENERAL

- 1.1 Appendix 8 to ANR145C permits persons to be granted, by the holder of an ANR145C approval issued by the CAAF, Limited Authorisations to issue Certificates of Release to Service when the conditions of such authorisations have been agreed by the CAAF. This Appendix 9 provides guidance to ANR145C Approved Maintenance Organisations that wish to issue Limited Authorisations, to assist in determining conditions which may be agreed by the CAAF.
- 1.2. Organisations wishing to issue Limited Authorisations shall develop suitable procedures to determine the competence of staff to hold such authorisations, and to manage and control the process within their organisation. These procedures shall clearly define the limits to which Limited Authorisations can be granted. The proposed procedure shall be submitted initially through the CAAF for approval.
- 1.3 The CAAF has chosen not to define in detail, acceptable boundaries in respect of defect diagnosis and the types of test equipment which are compatible with the Limited Authorisation concept. Such definitions would inevitably produce a set of unnecessarily restrictive requirements.
- 1.4. The following guidelines shall be observed in developing suitable procedures in addition to detailed guidance given in later paragraphs:-
  - (a) Limited Authorisation tasks, with the exception of Paragraph 5.2 and 5.3 Avionic Extension Authorisations, must not include any element of defect diagnosis and must be restricted to:-
    - unscheduled line maintenance tasks
    - minor scheduled maintenance tasks
    - one aircraft type or comparable tasks on different aircraft types
    - periods of validity not exceeding three years
  - (b) Checks to determine serviceability must not require anything other than operational checks, simple functional tests or the use of Built in Test Equipment (BITE). On non- complex systems simple general test equipment may be used.
  - (c) Responsibility for the determination of serviceability in relation to a Limited Authorisations task rests solely with the person authorised. This cannot be fulfilled by a presumption of the competence of any other person therefore the signatory can only certify for tasks that he/she has personally performed, or in the situation described in paragraph 2.2, has personally *seen* performed.
  - (d) Formal training, including on the job training (OJT) on the specific task to be authorised, will always be necessary for the grant/extension of a Limited Authorisation. Periodic continuation or refresher training will be required in order to revalidate the Authorisation. A record of such training must be maintained.

## 2 ASSESSMENT OF TASKS AND CRITERIA FOR THE ISSUE OF LIMITED AUTHORISATION

- 2.1 The CAAF will normally only agree Limited Authorisation procedures the limits of which are determined by approved organisations using the following criteria:-
- (a) It must be assumed that the limited authorisation holder is only proficient in the tasks for which they are authorised.
  - (b) The organisation shall carefully consider the scope of the authorisation to ensure that the holder is fully aware of the limits of the authorisation. For example, the Limited Authorisation holder should be aware that what appears to be a straightforward condition indication may be a symptom of a defect with totally different diagnostic implications, an example of this would be a heat pack which may be worn to limit as a result of progressive normal wear or by premature excessive wear caused by a braking system defect. The Limited Authorisation holder should therefore be aware of the implications of repetitive defects and that suitable steps should be taken to ensure that the defect does not fall into this category and as a result lie outside the limits of authorisation.
  - (c) Use of test equipment should be limited by a determination of whether or not the test sequence is in itself self-explanatory. The test sequence should be straightforward and produce a clear GO or NO GO result and not require further analysis of the results.
- 2.2 A task may be acceptable for Limited Authorisation, but the associated functional test may be more complex. For example, replacement of a pressure switch on an engine could be considered a Limited Authorisation task but the required low power ground run check for leaks would not. In such circumstances the requirement to *complete* the task in accordance with the approved airworthiness data and issue a Certificate of Release to Service can not be met. However, the low power ground run, to check for leaks, can be carried out by operational flight crews with the Limited Authorisation holder completing the task by personally seeing the effects of the ground run and issue a Certificate of Release to Service for the *completed task* as required by ANR145.50 (a).

### 3 LIMITED AUTHORISATIONS - NON LWTR MAINTENANCE PERSONNEL

- 3.1. Paragraph 2.2.2 of Appendix 8 to ANR145C introduces the concept of on 'Line Maintenance Certifying Mechanic' (LMCM) that is a Limited Authorisation intended for issue to maintenance personnel who do not hold a LWTR. This Limited Authorisation is task specific although authorised personnel may hold multiple authorised tasks on one or more aircraft types.
- 3.2. The procedures associated with such authorisations will need to be submitted to the CAAF for approval.
- 3.3. Limited Authorisations, when granted in accordance with this LMCM concept, will permit the holder to issue a CRS following minor scheduled line maintenance and defect rectification for those tasks listed in the authorisation. Minor scheduled line maintenance is limited to checks up to daily inspections. It is important to note that the rectification of any defects revealed during the course of such scheduled line maintenance may not fall within the certification authorisation privileges of the individual.
- 3.4. Holders of Limited Authorisations issued in accordance with this paragraph will not be permitted to defer defects.

### 4 LIMITED AUTHORISATIONS - FLIGHT CREW

- 4.1 Paragraph 2.2.1 (b) and (c) of Appendix 8 to ANR145C make provision for the issue of Limited Authorisations to certain holders of Flight Crew Licences. These authorisations are intended to allow the accomplishment and issue of a CRS for specified simple tasks or inspections whilst operating away from a supported maintenance location. It should be borne in mind that the authorisations are issued by the ANR145C Approved Maintenance Organisation to an operator's flight crew and will be valid only whilst the ANR145C Approved Maintenance Organisation is contracted to provide maintenance support. As such, personnel authorised in this manner are responsible to the maintenance organisation when performing authorised tasks and shall adhere to the procedures and instructions issued by the ANR145C Approved Maintenance Organisation.
- 4.2. Holders of a valid Commercial Pilot's Licence for the type of aircraft concerned may be granted Limited Authorisations for minor scheduled line maintenance or recurring short periods inspections required by Airworthiness Directives. Minor scheduled line maintenance is limited to checks up to daily inspections.
- 4.2.1 Where there is a requirement to carry out inspections associated with short period recurring Airworthiness Directives (AD), authorisations may be issued only where the AD specifies that:-
  - the inspections may be performed by flight crew
  - the inspections do not require disassembly or removal of components
  - the inspections can be readily achieved by visual inspection or function tests not requiring test equipment.

It is not intended that these limited authorisations obviate the need for line maintenance support where aircraft regularly use certain airports. They may however be used for ad- hoc or charter operations subject to the need for such authorisations being agreed by the CAAF.
- 4.3 Holders of a valid Flight Engineer's Licence may in respect of the types for which the licence is valid, be granted Limited Authorisations for minor scheduled line maintenance and recurring AD inspections as for paragraph 4.2 above. In addition, they may also be authorised for defect rectification in accordance with the guidance specified in paragraph 3 of this Appendix
9. The scope of such authorisations shall be agreed by the CAAF.



- 4.4 Limited Authorisations granted under the provisions of this paragraph 4 accept that the Flight Crew member has a knowledge of the type as a result of his existing qualifications and experience. ANR145C Approved Maintenance Organisations shall, however, prior to the grant of any such authorisation, establish the competence of the individual in respect of each task and provide specific OJT on the task to be authorised and any additional basic theory if required. The ANR145C Approved Maintenance Organisation shall provide continuation training to Flight Crew Members who have been granted Limited Authorisations to ensure that they retain the competence to accomplish the authorised tasks.

## 5 LIMITED AUTHORISATION - EXTENDED PRIVILEGES FOR OTHER CATEGORIES

- 5.1 Personnel who hold at least an authorisation in one complete category (SD-LICENSING OF AIRCRAFT MAINTENANCE ENGINEERS: LWTR Categories) on the aircraft type concerned may be granted Limited Authorisations in other categories. With the exception of paragraph 5.2 below these authorisations shall be granted as for the provisions of paragraph 3 of this Appendix 9.

- 5.2 Personnel who hold authorisations on an aircraft type in both categories 'A' Airframe and 'C' Engines may be granted extended privileges, which may be referred to as an Avionic Extension, on that type to allow the replacement and certification of certain Avionic Line Replaceable Units.

- 5.3 The following guidance shall be considered when developing a scheme, to propose to the CAAF, for Limited Authorisations, with extended privileges to other categories,

- 5.3.1 An Avionic Line Replaceable Unit (ALRU) is defined as a unit which has no mechanical input or output mechanism, but contains electronic components that:-

- control
- monitor
- display

which forms an integral part of the operation of an aircraft system and does not require specialist knowledge or techniques to:-

- secure
- connect
- test

- 5.3.2 In relation to ALRUs, it should be noted that the primary responsibility for certification of maintenance shall be that of the certifying technician responsible for the system of which the ALRU forms an integral part, as defined by the manufacturer's ATA designation. In the main, therefore, the extended privileges for the 'A' and 'C' certifying technician relate to those ALRUs found in systems covered by ATA Chapters 22, 23, 24, 31, 34 and 45.

NOTE: Replacement of certain ALRUs affects the status of Autoland systems. Unless specifically agreed by the CAAF, Limited Authorisation holders may not certify for Automatic Landing system re-instatement checks and the autoland status must be downgraded until the appropriate checks are performed and certified by an appropriately fully authorised avionic certifying technician.

- 5.4 The extended privileges conferred a paragraph 5.2 Limited Authorisation system allow the diagnosis of defects where the checks to determine serviceability do not require anything other than operational checks, simple functional tests or the use of BITE. Defect diagnosis beyond this level is not permissible and would require the involvement of an avionic certifying technician. It should also be noted that these authorisations are limited to those components, including where identified in the relevant aircraft maintenance manual printed circuit boards or electronic cards, considered to be Line Replacement Units (LRU). This does not permit the



adjustment of items supplied as bench tested units or the replacement of internal components within the LRU.

- 5.5 It is clear that advances in aircraft technology have introduced more comprehensive BITE and centralised fault reporting and diagnostic system (CFDS) to modern aircraft. With such systems, the ability to determine serviceability across a wider range of ALRUs and systems is improved, requiring less use of specialised test equipment or complex procedures. Furthermore where the aircraft makes use of CFDS (or equivalent), the aircraft systems themselves and the Maintenance Manual guide the technician in the diagnosis and rectification process. The benefits of such technology warrant consideration of a wider range of components under the extended privileges. Organisations should therefore, in the development of authorisation systems, consider the technology level and the use of integrated systems in determining the limits of authorisations on different aircraft types.
- 5.6 Organisations shall ensure, as for previous Limited Authorisation systems, that the basic knowledge of the individual is adequate prior to authorisation. Where necessary, basic training in avionic system fundamentals and system operation may be required. In relation to the tasks to be authorised, specific training should be carried out on the item and task(s) concerned and should include OJT and classroom system training as appropriate. All training should also include instruction on the use of BITE on individual units, integrated systems and CFDS as applicable.

## APPENDIX 10 APPROVAL OF WELDERS

### 1 INTRODUCTION

This appendix is applicable to persons who weld metallic parts which are essential to the airworthiness of an aircraft where the making of a sound joint by oxy-acetylene or arc-fusion welding techniques depends largely on the competency of the operator. Welders will be approved in accordance with the requirements of this appendix and its Supplement.

NOTE: For the purposes of this Appendix, the term arc-fusion welding includes:-

- (a) Manual metal-arc (MMA) welding,
- (b) Metal inert gas (MIG) welding, and
- (c) Tungsten inert gas (TIG) welding.

### 2 GRANT OF APPROVAL

The procedures for the issue and control of welding approval are dependent upon the circumstances of employment of the welder. For welders not employed by a CAAF approved Organisation the provisions of paragraph 2.1 (c) shall apply. Where a welder is in the employ of an Organisation approved by the CAAF, the CAAF will not undertake direct approval of the welder. The Organisation is required to establish its own effective system for their control. The system shall, as a minimum, include records of all welders employed. All records shall be available to the CAAF upon request, including details relating to welders who have since left the employ of the Organisation. No essential records, e.g. Approval Cards and Test Reports shall be destroyed without the permission of the CAAF. A description of the control system shall be included in the Company Exposition, and CAAF Approval of the system will be indicated by inclusion of the control of welders in the Schedule of Approval.

2.1 The procedures for obtaining welder's approval are as follows:-

- (a) Where the welder is employed by a CAAF approved Organisation (holding terms of approval for control of welders), the Organisation shall make arrangements for the welder to prepare and weld a test sample(s). The Organisation shall submit the test sample(s) to a Test House either approved by or acceptable to the CAAF for the purpose for examination together with full particulars of the welder concerned, materials used, details of any post-welding treatment (e.g. heat treatment for stress relief), and identification marks on the test sample(s). Upon receipt of a Test Certificate from the test house, indicating successful test results for the sample(s), the Organisation may grant approval to the welder. Only then may the welder be employed on work of significance to airworthiness.
- (b) In the event of a welder leaving the employ of an Organisation approved by the CAAF, the welder may request the CAAF to grant a Welder's Approval Certificate for the welding approvals held while in the employ of that Organisation. It should be noted that grant of such an approval, is conditional upon the availability of evidence of prior qualification status, the CAAF can not accept responsibility for a previous employer's failure or inability to provide the evidence.

- (c) Welders not employed by a CAAF Approved Organisation shall, under the supervision of a responsible person acceptable to the CAAF (see Notes 12 and 2), prepare and weld appropriate test sample(s) in accordance with these requirements and also complete an application. The test sample(s) shall be submitted to a Test House either approved or accepted by the CAAF for the purpose, for examination together with full particulars of the welder concerned, materials used, details of any post-welding treatment (e.g. heat treatment for stress relief) and identification marks on the test sample(s). Upon receiving from the Test House a Test Certificate indicating successful test results on the sample(s) the welder shall forward the original copy of the Test Certificate and the completed application to the CAAF. Grant of approval will be notified by issue of a CAAF Welder's Approval Certificate and Check Test Record Card to the welder. Both documents must be maintained in a legible condition by the welder and produced or surrendered to the CAAF upon request. Test House charges and any other costs associated with the process of meeting these requirements are the responsibility of the welder.

NOTES:

- (1) An approved welder is not permitted to certify welded parts unless separately qualified as a person competent to issue a Certificate of Release to Service,  
e.g. holder of an appropriate Maintenance Engineer's Licence or equivalent approval.
- (2) A responsible person in the context of paragraph 2.1(c) is either:
- (a) A person who holds an Aircraft Maintenance Engineer's licence with a Type Rating.  
or
  - (b) A person who is currently authorised as a Signatory within a CAAF Approved Organisation. (The consent of the Approved Organisation responsible for granting such authorisation should be obtained by the Signatory before agreeing to supervise the preparation of weld test sample.)  
or
  - (c) Such other person specifically authorised in writing by the CAAF.
- (3) Paragraphs 2.1 (a) and 2.1 (c) refer to identification marks on test samples. These shall be made permanent i.e. stamp, vibro-etch, or indelible marking medium and they shall identify the welder and material specification. When preparing and welding the sample, care should be taken not to obliterate any markings thereon.

### 3 MAINTENANCE OF APPROVAL

- 3.1 The validity of a welder's approval may be maintained by the procedures detailed in paragraphs 3.1.1 or 3.1.2 as appropriate. Should approval be sought in a different combination (see Supplement) than that shown on the Welder's Approval Certificate or documents, the procedure for the grant of approval as described in paragraph 2.1 must be followed.
- 3.1.1 Where the welder is employed by an Organisation approved by the CAAF, the Approved Organisation shall arrange for periodic check examination of the welder's competency. At each periodic check examination an appropriate test sample (see Supplement) or such other test samples to be decided by the Approved Organisation shall be completed by the welder using techniques and materials detailed in the Supplement, or by using techniques and material used in standard work practices appropriate to the maintenance of approval. For welders holding approval for more than one configuration (i.e. sheet to tube or tube to tube) it will normally only be necessary to provide a single test sample provided that the CAAF is satisfied it is representative of the welders' main day to day work. However, a separate initial test sample will be required for each technique and material group specified in the welder's approval. Test samples shall be sent to a Test House either approved by or acceptable to the CAAF for the purpose, under arrangements made by the Approved Organisation. If the test results of this examination are satisfactory the Welder's Approval Document shall be endorsed by the Approved Organisation. Complete records of the periodic check examinations shall be kept at the Organisation. The check test records for each welder must indicate the date for the next check test in advance so that the test can be completed and the results known within the period of approval of the welder. All records shall be held available to the CAAF.
- (a) The maximum period between check examinations shall be 12 months. Organisations shall arrange for the relevant tests within the period of validity of the previous test period to ensure continuity of approval.
  - (b) If the test results are unsatisfactory the Approved Organisation shall arrange for the check examinations to be repeated immediately and the samples sent to a Test House either approved by or acceptable to the CAAF for examination. During the period between any check test which proved unsatisfactory and the result of the next check test, the welder shall not weld parts which are essential to the airworthiness of an aircraft. If the test results are again unsatisfactory the welder's approval shall be suspended until further training and/or experience has been gained to the satisfaction of the Approved Organisation, and a further test has been satisfactorily completed.
- 3.1.2 Welders who are not employed in accordance with the conditions of paragraph 3.1.1 shall arrange for a check examination to be carried out at periods not exceeding 12 months. The same procedure as for the issue of the Welder's Approval Certificate in paragraph 2.1 (c) shall apply except that, for welders holding approval for more than one configuration (i.e. sheet to sheet, sheet to tube, tube to tube) it will normally only be necessary to provide a single test sample, provided that the CAAF is satisfied it is representative of the welder's main day-to-day work. However, a separate initial test sample will be required for each technique and material group specified in the welder's approval.
- (a) If the test results are unsatisfactory the applicant shall prepare new test samples and arrange for the check examination to be repeated immediately at a Test House either approved by or acceptable to the CAAF for the purpose. During the period between any check test which proves unsatisfactory and the result of the next check test, the welder shall not weld parts which are essential to the airworthiness of an aircraft. If the result of the re-test is again unsatisfactory, the welder shall notify the CAAF. The approval will be suspended from the date of the first unsatisfactory examination and remain so until further training and/or experience has been gained and a further test has been satisfactorily completed.

- (b) A check test record must be kept to indicate the date for the next check test in advance so that the test can be completed and the results known within the period of approval of the welder. All records shall be made available to the CAAF.
- 3.2 The CAAF may select samples of an approved welder's work at any time for additional check examination purposes.

## **APPENDIX 11 PERSONNEL CERTIFICATION FOR NON-DESTRUCTIVE TESTING OF AIRCRAFT, ENGINES, COMPONENTS AND MATERIALS**

### **1 GENERAL**

- 1.1 This Appendix advises the CAAF's requirements for the qualification of Non-Destructive testing (NDT) personnel.
- 1.2 This Appendix clarifies CAAF policy relating to the acceptability of organisation-based schemes for the qualification of NDT personnel in accordance with various acceptable NDT personnel requirements, and is intended to recognise the competence of Level 3 qualified personnel.
- 1.3 The term NDT is used throughout this Appendix to include, but not limited to, liquid penetrant, magnetic particle, eddy current, ultrasonic, radiographic and other recognised methods as identified in the above referenced standards and shall be applicable to all NDT methods used by Approved Organisations. Other methods and their associated procedures will be subject to approval by the CAAF under the applicable airworthiness approval standard (ANR145C, SD- ANR145C APPROVAL OF AIRCRAFT MAINTENANCE ORGANIZATIONS etc.)  
Definitions of  
other key terms used throughout this Appendix are contained in paragraph 9.

### **2 PROCEDURES FOR THE QUALIFICATION OF NDT PERSONNEL**

- 2.1 All Approved Organisations involved in any aspect of NDT shall develop and maintain procedures for the qualification and authorisation of their NDT personnel in accordance with whichever NDT standard has been declared by the organisation and approved by the CAAF. The organisation's procedures and/or written practice shall be approved by the nominated Level 3 (see paragraph 3).
- 2.2 Within the Fiji, the CAAF currently accepts the applicable national schemes for aerospace Non- Destructive testing approved by the United Kingdom CAA, the FAA, the CASA, and the New Zealand CAA.

### **3 QUALIFIED STAFF**

- 3.1 CAAF Approved Organisations undertaking NDT in accordance with SD-ANR145C APPROVAL OF AIRCRAFT MAINTENANCE ORGANIZATIONS must satisfy the CAAF that they have adequate numbers of suitably qualified staff to discharge the responsibilities of the approval.
- 3.2 Organisations shall nominate in writing, supported with evidence of certification, an individual responsible to the Chief Executive/Accountable Manager, for the technical supervision of NDT. This individual will hold independent central certification at Level 3 in the appropriate Industry Sector and will be referred to as the 'Nominated Level 3'. This position shall be identified within the Organisational Exposition, and any change in this position advised to the Authority.
- 3.3 The CAAF automatically recognises Level 3 certified personnel accepted in accordance with paragraph 2.2, as qualified for the position of Nominated Level 3.
- 3.4 Where the Nominated Level 3 is not qualified in all methods used by the Organisation, then the additional Level 3s necessary to provide coverage shall be independently centrally certified.
- 3.5 Additional Level 3 Certification holders shall be listed in the Organisation Exposition or reference made in the Exposition to other documents containing the list of Level 3 holders. Any changes to this list are to be notified to the Authority through appropriate amendments.

- 3.6 The CAAF may accept persons external to the Organisation as the Nominated Level 3, provided written agreement exists between the individual and the Organisation setting out the individual's responsibilities within the Organisation.

## **4 INSPECTIONS AND CERTIFICATION OF INSPECTIONS**

- 4.1 NDT inspections shall be carried out by personnel approved in accordance with the Organisation's written practice. Where NDT procedures are specified by the organisation responsible for the design and/or manufacture of the aircraft, material, structure or component, then these must be used, except where change is permitted and authorised as defined in paragraph 5 of this Appendix. Where non-mandatory inspections are to be undertaken, for which the responsible design/manufacturing organisation has not specified NDT procedures, then the NDT method, technique, procedure and instruction shall be prepared in accordance with paragraph 5 of this Appendix and approved by a Level 3 holder qualified in the applicable method.
- 4.2 Normally, certification of inspections will be made by persons who hold Level 2 or above authorisations. However, where an inspection or task is determined by the Nominated Level 3 to have clearly defined acceptability and rejection criteria requiring no interpretation, then certification may be carried out by an authorised Level 1, as detailed within the written practice.
- 4.3 Where a Level 3 is required to carry out and certify an NDT inspection then this person must either hold current Level 2 certification in those methods, or be able to provide evidence that they have successfully completed an appropriate Level 2 practical examination and maintained continuity in the application of practical testing as defined in the referenced standards and detailed in the written practice.

## **5 NDT TECHNIQUES AND INSTRUCTIONS AND THEIR APPROVAL**

- 5.1 NDT techniques, procedures and instructions, published and specified by the Type Certificate holder in NDT Manuals, Service Bulletins, Approved Drawings etc. constitute airworthiness data.
- 5.2 Where the airworthiness data published by the Type Certificate holder permits changes (e.g. selection of equipment model, probe type etc.) then such changes must be authorised in writing by a Level 3 qualified in the appropriate method.
- 5.3 Any other change requires the written agreement of the Type Certificate holder responsible for the design of the product/structure before such a change is implemented.
- 5.4 NDT Instructions prepared by a Level 2 holder shall be approved by a Level 3 holder qualified in the applicable method.
- 5.5 The procedure for the control of all NDT techniques, procedures and instructions, including their preparation and authorisation within any CAAF Approved Organisation, shall be detailed in the Organisation's approved Quality Procedures.

## **6 SUPPLIERS AND SUB-CONTRACTORS TO APPROVED ORGANISATIONS**

An organisation utilising suppliers and sub-contractors where NDT processes are employed, shall detail within their written practices how the Organisation ensures that training and approval of NDT personnel in such suppliers or sub-contractors is controlled. Organisations are referred

to ANR145.75 and associated SD-ANR145C APPROVAL OF AIRCRAFT MAINTENANCE ORGANIZATIONS material.

## 7 OTHER MEANS OF COMPLIANCE

NOTE: Personnel holding a current Fiji Engineer's Licence may continue to undertake inspections as limited by SD-LICENSING OF AIRCRAFT MAINTENANCE ENGINEERS Appendix 3, paragraph 1.7(a).

**Organisations outside of Fiji.** The CAAF may accept local national qualifications provided that they are demonstrated to be equivalent, have the approval of the local airworthiness regulating authority, and the CAAF is satisfied that no degradation of airworthiness standards is likely to occur as a result of the acceptance of such alternative arrangements.

## 8 DEFINITIONS

**Authorisation (of NDT procedures):** The act of signifying approval of NDT procedures by a Nominated Level 3.

**Authorisation (of NDT personnel):** A written statement issued by a Nominated Level 3 based on the individual's competence as specified within the certificate.

**Certificate:** Document issued under the rules of either of the certification systems defined in this Appendix indicating that adequate confidence is provided, that the named person is competent to perform specified non-destructive testing.

**Industry Sector:** A particular section of industry or technology where specialised NDT practices are used requiring specific product knowledge, skill, equipment or training. An industrial sector may be interpreted to mean a product (welds, castings,...) or an industry (aerospace, petrochemical...).

**NDT Technique:** A specific way of utilising an NDT method (e.g. ultrasonic immersion technique).

**NDT Procedure:** A written description of all essential parameters and precautions to be observed when applying an NDT technique to a specific test, following an established standard, code or specification.

**NDT Instruction:** A written description of the precise steps to be followed in testing to an established standard, code, specification or NDT procedure.

**NDT Method:** Discipline applying a physical principle in Non-Destructive Testing (e.g. ultrasonic method).

**Nominated Level 3:** An independently certified Level 3 certificate holder responsible to the Chief Executive or Accountable Manager for the airworthiness aspects of NDT work undertaken by that Organisation.

**Qualification:** The proven ability of NDT personnel to meet the requirements of a given specification in terms of physical requirements, training, knowledge and experience necessary to perform the applicable NDT method.



**Qualification Examination:** An examination administered by an acceptable independent certifying body, which demonstrated the general, specific and practical knowledge of the candidate.

**Type Certificate:** For the purposes of this Appendix, Type Certificate includes Type Certificates, Supplementary Type Certificates, Joint Parts Approval (JPA) Authorisations or Joint Technical Standard Orders (JTSO) Authorisations.

## APPENDIX 12 TRAINING SYLLABUS FOR INITIAL HUMAN FACTORS TRAINING

The Training Syllabus below identifies the topics and subtopics to be addressed during the Human Factors training.

The maintenance organisation may combine, divide, and change the order of any subject of the syllabus to suit its own needs, so long as all subjects are covered to a level of detail appropriate to the organisation and its personnel.

Some of the topics may be covered in separate training (health and safety, management, supervisory skills, etc) in which case duplication of training is not necessary.

Where possible practical illustrations and examples should be used, especially accident and incident reports.

Topics should be related to existing legislation where relevant (JAA/NAA/EU)

Topics should be related to existing guidance/advisory material where relevant (eg. ICAO HF Digests and Training Manual)

Topics should be related to maintenance engineering where possible; too much unrelated theory should be avoided.

### General/Introduction to human factors

Need to address Human Factors Statistics  
Incidents

### Safety Culture/Organisational factors

### Human Error

Error models and theories  
Types of errors in maintenance tasks Violations  
Implications of errors Avoiding and managing errors Human Reliability

### Human Performance & Limitations

Vision Hearing  
Information-Processing Attention and Perception Situational awareness Memory  
Claustrophobia and physical access Motivation  
Fitness/Health

Stress  
Workload management Fatigue  
Alcohol, medication, drugs Physical  
work  
Repetitive tasks/complacency

### **Environment**

Peer pressure  
Stressors  
Time pressure and deadlines  
Workload  
Shift Work  
Noise and fumes Illumination  
Climate and temperature Motion  
and vibration Complex systems  
Hazards in the workplace Lack  
of manpower  
Distractions and interruptions

### **Procedures, Information, Tools and Practices**

Visual Inspection  
Work logging and recording Procedure –  
practice/mismatch/Norms  
Technical documentation – access and quality

### **Communication**

Shift/Task Handover Dissemination  
of information Cultural differences

### **Teamwork**

Responsibility  
Management, supervision and leadership  
Decision making

### **Professionalism and integrity**

Keeping up to date; currency Error  
provoking behavior Assertiveness

### **Organisation's HF Program**

Reporting errors Disciplinary  
Policy Error investigation  
Action to address problems  
Feedback