

ICAO Standards Provide Directions to be Followed

ICAO provides standards and guidance on what must be and what is recommended for contracting State (Australia) maintenance organisations requirements. There have been many approaches taken by NAAs to the approval process in the past but in recent years there has seen an international approach to standardise the regulatory requirements so aviation MRO businesses can participate in the global aviation market. No longer can a country have unique regulatory requirements if the industry and the contracting State (Australia) want to participate in the global aviation market.

ICAO provides standards that are outcome based so that the contracting State (Australia) can provide an environment for safety without being restrictive. Unique Australian aviation regulatory requirements (organisation/maintenance standards/personnel) have impeded Australia's MRO industry over the last couple of decades. Adoption of outcome based rules from ICAO or a mature contracting State is needed, not uniqueness.

Australia's national vocational educational training (NVET) system now provides the MRO industry a World leading approach in personnel competency standards that gives the industry an internationally recognisable skilled workforce. Australian Education Departments (aviation) Recognised Training Organisations (e.g. TAFE colleges) are now providing that training to students from foreign countries. Australia's National Aerospace Industry Competency Standards (NAICS) is internationally recognised. NAICS enables businesses to skill their staff to meet the business needs instead of being trade orientated. This is the way of the future.

As can be seen from the following flowchart, ICAO has set outcome based standards for a maintenance organisation that should be reflected in Australian legislation:

1. Organisation manual (for the use of staff)
 - a. Scope (Capability) of work under approval (rating);
 - b. Describe facilities and management structure
 - c. Description (reference) of procedures/methods not the procedures/methods used;
 - d. Manual amendment control;
 - e. Personnel authorised to sign M/R
2. Maintenance Practices
 - a. Standard legislative MRO industry practices listed in Part 43

- b. Company maintenance practices procedures and processes;
 - c. System of inspection (*LAME/AMT*) to ensure maintenance is carried out; **OR**
 - d. QA system to monitor compliance with & adequacy of procedures. (another option)
3. Facilities
- a. Equipment, tooling
 - b. Data, material
 - c. Storage
4. Personnel
- a. Management responsibilities
 - b. Staff capabilities and competencies (NAICS – competency based skills not trade specific)
 - c. Training – initial and continuation (All aviation related staff not just aircraft/workshop)
5. Records
- a. Aircraft and workshop work records
 - b. Retention standard (12 months post M/R signing)
6. Maintenance Release
- a. Contents of M/R
 - b. Personnel qualification must meet Annex 1 qualification (no need for licence in workshops)

Manual

ICAO Annex 6.

8.7.2 Maintenance organisation's procedures manual

Maintenance Practices

ICAO Annex 6.

8.7.3 Maintenance procedures and quality assurance system

Facilities

ICAO Annex 6.

8.7.4 Facilities

8.7.2.1 (Manual) The maintenance organisation **shall** provide for the use and guidance of maintenance personnel concerned a procedures manual which may be issued in separate parts containing the following information:

- a) a general description of the scope of work authorised under the organisation's terms of approval;
- b) a description of the organisation's procedures and quality or inspection system in accordance with 8.7.3;
- c) a general description of the organisation's facilities;
- d) names and duties of the person or persons required by 8.7.5.1;
- e) a description of the procedures used to establish the competence of maintenance personnel as required by 8.7.5.3;
- f) a description of the method used for the completion and retention of the maintenance records required by 8.7.6;
- g) a description of the procedures for preparing the maintenance release and the circumstances under which the release is to be signed;
- h) the personnel authorised to sign the maintenance release and the scope of their authorization;
- i) a description, when applicable, of the additional procedures for complying with an operator's maintenance procedures and requirements;
- j) a description of the procedures for complying with the service information reporting requirements of Annex 8, Part II, 4.3.5 and 4.3.8; and
- k) a description of the procedure for receiving, assessing, amending and distributing within the maintenance organisation all necessary airworthiness data from the type certificate holder or type design organisation.

8.7.3.1 (Maintenance Practices) The maintenance organisation **shall** establish procedures, acceptable to the State granting the approval, which ensure good maintenance practices and compliance with all relevant requirements of this chapter.

8.7.3.2 (QA or Inspection) The maintenance organisation **shall** ensure compliance with 8.7.3.1 by **either** establishing an independent quality assurance system to monitor compliance with and adequacy of the procedures, **OR** by providing a system of inspection to ensure that all maintenance is properly performed.

8.7.4.1 (Facilities)

The facilities and working environment **shall** be appropriate for the task to be performed.

8.7.4.2 (Data/equipment/tools & material) The maintenance organisation **shall** have the necessary technical data, equipment, tools and material to perform the work for which it is approved

8.7.4.3 (Storage) Storage facilities **shall** be provided for parts, equipment, tools and material. Storage conditions shall be such as to provide security and prevent deterioration of and damage to stored items.

Personnel

ICAO Annex 6.

8.7.5 Personnel

See Sheet 2

System of inspection

to ensure that all maintenance is properly performed

(LAME

&

Workshop

Technician)

Independent quality assurance system

to monitor compliance with and adequacy of the procedures

(Used in some workshops)

8.7.2.2 (Manual Amendment) The maintenance organisation shall ensure that the procedures manual is amended as necessary to keep the information contained therein up to date.

8.7.2.3 (Manual Distribution) Copies of all amendments to the procedures manual shall be furnished promptly to all organisations or persons to whom the manual has been issued.

CASR Part 145

Approved Maintenance Organisations

ICAO Annex 6. 8.7

Records

ICAO Annex 6.

8.7.6 Records

See Sheet 2

OR

Sheet 1

8.7.5.2 (Staffing)

The maintenance organisation **shall** employ the necessary personnel to plan, perform, supervise, inspect and release the work to be performed.

Records

ICAO Annex 6.

8.7.6 Records

From Sheet 1

8.7.5.3 (Australian Personnel Competency Standards)

The competence of maintenance personnel **shall** (1) be established in accordance with a procedure and to a level acceptable to the State granting the approval.

(M/R signatory qualification)

The person signing a maintenance release **shall** (2) be qualified in accordance with Annex 1.

8.7.6.1 (Record Details)

The maintenance organisation **shall** retain detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.

8.7.6.2 (Record Retention)

The records required by 8.7.6.1 **shall** be kept for a minimum period of one year after the signing of the maintenance release

Maintenance Release

ICAO Annex 6.

8.8 Maintenance release

From Sheet 1

8.8.1 (M/R signing)

A maintenance release **shall** be completed and signed to certify that the maintenance work performed has been completed satisfactorily and in accordance with approved data and the procedures described in the maintenance organisation's procedures manual.

8.8.2 (Content of M/R)

A maintenance release **shall** contain a certification including:

- a) basic details of the maintenance carried out including detailed reference of the approved data used;
- b) date such maintenance was completed;
- c) ~~when applicable~~, the identity of the approved maintenance organisation; and
- d) the identity of the person or persons signing the release.

Personnel

ICAO Annex 6.

8.7.5 Personnel

From Sheet 1

8.7.5.1 (Management Structure)

The maintenance organisation **shall** nominate a person or group of persons whose responsibilities include ensuring that the maintenance organisation is in compliance with 8.7 the requirements for an approved maintenance organisation.

8.7.5.4 (Training)

- (1) The maintenance organisation **shall** ensure that all maintenance personnel receive initial and continuation training appropriate to their assigned tasks and responsibilities.
- (2) The training programme established by the maintenance organisation **shall** include training in knowledge and skills related to human performance, including co-ordination with other maintenance personnel and flight crew.

Note.— Guidance material to design training programmes to develop knowledge and skills in human performance can be found in the Human Factors Training Manual (Doc 9683).

8.7.1.3 The continued validity of the approval **shall** depend upon the organisation remaining in compliance with the requirements of 8.7 for an approved maintenance organisation.

Certificate Issue

8.7.1 Issue of approval

8.7.1.1 The issue of a maintenance organisation approval by a State **shall** be dependent upon the applicant demonstrating compliance with the requirements of 8.7 for such organisations.

8.7.1.2 The approval document **shall** contain at least the following:

- a) organisation's name and location;
- b) date of issue and period of validity;
- c) terms of approval. (Ratings & Capability List)

Sheet 2