Australian Government



Civil Aviation SafetyAuthority



POLICY PROPOSAL PP 1915SS

Continuing airworthiness management and maintenance for future air transport operations

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Overview

As part of the Regulatory Reform Program (RRP), the *Civil Aviation Regulations 1988* (CAR) are progressively being replaced by the *Civil Aviation Safety Regulations 1998* (CASR). CASA is establishing a comprehensive set of continuing airworthiness requirements for all aircraft under CASR.

This document contains a detailed, plain English policy proposal of continuing airworthiness requirements for aircraft currently operating in the charter sector. These policies will be the basis for new legislation that will be drafted and consulted in 2020.

Note:

This project primarily affects operators, maintenance providers and people providing continuing airworthiness management services in the current charter sector, which will transition to the future air transport sectors.

This project <u>does</u> cover aircraft used in operations that are currently classified as aerial work but will become air transport operations under the new flight operations regulations from March 2021 (e.g. medical transport operations).

This project <u>does</u> have some effects on aircraft used in regular public transport (RPT) operations to ensure a proportionate set of continuing airworthiness regulations after commencement of the new flight operations regulations in March 2021.

This project <u>does not</u> cover aircraft used only in private or aerial work operations. There is a separate <u>project</u> underway that will develop continuing airworthiness policies for those aircraft in parallel with this project.

Why are we consulting

Under this project, CASA is developing new continuing airworthiness and maintenance regulations for the current charter sector. We are also ensuring that the continuing airworthiness and maintenance regulations for the air transport sectors provide proportionate standards for the new Parts 121, 133 and 135 flight operations classifications that will commence in March 2021.

Continuing airworthiness and maintenance requirements for aircraft used in charter operations are currently included under Parts 4, 4A and 4B of CAR. The CARs are a set of unique Australian regulations that are outdated, inefficient and unnecessarily complicated. The current regulations can be improved in various areas, but they have provided a regulatory framework that has produced good airworthiness safety outcomes over the last 30 years.

CASA has approached this policy development work without any preconceived notions about the specific legislative outcomes. The proposed policies have been developed in accordance with key principles established in consultation with the Aviation Safety Advisory Panel (ASAP). CASA

has worked in collaboration with an industry Technical Working Group (TWG) to develop the detailed policies. The policy development work was also informed by recent sector risk profiles.

We are seeking feedback from the wider industry and interested parties on the proposed policies. After all comments have been considered and the policies refined accordingly, CASA will finalise the policy proposal in consultation with the TWG and ASAP, and then commence the legislative drafting process. Draft legislation will be consulted in 2020 to ensure the policies have been accurately captured.

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1 Reference material

1.1 Acronyms

The acronyms and abbreviations used in this policy proposal are listed in the table below.

Acronym	Description
ASAP	Aviation Safety Advisory Panel
CAAP	Civil Aviation Advisory Publication
CAR	Civil Aviation Regulations 1988
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulations 1998
ICA	Instructions for continuing airworthiness
RPT	Regular public transport
TWG	Technical working group

1.2 References

Regulations

Regulations are available on the Federal Register of Legislation website https://www.legislation.gov.au/

Document	Title
CAR Part 4	Airworthiness requirements
CAR Part 4A	Maintenance
CAR Part 4B	Defect reporting
CASR Part 21	Certification and airworthiness requirements for aircraft and parts
CASR Part 42	Continuing airworthiness requirements for aircraft and aeronautical products
CASR Part 66	Continuing airworthiness—aircraft engineer licences and ratings
CASR Part 121	Australian air transport operations—larger aeroplanes
CASR Part 133	Australian air transport operations—rotorcraft
CASR Part 135	Australian air transport operations—smaller aeroplanes
CASR Part 145	Continuing airworthiness—Part 145 approved maintenance organisations

International Civil Aviation Organization documents

International Civil Aviation Organization (ICAO) documents are available for purchase from http://store1.icao.int/

Document	Title
Annex 6 Part I	International Commercial Air Transport — Aeroplanes
Annex 6 Part III	International Operations — Helicopters

Advisory material

CASA's advisory circulars are available at http://www.casa.gov.au/AC

CASA's Civil Aviation Advisory Publications are available at http://www.casa.gov.au/CAAP

Document	Title
CAAP 30-4	Certificate of Approval — Maintenance Organisation

2 Introduction

2.1 Background

As part of the Regulatory Reform Program (RRP), the CARs are progressively being replaced by CASR. CASA is establishing a comprehensive set of continuing airworthiness requirements for all aircraft under CASR. This document contains a detailed, plain English policy proposal of continuing airworthiness management and maintenance requirements for aircraft currently operating in the charter sector. These policies will be the basis for new legislation that will be drafted and consulted in 2020.

2.1.1 Structure of this document

The main body of this document provides an overview of the policy development process and the key policy outcomes. Annexes provide a more detailed explanation in each policy area.

2.1.2 Compatibility with new flight operations regulations

When the new flight operation regulations commence in March 2021, the existing RPT and charter operations will transition into three new CASR Parts 121, 135 and 133, covering air transport operations, depending on the class (aeroplane vs helicopter) and size (weight and passenger capacity) of the aircraft.

These new flight operations regulations will provide a new risk-based framework that has a different basis from the current regulatory system, i.e. the current schedule based framework will be replaced by a framework based on aircraft size and capacity. The continuing airworthiness requirements need to be adjusted to be compatible with this new framework and ensure the continuing airworthiness requirements are proportionate across the new sectors. This document is accordingly framed in terms of the new air transport flight operations classifications.

CASA acknowledges the independent risk review of passenger limits in the new air transport flight operations regulations. CASA, in consultation with industry, will assess the outcomes of that review in relation to the policies proposed in this document when the outcomes become available.

CASA also acknowledges that transition from the current to the new air transport flight operations regulations will have consequential effects on the continuing airworthiness and maintenance sectors. CASA is developing a separate legislation package for these transitional measures, which will be consulted in the coming months. These measures will prioritise safety, but also take commercial issues into consideration and seek to moderate effects on affected businesses.

2.2 **Previous consultation**

The key principles for this work were established in consultation with the ASAP in March 2019. The ASAP formed a Technical Working Group (TWG) to provide technical expertise and industry sector insight for the development of policies in accordance with the key principles.

The TWG agreed by general consensus with the policies set out in this document.

The TWG included representatives from:

- Aircraft Maintenance Australia
- Airlines of Tasmania
- Aviair Pty Ltd / Helispirit
- Babcock Offshore Services Australasia Pty Ltd
- Hawker Pacific Aviation
- Interair Pty Ltd
- Maryborough Aviation Services
- Regional Aviation Association of Australia
- Temora Aviation Museum Engineering
- The Australian Aviation Associations Forum.

Information on the ASAP and TWG is available on the CASA website.

3 Proposed continuing airworthiness policies

3.1 Key principles

The key principles applied while developing the proposed policies are the following:

- a. Ensure compliance with the standards set by ICAO for commercial air transport operations:
 - i. Annex 6 Part 1 International Commercial Air Transport Aeroplanes
 - ii. Annex 6 Part III, Section II International Commercial Air Transport Helicopters
- b. Facilitate harmonisation with legislation of leading aviation states, as applicable for the Australian environment
- c. Ensure compatibility with the new air transport flight operations regulations
- d. Ensure regulatory requirements are proportionate to the risk associated with the relevant operational classification
- e. Provide transitional strategies to minimise the disruption to the industry.
- f. Consider the economic and cost impact on individuals, businesses and the community in the development and finalisation of new or amended regulatory changes.

3.2 Proposed policies for Part 133 - Rotorcraft, and Part 135 -Smaller aeroplanes

Part 133 will cover air transport operations in rotorcraft.

Part 135 will cover air transport operations in smaller aeroplanes. This includes any current charter or RPT operations in smaller aeroplanes. Smaller aeroplanes are those that meet <u>both</u> of the following criteria:

- fitted with 9 or fewer passenger seats in its approved configuration
- a maximum take-off weight (MTOW) up to 8,618 kg.

The following sections provide a summary of the significant policies across the four main elements of continuing airworthiness (full policy details are available in the annexes):

- continuing airworthiness management
- who may carry out maintenance
- maintenance performance rules
- approved maintenance organisations.

The majority of proposed policies would maintain the status quo. Proposals that would be a substantive change from the current policies are marked with an asterisk and an explanation provided.

3.2.1 Continuing airworthiness management

Title	Title
Responsibility for	The AOC holder for an aircraft will be the person responsible for continuing

Title	Title
continuing airworthiness of an aircraft	airworthiness of the aircraft and will be ultimately responsible for airworthiness of the aircraft before a flight unless the AOC holder contracts another individual or organisation as the person responsible for continuing airworthiness.*
	* <u>New policy</u> : this would officially transfer primary responsibility for continuing airworthiness from the registered operator to the AOC holder. This is a fundamental improvement to ensure a clear definition of the roles and responsibilities of the various entities and is consistent with ICAO standards.
	If an AOC holder contracts another individual or organisation as the person responsible for continuing airworthiness the AOC holder must nominate an individual within the AOC to provide oversight of the continuing airworthiness management tasks. The HAAMC required under the Civil Aviation Act will be able to fill in this role. The AOC will still be ultimately responsible for airworthiness of the aircraft before a flight.
	The person responsible for continuing airworthiness must be approved by CASA. The approval may be combined with the AOC approval. If the approval is for an organisation, then individuals within the organisation will not have to be approved by CASA.**
	The responsible individual/organisation must: meet minimum competency standards have a procedures manual which may be combined with the AOC manuals have access to instructions for continuing airworthiness have appropriate facilities have a quality or independent audit system (this may be the AOC quality system).**
	** <u>New policy</u> : (two dot points) This would clarify the requirement for formal continuing airworthiness management for air transport operations. It would effectively amalgamate the roles of the HAAMC and the maintenance controller.
Maintenance programs	AOC holder must have a maintenance program for the aircraft.
programs	A program that complies with the manufacturers' instructions will not require approval.
	Variations from the manufacturers' instructions must be justified and approved.
	As a result of the transition away from CAR, Schedule 5 will cease to exist in legislation. However, the content may be used for developing or supplementing the maintenance program if necessary (noting that variations from the manufacturer's instructions will require approval).*
	* <u>New policy</u> : Currently the registered operator of a small aircraft used in charter operations may elect to use Schedule 5 for their aircraft. The responsibility to ensure that it is appropriate is implied and not clearly defined. This policy would ensure that all aircraft used in air transport operations have a maintenance program that is appropriate for the aircraft.
	Maintenance program approvals may be granted by appropriately authorised industry personnel (similar to CARs 42M and 42R), including individuals within an AOC. CASA will also be able to approve maintenance programs.
	There must be a system in place to ensure the ongoing effectiveness of the

Title	Title
	maintenance program, i.e. periodic review or reliability program.**
	** <u>New policy</u> : Currently the responsibility to ensure that the aircraft maintenance program remains appropriate for the aircraft is not clearly defined. This policy would ensure that all aircraft used in air transport operations have a maintenance program that is appropriate for the aircraft.
Instructions for continuing airworthiness	There must be arrangements in place to assess manufacturers' ICA such as service bulletins.
Continuing airworthiness records	The AOC holder must have a continuing airworthiness records system. The system may be electronic. The existing CASA log books will be acceptable.
Flight technical log	The AOC holder must have a flight and technical log to record aircraft's utilisation information, defects, maintenance certification and release to service.
Managing defects	The AOC holder must have a system to manage defects which includes recording, rectifying and deferring defects.
Major defects	The AOC holder must report any major defect in their aircraft to CASA and TC holders for the aircraft, engine and propeller as applicable.*
	* <u>New policy</u> : Currently major defect reports only need to be sent to CASA. Reporting to the TC holder will improve the efficiency of the airworthiness safety system.
	The AOC holder will be responsible for investigating major defects to the extent necessary to establish if there is a need for any immediate action by the AOC holder. This may be part of AOC holder's SMS function.
Modifications	Aircraft modifications must be made in accordance with data approved or acceptable under Part 21. Part 21 allows approval of data by a 21.M authorised person and also allows acceptance of data that has been approved by the TC holder or by a recognised country.
Periodic airworthiness review	A periodic airworthiness review will be required. It will primarily be a review of an aircraft's continuing airworthiness records to establish that the key continuing airworthiness requirements have been complied with.*
	The period may be extended to 3 years if the continuing airworthiness of the aircraft has been managed by the same entity.
	CASA will provide adequate time and necessary guidance to carry out the initial review for older aircraft.
	Reviews must be carried out by competent personnel appointed by the AOC holder.
	* <u>New policy</u> : Periodic airworthiness reviews would be a new requirement. This policy would expand on the current maintenance release inspection requirements, which would not be a requirement in the future. This policy is a desirable safety improvement that is a common element of comparable international standards and has received positive reports from users in Australia.

3.2.2 Who may carry out maintenance?

Title	Title
Maintenance organisations	• Maintenance organisations approved by CASA under CASR may carry out maintenance inside and outside Australia. This includes Part 145 AMOs. CASA will develop legislation for a second kind of maintenance organisation for Part 133/135 aircraft if it is considered necessary after the policies are finalised.
	 Maintenance organisations approved by the following countries will be able to carry out certain maintenance on aircraft outside Australia: USA EASA member States New Zealand Singapore.*
	 Maintenance organisations approved by the following countries will be able to carry out maintenance on aeronautical products outside Australia: USA EASA member States New Zealand Singapore Canada.*
	* <u>New policy</u> : Currently maintenance may generally be sourced from a wider range of countries. This would limit the acceptance to countries with which Australia has an agreement, plus FAA and EASA approved maintenance organisations. This policy is intended to strike a reasonable balance between safety assurance, cost and flexibility for unscheduled air transport operations.
Independent LAME	• Privileges will remain similar to current Schedule 7, both in form and content.
NDT and welding	 Maintenance organisations will be able to assess and authorise individuals to carry out and certify for NDT and welding without the need for the individual to hold a specific CASA authorisation.
	CASA will continue to grant individual NDT and welding authorisations.
Pilots	• Privileges will remain similar to current Schedule 8, but with various changes.
	 Pilots will have to be trained by a maintenance organisation and be authorised by the operators based on their competency.*
	* <u>New policy</u> : This policy would clarify the requirement to establish the competency and scope of pilots for carrying out maintenance.

3.2.3 Maintenance performance rules

Title	Title
Use of parts and materials	 Parts must be fitted in accordance with the approved design.
	• Traceability and authenticity of parts must be established by authorised release certificate, or certificate of conformity standard parts or materials.
Independent inspection	 Independent inspection will be required after maintenance of critical control systems.*
	* <u>New policy</u> : This would be an expansion of the current independent inspection requirements from flight controls to critical control systems. This is an improvement that better covers the safety intent and modern technology.
	 Inspections may be performed by LAMEs and appropriately trained and authorised pilots.
Maintenance records	Maintenance records will be required for all maintenance.
Certification of maintenance	Individual who carried out or supervised the maintenance must certify for proper completion of the maintenance.
Maintenance release	• After the completion of all maintenance, the maintenance organisation or independent maintainer will have to issue a certificate stating that that all maintenance has been carried out in accordance with the requirements of the applicable legislation (similar to final certification under CAR).*
	* <u>New policy</u> : This would clearly separate and assign the responsibilities of maintenance from continuing airworthiness management. The proposed airworthiness review would replace the current maintenance release requirement to ensure that all required maintenance has been carried out.
Major defect reporting	 Aircraft maintainers will have to report any major defect to the registered operator of the aircraft.
	 Maintenance organisations carrying out maintenance on an aeronautical product will have to report any major defect to CASA.

3.2.4 Approved maintenance organisations

The proposed policies for maintenance organisations for Part 133/135 aircraft have been developed from CAAP 30-4 and the outcomes of the recent maintenance sector risk profile. CASA will develop legislation for a second kind of maintenance organisation (i.e. in addition to Part 145) for Part 133/135 aircraft if it is considered necessary after the policies are finalised. This second kind of maintenance organisation would not be permitted to carry out maintenance on Part 121 aircraft or aeronautical products for Part 121 aircraft.

The table below covers some of the more significant proposed policies. Full policy details are available in Annex 3.

POLICY PROPOSAL FOR CONTINUING AIRWORTHINESS MANAGEMENT AND MAINTENANCE FOR FUTURE AIR TRANSPORT OPERATIONS

Title	Title
Scope of approval CAAP 30-4, 4.1.5	 Scope may be granted broadly according to capability and procedures
CAAF 30-4, 4.1.3	Separate aircraft and component maintenance scope will continue.
Maintenance organisation's manual CAAP 30-4 App 5	 Maintenance organisations will be required to have a manual describing: the organisation's structure the roles and responsibilities of key personnel location of maintenance facilities scope of approval general description of the facilities at each location procedures for carrying out maintenance.
	• The complexity of the manual will depend on the organisation's size, scope and the complexity of its activity.
Locations CAAP 30-4, 4.1.5	 Locations where maintenance organisation intends to carry out maintenance will have to be approved
CAAP 30-4, 7.1.1	Unscheduled maintenance at locations not approved will be permitted.
	 Limited schedule maintenance will also be permitted in accordance with procedures.
Changes to the approval CAAP 30-4, 4.1.2	 The following changes will require approval by CASA: Change of scope of maintenance Change to key management personnel Change to primary location.
Key personnel CAAP 30-4, 4.1.5 CAAP 30-4 App 2	 Maintenance organisations will be required to have the following management personnel: An accountable person with ultimate authority Personnel responsible for controlling the organisation's activities A person responsible for safety and quality system
	 It will be possible to have a single person filling all of the above positions except that the individuals performing internal audits will have to be independent of the activity.
Other personnel CAAP 30-4, 4.1.5	 Maintenance organisations will be required to have appropriately qualified maintenance personnel to carry out maintenance under the scope of approval.
CAAP 30-4, 4.1.9 CAAP 30-4 App 2	• The organisation will be required to authorise certification personnel (i.e. listing certification personnel in a register and making the personnel aware of their scope of authorisation).
	Quality or internal audit personnel will have to be competent in audit.
Training of personnel	 Personnel will have to be trained on the organisation's procedures and, as required, to ensure competency for maintenance.
CAAP 30-4, 4.1.9 CAAP 30-4 App 2	Human factors training will have to be provided to maintenance personnel.*
	* <u>New policy</u> : This would require human factors training, which aims to treat an elevated risk to safety identified at the recent sector risk profile.
	Organisations will be required to keep records of training provided.

POLICY PROPOSAL FOR CONTINUING AIRWORTHINESS MANAGEMENT AND MAINTENANCE FOR FUTURE AIR TRANSPORT OPERATIONS

Title	Title
Tools and equipment	• The organisation will be required have, or have ready access to, the required tools and equipment for their scope of approval.
CAAP 30-4 App 3	Alternate tools and equipment may be used in accordance with procedures.
Data CAAP 30-4 App 4	 The organisation will be required to have access to applicable maintenance data.
Manufacture of parts during maintenance CAAP 30-4 App 9	 Organisations will be able to seek scope to fabricate parts in the course of maintenance.
	• Fabrication privileges do not have be limited to particular parts, but the scope will have to be defined in the manual and the organisation will need to demonstrate relevant competency.
Human factors in maintenance	 Maintenance performance rules will integrate human factor and human performance issues.*
	* <u>New policy</u> : This would formally include human factors considerations in maintenance, which aims to treat an elevated risk to safety identified at the recent sector risk profile.
Safety management system (SMS)	 An organisation will need to have appropriate and relevant elements of SMS based on the size and complexity of the organisation.*
	* <u>New policy</u> : This would formally include proportionate SMS in all maintenance organisations working on air transport aircraft, which aims to treat an elevated risk to safety identified at the recent sector risk profile.

3.3 Proposed policies for Part 121 - larger aeroplanes

Part 121 will cover air transport operations in larger aeroplanes. This includes any current charter or RPT operations in larger aeroplanes. Larger aeroplanes are those that meet <u>either</u> of the following criteria:

- fitted with more than 9 passenger seats in its approved configuration
- a maximum take-off weight (MTOW) of more than 8,618 kg.

Note: CASA is currently considering a request from industry for increasing the number of passenger seats for Part 135 operation.

3.3.1 **Proposed policies**

Part 121 aircraft will comply with CASR Part 42 and Part 145 as currently applicable to RPT aircraft, with the changes set out below (the points described below are a high level summary – see Annex 1 for full details).

Aircraft to which Subpart 121.Z (certain single engine aeroplanes) applies will comply with the requirements for Part 135 aircraft.

3.3.1.1 Continuing airworthiness management

CAMO requirements will be made more scalable and outcome-based, which would allow 1 person organisations and individuals to be approved as a CAMO.

Competency requirements for CAMO personnel will be made less prescriptive and allow more pathways to approval. In particular, CASA will amend the qualification requirements to provide pathways for competent individuals who do not meet the current formal qualification standards. All current maintenance controllers for charter operators will be automatically accepted as that operator's head of CAMO.

CASA will adjust the CAMO approval procedures to ensure that CASA does not need to specifically approve all key personnel. CASA procedures will focus on assessment of the head of the CAMO, provided other key personnel meet the relevant requirements.

3.3.1.2 Who may carry out maintenance?

CASA will amend Part 42 to allow maintenance organisations approved by the following countries, to carry out certain maintenance on aircraft outside Australia for unscheduled operations (the maintenance organisation would not need to be physically located in that country), without holding a CASA authorisation:

- USA
- EASA member States
- New Zealand
- Singapore.

The Part 42 pilot maintenance privileges will be extended as follows:

- Maintenance that the instruction for continuing airworthiness specifically allows a pilot to carry out
- Check aircraft tyre pressure
- Inspection after a bird strike, provided the bird has not been ingested into the aircraft engine or an air inlet, or has not impacted any composite structure
- Engine compressor water wash using quick release connection.

3.3.1.3 CASR Part 145 Approved Maintenance organisations

CASA is progressing a range of improvements to Part 145 under a related <u>Project MS 17/03</u> - Post-implementation review (PIR) of CASR Part 145 - Approved maintenance organisations.

3.4 Impacts on industry

In accordance with the key policies, CASA is committed to ensuring that the final policies provide a regulatory framework that is proportionate to the new flight operations sectors and the size and complexity of the aircraft.

This project provides an opportunity to replace the ageing CARs with a more efficient, proportionate and risk-based set of regulations. It is also an opportunity to make various

improvements to the more recent CASR Part 42 and 145 regulations both for the current RPT operators and to ensure it is appropriate for the future Part 121 operators.

A detailed regulation impact statement will be prepared and published in accordance with the Office of Best Practice Regulation guidelines after the policies have been finalised. CASA welcomes input from industry to inform that work.

3.5 Implementation and transition

CASA is working towards finalising the policies for the future continuing airworthiness requirements by March 2020, which will give certainty to affected parties one year prior to commencement of the new flight operations regulations.

CASA envisages that the legislation that will give effect to the finalised policies will be drafted, consulted and made in 2020.

Commencement and transition details will be determined and settled in consultation with industry after the policies have been finalised.

CASA is committed to transition strategies that minimise disruption to industry and will work in collaboration with the TWG and consultation with the wider industry accordingly.

Closing date for comment

CASA will consider all comments received as part of this consultation process and will incorporate changes to the regulation as appropriate. Comments on the draft new policy should be submitted through the online response form by close of business 22 December 2019.