

Civil Aviation – Annual Review

From 1989 to 2023, civil aviation regulations have been under constant review and change. Absolutely no consistency, no global harmonisation, no cost reduction, no improvement in safety, no AME licences training packages, no additional civil aviation global trade agreements, no adoption of Convention safety standards, and much more. Australia has a uniquely Australian regulatory version that supports domestic civil aviation within Australia only.

The CAA 1989-1990 Annual Report included the following statement:

“The CAA’s prime objective, in accordance with the Government’s intention and the CAA’s legislative obligations, is to promote aviation safety by balanced administration of safety regulations.

The CAA

- *Recognises its contribution to enhancing the economic viability of the industry as a factor in the industry’s capacity to maintain safety;* ✓
- *Promotes uniformity of safety regulatory requirements and practices with those of major countries in world aviation as far as practical;* ✓
- *To impose the minimum of regulatory constraint and associated costs on the aviation industry consistent with maintaining a high level of safety;”* ✓

So, in 1989/90, CAA was heading in the right direction. Sadly, these are no longer ‘objectives’ in CASA’s Annual Reports and is probably why we do not have uniformity of global regulatory requirements and practices for engineering design, manufacture, maintenance, and maintenance personnel.

Pre 1990, the Air Navigation Act, Regulations and Orders were more compliant with ICAO SARPs than today requirements.

After **33 years**, the creation of CAA/CASA responsible for civil aviation regulations has not achieved the objectives expected and proposed in their 1989/1990 Annual Report.

The 2022-2023 Annual Report no longer has sensible ‘objectives’ like those they included in 1989-1990.

No bilateral/multi-lateral agreements that recognise Australian aviation design, manufacture, maintenance organisation certificates issued by CASA, nor recognition of the Government’s Authorised Release Certificate in their own right. Manufacturers continue to move off-shore to market their products.

Major Issue

When the Minister for Transport, the Honourable Laurie Brereton, MP, in 1995 introduced the Bill to create the Civil Aviation Authority it was very much about restricting CAA to aviation safety matters – it was not about setting up CAA to perform aviation functions to give effect to the Chicago Convention, ratified Protocols and Annexes; it was to: *“establish a regulatory framework to maintain, enhance and promote the safety of civil aviation, with particular emphasis on preventing aviation accidents.”*

A review of numerous Bills that have changed the Civil Aviation Act since then, including the Bill to adopt the Morris Report to create CASA, clearly shows that government did not propose for CASA to perform the role of a national Aviation Authority as prescribed in ICAO documentation.

It is simply unacceptable that since 1988, the aviation industry has not seen a settled regulatory system.

When will government add the Chicago Convention primary function, below, to the Civil Aviation Act?

ICAO’s primary function – (to ensure safe operation of aircraft by implementing ICAO SARPs).

“The primary function of a regulatory organisation is to comply with provisions of the Convention and to implement ICAO SARPs to ensure safe operation of aircraft on its national civil register & in its airspace.”

Thirty-three (33) years since government created CAA, twenty-eight (28) years since government created CASA, the regulatory reform continues, but not in accordance with the initial objectives’ government used to set up an independent government agency. Industry is disillusioned with the proposals that eventuate but do not meet the original CAA objectives supported by our members.

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Modernisation of General Aviation – Aeroplanes/Helicopters

What would GA look like if regulatory reform had stayed focused on being compliant with ICAO requirements? Reform that was introduced with the making of the Civil Aviation Act and Regulations in 1988 removed over a thousand flight training organisations operating under an exemption of an ANR, and hundreds of directly supervised approved maintenance organisations. First destructive reform.

These removed provisions were the Department version of the FAA independent flying training schools and maintenance organisations. Where the FAA sets the standards for these Part 61 flight instructors/examiners and maintenance organisations covered by the Airports Division, DCA decided to approve by basically using the FAA standards.

This sector trained more pilots and more AMEs than the commercial airline sectors. With the loss of these flight training and AMOs because of no specific regulation, Australia's pilot and AME shortages began.

Modernisation begins by resurrecting DCA requirements with the main aim to address shortages.

ICAO definitions and standards

“General aviation operation. An aircraft operation other than a commercial air transport operation or an aerial work operation
Corporate aviation operation. The non-commercial operation or use of aircraft by a company for the carriage of passengers or goods as an aid to the conduct of company business, flown by a professional pilot(s) employed to fly the aircraft.

Advanced aircraft. An aircraft with equipment in addition to that required for a basic aircraft for a given take-off, approach, or landing operation.

Responsibility. The responsibility that devolves upon the operator in Annex 6, Part I, should, in Part II of the Annex, fall upon the owner and pilot-in-command. Precedent for this course of action exists in Annex 2.”

2.2.2.2.1.1 *The State of Registry shall authorize operational credit(s) for operations with advanced aircraft. Where the operational credit relates to low visibility operations, the State of Registry shall issue a specific approval. Such authorizations shall not affect the classification of the instrument approach procedure.*

2.6.4.1 *When maintenance is carried out by an approved maintenance organization, the maintenance release shall be issued by the approved maintenance organization in accordance with the provisions of Annex 8, Part II, 6.8.*

2.6.4.2 *When maintenance is **not carried out** by an approved maintenance organization, the maintenance release shall be completed and signed by a person appropriately licensed in accordance with Annex 1 to certify that the maintenance work performed has been completed satisfactorily and in accordance with data and procedures acceptable to the State of Registry.”*

Too many airports/aerodromes/airstrips in Australia are not seeing the number of general aviation aircraft as were originally located at country airports pre the creation of the civil aviation regulations. In the early 1990s, the direction within CAA was to align more with the FAR system because the previous regulatory system also aligned closely with the FAR system but some CAA(UK) requirements.

The cost of general aviation in Australia is much higher than in the USA even with their safety regulations and processes that places the onus on the owner/operator and LAME for safety.

The US GA is increasing because there has been increasing emphasis on improving the infrastructure of private airports and the growing number of High-Net-Worth Investors in the country.

“Air taxis will be operating “at scale” in major urban centres across the USA by 2033, FAA administrator Billy Nolen says at a conference sponsored by The Wall Street Journal on 3 May. Therefore, the aviation rules that have been in place for decades need to evolve and develop in order to integrate the new type of air transportation options. “We are changing from science fiction to science facts.” “We are well on our way to making it a reality today,” he added

Australia hasn't even introduced the current FAA Air Taxi system that would encourage use of aircraft as a transport alternative to road and airline transport. Over the years, various CASA Executives have toyed with introducing the FAA Air Taxi system but never commit.

The reason CASA does not commit is because independent sectors have too much lobby power in CASA.

The hardest thing for CASA to do is implement a regulatory system for the betterment of the whole industry that does not favour one sector but damages other sectors like the impact of the CAA & CARs in 1988.

Lobbyists for commercial sectors killed of the independent flight training and directly supervised AMOs.

The fix is to re-introduce the directly-supervised AMO of the past; and implementing the independent FAA Part 61 type flying school system from the past to create more pilots that are the key to creating a safe and viable general aviation.

The FAA is years ahead of Australia, maybe adopt the FARs would be the simplest and best answer.

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Still No Additional VET LAME Training Courses

The creation of VET training packages specific for each CASA Part 66 Licence is seen by unions, (AMU, AMWU & ETU in particular) as attacking their trade training, qualifications, and workplace agreements.

Since Part 66 licencing was introduced in the mid-2000s, ASQA endorsed training packages have not eventuated. When will CASA and DEWR/ASQA come up with training packages for ALL Part 66 licences?

<p>Licensed Aircraft Maintenance Engineer (Mechanical)</p> <p>CASA: The main role of a LAME is to</p> <ul style="list-style-type: none"> • supervise the work of other aircraft engineers • sign off on work, confirming its completion to the required standard • certify the aircraft is fit to fly. <p>ICAO: Certify as airworthy & sign the maintenance release (CRS/RTSs).</p> <p>LAME mechanical trade qualifications specified by CASA includes Cert IV Mechanical & some Structures subjects.</p> <p>How Do AMEs Get That Training for other than the B1.1 large aircraft licence and B2 avionics that previously existed?</p>	
<p>Australian Trade Qualifications – Based on ANZCO</p>	
<p>323113 Aircraft Maintenance Engineers (Structures) inspect, dismantle, and reassemble aircraft structures, and repair and replace components of aircraft frames.</p> <p>A certificate IV in aeroskills (structures) is needed to work as an Aircraft Maintenance Engineer (Structures). This course is often completed as part of an apprenticeship.</p> <p>Tasks</p> <ul style="list-style-type: none"> • Dismantles, inspects, tests, repairs and reassembles sub-assemblies of aircraft frames. • Assembles parts and sub-assemblies of aircraft frames. • Conducts routine pre-flight inspections of engines, aircraft frames and mechanical systems. • Maintains records of action taken. 	<p>323112 Aircraft Maintenance Engineers (Mechanical) inspect, test, repair and install aircraft hydromechanical and flight system components and aircraft engines, subassemblies, and components.</p> <p>A certificate IV in aeroskills (mechanical) is needed to work as an Aircraft Maintenance Engineer (Mechanical). This course is often completed as part of an apprenticeship.</p> <p>Tasks</p> <ul style="list-style-type: none"> • Dismantles, inspects, tests, repairs and reassembles aircraft engines, ancillary motors and engine accessories, electrical systems and sub-assemblies of aircraft frames. • Installs electrical circuits and equipment. • Tests aircraft communication equipment, aircraft instrumentation and electronic systems using electronic testing equipment and specialised apparatus. • Replaces and tests aircraft oxygen system components. • Assembles parts and sub-assemblies of aircraft frames. • Conducts routine pre-flight inspections of engines, aircraft frames and mechanical systems. • Maintains records of action taken. • May manufacture aircraft electrical, instrument and radio hardware components.
<p>AME (M&S) + A1 AME (M&S) + A2 AME (M&S) + A3 AME (M&S) + A4</p>	<p>Unions: AWU, AMWU (ETU covers Avionics Stream)</p>
<p>B1.1 ✓ B1.2 X B1.3 X B1.4 X</p>	<p>Union: ALAEA (B2 Avionics ALAEA ✓)</p>

All CASA licences are based on, or should be, the ANZCO 32112 (mechanical) and 32111 (avionics).

When will CASA give regulatory effect to accepting a Cert IV trade qualification plus a Diploma to apply for an AME Part 66 B licence?

Module	Subject	Primary Union(s)	Module	Subject	Primary Union(s)
1	Mathematics	AMU, AMWU, ETU	10	Aviation legislation	ALAEA
2	Physics	AMU, AMWU, ETU	11	Aeroplane aerodynamics, structures, and systems	AMU, AMWU
3	Electrical fundamentals	AMU, AMWU, ETU	12	Helicopter aerodynamics, structures and systems	AMU, AMWU
4	Electronic fundamentals	AMU, AMWU, ETU	13	Aircraft structures and systems (Avionics)	ETU
5	Digital techniques electronic instrument systems	AMU, AMWU, ETU	14	Propulsion — avionic systems	ETU
6	Materials and hardware	AMU, AMWU, ETU	15	Gas turbine engine	AMU, AMWU
7	Maintenance practices	AMU, AMWU, ETU	16	Piston engine	AMU, AMWU
8	Basic aerodynamics	AMU, AMWU, ETU	17	Propeller	AMU, AMWU
9	Human factors	ALL			

Note: the ALAEA has interest in all modules underpinning each licence.

CASR Part 66 requires conversion of ANZCO 323112 Aircraft Maintenance Engineers (Mechanical) qualification into specialised streams to match the B1.1, B1.2, B1.3 & B1.4 licences.

Naturally, the unions reject this approach as it effects their members livelihoods.

Step 1. To amend the underpinning trade requirements for the various B1 licences will need union acceptance.

Pre “Structures Trade”	Post “Structures Trade”	CASR 66 B1 Stalemate.								
<p>323112 Aircraft Maintenance Engineers (Mechanical) included the 323113 “Structures” stream.</p> <p>(Non-airline/large AMOs still rely on previous AME qualifications for inclusion of metal/composite maintenance from 323112 AME (Structures).)</p>	<p>323112 Aircraft Maintenance Engineers (Mechanical) inspect, test, repair and install aircraft hydromechanical and flight system components and aircraft engines, subassemblies, and components.</p> <p>A certificate IV in aeroskills (mechanical) is needed to work as an Aircraft Maintenance Engineer (Mechanical). This course is often completed as part of an apprenticeship.</p> <p>[does not include 323113 structures that small aeroplane/helicopter AMEs require]</p>	<p>What Part 66 requires is for 323112 Aircraft Maintenance Engineers (Mechanical) trade training to have 3 specialised outcomes at Cert 4.</p> <p>A basic Cert 3 with all practical skills and theoretical knowledge plus: Cert 4 with 3 trade specialised pathways</p> <table border="1"> <tr> <td>C 4</td> <td>Large Aeroplane</td> <td>Small Aeroplane</td> <td>Helicopters</td> </tr> <tr> <td>C 3</td> <td colspan="3">Basic Trade Industry wide practical skills</td> </tr> </table>	C 4	Large Aeroplane	Small Aeroplane	Helicopters	C 3	Basic Trade Industry wide practical skills		
C 4	Large Aeroplane	Small Aeroplane	Helicopters							
C 3	Basic Trade Industry wide practical skills									

The Stalemate Catch 22 – ANZCO 323112 AME Trade Training V B1 variable Licences.

Employers recognise the training that CASA has promulgated for each mechanical B1 licence but have struggled to find dedicated trade-based courses in Australia’s VET system covering each trade/licence pathway, especially helicopters and small aeroplanes.

1. Large aircraft operator/organisations do not want their tradespersons course to include small aeroplane and helicopter trade/licencing competencies as part of their employee trade/licencing training.
2. Helicopter operator/organisations do not want their tradespersons course to include aeroplane trade/licencing competencies as part of their employee trade/licencing training.
3. Small aircraft operator/organisations do not want their tradespersons course to include large aeroplane and helicopter trade/licencing competencies as part of their employee training.
4. Future technology (drone) operators/organisations do not want their tradespersons course to include aeroplane or helicopter trade/licencing competencies as part of their employee trade/licencing training.

This is all related to the costs of training today compared to industry wide trade training that once existed. It is also seen as a way of retaining the licenced tradesperson in that section of the aircraft maintenance sector.

Can it be achieved?

Firstly, CASA needs to meet with other government departments like the Department of Employment & Workplace Relations and the Australian Skill Qualifications Authority to explain the licences and underpinning trade skills required to attain each licence. This is government to government responsibility. Basically, system required Cert III, General, Cert IV Small aeroplane, large aeroplane, and Helicopter specialised training streams.

Mechanical Pathways			
Cert III	Basic Trade - Industry wide practical skills This should include modules 1 – 9.		
Cert IV	Large Aeroplane	Small Aeroplane	Helicopters
	Module 11 large	Module 11 Small	Module 12
	Add, as applicable, modules 15 or 16 and 17		
Cert V	Module 10 Part 25 Designs	Module 10 Part 23 Designs	Module 10 All Designs

Module 15 Gas turbine engine; **16** Piston engine and **17** Propellers are electives within a Cert IV course.

Secondly, all the unions would need to support restructuring the 323112 Aircraft Maintenance Engineers (Mechanical) pathway so it would have 3 outcomes whilst protecting the current AME (mechanical) qualification.

- All current AMEs, no matter when they received their training, must be regulatory saved as meeting all three pathways. No retraining or if any is required, must be provided free of charge.
- This means future AMEs will be industry sector trained, possibly licenced, and if the AME wants to move to another sector, he/she would need to attain the industry sector electives to maintain skill qualifications.
- A basic AME tradesperson meeting specialised skills in their final year, mostly knowledge for the three streams identified for B1 licence outcomes.
 - Helicopters, small aeroplanes, and large aeroplanes outcomes.
 - All trade unions would need to adopt.

Outcome.

If this can be achieved with union support, then higher numbers of AMEs will be employed, some moving on to become licenced by CASA, thus addressing the shortage of maintenance personnel and LAMEs.

This would provide three (3) Cert 4 specialised training pathways that at least one must be attained to advance to the module 10 based Cert V diploma licencing training so the licence holder can certify as airworthy (meets design standards) and can provide supervision of all work to return an airworthy aircraft to service.

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Regulatory Services

Regulatory services are one of the most debated segments of safety regulation raised by individuals and organisations that use regulatory services provided by CASA. However, little, if any, concerns are raised where the regulatory service has been delegated to an approved individual or organisation. North America have devolved more regulatory services than CASA even though it was pre-CASA policy to devolve regulatory service wherever possible.

What is the most frustrating process is no standardisation as each manual amendment submitted is subject to each individual assessor's opinion of the whole manual overriding the previous CASA assessor of the manual at huge additional costs to the applicant.

EASA does not have this issue having regulations that address change to the company and MOE.

The EASA Part 145 regulations were not adopted by CASA.

Only the applicable amended pages/text is assessed when an amendment is submitted.

Note it is only the applicable parts of forms and manual that have to be submitted.

In addition, it requires acknowledgement of Company approved minor changes.

NB CASA must remove the situation where one CASA Inspector approves the manual as compliant then another Inspector assessing the manual to address a deficiency OR an amendment to the manual for approval, states it isn't compliant.

EASA process does not have this situation arising.

Unless there are yellow/red flagged issues against the company, only the amended text is assessed for compliance and then approved to be added to the exposition.

Once a manual has been approved by CASA, then it must be accepted by all CASA staff as compliant. Unless during an audit a deficiency is identified by CASA inspectors, any direction to change must be to address such deficiency.

Engineering delegated powers.

The North America's was always to most cost-effective method to apply. Both regulators publish a Delegates Manual that all "delegate", employed by the regulator OR non-employee been authorised to provide the delegated powers of a regulation or regulations without individual delegation manuals.

Regulations.

Many regulatory services can be eliminated is regulation are drafted as performance-based regulations instead of prescriptive based regulations. It is a technique long forgotten by the public service.

This is, and has been for a number of years, a very contentious issue and concern to members.

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145.B.35 Changes

Regulation (EU) No 1321/2014

1. The competent authority shall receive notification from the organisation of any proposed change as listed in point 145.A.85.
The competent authority shall comply with the applicable elements of the initial process points for any change to the organisation.
2. The competent authority may prescribe the conditions under which organisation may operate during such changes unless it determines that the approval should be suspended.

AMC 145.B.35 Changes

ED Decision 2015/029/R

The competent authority should have adequate control over any changes to the management personnel specified in 145.A.30(a) and (b) and such changes in personnel will require an amendment to the exposition.

AMC 145.B.35(1) Changes

ED Decision 2015/029/R

The applicable part(s) of the **EASA Form 6** should be used for the changes to the **Part-145** approval.

AMC 145.B.35(2) Changes to the organisation

ED Decision 2015/029/R

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

145.B.40 Changes to the Maintenance Organisation Exposition

Regulation (EU) No 1321/2014

For any change to the Maintenance Organisation Exposition (MOE):

1. In the case of direct approval of the changes in accordance with point 145.A.70(b), the competent authority shall verify that the procedures specified in the exposition are in compliance with [Annex II \(Part-145\)](#) before formally notifying the approved organisation of the approval.
2. In the case an indirect approval procedure is used for the approval of the changes in accordance with point 145.A.70(c), the competent authority shall ensure (i) that the changes remain minor and (ii) that it has an adequate control over the approval of the changes to ensure they remain in compliance with the requirements of [Annex II \(Part-145\)](#).

AMC 145.B.40 MOE amendments

ED Decision 2015/029/R

1. It is recommended that a simple exposition status sheet is maintained which contains information on when an amendment was received by the competent authority and when it was approved.
2. The competent authority may define some class of amendments to the exposition which may be incorporated without prior authority approval. In this case a procedure should be stated in the amendment section of the MOE.
The exposition chapter dealing with scope of work/approval should not be subject to this procedure.
3. The organisation should submit each exposition amendment to the competent authority whether it is an amendment for approval or a delegated approval amendment. Where the amendment requires approval by the competent authority, the competent authority when satisfied, should indicate its approval in writing. Where the amendment has been submitted under the delegated approval procedure the competent authority should acknowledge receipt in writing.