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Is Current Trade Training and Licencing Relevant?

At a time when the industry is suffering from a shortage of aircraft maintenance personnel, major industries and unions are looking at the ‘relevance’ of training (qualifications) and licencing (job scope) applied in their sectors.

Although aviation maintenance has existed for over 100 years in Australia, the aviation licencing system, unlike other Australian trade-based licencing systems, does not require maintenance personnel to hold AQF qualifications to hold a license. The AQF (Australian Qualifications Framework) is the national policy for regulated qualifications in Australian education and training. Industry has been supportive. **Why then, hasn’t it happened?**

Our observation is trade training has an element of “*this is how I was taught*” opinion applied by developers and advisors, an attitude that may not be relevant today. Training today is being questioned in what is ‘relevant’ to the jobs that happen in the workplace, not training that is applied by an Authority.

Everyone maintaining helicopters and aeroplanes not certificated under Parts 25 & 29, or defined as a complex aircraft by CASA, know the current AME training packages specified in the VET Companion Volume, are not relevant to maintaining their kinds of aircraft. A one size fits all approach does not work when it is geared to the Part 25, complex aeroplane, sector.

EASR/CASR Part 66 licencing is also not relevant to our civil aviation maintenance industry and never has been. EASA recognised that the EASR Part 66 version that CASA adopted was not “relevant” to the EU industry and made wholesale changes to make their licencing system more ‘relevant’.

CAR 31 group ratings were more ‘relevant’ to our industry sectors and worked.

Previous training developers focused on providing Part 25 courses, complex aircraft maintenance training courses, affected the ability of other maintenance sectors to find applicable relevant maintenance training. In many cases, structures subjects were removed based on an airline demarcation agreement.

Relevant Training

AMROBA has made many submissions to government, CASA, and training developers to no avail until this government created the Manufacturing Industry Skills Alliance (MISA) who are responsible for developing NVET training packages for our industry. AMROBA submissions over the years, highlighted the need for “relevant” separate trade training packages for the small aeroplane sector, the large aeroplane sector and the helicopter sector based on CASR Part 66 modules [11A \(large aeroplane\)](#), [11B \(small\)](#) and [12 \(helicopter\)](#). i.e. separate pathways.

AMROBA supports adopting the [EASA B2L](#) as a basic avionics LAME with additional “system” ratings as being the most relevant avionic licence and training system for civil aviation avionics maintenance in Australia.

Industry identified training issues over a decade ago and licencing issues within 12 months of making CASR Part 66. The fact that maintenance personnel and employers all raised concerns with the training and licences were not “relevant” to the work being performed, should have caused changes to make them relevant. Nothing happened.

Even EASA realised the AME licence structure we adopted was not “relevant” and amended their Part 66 to make it more “relevant” to EU employer and employee needs.

Though CASA is stuck in the “*this is how I was taught*” past era, the Manufacturing Industries Skills Alliance (MISA) has been more amenable to make the training relevant.

AMROBA submissions for separate pathways has been accepted. To make these separate pathways relevant, a review/development of these 3 different pathways will be completed this year by MISA providing three (3) distinct AME mechanical trade training pathways.

This will provide separate pathways for aircraft maintenance engineers for either large aeroplanes, small aeroplanes, and/or helicopters. Bridging courses between each trade-based training package will provide additional career pathways for AMEs.

Separated from trade training is the licencing module 10. In the VET system, a prerequisite to doing module 10 will be holding one of the 3 AME trade qualification to bring us into line with other trade/licencing systems.

Relevant Licencing

Every licencing authority, except CASA, has cooperated with the VET sector to attain AQF qualifications to support their licences. All maintenance organisations, other than those maintaining Part 25/Complex aeroplanes, have raised concerns with the ‘relevance’ of the current CASR Part 66 licences.

CAR 31 group ratings met industry needs and enable experience to be attained to be awarded a licence.

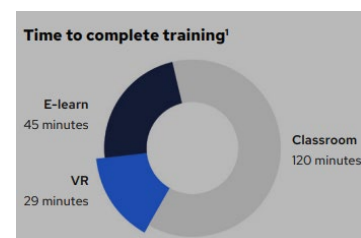
Only CASA can make the licencing system ‘relevant’ to all maintenance sectors employer/LAME needs.

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EU: “The Chicago Convention provides for minimum standards to ensure the safety of civil aviation and environmental protection relating thereto. The Union's essential requirements and further rules for their implementation established in this Regulation should ensure that Member States fulfil, in a uniform manner, the obligations laid down in the Chicago Convention, including those vis-à-vis third countries. Where Union rules differ from the minimum standards established by the Chicago Convention, the obligations of Member States to notify the International Civil Aviation Organization accordingly are not affected.”

How much Practical Experience is Required?

If the national vocational education training of aircraft maintenance personnel is modernised and digitalised, refer “[Transforming aircraft technician training with Extended Reality \(XR\)](#) by CAE & Xennial - 2024”, then our future training must be prepared for the impact of Virtual Reality/AI on aircraft maintenance personnel training which will be profound as it expands its foothold in the aviation industry. It is important to note that the time to complete training is reduced using E-Learning, and further reduced using VR/AI. Moving to these modern training methods will reduce the time to qualify maintenance personnel and will also assist in attracting students.



Within the aviation industry, it is already accepted that aircraft maintenance personnel absorb and retain information more effectively when they engage with content in three dimensional, immersive spaces.

We need government to modernise our aviation TAFE training providers with this VR training equipment. Students using this equipment do not need to be in a classroom environment, it may be done at home or work.

Pre employment Training

One of the issues confronting employers is the lack of basic technical hand skills being produced under the national secondary education system that should be taught pre-employment to ensure the person has the aptitude to enter an aviation maintenance trade-based training program. The right aptitude means a higher percentage of completing training and qualifying in the trade.

Employability Skills Training

Providers deliver employability skills training courses to get individuals job ready. They can help you find the right staff to meet your business needs – at no cost to you.

On the Job Practical Experience

The most important aspect of initial training is obtaining experience in applying new skills and knowledge and being assessed by whom. During initial training, many basic skills can be assessed within the training environment, including some by simulation and others by workplace supervisors.

For instance, a LAME that certifies maintenance task(s), carried out by another person, is stating that the task(s) have been completed satisfactorily, the aircraft remains airworthy and can be returned to service.

The certifying LAME is the right person to provide assessment for on-the-job maintenance task(s) competency.

Practical Skills

Basic trade practical global standards are listed in [ICAO Document 7192, Part D1](#), Chapters 10, 11 & 12.

In addition, this manual also includes the minimum training aids and equipment that recognised training establishments should have to provide basic avionics and mechanical aircraft maintenance engineer trade training. These methods are being overtaken by modern digitalised training methods.

Training is about providing employers with a reasonably skilled worker at a relatively low cost. Experience post attaining initial qualification develops expertise and the value of the employee increases. To gain initial qualification and on-going expertise, on-the-job experience is a crucial element. Education systems can provide a person that is ‘workplace ready’ meeting training competencies but on-the-job experience is required before the person can be assessed as ‘competent’, i.e., capable of doing the task(s) without supervision.

Job Ready Experience

The scope of similar jobs at one maintenance organisation may not be the same at like maintenance organisations. What a “job ready” AME is at one maintenance organisation is competent to perform may be different at another business simply because the scope of work on similar aircraft types may differ.

Experience associated with trade competency units assessed by the training provider and/or workplace supervisor of any person completing an AQF III basic trade qualification should be able to perform most of the basic trade tasks without supervision once an employer is confident the person is competent. Any person completing specialised trade, i.e. avionics and/or mechanical, AQF IV qualification should be able to perform the basic and specialised avionic or mechanical trade tasks without supervision.

Qualifications to Attract and Retain

The majority of school leavers want to ensure the company is ‘personnel’ focused and willing to provide additional training to further the skills and qualifications for the prospective employee. It is important that the VET qualification could be recognised prior learning if they change direction later in their career.

AMROBA will work with educators to ensure competency units are acceptable to further career opportunities for such purposes as cross train avionics to mechanical and reverse and possible engineer, planning, and reliability courses.

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Engineering Requests for Change Priorities

Can the Department/CASA describe their vision for the future of civil aviation engineering (design, manufacturing, and maintenance)?

What are the sources of prosperity to the civil aviation engineering disciplines?

Over the years AMROBA has requested CASA and other government Departments/Agencies to make changes for the benefit of manufacturing and maintenance organisations to attain global recognition of our products and services whilst supporting a cost-effective safe system for our domestic operation of aircraft.

Inaction, or the inability to manage industry requested workloads by government, departments and agencies over the decades has resulted in the maintenance and engineering design and manufacturing industries with many challenges. Obviously, CASA does not have a workplan or they don't have the management skills to manage a workplan even though they make this an issue whenever they monitor organisations' performance.

The following are some changes previously agreed to with CASA and re-prioritised by AMROBA.

Many of the following changes have been previously agreed with CASA but the method of change proposed in many cases are not full adoption of another regulatory system, not giving effect to Convention Annex standards – but unique Australian proposals.			
Maintenance Workplan		Engineering Workplan	
Item	Shortage of Maintenance Personnel	Item	Harmonise with FAR/EASA
1	<p>Fast track foreign LAME System (ASAP) This is a very high priority due lack of available qualified personnel in Australia because of a failed AME training system under current regulations.</p> <ul style="list-style-type: none"> ➤ Acceptance of foreign LAMEs must be based on "experience", not on initial AME training programs for an initial AME licence. ➤ Certification for maintenance and release to service standards may look different in some countries but verifying what differences that country has with Annex 1, Chapter 4 should be the basis of acceptance. 	1	<p>Realign Part 21 with FAR Part 21 CASA committed to urgently realign with FAR Part 21 a decade back. It is common knowledge globally that Australia's aviation engineering regulations are at least 15 years out-of-date with modern global standards.</p> <ul style="list-style-type: none"> ➤ CASR 21 is based on industry directed Australianised FAR Part 21. ➤ Aligning with FAR Part 21 is the basis of the BASA with the USA & FAA. ➤ This prevents agreements with other nations accepting Australian aviation designs, products, and services.
2	<p>Realign Part 66 fully with EASR Part 66 Although many state the FAA AMT is a better pathway, this is a high priority to adopt and implement the missing provisions that make the EASA AME licencing system work. It must be Australianised to meld with other legislation & Regulations. E.g. NVET standards</p> <ul style="list-style-type: none"> ➤ In realigning with EASR Part 66 A & B regulations, include adoption of the RTO exemption, the B2L & B3, as well as EASR Pt66 group ratings and using CAR 31 group ratings that worked under CAR 1988. 	2	<p>Remove Part 21 Subpart 21J Duplicate VE, add Design Engineer function. This issue was discussed with CASA about a decade ago and agreement was reached to urgently amend this regulatory requirement by aligning correctly with EASA CS 21 Subpart J — Design Organisation Approval, specifically regulation 21.A.245 Resources</p> <ul style="list-style-type: none"> ➤ Currently the designer aspects are not included but 2 verification engineers apply. ➤ Design + Verification + Release to service
3	<p>Acceptance of NVET AQF qualifications in lieu of CASA Part 66 module examinations. This condition must be a result of a re-written CASR Part 66 and the current review of the NVET training being carried out by MISA. This review will provide various pathways to meet CASR Part 66 trade + licences.</p>	3	<p>Devolve Regulatory functions to ADOs (e.g. FAA/EASA) When adopting the changes to Part 21, the devolvement of functions to the CASR Part 21 Subpart J ADO must also comply with FAR Part 183 ADO functions to remain compliant with US/Australia BASA</p>
4	<p>Making of CASR Part 43 – adopt FAR Part 43 Change reference to FAR Part 65 to CASR Part 66 and adoption of FAR Part 43 ACs is crucial to prevent errors like past part adoption of other nation's regulations.</p> <ul style="list-style-type: none"> ➤ Adoption of FAA AC 43-9C, for example, will also address issues like details needed to be kept in maintenance records. ➤ Is FAR Part 43 right for Australia or add adoption of EASA CAMO amended to include CAR30 AMOs. 	4	<p>Adoption of FAA VARMA Model Adoption of the FAA vintage aircraft replacement & modification program is linked to FAA AC 43-18 and AC 23-27 processes.</p> <ul style="list-style-type: none"> ➤ the US FAA's Vintage Aircraft Replacement and Modification Article (VARMA) program enables parts that are manufactured outside of the traditional FAA design and production approval system to be used. ➤ The VARMA is aimed at streamlining arrangements for replacing a/c parts on vintage aircraft.
5	<p>Specialised Skills Diminishing numbers of NDT Level III</p> <ul style="list-style-type: none"> ➤ An ageing workforce with few new starters ➤ Other specialised skills also diminishing numbers 	5	<p>International Agreements to assist trade</p> <ul style="list-style-type: none"> ➤ Without BASAs with many nations, the manufacturing industry cannot sell their products globally ➤ Coordination with DITRDC and DFAT by whom?

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