

Revitalisation Proposals – Australia’s General Aviation Sectors - 2015

Proposal 1: Aircraft Maintenance Engineers

General

Aviation regulatory changes implemented since 1988 have singularly and collectively applied a regulatory and administrative system that has financially and managerially obstructed the viability of general aviation. The outcome of these changes over this period is that general aviation is no longer sustainable under the current and proposed regulatory system.

The EASA ‘experiment’, rejected by most in general aviation when it was first proposed, has cost these sectors, and CASA, millions of dollars for a failed outcome – general aviation has not prospered under this system nor has safety been improved. The industry has spent millions of dollars on making changes without receiving any benefits from the change. The negative effects of regulatory changes have also reduced economically, aviation associated community resources throughout Australia. Many jobs have been lost.

To address the regulatory and administrative changes that are required, this submission will be one of a series of AMROBA proposals in early 2015 that have one goal, permitting general aviation to safely flourish by making changes to current legislation and administrative practices so general aviation will prosper.

“General aviation commonly refers to that part of the aviation industry that engages in activity other than scheduled commercial airline activity. This may include charter operators, aeromedical operators, agricultural aviation businesses, aviation-based fire-fighting services, training and aerial work such as aerial photography and surveying. It also includes private, business, recreational and sports aviation activity and supporting businesses such as maintenance providers.” #1

The skilling of the aircraft maintenance engineer (AME), and the bastardisation of the AME licence and rating system has destroyed what was the best licence and rating system for the Australian aviation environment.

There is now a real urgency to progress these industry recommended regulatory and administrative changes to halt the crumbling general aviation industry that is nobly attempting to operate under this confusing and unsustainable system.

CASA has confused ‘industry practices’ with ‘regulatory requirements and standards’. Regulatory requirements and practices should not try to cover all industry practices.

The international accepted purpose of the AME licence should be prescribed in CASR Part 66; that is, the LAME must be capable of exercising the 2 ICAO LAME privileges. Other regulatory requirements may use the LAME for other purposes but Part 66 should restrict its purpose to meeting international obligations. What CASA has confused, is the roles that businesses may use the LAME to perform. We repeat, the basic purpose of AME licence should be no more than the ICAO privileges.

The second point is that CASA’s determination to enforce formal training as the only way to obtain skills and knowledge was flawed from day one and may have done what may be incurable damage to aviation training capabilities in Australia. Three of the older and larger training establishments, approved under CASR Part 147, no longer provide AME training courses. Other smaller training providers have also closed.

This is proof that the system, based on EASA, which was implemented by regulatory change has failed general aviation. It is time to return to the proven whole-of-government approach that work so well for aviation.

Our aim in this proposal, and others to come, is to provide the foundations for the general aviation maintenance, repair and overhaul sectors so that recovery can be achieved if active and inactive general aviation personnel regain their confidence and trust in the system.

For general aviation to provide cost effective safe maintenance, a return to past requirements need to be adopted urgently. In addition, AMROBA members, and many non-members, are highly critical of the maintenance skills and standards that has been allowed to grow within self administration organisations.

- Maintenance standards do not change for the same types of aircraft and CASA should look at the regulatory processes of the US and Canada that have similar sectors of aircraft and operations but regulated quite differently.
- Our members have seen the results of maintenance performed under these systems and have mixed thoughts of safety standards that are applied. Some aircraft appear to be very well maintained but others are highly questionable.

The same maintenance & personnel standards suggested in this proposal should apply to those sectors of aviation. The following pages address skilling, training and licencing issues with recommendations for immediate actions to be taken.

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Aircraft Maintenance Engineer – Skills

This proposal is centred on re-establishing MRO aircraft maintenance engineers (AME) skills and resurrecting the AME licence system of the past that were regulatory based on the ICAO Annex 1, Chapter 4, paragraph, 4.2.2.1, LAME privileges.

What we propose is not unique to Australia as similar requirements are specified in EASRs and FARs. It is the employer's concern and liability, not CASA's, to determine when a person is competent to perform maintenance tasks without supervision. To obtain the necessary skills, the practices of the past must be resumed. There are at least three methods that prospective AMEs can use to obtain the skills, including knowledge, needed by a general aviation employer.

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1. The first is through an indentured apprenticeship or traineeship. This is the usual method used for school leavers. Minimum entry is usually completion of secondary year 10 but can be higher. The person achieves a trade certificate at completion of a National Vocation Education Training (NVET) at Australian Qualification Framework (AQF) Level IV. However, it is the '*record of employment*' that validates the experience associated with the skills obtained. (Most airline and military personnel obtain these qualifications at diploma level associated to the kinds of aircraft maintained).
2. The second is for an adult person from an allied trade that is provided with on-the-job training and experience by the general aviation employer and self-study by the individual. This process does not need CASA approval of training – reliance on the employer who has to deem the person competent to perform maintenance without supervision as an AME has been general aviation practices for decades. Many in GA started this way. Record of employment confirms what skills and experience obtained.
3. The third is a person of any age obtaining aviation skills, experience and knowledge by on-the-job training, experience and self-study. Once again, this does not need CASA approval of training – reliance on the employer who has to deem the person competent to perform maintenance without supervision as an AME has also been general aviation for decades. Some in GA start this way. The record of employment confirms what skills have been obtained.

CASA's predecessors, like other NAAs, accepted these methods of skilling and understood that hands-on-learning and experience can provide excellent AMEs. Many AMEs under this system went on to self-study and pass the CASA Basic Examinations associated with an AME licence and/or rating. General aviation skills and experience can be much broader than that obtained in larger airline based organisations or many formal training courses. CASA has put general aviation training back 30-40 years by applying the current regulatory requirements.

General aviation LAMEs are artisan-teachers that are very adept with hands-on-learning. This has been a proven method of skilling personnel, over many decades, especially in the practices and techniques that are required in general aviation. Hands-on-learning can be supported with *e-learning hands-on-learning* but very few training establishments have ventured down this path. General aviation must continue to rely on maintenance organisations providing the skills and knowledge to AMEs.

Who is best to judge whether an AME has the skills to perform maintenance tasks without supervision in general aviation? The general aviation employer – mainly the chief engineer. Academic qualifications do not necessarily impart skills required in general aviation.

- When an employer corporately authorises the AME to perform and certify maintenance tasks, then the employer is stating that the AME has the necessary skills as an AME.
- The industry does not need CASA to be involved in determining maintenance employees' skills as acceptable skills for an AME.
- This is the employer's responsibility in CAR 30.

Past Acceptance

CASA's predecessors always accepted that persons from allied trades could be employed, and assessed, in a shorter period than those that have no allied trade skills, as AME skilled and this assessment has always been the employer's responsibility. It is obvious that the changing regulatory system has removed this flexibility.

The AME's '*record of employment*' not a '*log of "task" experience*' is usually the main criteria that is reviewed prior to employment in GA. The employer assesses where and with whom the person has obtained their skills and experience. General aviation businesses talk to each other regularly – the skills of individuals are usually known by prospective employers.

International similarities

CASA has been blindly wedded to EASA but refused to adopt the flexibility within the EASRs.

For example, EASR 66.A.30 also accepts similar flexibility to obtain knowledge for an AME licence. There are options other than formal training.

- (a) *An applicant for an aircraft maintenance licence or the addition of a category or subcategory to such an aircraft maintenance engineer shall demonstrate, by examination, a level of knowledge in the appropriate subject modules iaw Appendix 1 to this Part.*
The basic knowledge examinations shall be conducted by a training organisation or by the competent authority.

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NB: EASA NAAs have not abandoned the provision of Basic Examinations nor have they abandoned the hands-on-learning, see below, by the general aviation artisan LAME.

The FAA also accepts a similar approach, so we are not unique.

EASA 66.A.30 also accepts practical experience being obtained by working on aircraft to meet criteria to apply for an AME licence.

e.g. For EASA B1.2 and 1.4.

- (i) *three years of practical maintenance experience on operating aircraft, if the applicant has no previous relevant technical training; or*
[Hands-on-learning that has supported GA for decades]
- (ii) *two years of practical maintenance experience on operating aircraft and completion of training considered relevant by the competent authority as a skilled worker, in a technical trade; or*
[this was the allied trades system accepted in the past]
- (iii) *one year of practical maintenance experience on operating aircraft and completion of an approved basic training course.*
[this was the same as the now almost defunct apprentice system – though EASA approves, Australia’s mature system had moved past the need to approve]

e.g. for EASA B1.1 and 1.3.

- (i) *five years of practical maintenance experience on operating aircraft, if the applicant has no previous relevant technical training; or*
[Hands-on-learning that has supported GA for decades]
- (ii) *three years of practical maintenance experience on operating aircraft and completion of training considered relevant by the competent authority as a skilled worker, in a technical trade; or*
[this was the allied trades method accepted in the past that CASA has stopped]
- (iii) *two year of practical maintenance experience on operating aircraft and completion of an approved basic training course.*
[this is the same as the now almost defunct apprentice system – though EASA approves, Australia’s mature system had moved past the need to approve]

If CASA had understood the EASA system, it could have adopted a system that enabled continuation of general aviation requirements and practices. Recognition of hands-on-learning capability by general aviation LAME artisan-teachers must be returned as soon as possible.

However, CASA must accept that the EASA licensing system is not, and has never been, acceptable to general aviation.

International training standards

What is missing from the current regulatory system is the “industry training standard” guidance previously promulgated by CASA’s predecessors as a ‘*Guide to Aircraft Maintenance Engineer Examination*’. This is needed for:

1. Providing the industry training standard to be applied to formal training and self-study. CASA must urgently promulgate the ICAO avionic and mechanical training syllabi.
2. This will enable State RTOs to develop training programs covering the knowledge and practical skills that apprentices can be taught to trade level.
3. It also provides the guidance for self-study for AMEs applying for an AME licence.
4. There is no reason for any other CASA involvement in this aspect.

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Recommendation – Skills:

1. That CASA urgently promulgate the avionic and mechanical syllabi extracted from the ICAO *Aircraft Maintenance Engineer Training Manual, Document 7192 AN/857*, latest revision and recommend to Federal and State Education Departments the use of this ICAO document as the basis for trade training. There is no need to publish the ICAO recommended hours for each element of the syllabi under Australia’s skill training processes.

Note: *The second edition differs considerably from the first edition of Doc 7192, Part D-1. It contains training syllabi for AMEs that cover both knowledge and skill requirements outlined in Annex 1. New subject matter has been included for the first time on topics such as airships, composite materials and Human Factors. The format of the manual reflects the concept of competency based training and is now consistent with other manuals in the Doc 7192 series.*

- a. CASA’s predecessors promulgated such a document. State Education Departments and their approved RTOs used this document to create AME training courses. These State RTOs provided AME trade courses, without any CASA involvement, which met the Authority’s promulgated AME ICAO international training standards. A system that worked.
- b. The Federal Minister of Education has confirmed to AMROBA his portfolio support for adopting ICAO international training standards for AME training by RTOs. Reduces duplicating regulatory imposts but provides appropriate guidance. By adopting this manual, the creation of courses would be based on ICAO standards.
- c. The ICAO Training Manual states: “aviation regulatory bodies which, in turn, may [must in our opinion] recommend the manual to their aviation centres for the development of detailed training. It may also be used by the State** as the basis for the approval of aviation training centres and/or their courses.”
**This is the Federal Education Department’s responsibility, not CASA.
 - i. This process worked extremely well until CASA’s predecessor cancelled the promulgation of the ICAO training standards. This removed the international training standards guidance so RTOs outcomes returned to providing restricted skills to match an individual business.
 - ii. Re-promulgation of these international training standards enables State RTOs to meet local industry needs and provide portability of skills.
- d. Promulgation of these syllabi will provide guidance, as was done in the past, for on-the-job training, hands-on-learning, self-study and tutors that provide private instruction to AMEs contemplating sitting the CASA Basic Examinations.

Regulatory amendments supporting this process will be discussed later in this proposal. It is obvious that resurrecting sensible past practices are necessary for general aviation to recover.

Aircraft Maintenance Engineer – Training

Once the above variable methods of obtaining skills and knowledge are accepted for general aviation maintenance personnel, then the availability of training has to be considered and which methods are acceptable. In the second and third methods, mentioned above, for obtaining skills, most AMEs obtain knowledge by on-the-job instruction and self-study.

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However, the damage done by trying to apply formal training standards only in Australia, without including the EASA flexibility, has seen more closures of aviation training establishments than at any time during the past 100 years of aviation. This has clearly demonstrated that adopting a formal training system only has failed.

The Australian education system had an efficient trade training system that has been ignored. The Education Departments & Trade Recognition Authority should be involved.

The current enforcement of formal RTO training as the only method has also escalated the training costs to a level that many can no longer afford. This has caused major damage to the provision of formal training. More reasons why the current regulatory system must be abandoned and a return to the flexibility that was available pre regulatory changes to obtain the “prescribed” knowledge and skill standards to obtain an AME licence.

In addition, Australia has a flexible workforce where change of jobs and professions/trades is more regular than at any time in the past. A person that obtains his skills other than by formal aviation trade courses has to be accommodated in the regulatory system. Unless the person is applying to CASA for an AME licence, then it is the employer that determines whether the AME has adequate knowledge and practical skills to perform maintenance unsupervised.

What is important to accept, as this regulatory experiment has proven, is that this industry is not ready or large enough for CASA to devolve its Basic Examination system to private enterprise. The general aviation sectors, whilst ever it has the potential to have hands-on-learning and self-study, require CASA to retain their Basic Examination system to confirm the AME’s knowledge is assessed at the 75% pass mark – i.e. knowledge that can be obtained by hands-on learning, self-study, obtained through tutoring, or a course provided by an RTO.

The use of “examination centres” by CASA for persons to sit a CASA Basic Examination on demand must be resurrected. State Education establishments and even CASA’s local offices should be utilised as “examination centres”.

EASA clearly identified the need for Competent Authorities (NAA) to conduct Basic Examinations. With the collapse of many aviation training providers in Australia, it is now imperative that CASA continue to provide the Basic Examination capability permanently.

66.A.25 Basic knowledge requirements

- (a) *An applicant for an aircraft maintenance licence or the addition of a category or subcategory to such an aircraft maintenance licence shall demonstrate, by examination, a level of knowledge in the appropriate subject modules in accordance with Appendix I to this Part. The basic knowledge examinations shall be conducted by a training organisation appropriately approved under Part147 or by the competent authority.*
 - (b) *Full or partial credit against the basic knowledge requirements and associated examination shall be given for any other technical qualification considered by the competent authority to be equivalent to the knowledge standard of this Part. Such credits shall be established in accordance with Section B, Subpart E of this Part.*
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EASR Paragraph (b) above enables credits for equivalent knowledge obtained in allied trades. This was previously normal practice by CASA's predecessor and must be resurrected so costs of cross training can be reduced. Allied trades are, and will become utilised more often as the Australian workforce re-aligns with changing economics and infrastructure.

Skilled personnel from allied trades may become the norm in the volatile economic situation that now exists in Australia – e.g. ex-mining industry skilled personnel can benefit from hands-on-learning and self-study in aviation to become good AMEs and LAMEs.

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Europe did not abandon the NAA providing basic knowledge examinations to obtain an AME licence. The FAA provides examinations. Why not CASA? Though the LAME must have the technical knowledge and skills associated with the licence, the LAME role is quite different to his/her role as an AME. This will be discussed in licencing.

Recommendation – Training

That CASA accept that AME trade knowledge and practical skills can be obtained basically in three ways. These methods are by hands-on-learning, self-study or self-study assisted by an independent tutor, whilst employed by maintenance organisation; on-the-job training whilst in the employ of a maintenance organisation, or by undertaking a formal aviation maintenance trade training course. All methods must be accepted.

Knowledge assessment is also the responsibility of the employer who, when it is determined that the person has the experience, knowledge and practical skills, may authorise the AME to perform and certify for maintenance tasks. There is no CASA involvement at this stage. Employers have the responsibility to ensure that employees are skilled in the work they perform.

It was always accepted that artisan-teacher training met the same academic capability as a person obtaining formal trade training qualifications with a 50% pass mark. Competency and capability is still the general aviation employer's responsibility. Irrespective of which way the AME has obtained his/her skills and knowledge, they will only survive in general aviation maintenance if they are competent and productive – an employer's decision.

If an AME applies for an AME licence or rating then the CASA Basic Examination tests to the 75% pass mark verifies they have knowledge to the relevant level. Self-study is the main pathway to the AME licencing system in general aviation. Many attempt the examinations years after trade training or hands-on-learning.

AMROBA supports the continuation of the CASA Basic examinations that ensures that the LAME has the appropriate knowledge to exercise the privileges of the licence and/or rating held or sought.

Aircraft Maintenance Engineer – Licencing

This is probably the area where urgent regulatory reform needs to be actioned if the system is to be made compatible to past requirements. The avionic and mechanical licence and ratings must be compatible with the CAR 31 licence and ratings for general aviation.

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Non type rated AME licence.

This includes the inclusion of those fringe aircraft above 5700Kgs. The maintenance regulations must adopt the operational split listed in the proposed CASR Part 135:

Small aeroplanes" in Part 135 means an aeroplane:

- **with a maximum take-off weight (MTOW) not exceeding 8618 kg,** and
- fitted with a passenger seat configuration of not more than 9.

As a minimum, **adopting 8618 Kg** for the AME licence limit would remove the confusion with regards aircraft that are above the CASR Part 23 certification split but will be operating under CASA's proposed charter rules.

Most in general aviation support the return to the scope of the original CAR 31 non type rated LAME. It is the preference that the CAR 31/CAO 100.90 series licence scopes be reinstated.

LAME Role

The main role of the LAME in GA is spelt out in CAR Schedule 6, therefore what has been produced under CASR Part 66 is not compatible to the needs of general aviation and is not consistent with the ICAO compliant AME licence of the past. Regulatory changes in 1991 also applied flawed LAME privileges when compared to ICAO, FAA, EASA, etc. However CAR Schedule 6 provides fairly close alignment with the ICAO privileges.

The CAR 31 licence categories (avionic (E,I & R) & mechanical A/F & E) and associated ratings were, without doubt the right licencing structure for general aviation. This proposition recommends returning as close as possible to the scope of those licence ratings. History has been ignored in that many aircraft above this weight split had been deemed as applicable to an AME licence without type rating.

Ever since CASA replaced the CAR31 AME licences with Part 66 licences there has been massive confusion and loss of understanding of the scope of the AME licence and ratings.

CASR Part 66 is a totally flawed regulation that is not compatible with ICAO, EASA, FAA or any other licensing requirements. It is not a workable or sustainable system. EASA restricts the LAME to issuing maintenance releases (release too service) and providing quality control during base maintenance on large aircraft. This is the same role as Schedule 6 – stage inspections, coordination and completion of maintenance certifications. Individual maintenance tasks can be signed by the AME or LAME.

CASA has applied one ICAO privilege under the CASRs but also made the LAME the maintenance certifier. The AME is the maintenance certifier in the EASA system as it was in the Australian system the LAME is an AME and it is the AME that signs for performing tasks.

International Alignment

EASR 66.A.20 specifies one ICAO privilege.

66.A.20 Privileges

- (a) *Subject to compliance with paragraph (b), the following privileges shall apply:*
1. *A category A aircraft maintenance licence permits the holder to **issue certificates of release to service following minor scheduled line maintenance and simple defect rectification** within the limits of tasks specifically endorsed on the authorisation. The certification privileges shall be restricted to work that the licence holder has personally performed in a Part-145 organisation.*
 2. *A category B1 aircraft maintenance licence shall permit the holder to issue **certificates of release to service following maintenance**, including aircraft structure, powerplant and mechanical and electrical systems. Replacement of avionic line replaceable units, requiring simple tests to prove their serviceability, shall also be included in the privileges. Category B1 shall automatically include the appropriate A subcategory.*
 3. *A category B2 aircraft maintenance licence shall permit the holder to **issue certificates of release to service following maintenance** on avionic and electrical systems.*
 4. *A category C aircraft maintenance licence shall permit the holder to **issue certificates of release to service following base maintenance** on aircraft. The privileges apply to the aircraft in its entirety in a Part-145 organisation.*

However, EASR 145.A.30 (h) is obviously not understood by CASA; this provision requires the LAME to provide **quality control** during base maintenance carried out by mainly AMEs as has been done in Australia prior to many regulatory changes. This provision is the other ICAO LAME privilege.

- (h) *Any organisation maintaining aircraft, except where stated otherwise in paragraph (j) shall:*
1. *in the case of **base maintenance** of large aircraft, have appropriate aircraft type rated certifying staff qualified as category C in accordance with Part-66 and 145.A.35. In addition the organisation shall have sufficient aircraft type rated staff qualified as category B1 and B2 in accordance with Part-66 and 145.A.35 to support the category C certifying staff.*
 - (i) **B1 and B2 support staff shall ensure that all relevant tasks or inspections have been carried out to the required standard before the category C certifying staff issues the certificate of release to service. [Quality Control – stage inspections]**
 - (ii) *The organisation shall maintain a register of any such B1 and B2 support staff.*
 - (iii) *The category C certifying staff shall ensure that compliance with paragraph (i) has been met and that all work required by the customer has been accomplished during the particular base maintenance check or work package, and shall also assess the impact of any work not carried out with a view to either requiring its accomplishment or agreeing with the operator to defer such work to another specified check or time limit.*

The B1 & B2 LAME perform the same role as the FAA A&P Mechanic Inspection Authorisation in base maintenance which is the same role that the LAME performed in Australia before regulatory change experiments. Australia has this system spelt out in the most successful method for general aviation in CAR Schedule 6.

In general aviation the CAR LAME currently provides quality control (stage inspections; category and final certification, etc.) and coordinator functions and also signs the maintenance release. A well-developed system, based on years of safety experience, which was well understood. Now replaced by a flawed CASR system that must be repealed or drastically amended to return the LAME to its ICAO role, scope and privileges.

The EASA experiment has been fundamentally flawed since inception. The quicker the AME licence can return to the CAR31 licence scope then the quicker general aviation can start recovering. It is crucial that CASA understands the role of the LAME in general aviation.

The new CASRs do not impose ICAO privileges on the LAME as has been applied under previous regulatory requirements. In the interest of safety, the LAME's role and responsibility in general aviation is, and must remain based on the two ICAO privileges.

In contrast, CASR Part 66 is totally flawed when compared with ICAO, EASR, FARs and other regulatory systems applicable to the role and privileges of a LAME.

CASR 66.005 Purpose of Part

This Part:

(a) deals with aircraft engineer licences and ratings for:

- (i) the performance of **maintenance certification** for maintenance carried out on aircraft; and*
- (ii) issuing certificates of release to service for aircraft in relation to maintenance carried out on aircraft; and*

(b) empowers CASA to issue a Manual of Standards for this Part.

These words demonstrates that CASA does not know the role of the Australian LAME nor do they understand the ICAO Annex 1 LAME privileges. They need to change.

The Australian LAME provides two very important [ICAO] responsibilities in general aviation.

1. One is to provide **quality control** by “*certifying the aircraft or parts of the aircraft as airworthy AFTER an authorised repair, modification or installation of an engine, accessory, instrument, and/or item of equipment*”. #2
2. The other responsibility is to **coordinate** the maintenance so that he/she can “*sign the maintenance release **FOLLOWING** inspection, maintenance operations and/or routine servicing*”. #2

AMEs can be authorised by the general aviation employer to perform and sign for individual maintenance tasks. The LAME then performs his/her “quality control” role to ensure airworthy standards are applied. This ICAO LAME privilege is not mentioned in CASR yet it is the backbone of quality control in aircraft maintenance.

These ICAO requirements are spelt out in CAR Schedule 6 and are crucial to safety in general aviation. These ICAO standards have served general aviation well and were adopted in the CAR style to improve safety.

The “purpose” of the CASR Part must change to be ICAO compliant and provide the skills to support their role in CAR, Schedule 6. This can be achieved by adopting the ICAO privileges as the “purpose” of the CASR Part 66. Providing a LAME with the skills to exercise these ICAO privileges is what general aviation has been demanding.

This would enable the LAME to meet their responsibilities in Schedule 6 and also meet the needs of the employers across all sectors, including the airline sector. This recommended change will return the LAME to his/her role in general aviation. It would not have any impact on airline maintenance requirements.

CASR Part 66.005 must be amended ASAP to include the ICAO privileges word for word.

CASR 66.005 Purpose of Part

This Part:

(a) deals with aircraft engineer licences and ratings for:

(i) certifying the aircraft or parts of the aircraft as airworthy after an authorised repair, modification or installation of an engine, accessory, instrument, and/or item of equipment has been completed; and

(ii) signing certificate of release to service [maintenance release] for aircraft following inspection, maintenance operations and/or routine servicing have been carried out on aircraft; and

(b) empowers CASA to issue a Manual of Standards for this Part.

Note: *(i) and (ii) wording is a copy of the Annex 1 AME licence privileges.*

This is the real purpose of the LAME in the maintenance industry. If the LAME has the skills to perform (a)(i) & (ii) above then they most certainly be better equipped for any other administrative role, such as Chief Engineer. The onus of the regulation is to provide persons with these skills to provide quality control of aircraft maintenance.

LAME Revalidation

Another contentious issue is the revalidation process that is out of step with ICAO and EASR and CASA's predecessors that understood Australian aviation better than the current ideals that CASA seems to adopt. This has been of great contention to industry.

The ICAO standard, 4.2.2.2 (c), is sensible in that it states: “.. *within the preceding 24 months, the licence holder has either **had experience in the inspection, servicing or maintenance of an aircraft or components in accordance with the privileges granted by the licence held for not less than six months, or has met the provisions for the issue ...***”

What kept the Australian aviation MRO industry viable was the sensible interpretation imposed by CASA's predecessors on the word “**experience**” but ignored by CASA during the recent review. CASA's current requirements has the potential of losing very experienced LAMEs who are essential to be retained to pass on their expertise, especially in the current economic climate. The reason they are being squeezed out is that CASA has applied different requirements to revalidate the AME licence. They have substituted “experience” with “exercise” and dropped the previous interpretation applied by previous regimes of CASA.

The past interpretation of the word “experience” was promulgated in CAO 100.90 paragraph 4.4.(2)(b) to enable retention and validity whilst **performing associated work**; the CAO stated: “ . *or has been engaged in work which may be considered by CASA as **comparable with the duties and privileges pertaining to the licence.***”

This enabled LAMEs employed in aviation management, planners, schedulers, technical services, auditors, CASA AWIs performing industry audits, etc. to retain the validity of their AME licence. Years of experience proved this was the appropriate requirements for Australian aviation. In general aviation, LAMEs performing these roles venture back and forth through associated jobs and must retain their licences. These associated jobs enables the LAME to maintain their experience in aircraft maintenance.

Basically, CASR Part 66/42 has done considerable damage to the AME licence scope and privileges, revalidation and associated support services.

There has never been any issue with safety related to LAMEs employed in associated work coming back to work on aircraft.

Recommendation – Licencing

CASR Part 66 must be amended ASAP to include the two ICAO privileges word for word. The other option is make CASR Part 66 applicable to the major airlines only and resurrect CAR 31 applicable to all other sectors as a CASR Part 65. However, we are concerned that the damage that has been done to a seamless system should be repaired as follows:

1. Purpose

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CASR Part 66.005 must be amended to read the ICAO privileges word for word.

This Part:

(a) deals with aircraft engineer licences and ratings for:

- (i) certifying the aircraft or parts of the aircraft as airworthy after an authorised repair, modification or installation of an engine, accessory, instrument, and/or item of equipment has been completed; and*
- (ii) signing certificates of release to service for aircraft following inspection, maintenance operations and/or routine servicing have been carried out on aircraft; and*
- (b) empowers CASA to issue a Manual of Standards for this Part.*

2. Experience

Amend Part 66 to include the following requirements from the EASRs.

For Part B1.2 and 1.4 licences, the following experience is required.

- (i) three years of practical maintenance experience on operating aircraft, if the applicant has no previous relevant technical training; or [Note: Hands-on-learning that has supported GA for decades]*
- (ii) two years of practical maintenance experience on operating aircraft and completion of training considered relevant by the competent authority as a skilled worker, in a technical trade; or [Note: this was the allied trades system accepted in the past]*
- (iii) one year of practical maintenance experience on operating aircraft and completion of an approved basic training course.
[Note: this was the same as the now almost defunct apprentice system – though EASA approves, Australia’s mature education system had moved past the need for CASA to approve.]*

For B1.1 and 1.3 licence and/or ratings.

- (i) five years of practical maintenance experience on operating aircraft, if the applicant has no previous relevant technical training; or [Hands-on-learning that has supported aviation for decades]*
 - (ii) three years of practical maintenance experience on operating aircraft and completion of training considered relevant by the competent authority as a skilled worker, in a technical trade; or [this was the allied trades method accepted in the past that CASA has stopped]*
 - (iii) two year of practical maintenance experience on operating aircraft and completion of an approved basic training course.
[this is the same as the now almost defunct apprentice system – though EASA approves, Australia’s mature system had moved past the need to approve]*
-

3. Knowledge

Amend Part 66 to include the following requirements from the EASRs.

66.A.25 Basic knowledge requirements

- (a) An applicant for an aircraft maintenance licence or the addition of a category or subcategory to such an aircraft maintenance licence shall demonstrate, by examination, a level of knowledge in the appropriate subject modules in accordance with Appendix I to this Part.

The basic knowledge examinations shall be conducted by CASA or an authorised training facility.

- (b) Full or partial credit against the basic knowledge requirements and associated examination shall be given for any other technical qualification considered by the competent authority to be equivalent to the knowledge standard of this Part. Such credits shall be established in accordance with Section B, Subpart E of this Part.

[Note: this is accepting allied trades like they did in the past]

The scope of the licences must be clarified as very few fully understand the scope or privileges that once was well understood by the general aviation MRO industry.

4. Revalidation

In addition, include the following provision from ICAO Annex 1 and CAO 100.90 for revalidation of the AME licence. It is imperative in the small industry that associated work such as management, planners, schedulers, etc. as discussed earlier is retained.

The holder of an aircraft maintenance engineer may not exercise its privileges unless:

- 1. In the preceding two year period, the licence holder has had experience in the inspection, servicing or maintenance of an aircraft or components and privileges granted by the licence held for not less than six months; or*
- 2. has been engaged in work which may be considered by CASA as comparable with the duties and privileges pertaining to the licence, or*
- 3. met the provisions for the issue of a licence or rating.*

Outcome Proposal 1:

Australian AMEs will once again have the knowledge and skills needed by general aviation. This will reduce overall costs in the maintenance sectors. General aviation has a large portion of artisan trained AMEs and LAMEs – without this kind of flexibility in training then the decline will continue.

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The general aviation based apprentices, AME's and LAME's need a change back to the original CAR31 licence, licence group ratings and examination system as soon as possible so the industry can start to re-build, including the weight change as proposed.

The proposed group ratings need to be made public post the CASA-Industry meeting on the 9th February, 2015. Part 66 regulatory change may be needed to implement the CAR31 licence and ratings equivalents.

The recommended changes may need subsequent regulatory changes to implement correctly. This can be done by a collaborative approach with industry working with CASA to get the words right.

Industry must sign-off on the final regulations before they are made. CASA has made too many requirements that are now being rejected by industry.

ICAO clearly states: *“The responsibilities of an AME range from line maintenance, day-to-day care and defect rectification to base maintenance (which can include major modification and repair of the aircraft structure or systems). In many approved aircraft maintenance organisations, the AME supervises the work of teams of less experienced personnel.*

By underpinning the AME licence system with AMEs that can obtain their knowledge and skills by the previously prescribed methods, the LAME in this proposition will provide the quality control of aircraft maintenance as well as being able to sign the maintenance release.

AMROBA strongly recommends that CASA should, at all times, use international terminology promulgated by ICAO even if CASA wants to include EASA terminology as an option. General aviation is used to ICAO & FAA terminology – must be retained.

EASA does not have a sustainable general aviation.

Considering the far majority of aircraft used in general aviation hold a FAA type certificate, general aviation preferences has always been aligned with FAR terminology that harmonises with the terminology in maintenance documentation.

AMROBA, on behalf of its members and others involved, highly recommends these recommendations to CASA. In addition, we will provide resources to work with CASA to get these proposed actions made as soon as possible.

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