



1. Engineering Regulatory Reform Restarting.

AMROBA met last week with CASA senior management. We left that meeting more confident, than we have in the past, CASA's Executive, under Carmody's leadership, is starting to understand that the Australian aviation engineering sectors must have a level playing field in the design, manufacturing & maintenance fields so our industry can create jobs and compete in global aviation markets.

So how do we prioritise? Every sector within our disciplines needs urgent change but some changes will happen later than others because more detailed discussions will be needed. It is not just adoption but the transition from where we are to where we need to be. That is, to fix the "design" and "manufacturing" issues.

Project 1. Amend CASR Part 21 Subpart J to fully adopt the EASA regulation, AMC & GM utilising the clarity of the FAA system of devolvement of regulatory functions to the approved design organisation.

Project 2. Amend applicable provisions of CASR Part 21 to align with FAR changes made in 2009. Available on AMROBA's website – under *Manufacturing* refer [FAR Part 21 2009 amendments](#) . FAA cost benefits \$250 saving for every \$1.00 spent implementing these changes.

CASR Part 21 was made in 1998, based on FAR Part 21, and is now no longer harmonised with FAR 21 and world standards. The above two **projects** do not need additional consultation, they need regulatory action so our regulatory system can once again align with global airworthiness and manufacturing standards; i.e. harmonisation. Adopting and implementing these changes will remove the variable interpretations from some CASA staff based on CASR Part 21 that is 18 years out of date.

[Read More](#)

2. AME Licensing Resolutions Starting to Happen.

CASA has stated that CASR Part 66 will be based on the ICAO international AME training standards that will enable repackaging training packages that provide education qualifications for each of the B licences.

They have also stated that CASR Part 66 will be based on EASR Part 66 and that will enable the repackaging of training under the modular structure CASA has listed in the Part 66 MoS.

Last Tuesday, at the 1st meeting of the new Aerospace Industry Reference Committee, the Group Manager from the Education Department recognised that there is a case to submit an alternative approach so we can achieve practical skills and higher theoretical knowledge skills applicable to each AME licence.

5 members from the Aerospace IRC, including myself, will meet soon and develop an approach for the Education Department that will change how all the training is provided but still government funded.

If CASA really adopts EASR Part 66 experience requirements, then the detailed ATA experience logs will disappear and maybe Group ratings may not be needed.

[Read more](#)

3. Moving to the FAR system for Maintenance.

Adoption of the FAR system for the maintenance industry will introduce inspection and maintenance performance standards. The language and terminology used by USA aircraft and component manufacturers manuals and other documentation is based on the applicable FAR terminology.

Like the design/manufacturing requirements discussed in item 1 & 2, there is major strategic reasons to adopt FAR Part 43 and associated FAR requirements to meet the ICAO continuing airworthiness and maintenance requirements. This can be done by adopting EASR Part 66 and associated Part 147 applicable requirement for AME licencing requirements.

Forget aircraft that have maintenance systems based on MSG principles. This is about adopting the airworthiness and maintenance regulatory requirements of the FAA simply because the vast majority of the non-airline aircraft have FAA Type Certificates.

This means the airworthiness and maintenance support documentation is based on meeting the FAR requirements and definitions contained within the FAR system. Harmonising with the US system, not just the FAR system will improve safety and viability.

[Read More](#)

CASA is at last returning to adopting regulations from the major systems of FARs, EASRs and maybe sometimes from Canada and/or New Zealand.

A possible approach will be to have a trade level AQF course that provides the practical skills for the avionic & mechanical streams. New Zealand took this approach more than a decade ago.

This is a significant change that will provide a safer system that is harmonised with the FAR system

1. Engineering Regulatory Reform Restarting.

AMROBA met last week with CASA senior management. We left that meeting more confident, than we have in the past, CASA's Executive, under Carmody's leadership, is starting to understand that the Australian aviation engineering industry must have a level playing field in the design, manufacturing & maintenance sectors so our industry can create jobs and compete in domestic and global aviation markets.

So how do we prioritise? Every sector within our disciplines needs urgent change but some changes will happen later than others because more detailed discussions are needed. It is not just adoption but the transition from where we are to where we need to be that needs clarification.

That is, to fix the "design" and "manufacturing" issues we support two projects that can be done quickly.

The following two **projects** do not need additional consultation, they need regulatory action so our regulatory system can once again align with global airworthiness certification and manufacturing standards; i.e. harmonisation. Adopting and implementing these changes will remove the irregular interpretations from some CASA staff that are based on an out of date 18 year old CASR Part 21.

Project 1. Amend CASR Part 21 Subpart J to fully adopt the EASR provisions, AMC & GM.

When CASA imposed this Subpart on industry it did not adopt the EASA Subpart J system. The CASR system is unique in the world and nowhere near harmonised. The fix is simple. Amend the Subpart by adopting the EASA CS Part 21, Subpart J wording as close as practical. This will provide global harmonisation and also harmonised with our own military standards. The FAR Part 183 design organisation regulatory system is harmonised with the EASA system. It is also crucial to retain Part 21 Subpart M though this Subpart needs some minor changes that can be done post other more crucial Parts. Simply adopting EASR Subpart J will not fix the CASA administrative processes causing problems.

The only way to adopt the same interpretation is to also adopt the EASA Subpart J Guidance Material & Acceptable Means of Compliance (GM & AMC). The simplest way for CASA to do this is to recognise the EASA GM & AMC, latest revision, in an AC or the MoS. What we don't want is a CASA version of the EASA GM & AMC as happened post the making of CASR Part 21, Subpart J. Harmonise by using their GM & AMC and stating in the MoS "where the EASA GM or AMC refers to EASA or an EASA NAA, then it is to be read as a reference to CASA".

For example, if we look at the language in EASA CS Part 21, Subpart J, you will see the same language as used in the FARs. You are entitled to approval once you demonstrate compliance with regulations.

21.A.235 Issue of a design organisation approval. An organisation shall be entitled to have a design organisation approval issued by the Agency when it has demonstrated compliance with the applicable requirements under this Subpart.

- **37 positive words** compared to *CASR 21.243 Granting Approval 495 words*.
- EASA GM & AMC provides adequate guidance.
- Returns to proper rule of law principles.

The same applies to EASA 21.A.239 Design assurance system V CASR 21.267 Design assurance system

- Again 228 words versus 450 plus and CASR applies incompatible provisions.

When adopting the EASA approved design organisation system it is imperative that CASA also adopt the clarity of the FAA devolvement of regulatory functions to approved design organisations. This will keep the harmonisation clarity underpinning the USA/Australian BASA & Implementation Procedures.

AMROBA, along with design organisations and Subpart M representatives believe it will take no more than a half day meeting to discuss any issue that may have concerns for CASA.

In reality, both EASA and FAA have devolved regulatory functions to approved design organisations as was proposed in consultation with industry over a decade ago. An approved design organisation would have the ability to approve certain STCs as originally proposed:

- *ADO is responsible for all compliance determinations—no duplication in compliance review by CASA.*
- *ADO reinforces an approval holder's responsibility to develop and maintain a compliance and safe design,*
- *CASA sets standards and performs project and system oversight.*

In other words, implement what was proposed by CASA a decade ago but by adoption this time.

This submission to CASA requires CEO Carmody to take control of CASA not, as we have witnessed in the past, the staff of CASA control the Executive. This is a small regulatory change compared to other reforms needed to align CASR Part 91 with FAR Part 91 or Part 61 with FAR Part 61.

Project 2. Amend the applicable provisions of CASR Part 21 to align with FAR changes made in 2009. FAR changes are available on AMROBA's website – *Manufacturing* refer [FAR Part 21 2009 Preamble amendments](#) . FAA cost benefits \$250 saving for every \$1.00 spent implementing change.

CASR Part 21 was made in 1998, based mainly word for word with FAR Part 21, and is no longer harmonised with FAR 21 and world standards.

The FAA stated in their 2009 amendments:

The amendments will update and standardize those requirements for production approval holders (PAHs), revise export airworthiness approval requirements to facilitate global manufacturing, move all part marking requirements from part 21 to part 45, and amend the identification requirements for products and articles. The intent of these changes is to continue to promote safety by ensuring that aircraft, and products and articles designed specifically for use in aircraft, wherever manufactured, meet appropriate minimum standards for design and construction. As a result of this action, the FAA's regulations now better reflect the current global aircraft and aircraft products and articles manufacturing environment.

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has reviewed the corresponding ICAO Standards and Recommended Practices and has enhanced two ICAO definitions in these regulations.

Consequently, we estimate this rule to be highly cost-beneficial with undiscounted 10-year net benefits of about \$134 million and present value net benefits of about \$93.8 million.

In other words, the 2009 amendments to FAR Part 21 were cost beneficial and 18 years after the FAA made these changes we may, at last, have CASA's Executive support to make these changes to CASR Part 21.

Without adopting these changes, the manufacturing industry is subject to completely out of date costly bureaucratic regulations that are unique to Australia and prevent world's best safety practice that also brings very large cost benefits. Based on the FAR 2009 changes that adopted world best practice, for every \$1.00 spent to implement change, there was a \$250 saving.

If the changes had been made to CASR Part 21 within a couple of years after the FAA made changes, then our manufacturing industry would be in a better safer and economic position than it is today.

The major changes included in the FAR 2009 change was to apply manufacturing quality system to all aircraft and parts manufacturers. This was applied in Australia until the creation of CASR Part 21. The previous system in CAOs is what the 2009 FAR changes adopted and is supported by industry.

Another change is to eliminate the unique FAR definitions of Class 1, 2 & 3 from the certification of products to harmonise with ICAO and other major manufacturing NAA regulatory systems.

The FAA made these changes to assist their manufacturers to participate in the global aviation industry.

The FAR also adopted a definition of "commercial parts" and removed unique USA terminology like "fabrication processes" and replaced it with "manufacturing processes" that was used in Australia pre the making of CASR Part 21. The changes enable harmonisation globally.

Harmonisation and the Process of Change

In 1998 when FAR Part 21 was adopted it was also expected that CASA engineering would maintain a monitoring brief of any changes to the source document (FAR Part 21) and introduce regulatory change to maintain regulatory harmonisation with the source document. This is standard practice by any regulator that adopts international (ICAO) standards as applied by a major regulator like the FAA.

The same applies with the proposal to remain harmonised with EASR 21, Subpart J.

Monitoring of the source documentation is a basic role of CASA that has been poorly done to the detriment of the manufacturing businesses. It was always done, pre the establishment of CAA, so that Regulations and Orders were kept harmonised with standards and practices from the source document whether it was an ICAO standard or recommended practice or a requirement from a source NAA requirement.

The only way that Australian manufacturing businesses can compete in the global aviation market is by being harmonised with international standards adopted by the major global aviation markets.

CASR Part 21 manufacturing requirements are adopted from the US FAR system that had strategic changes made in 2009 so the US manufacturing industry could adopt global best practices. This was done to enable their manufacturing industry to implement quality manufacturing standards.

The FAA AIR 200 Section developed a video, fact sheets, briefings domestically and international, and a focal point for questions when they introduced the changes.

It is so much easier in Australia because the current manufacturing numbers are smaller, many already have FAA manufacturing approvals and/or ISO 9001 and/or AS 9100, Aerospace Quality Management.

Also refer FAA AC 21-42, Transition Document, AC 21-43 & AC 21-44 used to transition in 2009.

[Back to Top](#)

2. AME Licensing Resolutions Starting to Happen.

CASA has stated that CASR Part 66 will be based on the ICAO international AME training standards that will enable repackaging training packages that provide education qualifications for each of the B licences.

They have also stated that CASR Part 66 provisions will be based on EASR Part 66 and that will enable the repackaging of training under the modular structure CASA has listed in Part 66 MoS.

Last Tuesday, at the 1st meeting of the new Aerospace Industry Reference Committee, the Group Manager from the Education Department recognised that there is a case to submit an alternative approach so we can achieve practical skills and higher theoretical knowledge skills applicable to each AME licence.

NZ did this by extracting the practical skills from the training packages and issuing a certificate at L2/L3 for both the avionic and mechanical practical training packages. The AME trade training stream to AQF 4 level can be used but if looking for a licence outcome then the theoretical requirements for B1.1, B1.2, B1.3, B1.4 or B2 can be done on line with an RTO to obtain an applicable diploma.

However, we have never seen an AQF qualification based on the modular licencing system CASA has promulgated in the MoS. This will change as most members of the Aerospace IRC see a need to change.

Five members from the Aerospace IRC, including myself, will meet soon to develop an approach for the Education Department that will change how all the training is provided but still be government funded. This is change that should have been implemented when CASA introduced the EASA system in 2009.

If CASA really adopts EASR Part 66 experience requirements, then the detailed ATA experience logs will disappear and, just maybe, the Group ratings may not be needed.

[CAA\(UK\) CAP 741](#) provides a log book to record “practical” experience and lists sample maintenance tasks. It also enables employment history. If we adopt the EASA system why not adopt the CAA(UK) AME log book? This is not used to record the competency based knowledge system applied in Australia.

The EASA system is very like what we had pre CASA implementation of a partial adoption of the EASR Part 66/147 system. EASA system keeps the practical experience separated from the modular knowledge examination system. The CAA(UK) Logbook explains how the EASR Part 66 is practically applied.

The Assessor

(Section 2.1 – Basic Skills)

The Assessor may be any one of the following:

- a) An appropriately qualified Part-147 training instructor or person appropriately qualified and authorised by the organisation under the terms of its approval to carry out the assessment.
- b) An appropriately qualified licensed aircraft maintenance engineer employed by a Part-145 maintenance organisation and authorised by the Part 147 approval organisation.
- c) An appropriately qualified licensed aircraft maintenance engineer employed by a Part-M Subpart F organisation and authorised by the Part 147 approval organisation.
- d) A person authorised for the purpose by the UK Civil Aviation Authority.

The assessor shall also ensure that the logbook holder is able to:

- 1) identify the appropriate standards; and
- 2) select and use the correct tools for the task/process.

When confirming entries, assessors shall sign and print their names, and also quote their position within the organisation on behalf of which the assessment has been carried out.

The Task Supervisor

(Section 3.1 – Maintenance Experience)

The Task Supervisor may be any one of the following:

- a) An appropriately qualified Part-147 training instructor authorised by the organisation under the terms of its approval to conduct practical training or OJT (on the job training).
- b) An appropriately qualified licensed aircraft maintenance engineer employed by a Part-145 maintenance organisation and authorised to conduct OJT.
- c) An appropriately qualified licensed aircraft maintenance engineer employed by a Part-M Subpart F organisation and authorised to conduct OJT.
- d) A person authorised for the purpose by the UK Civil Aviation Authority.

The **supervisor** shall confirm the required entries by appending his/her name, signature and licence number in the appropriate column

CASA should adopt the CAA(UK) practical experience Log Book. It is similar to what we had.

Knowledge assessment is by examination by the NAA or an organisation approved to provide the examination, usually a Part 147 training organisation.

To obtain a licence, a CASA practical log book and 75% pass mark in each module applicable to the licence.

[Back to Top](#)

3. Moving to the FAR System for Maintenance.

Adoption of the FAR system for the maintenance industry will introduce inspection and maintenance performance based standards. Conformity with the language and terminology used by USA aircraft and component manufacturers manuals and other documentation is based on the applicable FAR terminology.

Like the design/manufacturing requirements discussed in item 1 & 2 above, there is major strategic reasons to adopt FAR Part 43 and associated FAR requirements to meet the ICAO continuing airworthiness and maintenance requirements. This will be done for personnel licencing by adopting EASR Part 66 and associated Part 147 applicable requirement for AME licencing requirements.

Forget aircraft that have maintenance systems based on MSG principles as they meet the FAR requirements. This is about adopting the airworthiness and maintenance regulatory requirements of the FAA simply because the vast majority of the non-airline aircraft registered with CASA have FAA Type Certificates and the vast majority of components are manufactured by USA manufacturers.

This means airworthiness and maintenance support documentation is based on meeting FAR requirements and the definitions contained within the FAR system. Harmonising with the US system, not just the FAR system will improve safety and long term viability.

For instance, ICAO states: *the owner or lessee shall ensure the aircraft is maintained in an 'airworthy' condition, the operational and emergency equipment is serviceable and the certificate of airworthiness remains valid.*

ICAO defines "airworthy" as the status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for safe operation.

What is missing for aircraft not on a system of maintenance is the FAR detailed "annual" inspection.

FAR Part 43 applies eleven (11) regulations that include performance based standards for maintenance and inspections that have stood the test of time. The safety standards under this Part and the associated FAR Part 91 airworthiness and maintenance system have a proven safety track record.

FAR Part 91 *Subpart E – Maintenance, Preventative Maintenance and Alterations* should be adopted as the base regulatory requirement for all aircraft on the CASA register.

FAR 91.409 specifies what and when maintenance is required – adoption simplifies the current system and is supported by the manufacturers' documentation.

91.401 Applicability.

91.403 General.

91.405 Maintenance required.

91.407 Operation after maintenance, preventive maintenance, rebuilding, or alteration.

91.409 Inspections.

91.410 [Reserved]

91.411 Altimeter system and altitude reporting equipment tests and inspections.

91.413 ATC transponder tests and inspections.

91.415 Changes to aircraft inspection programs.

91.417 Maintenance records.

91.419 Transfer of maintenance records.

91.421 Rebuilt engine maintenance records.

There are some other associated regulations that are important to adopt and they include, for example, Subpart L, Continuing Airworthiness and Safety Improvements and individual regulations like 91.213 *Inoperative instruments and equipment*. Excerpts such as:

91.213. (3) The inoperative instruments and equipment are—

(i) Removed from the aircraft, the cockpit control placarded, and the maintenance recorded in accordance with § 43.9 of this chapter; or

(ii) Deactivated and placarded "Inoperative." If deactivation of the inoperative instrument or equipment involves maintenance, it must be accomplished and recorded in accordance with part 43 of this chapter; and

(4) A determination is made by a pilot, who is certificated and appropriately rated under part 61 of this chapter, or by a person, who is certificated and appropriately rated to perform maintenance on the aircraft, that the inoperative instrument or equipment does not constitute a hazard to the aircraft.

An aircraft with inoperative instruments or equipment as provided in paragraph (d) of this section is considered to be in a properly altered condition acceptable to the Administrator.

Australia is no longer a leading NAA so adoption of the regulatory system applicable to the vast majority of aircraft on the CASA register is common sense and practical.

Why does CASA want to set and apply a different airworthiness and maintenance system than that applied by the NAA responsible for the majority of aircraft on the register? It is an insult to FAA.

AMROBA has provided CASA with adoption of FAR requirements but not the USA Fixed Based Operator system that should also be adopted with some changes. Pre CARs, the old regulations and orders had a managed FBO system. For instance, a maintenance organisation for basically four seat aircraft and below may have held a Department maintenance approval but they only had to comply with an Appendix to the CAO. It is time to use this approach in a modified CASR Part 145 post doing a PIR against FAR Part 145. Adding an Appendix to Part 145 based on the US standards for a maintenance FBO will enable adoption.

[Back to Top](#)