

AMROBA[®]inc

ADVOCATE OF THE AVIATION MRO INDUSTRY

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Managing The Imposed Regulatory Change

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“For me to be supportive of any regulatory change, I would have to be strongly convinced that the current system isn’t working. You would want evidence that the current system is not working; evidence of a systemic problem.”

These are the words that so many in the non airline sector reverberated for so long. Irrespective of what industry participants have said, it now has a new regulatory system looming as CASA moves into the next stage of regulatory development for the rest of the industry.

This regulatory change requires major organisational change that has the potential for disastrous consequences and higher costs in terms of lives and money if not handled correctly. These consequences mean that organisations managing hazards must aim for higher reliability than is normally required in decision making.

Though many organisation take on organisational change voluntary to improve the bottom line whilst improving safety, an enforced regulatory change that is not favoured by many organisations can, in itself, increase safety consequences.

One of those consequences is the ‘over-stressed manager(s)’ working within the organisation. In small organisations, enforced regulatory change can increase safety hazards and the responsible manager has to add to his/her workload the additional responsibilities of managing change.

This enforced regulatory change has the potential to affect the management of safety hazards under the OH&S requirements as well as aviation safety maintenance practices.

Accepting that all organisational changes already have good maintenance practices, this is an organisational change of management structures and responsibilities, monitoring and documenting management practices.

A major change is that an AMO is now an organisation that is ‘contracted’ to do what the RO/CAMO will instruct them to do law approved data.

Under this regulatory change, CASA will be working with each organisation to transition them into a Part 145 organisation. This will be the time of greatest risk as personnel become engrossed in the changes and understanding their new roles and responsibilities.

The adjacent chart is a normal change management tool used by managers during change.

We work in a safety environment imposed by multiple regulatory bodies such as CASA, OH&S, FWA, Environment,

and others. What the organisation has to do is to interlace all of these requirements onto a business so that it can remain viable and safe.

Until CASA starts working with an organisation, a business will not have a clear picture of the change even though the organisation may have planned the change process earlier. It is only at this time will an organisation totally understand the costs workload required to make the change.

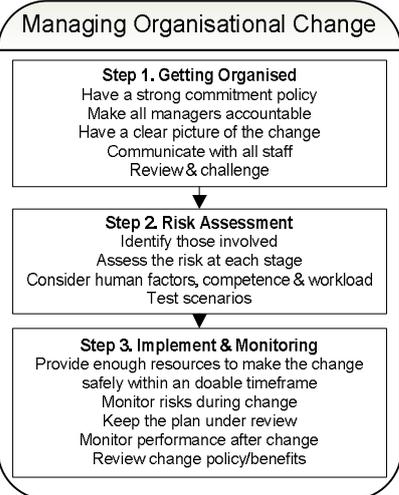
As CASA starts to work with you on the transition we should have some compassion for the responsibility and future liability of CASA.

CASA will be micro-managing this industry a lot more than EASA. CASA not only approves the organisation, it’s Exposition and many other procedures but it approves all the management (Accountable Manager, Responsible Managers, Quality & Safety Managers) which means they will be interviewing each person and determining that he/she has the credentials to do the job.

They also will direct changes to the Exposition and procedures from time to time to satisfy themselves that the documentation will ‘ensure’ the organisation complies with the requirements.

Outside the current airline industry the biggest change is unfolding in the new application of the aircraft [*maintenance*] engineer’s licence.

Did CASA do any risk analysis prior to introducing this change? Do we need to answer?



Licensed Aircraft Engineers

The role of the Licensed Aircraft [Maintenance] Engineer is different under the 1998 CASRs when compared to the 1988 CARs.

Organisations and their LAMEs should be aware of the role/responsibility changes as they transition into the new system.

Under the CARs, it is a responsibility of a CAR30 AMO to employ sufficient AMEs and LAMEs to perform aircraft maintenance. The AME performs maintenance and certifies for separate maintenance tasks whereas the LAME certifies for the completion of maintenance and stages of maintenance as well as supervising aircraft maintenance.

This is changed under the CASRs as Part 42 clearly states that the LAE is a maintenance [task] certifier who can sign an aircraft certificate to release to service once authorised by the AMO.

However, CASR Part 42 places a responsibility on a Part 145 organisation to determine that a person, including a LAE, is 'competent' to carry out maintenance or issue a certificate to release to service.

What the CASRs now clearly specify is that the AME licence granted under Part 66 of the CASRs is CASA's recognition of a person achieving a specific tertiary qualification BUT does not attest to the LAE's credentials to be competent to do maintenance or issue certificates for release to service.

This means that output from CASA Part 147 training organisations in the future will be academically qualified LAEs. Though the LAEs will have had their knowledge tested to above the 75% mark standard, the competence analysis will be basic to obtain an education competency standard. This qualification alone does not attest to the credentials of an individual to carry out maintenance tasks.

Therefore competence, based on the future education system, will be based on knowledge testing with practical application assessment. What is totally lacking, is experience over 4 years that came from the old apprenticeship system.

To cover this shortcoming in the Regulations, the CASRs places a legal responsibility on the Part 145 AMO to determine competence and then to issue Company Authorisations to carry out and certify maintenance tasks and/or issue certificates of releases to service.

Under Part 145, Company Authorisations will become the written document that defines the role of the LAE and other persons determined competent by the Part 145 AMO for aircraft specialist tasks and all component maintenance.

The Company Authorisation number replaces the use of LAE number when working in a Part 145 AMO. So it will be the Company Authorisation number that will be traced to see who did work at any one time.

It appears that the CASA LAE register will be no more than a national register of those persons that have achieved a recognised academic qualification level that could be assessed as competent by an AMO.

It is the AMOs that have to determine an employee is competent to do which task and/or sign documents on behalf of the Part 145 AMO.

So the big change under CASRs is that the LAE is a maintenance [task] certifier whereas the CAR LAME only certified completion of maintenance. The definition of maintenance in the Act now applies to the term "maintenance" in the CARs.

CASA Brisbane Consultative Meeting

CASA certainly got the feeling of our members that attended the Brisbane meeting. What worries our members most is the lack of understanding of the effect of this regulatory change that CASA seems to display.

CASA did allay fears that these rules would not, except for Parts 66/147, apply to other than the RPT sector. CASA expects this to apply to over 200 AMOs but less than half had replied to the letters CASA sent to AMOs they expect to transition.

However members at the meeting identified that they were involved with RPT and had not received a letter from CASA letting them know when CASA will be transitioning them from CAR 30 to Part 145.

What has not been explained is that under the EASA system, many may not need to transition if they sub-contract to an aircraft Part 145 AMO. In Europe many component shops are not EASA approved.

Though CASA would not confirm or deny that the non RPT sector regulations will be a further development of European regulations.

AMROBA appreciates CASA employees giving up their time and attending the meeting. At least we have a better idea of their timelines and how they intend to transition CAR 30 AMOs into Part 145.

The meeting enabled many members to raise issues directly affecting their operations with the introduction of these new requirements.

Transitioning the AME licensing is the biggest single issue affecting the non RPT sector. The LAME in the Part 145 is controlled by the Company Authorisation system.

Non RPT were very concerned with regulations in CASR Part 42 that currently do not have effect on GA but are seen as very draconian for the GA industry. We thank CASA for attending/listening.

Aircraft Maintenance

The UNSW has started on a 3 year study into "*The Future of Aircraft Maintenance in Australia: Workforce Capability, Aviation Safety and Industry Development*".

AMROBA is a Participating Organisation and is directly involved in many of the work groups involved. This project will do comparisons with the MRO industry of regional countries—what standards are they applying? Do they have similar skills? Are we skilling to the same level?

Why has aviation MRO lost its appeal to the youth of this country? The size of industry needed to support the number of registered aircraft?

Is Australia prepared for the growth that this region is projected to have in the next decade?

During this study there will be a need to do a couple of surveys of some of our members to assist where industry is and what our members think of their capability and what the future is.

The project will also look at the skills needs and capabilities. Are apprenticeships/traineeships still the right way to skill our workforce? Does our training equate to other major training standards—EASA, FAA, TC and NZ. Are we competitive with these regimes?

The project will not only look at the large aircraft sector but it is intended that the other sectors are to be included including the effect and relationship of the non VH registered aircraft maintenance has on the skill development of trade skills.

One major factor that this project will be addressing is the standards of off-shore MRO organisations and what trade restrictions they face.

What has to be overcome in this country is the fortress Australia mentality that will restrict growth.

Recent experience in Singapore supports a whole-of-government support for businesses to obtain con-

tract maintenance from afar away as Europe and North America. To do this they must provide skills and organisations of comparable levels as the best in Europe or North America.

For fully domestic aviation MRO, there is a need to identify changes that can improve the availability of high level MRO organisations at a reasonable cost structure that will encourage aircraft ROs to increase aircraft utilisation.

An ultimate goal is to reduce the maintenance error rate so safety is improved. Behind this is a review of competency based training and how it has been applied in the maintenance field.

Comparison of regulatory systems as they affect the capability of our MRO industry to compete not only globally but also domestically.

BAEs Jim McDowell's report found there was an apprentice attrition rate of 46% in small business. Small business employed 75% of apprentices but reported a 32% completion rate.

What the future is depends greatly on higher utilisation of aircraft to support a growing maintenance industry.

If regulatory reform has the right outcome and government enters into some free [aviation] trade agreements globally, then a viable MRO will not only exist in Australia, it will grow.

This project will provide a report that hopefully the government of the day can use to direct reform that will benefit the industry and community.

AMROBA recommends that our members fully support this project as it will make recommendations based on facts not hypothetical gains that currently is sprouted. This is what the government should have invested in before they let CASA do any regulatory development so community benefits could be realised.

Safety Management Systems

ATSB promulgated a paper written by Dr Alan Hobbs that addressed maintenance and safety.

"Effective countermeasures to maintenance error require a systemic approach, not only towards issues at the level of the technician and their work environment, but also to organisational factors such as procedures, task scheduling and training. Some countermeasures to the threat of maintenance error are directed at reducing the probability of error through improvements to training, equipment, the work environment and other conditions. A second, complementary, approach is to acknowledge that despite the best efforts, it is not possible to eliminate all maintenance errors, and countermeasures must be put in place to make systems more resilient to those residual maintenance errors that are not prevented.

Aviation organisations are increasingly introducing safety management systems (SMS) that go beyond legal compliance with rules and regulations, and instead emphasise continual improvement through the identification of hazards and the management of risk. The activities involved in managing the risk of maintenance error can be appropriately included within the SMS approach. Key activities include internal incident reporting and investigation systems, human factors awareness for maintenance personnel, and the continual identification and treatment of uncontrolled risks."

Another aspect that SMS addresses is Australia's OH&S requirements for risk assessment in workplaces. Safety culture reduces maintenance error.

General Aviation

1. The FAA believes general aviation flight hours will increase from 24.1 million in 2010 to 37.8 million in 2031. Business turbine aircraft hours also are to lead the increases at 4% per year, followed by rotorcraft hours at 3% and piston aircraft at 0.7%.

2. While conditions in other areas of the world slowly become more favourable for a general aviation rebound, the European environment keeps getting more complex.

The combined effects of Europe's high fuel prices, user fees, carbon taxes, airspace issues, new regulations, and airport slot restrictions are themselves enough to limit general aviation growth. When you factor in sustained economic weakness, a near-term robust market outlook just isn't a reasonable expectation.

3. What GA needs is more local government support like the vision contained in the Maryborough Airport Master Plan:

"To provide for a diversity of activities that will help to maintain a sustainable Airport for Maryborough in the future, which maximises revenue streams and creates a welcoming environment for aviation activities and businesses."

Underpinning this vision statement were a number of key objectives which were to:

- *"Support the growth of a regional and general aviation traffic maintenance cluster;*
- *Establish an aviation business precinct;*
- *Establish an airport precinct incorporating residential accommodation;*
- *Designate land for non-aviation commercial and/or retail uses; and*
- *Retain the existing sealed and grass runways."*

4. In 2002, NASA carried out an analysis to examine the market viability of small aircraft as a transportation mode in competition with automobile and scheduled commercial air travel by estimating the pool of users that would potentially switch to on-demand air travel due to cost/time savings.

They stated that single engine powered aircraft have historically

averaged only about 100 flights per year (50 trips), which results in high fixed costs per flight. For the costs per flight to be more aligned with those needed to capture trips from highway and scheduled air travel, the utilization of SEP aircraft needs to be much higher, or the price of the aircraft needs to be much lower.

The biggest barrier to capturing this SEP pool is the assumption that a member of the travel party is piloting the airplane.

The cost, time, and difficulty of becoming a pilot would need significant reduction to establish this market.

It is a worry that NASA see the US utilisation rate of private aircraft as being too low when our private aircraft use is less than half their utilisation rate.

At least the US developed a macroeconomic model that recommended changes to make it more economically viable for GA to survive.

What is needed is a whole-of-government approach to support general aviation as an alternative form of transport.

There has to be a real concentrated reduction in costs to make it more viable, including the ever increasing red tape that participants remaining are too aware of. We continue to hope.



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The Aircraft Maintenance Engineers/Technician Creed

Worth Remembering

"UPON MY HONOR I swear that I shall hold in sacred trust the rights and privileges conferred upon me as a qualified aircraft maintenance engineer/technician. Knowing full well that the safety and lives of others are dependent upon my skill and judgment, I shall never knowingly subject others to risks which I would not be willing to assume for myself, or for those dear to me.

IN DISCHARGING this trust, I pledge myself never to undertake work or approve work which I feel to be beyond the limits of my knowledge nor shall I allow any non qualified superior to persuade me to approve aircraft or equipment as airworthy against my better judgment, nor shall I permit my judgment to be influenced by money or other personal gain, nor shall I pass as airworthy aircraft or equipment about which I am in doubt either as a result of direct inspection or uncertainty regarding the ability of others who have worked on it to accomplish their work satisfactorily.

I REALIZE the grave responsibility which is mine as a qualified aircraft maintenance engineer/technician, to exercise my judgment on the airworthiness of aircraft and equipment. I, therefore, pledge unyielding adherence to these precepts for the advancement of aviation and for the dignity of my vocation."